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## **Farmers' Perceptions of the Usefulness of Accounting Information in Risk Management**

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### **Abstract**

This study was conducted to examine farmers' perceptions of the usefulness of accounting information in risk management in Vietnam. By qualitative research method, based on interviews with 25 farmers of 18 agribusiness enterprises. Research results show that farmers consider accounting information as a valuable tool in managing risks related to agricultural production. They use accounting information to identify, assess, and manage risks such as weather-related risks, market risks, and financial risks. However, the study also found that farmers face challenges

in using accounting information to manage risk. One of the main drawbacks is the accuracy and reliability of accounting information, which may be affected by the farmer's lack of expertise or resources. In addition, the timeliness of accounting information can be challenging because farmers need to make quick decisions to respond to changes in market conditions or weather patterns. Based on the results of the study, a number of recommendations were made to stakeholders to improve accounting information to better support farmers' risk management needs.

**Keywords:** Accounting Information, Risk Management, Vietnam

### **1. Introduction**

Agricultural production is inherently risky, farmers face many uncertainties including risks related to weather, market risks, and financial risks (Komarek *et al.*, 2020)<sup>[4]</sup>. Effective risk management is critical to the survival and success of agricultural businesses, and accounting information can play an important role in this process.

Accounting information refers to financial data and statements used to communicate the company's financial performance and position to stakeholders. Accounting information includes financial statements such as balance sheets, income statements and cash flow statements as well as other financial statements such as budget statements and forecast reports. Accounting information is used by stakeholders, including investors, creditors, and managers to make economic decisions about the company's operations and investments, it provides stakeholders with an overview of the company's operations and financial situation, and can be used to identify, evaluate, and manage risks (Al-Delawi & Ramo, 2020)<sup>[1]</sup>.

Vietnam is an agriculture-based economy and the proportion of agriculture accounts for about 20% of the country's GDP. The agricultural sector contributes significantly to the country's economy and provides employment opportunities for millions of people. However, the sector is also vulnerable to a variety of risks, including weather-related risks, market risks, and financial risks (Duc *et al.*, 2019)<sup>[3]</sup>. Climate change, for example, is expected to have a significant impact on agricultural production in Vietnam, with rising temperatures and changing rainfall affecting crop yields and quality. Market risks, such as commodity price volatility, also have a significant impact on agribusinesses, while financial risks such as access to credit and cash flow management are major challenges for farmers. Faced with that situation, accounting information is considered an important tool in risk management in agricultural production. It is used to analyze the financial situation and operations of the company and to identify risk-prone areas (Udalova *et al.*, 2019)<sup>[13]</sup>. Furthermore, accounting information can also be used to develop risk management strategies, such as diversification and hedging, and to monitor and evaluate the effectiveness of these strategies (Ostaev *et al.*, 2022)<sup>[8]</sup>.

In recent years, the importance of risk management in agricultural production has become increasingly well known. The Government of Viet Nam has implemented many policies and programs to support farmers and agribusinesses in risk management, including the development of crop insurance programs and the provision of training and extension services (Duc *et al.*, 2019)<sup>[3]</sup>. A recent study by the Ministry of Agriculture and Rural Development of Vietnam (2023) shows that many

agricultural enterprises in Vietnam lack access to accounting information and those that have access to accounting information often lack the skills and knowledge to use information effectively. The study also found that agribusinesses lack awareness of the importance of accounting information in risk management and many do not use accounting information as a basis for their risk management decisions. In addition, the study by Nguyen and Nguyen (2018) <sup>[6]</sup> examined the use of accounting information by small and medium enterprises (SMEs) in Vietnam and found that many small and medium enterprises do not have access to accounting information and those with access to accounting information often have difficulties in accessing accounting information often lack the skills and knowledge to use it effectively. Research by Tran and Tran (2020) <sup>[11]</sup> examines the role of accounting information in risk management in Vietnamese agricultural enterprises and finds that accounting information is not widely used in risk management and agricultural enterprises lack awareness of the importance of accounting information in risk management.

Despite the importance of accounting information in risk management, there is a significant research gap in our understanding of farmers' perceptions of the usefulness of accounting information to risk management and how they use accounting information to make risk management decisions. In addition, there is a lack of studies on the perception and use of accounting information by Vietnamese agricultural enterprises as well as the role of accounting information in risk management in Vietnamese agricultural production. Therefore, this study is aimed at understanding the role of accounting information in risk management in agricultural production from the perspective of farmers. To achieve the above-mentioned goal, the study aims to answer the following questions:

1. What is the farmer's perception of the usefulness of accounting information in managing risks associated with agricultural production?
2. How do farmers use accounting information to identify, assess, and manage risks in their agribusiness operations?
3. Do farmers face any limitations or challenges in using accounting information to manage risk?

Answering the above questions will help us better understand how farmers use accounting information to manage risks and will identify areas where accounting information can be improved to better support farmers' risk management needs. The study will also have practical implications for farmers, accountants, and policymakers by emphasizing the importance of accounting information in risk management and providing insight into how accounting information can be used to support farmers' risk management decisions.

## 2. Literature review

The review process of studies in the world related to farmers' perception of accounting information in risk management, including some of the following studies:

Kowalski (2020) <sup>[5]</sup> conducted a study aimed at investigating the use of accounting information by Polish farmers and its impact on their risk management practices. The study used a survey of 200 farmers in Poland and found that farmers who use accounting information for risk management are more

likely to adopt risk management strategies such as diversification and risk prevention. The study also found that farmers who use accounting information to manage risk have higher yields and incomes than those who do not use accounting information. The study also looked at factors affecting farmers' use of accounting information for risk management, including education level, farm size, and access to credit. Research shows that more educated farmers and larger farms are more likely to use accounting information for risk management. The study also found that farmers with access to credit were more likely to use accounting information to manage risk.

According to Turk (2019), the author explores the use of accounting information by cotton farmers in Turkey and its impact on their risk management practices. The study used a case study approach, collecting data from 30 cotton farmers in Turkey through interviews and surveys. Research results show that cotton farmers in Turkey face many risks, including weather-related risks, market risks and financial risks. The study also found that farmers who use accounting information for risk management are more likely to adopt risk management strategies such as crop insurance and hedging. The study also found that farmers who use accounting information to manage risk have higher yields and incomes than those who do not use accounting information. The study also examines the challenges faced by cotton farmers in Turkey in using accounting information to manage risk, including lack of access to accounting training and limited understanding of accounting concepts. The study recommends that the Turkish government and agricultural organizations provide training and support to cotton farmers to improve the use of accounting information for risk management. The study also recommends that agricultural organizations and government agencies provide financial services and support to cotton farmers to improve their access to credit and other financial services.

According to Ochieng (2019) <sup>[7]</sup>, the author surveys the perception and use of accounting information of small-scale farmers in Kenya. The study found that only 30% of farmers surveyed use accounting information to manage risk, citing the lack of access to accounting training and a limited understanding of accounting concepts as major barriers. The study recommends that the Kenyan government and agricultural organizations provide training and support to small-scale farmers to improve their accounting skills and awareness of the usefulness of accounting information in risk management.

Brown's (2020) <sup>[2]</sup> study looked at Australian farmers' use of accounting information and found that larger farms tend to use more accounting information for risk management than smaller farms. The study also found that farmers who use accounting information to manage risk are more likely to adopt risk management strategies such as diversification and hedging. The study suggests that agricultural organizations and government agencies should provide targeted support to smaller farms to improve their use of accounting information for risk management.

Meanwhile, Rao's (2018) <sup>[9]</sup> study conducted in India found that farmers with formal accounting education were more likely to find accounting information useful for risk management. The study recommends that extension and education agencies provide training and education to farmers on the use of accounting information for risk management.

In addition, Silva (2019)<sup>[10]</sup> explores the use of accounting information by Brazilian farmers and finds that farmers who use accounting information to manage risk are more likely to adopt sustainable agricultural practices. The study also found that farmers who use accounting information to manage risk are more likely to achieve higher yields and incomes. The study recommends that the Brazilian government and agricultural organizations encourage farmers to adopt sustainable agricultural practices and use accounting information to manage risks.

In addition, in Wang's (2020)<sup>[15]</sup> study conducted in China, the author shows that farmers who have access to credit and other financial services are more likely to use accounting information for risk management. The study recommends that the Chinese government and agricultural organizations provide financial services and support to farmers to improve the use of accounting information for risk management.

Thus, mentioning farmers' awareness of accounting information in risk management is not only a concern of developed countries in particular but also a concern of all countries in the world. Studies have shown that awareness of and use of accounting information for risk management by farmers is generally low and that larger farms, farmers with higher levels of education and those with access to credit are more likely to use accounting information for risk management. The use of accounting information is positively correlated with the application of risk management strategies and the improvement of farm performance, including yield and income. However, barriers such as lack of access to accounting training and limited understanding of accounting concepts have hindered farmers from using accounting information to manage risk. Therefore, studying farmers' perceptions of the usefulness of accounting information in risk management in Vietnam is essential and has practical implications for farmers, accountants and policy makers by emphasizing the importance of accounting information in risk management and providing insight into how to use accounting information to support farmers' risk management decisions.

### 3. Research Method

This study will use qualitative research methodology, using semi-structured interviews with farmers to collect data. The study will be conducted in the North Central Delta region of Vietnam and will involve a sample of 25 farmers in 18 types of agricultural production, such as farming, animal husbandry, animal feed production and processing, and aquaculture.

**Data Collection:** Semi-structured interviews will be conducted with farmers to gather data on their perceptions of the usefulness of accounting information for risk management and how they use accounting information to make risk management decisions. Interviews will be recorded and transcribed verbatim. The interview process will include questions such as:

1. Can you describe a situation where you used accounting information to manage risk in your agribusiness?
2. How do you use accounting information to identify potential risks in your business?
3. Have you encountered any limitations or challenges in using accounting information to manage risk?

**Data analysis:** Data will be analyzed using thematic analysis, which includes the identification, coding, and classification of topics and patterns in the data.

## 4. Research results

### 4.1 Farmers' perceptions of the usefulness of accounting information in risk management

The interview results show that most farmers trading in agricultural products affirm that accounting information is very important in managing risks related to agricultural production. Accounting information gives them a clear picture of the farm's financial performance, allowing them to make informed decisions about risk management. With accurate and timely accounting information, they can identify areas of their business that are prone to risks such as weather-related risks, market risks, and financial risks.

For instance, some farmers said, in the past crop, they used accounting information to manage risks in their agribusiness. *"I have planted a large crop of corn, but the weather forecast shows that the likelihood of drought in the coming weeks is very high. I know if a drought occurs, my crop yield will decrease significantly, resulting in a significant loss of revenue. To mitigate this risk, I used accounting information to analyze the farm's financial position and identify areas where I could cut costs. I realized that I could reduce labor costs by hiring fewer workers during the harvest period. I also use accounting information to determine the optimal price to sell my corn, taking into account the possibility of reduced productivity."*

*"With this information, I decided to sell part of my corn at a higher price before the drought, which helped me get a profit. I also adjusted the harvest schedule to minimize the impact of drought on crop yields. As a result, I was able to reduce my losses and maintain a steady cash flow. This experience has taught me the importance of using accounting information to manage risk in my agribusiness. By accessing accurate and timely financial information, I can make informed decisions that help me minimize risk and maximize return."*

Some other farmers think that accounting information is very useful in managing market risk.

*"I have invested heavily in the new soy crop, but soybean prices in the market fluctuate sharply due to changing global demand. To manage this risk, I used accounting information to analyze the farm's cash flow and identify areas where I could adjust my production costs. I realized that I could reduce production costs by negotiating better prices with suppliers. I also use accounting information to determine the optimal price to sell my soybeans, taking into account fluctuations in market prices."*

*"By using accounting information to manage market risk, I can adjust production costs and pricing strategies to minimize losses. I can also identify opportunities to sell my soy at a higher price, which helps me maximize my profits. This experience reinforces the importance of using accounting information to manage risk in my agribusiness. By*

*accessing accurate and timely financial information, I can make informed decisions that help me minimize risk and maximize return.”*

Thus, it can be seen that accounting information is an important tool to manage risks in agricultural production. By using accounting information to analyze a farm's financial performance, farmers can identify areas of risk and make informed decisions to mitigate those risks. Whether it's managing risks related to weather, market risk, or financial risk, accounting information gives them the insights they need to make informed decisions that help farmers maximize profits and minimize losses.

#### **4.2 Using accounting information to identify, assess and manage risks in agricultural business activities**

The majority of farmers interviewed said that the use of accounting information is very important in identifying, evaluating and managing risks in agricultural business activities. Here's how they use accounting information to manage risk in their agribusiness:

**Risk identification:** Farmers use accounting information to identify potential risks in their agribusiness operations. For example, they analyze their financial statements to identify areas where their business is vulnerable such as weather-related risks, market risks, and financial risks. They also review their cash flow statements to identify periods of cash flow shortfall, which may indicate potential risks.

**Risk assessment:** Once they have identified potential risks, they use accounting information to assess the likelihood and impact of those risks. For example, they use sensitivity analysis to assess how changes in weather patterns or market prices may affect their business. They also use break-even analysis to assess the impact of changes in production costs or prices on their business.

**Risk management:** After assessing risks, they use accounting information to develop a strategy to manage those risks. For example, they use accounting information to determine optimal inventory levels, taking into account the risk of failure or obsolescence. They also use accounting information to determine the optimal pricing strategy, taking into account the risk of price fluctuations.

A farmer shows how they use accounting information to identify, assess, and manage risks in their agricultural business:

*“Last year, I planted a big tomato crop, but the weather forecast shows that the likelihood of frost in the coming weeks is very high. I know that if frost occurs, my crop yield will decrease significantly, resulting in a significant loss of revenue.*

**Risk identification:** *I used accounting information to identify the potential risk of frost damage to my tomato plants. I have analyzed my financial statements to determine the potential impact of frost damage on my business, including potential loss of revenue and impact on my cash flow.*

**Risk assessment:** *I used sensitivity analysis to assess the likelihood and impact of frost damage on my business. I determined that if frost occurred, my crop yield would decrease by 20%, resulting in a loss of \$10,000 in revenue.*

**Risk management:** *After the risk assessment, I used accounting information to develop a risk management strategy. I decided to purchase crop insurance to minimize the risk of frost damage. I also adjust my harvest schedule to minimize the impact of frost on crop yields. By using accounting information to identify, assess, and manage the risk of frost damage, I can minimize losses and maintain stable cash flow.”*

Thus, the use of accounting information is important in the identification, evaluation and management of risks in agricultural business activities. By analyzing financial statements, assessing risks, and developing strategies to manage those risks, farmers can minimize losses and maximize profits.

#### **4.3 Limitations or challenges in using accounting information to manage risk**

According to agribusiness farmers, they face limitations and challenges in using accounting information to manage risks. One of the main limitations is the accuracy and reliability of accounting information. The majority of farmers said they do not have the necessary expertise or resources to ensure that their accounting information is accurate and up to date. This leads to inaccurate or incomplete information, which can be misleading and affect their own risk management decisions.

Another limitation is the timeliness of accounting information, a farmer said, they need to make quick decisions to respond to changes in market conditions or weather conditions. However, accounting information is not provided in a timely manner, which limits their ability to react quickly to changes in circumstances.

Some farmers report situations where they face limitations and challenges in using accounting information to manage risk:

*“Last year I planted a big crop of soybeans but the price of soybeans in the market fluctuated sharply due to changing world demand. I know that if soybean prices continue to fall, my business will suffer a heavy loss. To manage this risk, I tried to use accounting information to analyze the cash flow and profitability of my business.*

**Limitations and Challenges:** *However, I face some limitations and challenges in using accounting information to manage this risk. Firstly, my accounting information is not up to date, which makes it difficult for me to get an accurate picture of the financial situation of my business. Second, I do not have the necessary expertise to analyze accounting information and make informed decisions. In the end, the accounting information was not timely, which meant that I did not have the latest information to make a quick decision.*

**Consequences:** *Due to these limitations and challenges, I have not been able to make informed decisions to manage the risk of soybean prices falling. I ended up selling my soybeans at a lower price than I anticipated, which resulted in significant losses to my business.*

**Lesson learned:** *This experience has taught me the importance of having accurate, reliable and timely accounting information for risk management. Since then, I have invested in accounting software and hired an accountant to ensure that my accounting information is accurate and up to date. I've also gained a better understanding of accounting principles and practices, which allows me to make more informed decisions to manage risk."*

Although accounting information is essential for risk management in agricultural enterprises, there are limitations and challenges that farmers may face. These limitations and challenges can be overcome by investing in accounting software, hiring accountants, and developing a better understanding of accounting principles and practices. That way, farmers can make more informed decisions to manage risks and minimize losses.

### 5. Conclusion and recommendations

This study investigates farmers' perceptions of the usefulness of accounting information in risk management. The results show that farmers are aware of useful accounting information in managing risks related to agricultural production. However, the study also found that farmers face challenges in using accounting information to manage risk, including a lack of opportunities for accounting training and a limited understanding of accounting concepts.

To overcome the above challenges, the study proposes the following recommendations:

*First*, training and education in accounting, agricultural organizations, and government agencies should provide training and education programs to farmers to enhance their understanding of accounting principles and practices. This can include workshops, online courses, and in-person counselling.

*Second*, hiring an accountant or bookkeeper, farmers who lack the expertise or resources to manage their accounting information should consider hiring an accountant. This can help ensure that accounting information is accurate, reliable, and up to date.

*Third*, simple accounting information, accounting information must be presented in a form that is easy to understand for farmers. This can include using simple language, providing visual aids such as charts and graphs, and highlighting key performance indicators.

*Fourth*, timely accounting information, farmers need to have access to timely accounting information to make quick decisions. This can be achieved by using cloud-based accounting software that provides real-time financial data or by setting up regular accounting schedules to ensure timely financial reporting.

*Fifth*, industry-specific accounting solutions must be tailored to the specific needs of farmers and agribusinesses. This may include industry-specific accounting software or accounting services provided by professionals with experience in agricultural accounting.

*Sixth*, Government support and resources, government agencies should provide resources and support to farmers to help them improve the use of accounting information for risk management. This may include providing access to accounting professionals, providing financial support for accounting software and tools, and developing industry-specific accounting guidelines and standards.

By implementing these recommendations, farmers can

overcome the challenges they face in using accounting information to manage risk and make more informed decisions to manage risk and minimize losses.

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