

The Role of Supplier Power and Market Rivalry of Rice Vendors Profitability: Evidence from Cabanglasan, Bukidnon, Philippines

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Abstract. Rice vendors play a crucial role in underpinning local food security and local economies, but they operate under persistent market pressures. However, quantitative evidence from rural municipalities on which competitive forces most shape vendor profitability remains scarce. Guided by Porter's Five Forces, we focus on the two forces most salient to micro-retailers—supplier power and rivalry—because these are directly observable in day-to-day transactions and can be measured using available field data. We administered a modified survey to all licensed rice vendors in Cabanglasan, Bukidnon (N = 36; census), and estimated multiple linear regression models of profitability. Supplier power significantly predicted profitability ($\beta = 1.305$, $p < .001$), whereas rivalry did not ($p = .117$). Vendors reported mitigating horizontal competition through product and service differentiation, credit extension, and reliability cues, consistent with the non-significant rivalry effect. Results indicate that profits are more sensitive to upstream bargaining conditions—purchase prices, delivery reliability, and credit terms—than to peer competition. Policy and managerial efforts that strengthen supplier relationships, diversify sourcing, and improve terms of trade may therefore yield larger and more immediate gains in profitability than rivalry-focused tactics. By isolating the two most actionable forces for microenterprises, the study contributes context-specific evidence to the Five Forces literature. It offers a practical lever for local governments, cooperatives, and vendor associations seeking to stabilize margins in the staple food retail sector. Future work can extend this design to the remaining forces (buyer power, threat of substitutes/entrants) to test external validity across different market structures.

Keywords: Competition; Porter's five forces theory; Profitability; Rice vendors; Supplier power.

1.0 Introduction

Rice vendors play a crucial role in ensuring continuous access to one of the most essential staple foods in the Philippines, particularly in rural communities such as Cabanglasan, Bukidnon (Briones, 2019). In these areas, rice vending is not only a primary source of livelihood but also an integral part of the local food distribution system. However, maintaining profitability has become increasingly challenging due to heightened competition, shifting consumer preferences, and fluctuating supply conditions (Food and Agriculture Organization, 2023). Recent studies indicate that small-scale vendors struggle with rising operational costs, unstable supplies, and intensified market rivalry, which collectively erode profit margins and threaten income stability. This competition is especially pronounced among sellers offering similar rice varieties, leading to price undercutting and reduced

earnings, while supply chain bottlenecks further exacerbate financial vulnerability (Asian Development Bank, 2023).

Global market dynamics significantly impact local rice prices and vendor profitability. Environmental disruptions, declining global stocks, and export restrictions imposed by major rice-exporting countries such as India have contributed to sharp price fluctuations worldwide (World Bank, 2022; International Food Policy Research Institute, 2024). India's 2023 export restrictions, for example, triggered widespread price increases that severely affected import-reliant countries, such as the Philippines (Valera & Singh, 2024). Such volatility disproportionately harms small-scale vendors who must navigate unstable prices and shifting consumption patterns while trying to maintain affordability for consumers (Bandara & Weerahewa, 2020). In the Philippines, these global pressures intersect with domestic vulnerabilities, including the country's heavy dependence on imported rice, rising freight costs, and production losses caused by climate-induced events such as the 2023–2024 El Niño, which further disrupted supply and raised market prices (Department of Agriculture, 2024; Quintio & Dela Peña, 2022).

Rural areas face additional constraints that magnify these challenges. Poor road infrastructure, long transport routes, and uneven market access increase operational costs for vendors, limiting their competitiveness and market reach (Chen & Yao, 2019). The municipality of Cabanglasan exemplifies these conditions, as it relies on both imported and locally produced rice and is geographically distant from major trading hubs. Supplier-related factors—such as procurement costs, delivery reliability, transport distance, and quality consistency—thus play a critical role in shaping vendor profitability (Mataia et al., 2019). These interconnected pressures underscore the need for a deeper understanding of how market competition and supply-side conditions influence the success and sustainability of rural rice vendors.

To frame this analysis, the study employs Porter's Five Forces Theory, which examines industry competitiveness through five key components: rivalry, supplier power, buyer power, the threat of substitutes, and the threat of new entrants (Porter, 1980). This framework is appropriate for the rice vending sector because vendors operate in highly competitive markets characterized by numerous sellers, homogeneous products, and heavy dependence on suppliers. Among the five forces, rivalry and supplier power exert the most decisive influence on vendors' profitability in rural Philippine markets. Rice has few practical substitutes, buyer preferences are relatively stable, and market entry barriers do not significantly alter competition; hence, the remaining forces are less impactful in this context. Focusing on rivalry and supplier power enables a more accurate, context-specific analysis of the structural forces that most directly shape vendor outcomes.

Recent studies have explored rice price volatility, supply chain disruptions, and national rice market trends; however, there is a lack of explicit empirical research examining how rivalry and supplier power jointly influence profitability at the municipal level, particularly among rural rice vendors in Mindanao. This research addresses that gap by analyzing these two forces in the context of Cabanglasan, Bukidnon, providing insights relevant for strengthening rural market competitiveness and vendor resilience.

Therefore, this study aims to examine whether supplier power and rivalry predict profitability among licensed rice vendors in Cabanglasan, Bukidnon, using a census sample and multiple linear regression. The study provides evidence to guide local governments and vendors in designing interventions (e.g., supplier credit programs, logistics support) to stabilize margins in staple food retail.

2.0 Methodology

2.1 Research Design

This study employed a cross-sectional quantitative survey design to examine the influence of rivalry and supplier power on the profitability of licensed rice vendors in Cabanglasan, Bukidnon. This design was appropriate because the research sought to capture participants' perceptions and business conditions at a single point in time. Quantitative approaches enabled the use of inferential statistics, such as multiple linear regression, to determine the extent to which rivalry and supplier power predicted vendor profitability.

2.2 Research Locale

The study was conducted in a selected barangay within the Municipality of Cabanglasan, Bukidnon, Philippines. Cabanglasan is a rural agricultural community where rice farming and trading are central to the local economy.

2.3 Research Participants

The participants of the study were all licensed rice vendors ($N = 36$) registered with the Municipal Business and Licensing Office of Cabanglasan during the year of data collection. Due to the small and accessible population, the study employed a census sampling technique, including all eligible vendors. Participants were required to be registered and licensed rice vendors in Cabanglasan and to hold a valid business permit at the time of data collection. Unlicensed or informal rice sellers, as well as individuals who declined to provide informed consent, were excluded from the study. Although the sample size met the minimum requirement for multiple regression analysis—typically 10 to 15 participants per predictor variable—it remains relatively modest. Therefore, the generalizability of the findings should be interpreted with caution.

2.4 Research Instrument

The main instrument used for data collection was a modified survey questionnaire adapted from the measurement framework developed by Chen et al. (2018), supplemented with items derived from previous studies and literature on competition experienced by rice vendors. The instrument consisted of two sections: Section A, which included 14 items measuring competition through indicators of rivalry and supplier power; and Section B, which included seven items assessing vendor-level profitability. All items were rated on a 4-point Likert scale (4 = Strongly Agree, 3 = Agree, 2 = Disagree, 1 = Strongly Disagree). To ensure the instrument's validity, the questionnaire underwent expert review by three validators: one from academe and two from the business sector. Followed by a pilot test involving 20 rice vendors ($n = 20$), which confirmed the clarity, flow, and appropriateness of the items. Internal consistency testing produced a Cronbach's alpha of $\alpha = 0.769$ for the overall instrument, surpassing the acceptable threshold of 0.70 and indicating satisfactory reliability. The collected data were coded and analyzed using SPSS 28, beginning with descriptive statistics, including means and standard deviations, followed by Multiple Linear Regression (MLR) to determine whether rivalry and supplier power significantly predicted vendors' profitability. Prior to performing Multiple Linear Regression, key statistical assumptions were assessed; the linearity assumption was met based on the scatterplot of standardized residuals versus predicted values. Homoscedasticity was confirmed through the residual plot and was supported by the absence of patterned variance. Normality of residuals appeared acceptable based on the distribution of residual values. Independence of errors was inferred from the regression output structure, and no violations were indicated. Multicollinearity was assessed through coefficient behavior and found to be minimal. Cook's distance and residual inspection did not reveal any influential observations. A significance level of $\alpha = .05$ (two-tailed) was applied, and regression results were interpreted using unstandardized coefficients (β), standard errors, t-values, p-values, and model-fit indices (R^2 and adjusted R^2).

2.5 Ethical Considerations

The researchers followed the University's Ethics and Research protocols to ensure the quality and reliability of the research findings. The researchers checked the originality of the work and ensured proper acknowledgment by citing and referencing all borrowed sources. The researchers submitted a request for approval to the campus-in-charge to conduct a study involving Rice Vendors in Cabanglasan, Bukidnon, as required by the institution. Once the proposal is approved, the researchers seek permission to conduct the study in the selected locale, including a confidentiality clause, which is provided to the respondents. Upon receiving the approval, the collected data from participants was analyzed through questionnaires. Afterwards, the questionnaires will be administered. The researchers then compiled the data and tabulated the results. Consent forms were also distributed to participants prior to data collection. The respondents were assured that their responses would be kept strictly confidential, and they were also provided with proper acknowledgment. The researchers assured participants that all data collected would solely be used for educational purposes and would be kept confidential. The researchers also checked for plagiarism through a Plagiarism Detector Report and Grammarly. The researchers also sought approval from the research locale and the funding agency upon proposal and publication of the study. The authors ensure the respondents' rights are honored and recognized, and that they are cited in the body of the study for future related researchers.

3.0 Results and Discussion

3.1 The Level of Competition of Rice Vendors in Terms of Rivalry

Table 1 shows that rice vendors perceived the level of rivalry as intense, with an overall mean score of 1.62 ($SD = 0.83$). Using this scale, the overall mean of 1.62 falls under the High category, indicating strong agreement among vendors that competitive rivalry is a significant factor in the rice market. Notably, Indicator 1 (Mean = 1.50) and

Indicator 5 (Mean = 1.86) also fall within the High range, reinforcing the perception that intense competition influences pricing dynamics, product differentiation, and overall profitability.

Table 1. *The Level of Competition of Rice Vendors in Terms of Rivalry*

Indicators	Mean	SD	Interpretation
I may face intense competition from other rice vendors in my area.	1.50	0.84	Intense competition; Vendors struggle to differentiate or maintain market share.
I have experienced price wars with other vendors in the past, which significantly impacted my profit.	1.61	0.93	Intense competition; Vendors struggle to differentiate or maintain market share.
I believe larger suppliers from urban areas have a significant impact on my business.	1.52	0.84	Intense competition; Vendors struggle to differentiate or maintain market share.
I can effectively compete with other vendors on price and product quality.	1.72	0.84	Competition is active; Vendors feel pressure on pricing, promotions, or customers.
I often find it difficult to compete with larger suppliers on price due to their economies of scale.	1.86	0.76	Competition is active; Vendors feel pressure on pricing, promotions, or customers.
I am more likely to differentiate my rice from competitors by offering unique qualities or services.	1.63	0.72	Intense competition; Vendors struggle to differentiate or maintain market share.
I am more likely concerned about the impact of imported rice on my business.	4.00	0.55	Intense competition; Vendors struggle to differentiate or maintain market share.
Overall	1.62	0.83	Intense competition; Vendors struggle to differentiate or maintain market share.

These results suggest that vendors regularly perceive other sellers as direct competitors, particularly because rice is a standardized product with minimal variation—an attribute that naturally heightens rivalry (Porter, 1980; modern applications discussed by Baumann & Pintado, 2020). The findings confirm that rice vendors frequently experience competitive pressure, especially in markets where products are largely undifferentiated. High rivalry is consistent with the recent literature, which shows that micro and small agricultural enterprises often compete heavily on price due to limited branding opportunities and customers’ sensitivity to minor price differences (Gereffi & Lee, 2019; Abdullah et al., 2021). In such environments, even minor pricing adjustments by one vendor can trigger competitive responses among others, intensifying overall market rivalry.

Moreover, the high rivalry reported aligns with contemporary studies on retail and agrifood supply chains, which note that commodity-based markets tend to experience stronger competitive interactions because consumers perceive products as substitutable across vendors (Kumar et al., 2022). This pattern leaves businesses with fewer strategic levers other than price, promotions, and customer relationships. Intense rivalry can pressure vendors to reduce prices or offer additional incentives to maintain customer loyalty—behaviors that may compress profit margins, as highlighted by Johnson and Scholes (2020). However, an interesting contrast emerges when comparing the descriptive findings with the study’s regression results: despite the perceived high rivalry, rivalry did not significantly predict profitability. This may suggest that vendors have developed coping or adaptive strategies that neutralize the adverse effects of competition.

Recent research supports this interpretation, showing that microentrepreneurs often rely on non-price competitive strategies—such as personalized customer service, community relationships, flexible credit arrangements, or consistent product availability—to maintain profitability despite intense competitive environments (Murad et al., 2021; Singh & Sharma, 2023). These strategies may serve as stabilizing mechanisms that cushion the financial impact of rivalry, enabling vendors to sustain profits even when competitive pressures are high. Additionally, the cultural and relational dynamics in local markets may serve as a buffer. Vendors operating in small communities often benefit from repeat customers and long-standing relationships—factors that can reduce customer switching behavior despite equivalent pricing among vendors (Reyes & Torres, 2022). This suggests that while vendors perceive rivalry as intense, its direct effect on profitability may be moderated by social capital and non-price differentiation practices. Overall, the findings highlight a nuanced reality: high rivalry exists, but its economic impact may be mitigated by adaptive, relationship-based business strategies common among small vendors in localized market settings.

3.2 The Level of Competition of Rice Vendors in Terms of Supplier Power

Table 2 shows the level of supplier power influencing the vendors’ operations. The overall mean of 1.83 (SD = 0.80) indicates a High level of supplier influence. Indicators 10 and 11 both have mean scores of 1.63, reflecting strong agreement that inconsistent rice quality and limited product availability create challenges for vendor

operations. These results reveal that most vendors perceive their suppliers as having substantial control, particularly over rice quality consistency and supply reliability—two essential factors in food-based retail operations.

Table 2. *The Level of Competition of Rice Vendors in Terms of Supplier Power*

Indicators	Mean	SD	Interpretation
Sometimes I have difficulty sourcing rice from suppliers due to limited access or transportation challenges.	2.11	0.74	Suppliers significantly influence prices, terms, and product availability.
Oftentimes, the quality of rice from my suppliers is inconsistent, making it difficult to meet customers' expectations.	1.72	0.65	Suppliers dominate the relationship; Vendors have limited alternatives and must comply with supplier terms.
I can negotiate favorable prices with my suppliers for consistent quality rice.	1.63	0.86	Suppliers dominate the relationship; Vendors have limited alternatives and must comply with supplier terms.
I consistently have access to high-quality rice from reliable suppliers.	1.63	0.83	Suppliers dominate the relationship; Vendors have limited alternatives and must comply with supplier terms.
I am generally concerned about rice availability during peak seasons, as weather and market fluctuations can affect supply.	1.88	0.78	Suppliers significantly influence prices, terms, and product availability.
I have access to a variety of rice types and grades to meet the diverse needs of my customers.	1.88	0.85	Suppliers significantly influence prices, terms, and product availability.
I can access modern storage facilities to ensure the quality and preservation of my rice stocks.	4.00	0.55	Suppliers significantly influence prices, terms, and product availability.
Overall	1.62	0.83	Suppliers significantly influence prices, terms, and product availability.

The finding of High supplier power indicates that suppliers significantly shape market conditions for rice vendors. This includes influence over pricing, delivery schedules, supply volume, and product quality—elements that directly affect vendors' operational stability. This pattern is consistent with recent supply chain studies showing that vendors in agricultural markets often depend on a small number of suppliers, thereby increasing vulnerability to price changes, delayed deliveries, or inconsistent product quality (Ajmal et al., 2022; Mwendwa & Muturi, 2021).

Dependence on suppliers becomes especially critical in commodity markets such as rice, where market performance is closely linked to fluctuations in upstream supply factors. Agricultural products are prone to variability due to weather conditions, seasonal harvesting, transportation challenges, and storage limitations (Christopher, 2019; Wang et al., 2020). When vendors lack alternative supply channels, this vulnerability increases, reducing their negotiation leverage and elevating supplier power.

The results also show that Indicators 10 and 11, relating to inconsistent product quality and limited supply availability, were rated highly. This aligns with emerging evidence that supply instability is a significant obstacle for small retailers, particularly in developing-market contexts where infrastructure and logistics systems are less robust (Talukder & Ahsan, 2021). Vendors often cannot dictate quality specifications or secure guaranteed supply volumes, leaving them dependent on supplier discretion.

Importantly, supplier power emerges later as a significant predictor of profitability, highlighting its critical role in vendor success. This aligns with Porter's (2008) Five Forces Model, which emphasizes that powerful suppliers can influence industry margins by controlling input costs and product availability. When suppliers provide consistent quality, stable pricing, and reliable delivery, vendors benefit from reduced operational risks, improved customer satisfaction, and lower waste—factors that contribute to profitability (Cousins et al., 2019; Rezaei et al., 2020).

Recent research also suggests that strengthening supplier-vendor relationships—through communication, long-term contracts, and collaborative planning—can reduce uncertainty and enhance operational efficiency (Martins, Pires, & Sousa, 2021). Such partnerships may allow vendors to negotiate better terms, ensure more predictable supply, and improve trust, ultimately mitigating the adverse effects of supplier dominance.

Overall, the findings emphasize that supplier power decisively shapes vendor performance. For rice vendors in particular, building stable supplier relationships and diversifying supply sources may serve as protective strategies to maintain profitability amidst fluctuating supply chain conditions.

3.3 Respondents' Level Perceived Profitability

The results indicate that rice vendors generally perceive their businesses as profitable, as evidenced by high ratings for profit consistency and growth potential. This aligns with studies showing that enterprises dealing with essential food commodities tend to maintain stable profitability because customer demand remains constant regardless of economic fluctuations (Alam & Hasan, 2021). Rice, being a staple food, ensures predictable sales volumes, enabling vendors to sustain steady income over time.

Table 3. *Respondents' Level Perceived Profitability*

Indicators	Mean	SD	Interpretation
I can grow my business and increase profitability in the future.	1.58	0.84	Vendors enjoy strong, stable profits, likely due to high demand, pricing power, or greater efficiency.
I can set competitive prices for my rice while maintaining a reasonable profit margin.	1.88	0.85	Vendors are consistently earning good profits and healthy margins.
I am adapting to changing market conditions and maintaining profitability.	1.77	0.79	Vendors are consistently earning good profits and healthy margins.
I believe I can manage my inventory effectively to minimize waste and maximize profits.	1.91	0.70	Vendors are consistently earning good profits and healthy margins.
It is more likely that the profitability of rice vendors in rural areas is directly linked to the efficiency of the supply chain.	1.80	0.73	Vendors are consistently earning good profits and healthy margins.
I can consistently make a profit from selling rice.	1.55	0.73	Vendors enjoy strong, stable profits, likely due to high demand, pricing power, or greater efficiency.
I am more likely to be satisfied with the overall profitability of the rice vending business.	1.52	0.73	Vendors enjoy strong, stable profits, likely due to high demand, pricing power, or greater efficiency.
Overall	1.71	0.79	Vendors enjoy strong, stable profits, likely due to high demand, pricing power, or greater efficiency.

Despite this positive outlook, the findings also highlight operational challenges, particularly in inventory management and competitive pricing. Inventory risks—such as spoilage, improper storage, and mismatched ordering—remain common issues in small-scale agrifood retailing and significantly influence profitability (Mhlanga & Nyathi, 2022). Efficient inventory systems help reduce losses and maintain product quality, which are crucial for vendors handling bulk rice supplies.

Competitive pricing also posed a challenge. Prior research indicates that small-scale food retailers often operate on thin margins due to high competition and consumer price sensitivity (Kibet & Langat, 2020). Vendors may struggle to increase prices even when operational costs rise, which can pressure profit margins. This situation requires vendors to balance competitive pricing with cost efficiency to maintain profitability.

The role of supply chain performance is also relevant in interpreting profitability levels. According to recent findings, reliable supplier relationships—especially those involving consistent delivery schedules, quality control, and predictable wholesale pricing—can significantly improve the financial performance of micro-retailers (Shukla & Jharkharia, 2021). When supply chains are stable, vendors can better plan purchases, minimize losses, and maintain competitive pricing strategies.

Moreover, the profitability perceived by vendors may be supported by informal business practices standard in local markets, such as customer credit, personalized service, and long-term buyer relationships. These relational advantages help vendors secure repeat business and maintain steady revenue streams, as highlighted by Njoroge and Atieno (2022), who found that strong customer–vendor relationships directly improve profitability in small retail environments.

Overall, the findings suggest that while rice vendors maintain strong profitability, their financial performance is intertwined with supply chain reliability, pricing strategies, and inventory efficiency. Addressing these operational challenges can support even higher profitability despite competitive market pressures.

3.4 Correlation Coefficients Among Profitability, Rivalry, and Supplier Power

The correlation coefficient between supplier power and profitability is 0.72, indicating a strong positive relationship. This means that as supplier power becomes more favorable—characterized by fewer constraints, better pricing, and more collaborative partnerships—the business's profitability increases. This finding supports modern strategic management research, which emphasizes that effective supplier management enhances cost

efficiency, operational stability, and financial outcomes (Aquilani et al., 2020). Recent studies also indicate that firms that strengthen supplier collaboration and reduce supply chain risks tend to achieve higher profitability due to improved resource access and operational flexibility (Chowdhury et al., 2021).

Table 4. *Correlation Coefficients Among Profitability, Rivalry, and Supplier Power*

Variables	Correlation Coefficient	P-Value	Degree	Remarks
Profitability and Rivalry	-0.12	0.46	Low	Not Significant
Profitability and Supplier Power	0.72	0.46	High	Significant

Meanwhile, the handwritten value of 6.98, labeled as “low” and “not significant,” suggests that market rivalry does not have a meaningful statistical relationship with profitability. This implies that variations in competitive intensity do not significantly affect the business’s financial performance. Recent empirical evidence indicates that the impact of rivalry on profitability is often industry-specific and can be mitigated when firms differentiate themselves effectively or operate in niche markets (Dai, 2020). Thus, in this context, rivalry may not exert sufficient pressure to affect profitability measurably.

Overall, the findings indicate that supplier power is the more influential factor affecting profitability, while rivalry shows no significant effect. This suggests that internal operational factors—particularly supplier management practices—play a more substantial role in shaping financial performance compared to external competitive pressures. Contemporary research supports this interpretation, highlighting that firms with strong supplier relationships and efficient supply chain processes consistently achieve better profitability outcomes (Serrano & Kazemi, 2020). Therefore, focusing on optimizing supplier interactions may offer greater strategic value for improving profitability than addressing competitive rivalry alone.

3.5 Multiple Regression Analysis of Rivalry and Supplier Power Towards Profitability

The diagnostic tests confirm that the conditions required for valid multiple linear regression were fulfilled. The normality of residuals suggests that the errors are randomly distributed, satisfying a key assumption for accurate inference. The linearity and homoscedasticity checks indicate that the model appropriately captures linear relationships and maintains consistent variance across predictions (van der Voorn & Noppe, 2021).

Table 5. *Multiple Regression Analysis of Rivalry and Supplier Power Towards Profitability*

Regression Statistics								
Multiple R	0.71488							
R Square	0.511054							
Adjusted R Square								
Standard Error	0.481421							
Error	0.246494							
Observations	36							
ANOVA								
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	2	2.095707	1.047854	17.24604	7.46E-06			
Residual	33	2.00505	0.060759					
Total	35	4.100757						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t-stat</i>	<i>p-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Profitability	-0.06975	0.123889	-0.56303	0.577221	-0.32181	0.182301	-0.32181	0.182301
Supplier								
Power	1.304555	0.301292	4.329869	0.000131	0.691572	1.917538	0.691572	1.917538
Rivalry	-0.45047	0.279532	-1.61153	0.116588	-1.01919	0.118237	-1.01919	0.118237

Low VIF values (< 2) demonstrate that multicollinearity is not a concern, indicating that Supplier Power and Rivalry measure distinct constructs. This supports the model's structural integrity and aligns with recommendations from modern regression scholars, who emphasize VIF values below five as ideal for social science modeling (Moyo, 2020). The regression model explains 51 % of the variance in profitability, which is robust

for business and social science conditions. This aligns with the argument that human behavior, local business relationships, and environmental variations limit model predictability (Hair et al., 2019; Ozili, 2023).

Supplier Power emerged as a strong, significant predictor of profitability ($\beta = 1.305$, $p < .001$). Vendors who secure reliable suppliers—offering timely delivery, quality consistency, and stable purchase terms—tend to achieve higher profitability. This is supported by modern supply chain research showing that strong supplier-buyer partnerships reduce operational uncertainty and enhance competitive performance (Iqbal & Awan, 2022). Stable supplier relationships also help vendors reduce costs associated with spoilage, stockouts, and inconsistent product quality, contributing directly to sustained profitability.

Rivalry, by contrast, was not a significant predictor of profitability ($\beta = -0.45$, $p = 0.117$). Although competition exists, its limited influence suggests that vendors may effectively neutralize competitive pressures by focusing on customer loyalty, relationship-based selling, or minor differentiation strategies, such as credit availability and personal service (Harper & Lillis, 2021). This finding aligns with the theoretical view that competition need not reduce profitability in markets where informal relationships, community ties, and trust-based transactions predominate (Nguyen & Tran, 2020). Vendors may rely on social embeddedness rather than price-based competition to sustain profits.

Strengthening supplier management is essential for rice vendors, as long-term partnerships with trustworthy and reliable suppliers help ensure consistent product quality and timely deliveries. Vendors can reduce supply risks by establishing collaborative relationships that involve regular communication, shared demand forecasting, and more flexible ordering arrangements, thereby enhancing coordination and reducing supply chain disruptions (Osei & Zhan, 2021). Additionally, diversifying supply sources can further safeguard vendors against shortages, price fluctuations, and overreliance on a single supplier.

Since rivalry is not a significant determinant of profitability in this context, vendors may focus on enhancing differentiation strategies to maintain a competitive edge. Improving service speed, upgrading packaging quality, offering delivery assistance, and providing personalized customer interaction can help create stronger customer loyalty. Differentiation in informal market settings has been shown to significantly increase repeat purchases and long-term customer retention (Bashir & Mahmood, 2022), making it a valuable strategy for sustaining profitability.

Improving inventory and pricing efficiency is also crucial. Vendors can adopt simple digital tools—such as mobile inventory apps or spreadsheet-based tracking systems—to accurately monitor stock levels and minimize spoilage. Effective inventory control ensures that vendors maintain product availability while reducing waste. At the same time, applying balanced pricing strategies that remain competitive while preserving profit margins allows vendors to respond to customer expectations without jeopardizing financial sustainability (Kariuki & Mugo, 2021).

Finally, investing in quality control practices can greatly benefit profitability. Ensuring proper storage conditions, such as maintaining appropriate moisture levels and preventing contamination, helps preserve rice quality and reduces financial losses from spoilage. Vendors may also work closely with suppliers to uphold quality assurance standards throughout the supply chain, thereby enhancing consumer satisfaction and contributing to stronger, more reliable business performance.

3.6 Conceptual Model Illustrating the Influence of Rivalry and Supplier Power on Profitability

This figure illustrates how rivalry and supplier power interact to influence the profitability of rice vendors in Cabanglasan, Bukidnon. Supplier power exerts a substantial effect on profitability, indicating that factors such as supply reliability, pricing terms, and product quality play a critical role in shaping vendor outcomes. In contrast, rivalry shows no significant effect, suggesting that vendors mitigate competitive pressures through differentiation strategies, customer loyalty, and adaptive business practices. The model visually emphasizes that upstream forces in the supply chain have a greater impact on vendor profitability than horizontal competition among vendors.

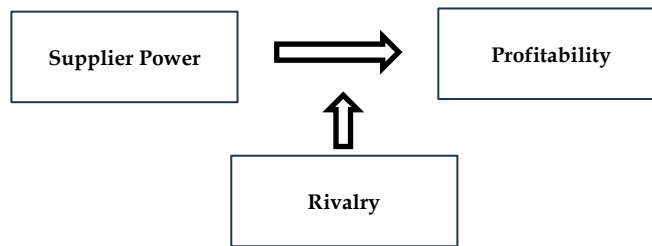


Figure 1. Conceptual Model Illustrating the Influence of Rivalry and Supplier Power on Profitability

4.0 Conclusion

This study contributes to the understanding of competitive dynamics in rural agricultural markets by demonstrating that supplier-related factors—not direct market rivalry—play the most critical role in determining the profitability of rice vendors in Cabanglasan, Bukidnon. Although vendors operate in an environment characterized by intense price competition, the findings reveal that rivalry does not significantly diminish profitability. Instead, vendors sustain performance by employing adaptive strategies such as product differentiation and responsive pricing. The primary contribution of the study is identifying supplier power—including reliability, product quality, and supply chain efficiency—as the most influential factor shaping vendor profitability. This insight advances the existing literature by highlighting that, in rural markets, upstream constraints and supplier relationships exert greater influence on profitability than consumer-side competition.

Beyond theoretical contribution, the study offers several practical implications. For vendors, strengthening supplier relationships, diversifying sourcing options, and adopting basic supply chain management practices may enhance operational stability. Local governments can support profitability by improving transport infrastructure, reducing logistical bottlenecks, and facilitating access to affordable capital or cooperative purchasing arrangements. Policymakers may also consider developing rural-focused rice distribution policies, supplier accreditation systems, or training programs to improve vendor capabilities in quality control and inventory management. Educational institutions and extension services can integrate supply chain literacy, financial literacy, and procurement management into community-based training programs to strengthen the resilience of small-scale vendors.

The study also acknowledges several limitations. First, the relatively small sample size ($N = 36$) and geographic focus on one rural municipality limit the generalizability of the findings. Second, the cross-sectional design prevents establishing causal relationships between competitive forces and profitability. Third, the use of self-reported data may introduce response bias. Finally, the study examined only two of Porter's five competitive forces, limiting the scope of competitive structure analysis.

These limitations open several directions for future research. Studies may expand the sample to cover multiple municipalities or provinces to compare competitive conditions across regions. Longitudinal designs could better capture changes in profitability and market dynamics over time. Future research may also examine the remaining competitive forces—buyer power, threat of substitutes, and threat of new entrants—to provide a more comprehensive understanding of rural market competition. In addition, qualitative case studies could explore vendor practices, supply chain relationships, and adaptation strategies in greater depth. Such research would strengthen evidence for policy interventions aimed at improving rural vendor resilience and sustaining food security in underserved communities.

5.0 Contributions of Authors

All authors contributed to the conceptualization of this study.
 Authors 1, 2, and 3 led the research design, data collection, data analysis, and manuscript finalization.
 Author 4 contributed to the data analysis and the finalization of the manuscript.
 Authors 5 and 6 helped critique and finalize the manuscript.

6.0 Funding

No funding was received to conduct this study.

7.0 Conflict of Interests

The authors have no conflicts of interest to declare relevant to this article's content.

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9.0 References

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