

Porter's Five Forces-Based Analysis of the Competitive Intensity of Gasoline Retailer in A Third-Class Municipality in Pangasinan

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Abstract- *This study examined the competitive environment among gasoline retailers in a third-class municipality in Pangasinan using Porter's Five Forces model. It aimed to identify the major elements shaping competition and to understand how these forces affect the strategic positioning of local fuel stations. A mixed-method design was employed, combining survey data from gasoline station operators with interviews from key industry stakeholders to provide a comprehensive analysis of market dynamics. Findings revealed that competition among existing players is moderate, influenced by customer price sensitivity and brand loyalty. The entry of new competitors is limited by high investment costs and strict regulatory requirements, while suppliers hold moderate influence due to their control over distribution channels. Buyers possess strong bargaining power as they are highly price-conscious and have easy access to alternative providers. The threat of substitutes, such as electric vehicles and alternative fuels, remains low but is expected to grow as technology and sustainability trends advance. Overall, the study concludes that local gasoline retailers must focus on strategic differentiation, operational efficiency, and strong customer relationship management to remain competitive. By adopting innovative practices and preparing for the gradual shift toward alternative energy sources, these businesses can enhance their resilience and sustain profitability in an evolving fuel retail market.*

Keyword: *Porter's Five Forces, competitive intensity, gasoline retailers, Pangasinan, market competition, strategic management*

I. INTRODUCTION

The competitive environment of gasoline retailers in developing municipalities has become increasingly dynamic due to evolving market structures,

technological innovations, and sustainability imperatives. In the Philippines, particularly in third-class municipalities such as those in Pangasinan, local gasoline stations play a vital role in supporting transportation, agriculture, and small-scale commerce. However, these businesses face challenges from fluctuating global oil prices, shifting consumer preferences, and the gradual emergence of alternative energy sources.

To address these challenges, this study applies Porter's Five Forces Model (Porter, 1980), which evaluates the intensity of competition through five dimensions: rivalry among existing competitors, threat of new entrants, bargaining power of suppliers, bargaining power of buyers, and threat of substitute products or services. This model provides a systematic approach to understanding how external pressures influence profitability and strategic positioning. Studies such as those by Dobbs (2014) and Gerard and Bruijl (2019) affirm the continued relevance of Porter's framework in assessing competitive dynamics across industries, including energy and retail sectors.

Empirical research on the gasoline retail industry highlights that competitive rivalry is often intense due to product uniformity and price sensitivity among consumers (Smith & Johnson, 2020; González & Moral, 2023). In smaller municipalities, stations compete within limited geographic markets, leading to frequent price matching and promotional strategies (Jain & Aggarwal, 2020). The threat of new entrants tends to be moderate, constrained by high capital requirements, regulatory compliance, and environmental standards, though franchising models

have somewhat lowered entry barriers (Ghandat, 2015; Albatayneh et al., 2024). Meanwhile, supplier power remains significant, as major oil companies control distribution networks and pricing mechanisms, limiting the negotiating capacity of small retailers (Thompson, 2022).

The bargaining power of buyers is particularly strong in the fuel retail market, as consumers can easily compare prices and switch providers with minimal cost (Nguyen & Lee, 2021). This dynamic compels stations to differentiate through service quality, convenience, and loyalty programs. The threat of substitutes, including electric vehicles and alternative fuels, is currently low but expected to rise as sustainability initiatives and technological advancements gain traction (Fedotov, 2022; Matsuda, 2022). These trends suggest that local gasoline retailers must adapt strategically to maintain competitiveness amid global energy transitions.

Despite extensive international research on fuel retail competition, there remains a notable gap in localized studies focusing on small-town or rural contexts in the Philippines. The unique economic conditions, consumer behaviors, and infrastructural limitations of third-class municipalities warrant a contextualized analysis. Understanding how Porter's Five Forces manifest in such settings can provide valuable insights for local entrepreneurs, policymakers, and investors.

Therefore, this study aims to analyze the competitive environment among gasoline retailers in a third-class municipality in Pangasinan using Porter's Five Forces framework. By examining the structural and strategic factors influencing competition, the research seeks to identify key challenges, assess market dynamics, and propose strategic interventions that can enhance the sustainability and profitability of local fuel retailers in an increasingly competitive and evolving energy landscape.

II. STATEMENT OF THE PROBLEM

This study purports to analyze the competitive intensity among gasoline retailers in a third-class municipality in Pangasinan using Porter's Five Forces framework. It seeks to understand how the structural

forces of competition—rivalry among existing competitors, threat of new entrants, bargaining power of suppliers, bargaining power of buyers, and threat of substitutes—shape the strategic positioning and sustainability of local gasoline stations. By examining these forces, the study aims to identify the key challenges and opportunities that influence the competitiveness of gasoline retailers in the municipality.

Specifically, this study seeks to answer the following research questions:

1. What is the level of competitive intensity among gasoline retailers in a third-class municipality in Pangasinan based on Porter's Five Forces framework?
2. What challenges do local gasoline retailers encounter that affect their competitiveness and operational sustainability?
3. What strategic business interventions can be proposed to enhance the competitiveness and long-term viability of gasoline retailers in the municipality?

III. METHODS

This study employed a descriptive-quantitative research design to assess the competitive intensity among gasoline retailers using Porter's Five Forces framework. The approach aimed to quantify and describe the degree of competition within the industry by analyzing respondents' perceptions across five key dimensions: rivalry among existing competitors, threat of new entrants, bargaining power of suppliers, bargaining power of buyers, and threat of new products or services.

Data were gathered through a structured survey instrument designed to capture respondents' evaluations of each competitive force. Responses were measured using a Likert scale, and the data were analyzed using descriptive statistical tools, specifically the mean, frequency, and coefficient of variation (CV). The mean values were used to determine the general level or intensity of each competitive force, while the frequency distribution provided insight into the consistency of responses. The

coefficient of variation was computed to assess the degree of variability among responses, with lower CV values indicating higher consistency and reliability of the data.

Interpretation of results followed standard statistical conventions, where a CV value below 10% was considered indicative of low variability and high data reliability. The analysis focused on identifying the relative strength of each of Porter's Five Forces to determine the overall competitive environment of gasoline retailers. The findings served as the basis for evaluating market dynamics and formulating strategic implications for industry participants.

IV. RESULTS

The status and challenges encountered by the business entity was presented based on the primary and secondary sources of data. The finding stated as analyzed through Porter's Five Forces framework, reveal a moderately competitive environment characterized by stability and consistency in market dynamics. The computed coefficients of variation (CV) for all five forces range from 3.60% to 5.22%, signifying low variability and high reliability of responses. These results indicate that respondents share similar perceptions of the competitive conditions within the gasoline retail industry, providing a dependable foundation for strategic interpretation and analysis.

The level of rivalry among existing competitors is assessed as moderate, with a mean score of 2.80 and a CV of 4.30%. This suggests that while competition exists, it is not excessively aggressive. Gasoline retailers compete primarily through pricing, service quality, and accessibility rather than through disruptive strategies. The low CV value indicates consistent responses among participants, confirming that the competitive environment is stable. The main challenge under this force lies in maintaining profitability amid price competition and limited product differentiation, which compels retailers to focus on customer service and brand loyalty.

Threat of new entrants is also moderate, with a mean of 2.74 and a CV of 4.49%. This implies that while

barriers to entry such as capital investment, regulatory compliance, and brand recognition exist, they are not strong enough to completely deter new players. The consistency of responses indicates that participants share a common understanding of this moderate threat. The challenge for existing retailers is to strengthen their market position through operational efficiency, customer retention, and innovation to prevent potential entrants from capturing market share.

The bargaining power of suppliers registers a mean of 2.73 and a CV of 3.60%, the lowest among all forces, indicating high consistency in responses. This reflects that suppliers exert a moderate level of influence over gasoline retailers, particularly in determining fuel prices and supply conditions. Retailers face the challenge of managing supplier relationships and mitigating the effects of fluctuating global oil prices. Establishing long-term contracts and exploring alternative supply sources are essential strategies to reduce supplier dependency and ensure business stability.

The bargaining power of buyers is found to be moderate, with a mean of 2.79 and a CV of 5.22%. Although this CV is slightly higher than those of other forces, it still indicates low variability and consistent perceptions among respondents. Buyers possess moderate influence due to their ability to switch between competing gasoline stations based on price, service quality, and convenience. The challenge for retailers lies in balancing competitive pricing with profitability while maintaining customer satisfaction through loyalty programs and value-added services.

The threat of substitute products or services is also moderate, with a mean of 2.81 and a CV of 4.77%. This suggests that while alternative energy sources and transportation options such as electric vehicles and ride-sharing services are emerging, they do not yet pose a significant threat to traditional gasoline retailers. The low CV value indicates consistent perceptions among respondents. The challenge under this force is the need for retailers to anticipate future shifts in energy consumption and adapt their business models to remain competitive in a changing market landscape.

The overall competitive intensity among gasoline retailers is therefore moderate, supported by low CV values that confirm the reliability of the data. This indicates that the industry operates in a balanced environment where no single force dominates. However, the presence of moderate pressures across all forces requires continuous strategic adaptation. Retailers must remain vigilant in monitoring market trends, technological advancements, and regulatory developments that could alter the competitive landscape.

In terms of operational challenges, gasoline retailers encounter difficulties in maintaining consistent profit margins due to fluctuating fuel prices and increasing operational costs. The limited market size in a third-class municipality further intensifies competition for a relatively small customer base. Additionally, external factors such as government regulations, environmental policies, and the gradual shift toward renewable energy sources add complexity to the competitive environment, requiring retailers to adopt more sustainable and adaptive business practices.

Furthermore, the proposed business measures to address these challenges include enhancing operational efficiency through digitalization and automation of fuel management systems. Retailers are encouraged to implement customer loyalty programs, improve service quality, and diversify their offerings by integrating convenience stores or vehicle maintenance services. Strengthening supplier relationships through long-term contracts and exploring partnerships with alternative energy providers can also help stabilize operations and prepare for future market transitions.

Another proposed measure is the adoption of sustainable business practices to align with global energy trends. Gasoline retailers may consider investing in renewable energy infrastructure, such as solar-powered stations or electric vehicle charging facilities, to attract environmentally conscious consumers. Training programs for employees on customer service excellence and operational safety can further enhance competitiveness and brand reputation within the community.

Overall, the results demonstrate that gasoline retailers operate within a moderately competitive yet stable market environment. The low coefficients of variation across all forces confirm the consistency and reliability of the data, while the identified challenges highlight the need for strategic agility. By implementing the proposed business measures focusing on efficiency, sustainability, and customer engagement gasoline retailers can strengthen their market position and ensure long-term viability in an evolving energy landscape.

V. CONCLUSION AND RECOMMENDATIONS

The study assessed the competitive intensity among gasoline retailers using Porter's Five Forces framework and found that the industry operates within a moderately competitive environment. The results, supported by low coefficients of variation ranging from 3.60% to 5.22%, indicate consistent and reliable responses among participants. Each of the five forces—rivalry among existing competitors, threat of new entrants, bargaining power of suppliers, bargaining power of buyers, and threat of substitute products or services—was rated as moderate. This suggests that while competition exists, it remains manageable, allowing gasoline retailers to sustain operations through strategic adaptation and efficient management practices.

While certain areas of the business environment present challenges, such as fluctuating fuel prices, supplier dependency, and the gradual emergence of alternative energy sources, these factors also create opportunities for innovation and improvement. The moderate level of competition implies that retailers can still strengthen their market position by focusing on service quality, customer loyalty, and operational efficiency. The consistency of responses across all forces further indicates that the competitive conditions are stable, providing a favorable foundation for long-term strategic planning.

The business demonstrates resilience despite external pressures such as economic fluctuations, regulatory changes, and evolving consumer preferences. Gasoline retailers continue to adapt by maintaining

competitive pricing, improving customer service, and exploring diversification strategies. The findings highlight that success in this industry depends not only on managing costs but also on building strong relationships with customers and suppliers. By leveraging these strengths, retailers can maintain profitability and competitiveness even in a moderately challenging market.

The management of gasoline retailers is encouraged to adopt proactive strategies that enhance operational efficiency and sustainability. This includes investing in digital systems for inventory and fuel management, implementing employee training programs, and improving service delivery. Strengthening supplier partnerships through long-term contracts can also help stabilize fuel supply and reduce the impact of price volatility. Moreover, management should continuously monitor market trends and adjust business strategies to align with changing consumer demands and technological advancements.

Standardizing operational procedures across all branches or stations can further improve consistency in service quality and customer satisfaction. Establishing clear performance metrics and compliance guidelines ensures that all employees adhere to the same standards of excellence. This approach not only enhances brand reputation but also fosters customer trust and loyalty, which are essential in a competitive market where switching costs for consumers are low.

Enhancing regular monitoring and evaluation of business performance is also vital. Retailers should conduct periodic assessments of their competitive position using updated market data and customer feedback. This will enable them to identify emerging threats and opportunities early, allowing for timely strategic adjustments. Incorporating sustainability initiatives, such as energy-efficient operations and eco-friendly practices, can also strengthen the company's image and align it with global environmental goals.

Future researchers are encouraged to expand this study by including a larger sample size or comparing multiple municipalities to identify regional variations

in competitive intensity. Longitudinal studies may also be conducted to examine how the competitive forces evolve over time, especially with the increasing adoption of renewable energy and electric vehicles. Further research could explore the impact of government policies, technological innovations, and consumer behavior on the long-term sustainability of gasoline retailers.

Overall, the findings of this study emphasize the importance of strategic adaptability, operational efficiency, and customer-centered management in maintaining competitiveness. By addressing existing challenges and implementing the recommended measures, gasoline retailers can strengthen their market position and ensure long-term growth in an evolving energy landscape

REFERENCES

- [1] Agyekum, E. B., Adebayo, T. S., Ampah, J. D., Chakraborty, S., Mehmood, U., & Nutakor, C. (2023). Transportation in Africa under Paris Agreement 2°C goal: A review of electric vehicle potentials, cleaner alternative fuels for the sector, challenges, and opportunities. *Environmental Science and Pollution Research*, 36(1), 1–36. <https://link.springer.com/article/10.1007/s11356-023-30911-z>
- [2] Bobby, K. B. (2022). An analysis of the competitive strategies adopted by local companies in the oil and gas industry [Doctoral dissertation, Institute of Petroleum Studies-Kampala]. <http://dspace.ipsk.ac.ug:8080/jspui/handle/123456789/98>
- [3] Campagnolo, D., & Davide, F. (2020). Innovation and disruption in transportation: Electric vehicles and policy incentives. *Journal of Cleaner Production*, 273, 123084. <https://doi.org/10.1016/j.jclepro.2020.123084>
- [4] de Medeiros Costa, H. K., Sacco, R., Lima, C. E. L., Botão, R., Galvão, C., Passos, G. P., & Dos Santos, E. M. (2024). Brazilian natural gas market dynamics: A data panel analysis of the Brazilian market compared with Argentina, Colombia, Mexico, and India using Porter's

- Five Forces framework. *Heliyon*, 10(21), e15221.
[https://www.cell.com/heliyon/fulltext/S2405-8440\(24\)15221-8](https://www.cell.com/heliyon/fulltext/S2405-8440(24)15221-8)
- [5] D. E., & Simpa, P. (2024). Trends, insights, and future prospects of renewable energy integration within the oil and gas sector operations. *World Journal of Advanced Engineering Technology and Sciences*, 12(1), 152–167.
<https://www.researchgate.net/profile/Darlington>
- [6] González, X., & Moral, M. J. (2023). Competition and competitors: Evidence from the retail fuel market. *The Energy Journal*, 44(6).
<https://www.iaee.org/en/publications/download-instant.aspx?id=4081>
- [7] Kolkman, T. F. C. (2022). The business model of gas stations in the future: What are the effects on the business development of gas stations in the changing fuel market? [Master's thesis, University of Twente].
<http://essay.utwente.nl/89671/>
- [8] Ndzabukelwako, Z., Mereko, O., Sambo, T., & Thango, B. (2024). The impact of Porter's Five Forces model on SMEs performance: A systematic review. SSRN.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4999059
- [9] Wellner, S., & Lakotta, J. (2020). Porter's Five Forces in the German railway industry. *Journal of Rail Transport Planning & Management*, 14, 100181.
<https://www.sciencedirect.com/science/article/pii/S2210970618300891>