

Leveraging Porter's Diamond Model: Public Sector Insights

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ARTICLE INFO

Article History:

Received: April 04, 2025
Revised: June 02, 2025
Accepted: June 10, 2025
Available Online: June 14, 2025

Keywords:

Porter's Diamond Model; Livestock Sector; Traceability Systems; Developing Economies; Value Chain

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ABSTRACT

Purpose: The study is a critical analysis of competitiveness and operational dynamism of a public sector non-profit making organization, the Punjab Agriculture and Meat Company (PAMCO), using the analytical tool of Porters Diamond Model. Although the model has widely been used in both the private sector and national competitiveness scenarios, its applicability in the case of the public sector organizations in the developing economies has not been sufficiently exploited.

Approach: The study addresses that gap by carrying out a narrative synthesis using qualitative perceptions and organizational statistics to determine the relations in which six elements of the Diamond Model influence the strategic path and performance of PAMCO.

Result: The results indicate that PAMCO has significant strengths, such as modern infrastructure, highly qualified human resources, and a semi-autonomous governance system that allows it to be nimble in its operations. These features make it a prospective driver in the business of red meat processing in Pakistan.

Limitations: Nevertheless, there still exist severe limitations, the most considerable ones being the barriers to international market access due to the lack of a certified animal traceability system, which is being addressed at governmental and diplomatic levels.

Practical Implications: The study helps with theoretical development of the framework proposed by Porter as the study confirmed that it could be applied to the state-driven institutions in unconventional settings and provides practical policy suggestions on how to make an institution more competitive. The study supports the ideas of institutional innovation, governance, and multi-stakeholder collaboration as the key avenues for resource optimization in the public sector organizations.



Introduction

Public sector organizations face challenges such as economic uncertainty, regulatory requirements, quality control issues, and political instability in developing economies (Afshar & Shah, 2025). Public administration has been invaded by the requirements of innovation, efficiency and competitive advantage, concepts normally exclusive to the private sector (Afshar, 2023; Fernandez & Rainey, 2017). Despite its common use in business strategy, international trade, and industrial policy, the Porter's Diamond Model has not been widely applied for public sector organizations, especially in developing economies. The present study aims at closing that gap by using a narrative synthesis to derive strategic insights based on a public sector organization in the context of a developing economy, using the Diamond Model.

The increasing mutual dependence between the role of the public sector and national competitiveness requires a more subtle appreciation of the relationship between institutional, structural, and contextual issues affecting public sector strategy (Afshar & Hussain Shah, 2025; Felicio et al., 2021). Today, public organizations have to operate in the context of sophisticated social-economic issues, they are expected to create public value using limited resources, and they are also supposed to intersect with wider national development plans (Pham & Vu, 2025). The diamond Model, with its broad-based framework of factor conditions, demand conditions, related and supporting industries, firm strategy/structure/rivalry, the role of government and chance, offers an underused, yet exceedingly promising theoretical framework to such analysis (Ansonfino et al., 2021; Chikán et al., 2022).

Although the strategic actions of the private sector have been widely observed in studies based on the works of Porter, the same case cannot be said of the public sector, particularly its agencies involved in Agri- livestock sector (Tiwari et al., 2023). The present paper is well-timed and relevant since it observed a conceptual crossover, taking a model that has generally been used in the private sector, and using it to comprehend the play of competitiveness, capability-development and performance improvement in a public sector organization. By doing this, it responds to wider requirements of academics and practitioners to re-conceptualize public sector strategy through the prism of inter-disciplinary tools.

Narrative synthesis techniques have been used more frequently to generate thematic inferences across qualitative research reports, particularly where an area is under-theorized (Afshar & Shah, 2025). In the field of the public management, narrative synthesis represents a flexible but systematic tool to summarize various results of contextual case studies. A number of articles have also highlighted the applicability of business strategy tools to the public service delivery setting but there was hardly any study that utilized the frameworks to analyze the competitive environment of public organizations through a strategic perspective (Powell & Rey, 2015; Zahra, 1996). More precisely, regarding the topic of developing countries, the literature on improving the performance of the public sector refers more to the issues of governance, resource limitation, and donor dependence, but not to strategy and competitiveness (Afshar, 2023). In such a way, the overlap between the Diamond Model of Porter and the institutional analysis of the public sector has not been explored much, especially at the organizational level in the developing economies.

The need of the study is proved by several significant gaps in the present literature. First, it is the theoretical underutilization of the Diamond Model in the research of the public sector. Despite the fact that some researchers established adaptations of the private-sector frameworks to the public sector, the empirical research on the application of the Porters model to the public organization is limited (Fang et al., 2018; Fernando, 2021). Second, research that utilizes the Diamond Model mostly relates to national or industrial competitiveness rather than competitiveness at the

organizational level and most certainly not in non-market or quasi-market contexts such as government-related organizations (Chung, 2016). That creates an urgent vacuum concerning how public sector organizations (especially those falling under sectors with a strategic economic impact like agriculture and infrastructure) can draw on the national factor conditions and institutional frameworks to enhance performance. Third, the majority of narrative reviews or synthesis studies in the area of the public sector reform focus on governance frameworks, new public management (NPM), or institutional theory. Missing is the interdisciplinary integration of methods that use strategic management models to generalize the experience of the public sector contexts (Mboya & Kazungu, 2015; Sun & Ha-Brookshire, 2025). This paper fills these gaps through the operationalization of the Diamond Model to a narrative synthesis of a public organization strategic posture.

The main purpose of conducting the study is to analyze the relevance and value of the Diamond Model for the explanation of strategic capability and competitiveness of a public sector entity in a developing country. It is aimed at addressing the questions below:

1. What are the aspects of Porter Diamond Model components in the operation dynamics of a public sector organization?
2. What does this model imply to inform strategy and policy to reform the public sector?
3. Do the approaches to narrative synthesis mediate between strategic management theory and the analysis of performance in the public sector?

The study has a number of innovative contributions. First, it gives a broader theoretical scope to the Diamond Model of Porter by applying the model to the level of a single organization in the state sector which is a theoretically novel idea with important policy implications. Second, it presents a mixed method of analysis, crossing the strategic management theory and narrative synthesis to create practical knowledge based on the operational setting of a public entity. Third, the research presented gives policymakers and institutional innovators a conceptual two-by-four to reframe how they think about public sector organizations as simply providers of service, but as competitive participants in national and regional development ecologies.

This study transforms the role of public sector organizations in the wider competitiveness agenda by demonstrating how factor conditions (e.g., skilled workforce, infrastructure) can be exploited by the public organization, how the organization can respond to local and international pressures of demand, how it can work with supporting industries and how it can change strategy within structural constraints. Moreover, the input of real-life experience of an organization affiliated with the government adds value to the practical utility of the analytical work, as it can be employed by practitioners, scholars, as well as by policy designers.

Theoretical Framework

Origin and Core Constructs of Diamond Model

The Diamond Model of Porter presented in *The Competitive Advantage of Nations* (1990) has become a paradigm shift in the knowledge of how nations and industries can gain and maintain a competitive advantage (Bakan & Doğan, 2012). Porter model as opposed to traditional comparative advantage theories (e.g., factor-based model established by Ricardo), focuses on the dynamic interactions among firms, industries and their national environments (Ansonfino et al., 2021; Ayon Ponce et al., 2024). According to the diamond model as depicted in figure 1, competitive performance of firms either in an industry or in a country is determined by four interdependent determinants which are Factor Conditions, Demand Conditions, Related Supporting Industries, and

Firm Strategy, Structure and Rivalry(Kim et al., 2023). There are two other variables, Government and Chance, that act as the external influencers(Lehene et al., 2024).

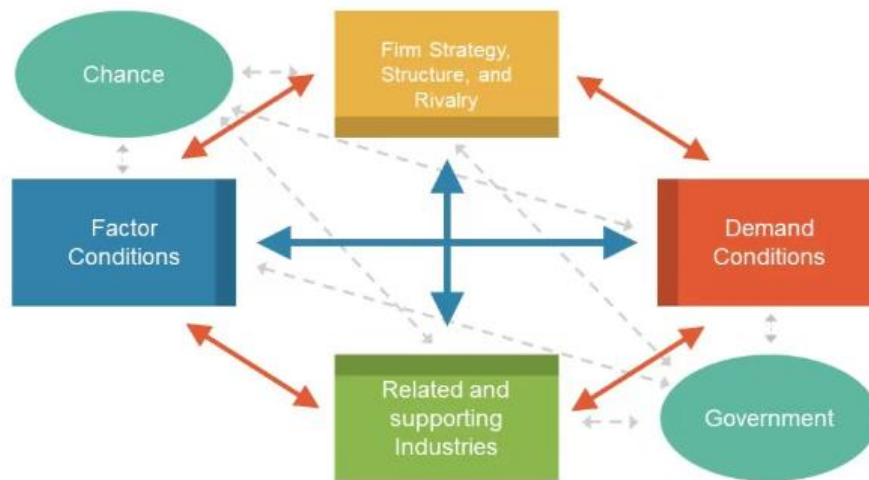


Figure 1: Porter's Diamond Model (Slidemodel, 2023)

Factor Conditions: This factor reflects endowments of a country with regards to production factors, both the primitive factors of production (e.g., natural resources, labor) and sophisticated factors of production (e.g., infrastructure, research facilities, skilled human capital)(Fang et al., 2018).

Demand Conditions: These have to do with the quality and refinement of the home-market demand for goods or services. Well versed with technological advancements, customers can exert pressure on the firms to be innovative and to produce quality (Bouchra & Hassan, 2023).

Related and Supporting Industries: These encompass the position of supplier industries and complementary sectors that encourage cooperation, knowledge spillovers and value chain synergies(Tsai et al., 2021).

Firm Strategy, Structure, and Rivalry: These factors look at the importance of competition, firm organisations and corporate governance in the domestic environment on performance and innovation(Constantin et al., 2022).

Government:It may affect any of the four determinants by taking the role of a catalyst or challenger using policy, regulation, investment and institutional reform(Kim et al., 2023).

Chance: this factor involves random happening (e.g., wars, natural disasters, technological breakthroughs) that could redefine competitive dynamic in a way that firms or states cannot control(Bakan & Doğan, 2012).

These aspects alone create a self-reinforcing cycle where the positive developments in one aspect can lead to positive developments in other aspects, leading to sustainable competitive advantage.

Application to Public Sector Contexts

The original Porter model was conceived with regard to competitiveness in the private sector, but public organizations, particularly those involved in service delivery, economic regulation or infrastructure development, exist within and affect the same national circumstances that the Diamond Model is intended to describe(Nugroho et al., 2022; Tiwari et al., 2023). The public

entities do not only react to factor and demand conditions, they also influence them significantly by education, health, transport and innovation policy(Felício et al., 2021; Hollaar et al., 2025). Besides, with the shift of many economies towards a governance-centric (as opposed to a government-centric) paradigm, the boundaries between the state and the market have been erased, resulting in hybrid forms that could use some new analytical instruments(Afshar & Hussain Shah, 2025; Putu S et al., 2007).

According to emerging literature, there is the possibility of analyzing a public institution using strategic perspectives, such as SWOT, PESTEL, Balanced Scorecard, and recently Porter's frameworks(Afshar & Hussain Shah, 2025; Pham & Vu, 2025). There is a growing requirement of performance and innovation based attitude in the public sector organizations. Here, the Diamond Model provides a systematic but flexible framework through which the way public organizations utilize national benefits, relate to adjacent sectors, react to constituent pressures, and manage competition, such as inter-agency competition, media scrutiny, and changes in policy can be evaluated(Parente et al., 2021).

Furthermore, in developing countries, public sector organizations usually work within sensitive sectors such as agriculture, water, energy, and health where they are constrained by institutional limits and capacity issues simultaneously (Madaki et al., 2025). Their competitiveness may be understood in terms of a national systems approach, which can provide insights concerning the creation or limitation of public value (Magaireh et al., 2019).

Relevance to Developing Country Public Sector Organizations

Developing nations have a distinct institutional environment, in which poor governance, non-developed markets and donor reliance tend to impede competitiveness(Pham & Vu, 2025). Nevertheless, the same contexts show unrealized potentials with regard to resource endowment, surging urban demand, and necessity-driven innovation. In such settings, the public sector organizations play the role of facilitator as well as beneficiary of competitive advantage(Shalom et al., 2025).

Evidence from Pakistan, for example, shows that organizations affiliated to the government which are involved in agricultural activities and livestock keepings are supposed to improve food security, boost exports and improve rural livelihoods (Khan et al., 2013; Rehman et al., 2017). These institutions deal with universities (advanced factors), farmers (demand conditions), cooperatives (related industries), and provincial/national governments (policy actors). Adapting Porter model to these environments, researchers and policymakers can find leverage points that improve performance of organizations, create synergistic partnerships and make optimal use of public investment (Ha et al., 2021; Schmidt et al., 2025).

The Diamond Model adaptation to the public sector analysis in a developing country context, therefore, fulfills theoretical and practical purposes: it tests the analytical limits of the given model and provides institutional reform, performance enhancement, and policy alignment suggestions (Tiwari et al., 2023).

Conceptual Framework for the Present Study

Through the above theoretical background, this research proposes the adaptation of the Porter Diamond Model to a government entity in a developing economy as a diagnostic and explanatory instrument. Diamond components are considered as different lenses through which the strategic capacity, contextual enablers, and institutional constraints are viewed (Zhao & Tan, 2023).

Narrative synthesis approach used in the study propagates inductive generalization, but it is grounded on the key aspects of the model. Arranging the findings according to the six elements of the diamond, the study will generate a consistent and theoretically grounded elucidation of how a public sector entity does or does not use its national competitive environment as an advantage (Ansonfino et al., 2021).

This theoretical practice is not planned as a systematic model transplant but as a composite outline that combines strategy, public administration, and institutional investigation. By doing that it adds to the academic literature and practical discussions of the modernization of the public sector and strategic management in developing economies.

Methodology

Justification for Narrative Synthesis

Considering that this study is exploratory in nature and was undertaken with the objectives of adapting the Porter Diamond Model to a public sector organization setting in a developing nation, a narrative synthesis method was chosen. Narrative synthesis is especially useful in combining a wide range of sources, theoretical frameworks and empirical observations that are heterogeneous in terms of their design, scope and the type of data they report, unlike meta-analysis which is quantitative and most appropriate when the data being combined are statistically homogeneous (Afshar & Shah, 2025; Militaru et al., 2025).

The paper aimed at examining some of the most complicated and interconnected concepts, which include national competitiveness, dynamics of public sector organizations, and institutional power, through the prism of strategic management. Narrative synthesis facilitated a flexible but structured approach to the organization, analysis, and interpretation of findings according to the six elements of Porter's Diamond Model namely factor conditions, demand conditions, related and supporting industries, firm strategy/structure/rivalry, government, and chance (Dawut & Tian, 2021; Nugroho et al., 2022).

Moreover, the literature is usually fragmented, the terminologies used are often differing and data are not readily available in the studies conducted in the public sector, especially in the developing countries (Tsai et al., 2021). Narrative synthesis is sensitive to situations in which interpretive analysis and contextual depth are of greater concern than statistical generalizability (Chiu & Lin, 2019).

Criteria for Data Selection

A multi-stage method was applied to achieve a thorough and methodologically qualified data selection, which was comprised of a systematic searching and purposeful sampling (Ames et al., 2019):

Databases Searched: To find peer-reviewed literature, Scopus, Web of Science, JSTOR, ScienceDirect, SpringerLink, and Taylor & Francis were engaged. Triangulation was also conducted with grey literature (e.g., government reports, working papers, public organization evaluations).

Keywords and Search Terms: A combination of Boolean strings was employed using terms such as: *Porter's Diamond Model*, *national competitiveness*, *public sector performance*, *strategic management in public organizations*, and *developing economies*.

Inclusion Criteria

- Published between 1990- 2024 to coincide with the developments of the model of Porter.
- Publications in the English language.
- Theoretical or empirical literature that mentions at least one side of the Porter Diamond Model or that applies the model to government or public policy or organization competitiveness.
- Studies were based on the context of developing countries.

Exclusion Criteria

- Studies that are purely of the private sector with no implications to the public policy.
- Articles that are not theoretically informed or whose methods are not transparent.
- Redundant records or non-informative commentaries.

The resulting final sample consisted of 58 sources, 34 peer-reviewed journal articles, 12 institutional reports, 7 conceptual frameworks, and 5 case studies, all of which were thematically coded.

Synthesis Procedures

The narrative synthesis process was conducted in four stages:

Developing a Theoretical Framework

Initial conceptual map was developed on the foundation of the Diamond Model of Porter. The diamond elements were each considered as a fundamental theme to arrange evidence (Fainshmidt et al., 2016). This enabled the establishment of relationships, patterns as well as gaps between what Porter developed and what is applied in the real world, especially in public sector organizations (Ansonfino et al., 2021; Chikán et al., 2022).

Grouping and Organizing the Literature

The identified studies were clustered into thematic groups according to the components of the diamond model. For example:

- The literature on institutional capacity and infrastructure were categorized as Factor Conditions.
- Studies that tried to investigate stakeholder demand, service expectations or policy responsiveness were put under Demand Conditions.
- Inter-agency partnerships or supply/value chain studies were filed under Related and Supporting Industries, and so forth.

Textual Narrative Summarization

The analysis of each thematic group was presented in the form of textual description, which grasped the methodological orientation, geographic setting, principal findings, and applicability to the public sector. Convergences and divergences were noted in each category in summaries. Trends of congruence or inconsistency with the original assumptions of Porter were observed closely.

Context-specific reasoning was produced in situations where the empirical studies went against theoretical predictions (Azorin & Cameron, 2010; Williams, 2007). An example of how one of the assumptions of the model (rivalry among competitive firms as an innovation driver) was re-evaluated relied on the presence of bureaucratic hierarchies and political patronage as seen within certain public sector environments.

Developing an Integrative Narrative

The concluding synthesis related the findings between themes and studies and made it possible to reinterpret the Diamond Model of Porter thoroughly in the setting of a publicly funded organization. All the diamond elements were re-cast to show how they are manifested in government or quasi government institutions. The internal logic of the model was conserved, and the interpretive boundaries were widened.

Thus, Firm Strategy, Structure, and Rivalry became Organizational Governance, Institutional Structure, Inter-agency Competition, and Related and Supporting Industries encompassed public-private partnerships, and donor-led development programs.

Ensuring Analytical Rigor

In order to promote credibility, transferability and dependability, a number of strategies were implemented:

Triangulation: The study triangulated by using a wide network of academic and grey literature thereby reducing the possibility of mono-source bias.

Peer Debriefing: To get feedback and further develop the preliminary findings as well as thematic categorizations, the researcher presented the findings to academic peers and practitioners in the field of public administration.

Transparency and Audit Trail: It was recorded and made traceable all coding decisions, justification of inclusion / exclusion and synthesis steps.

Reflexivity: A special effort was made to remain critically aware of the interpretive positioning particularly in extending private sector frameworks to the analysis of a public sector context.

These steps were meant to make sure that the synthesis process would be both methodical and context-sensitive, especially to the institutional and political subtleties of the performance of the public sector in the developing economy.

Limitations of the Methodology

In spite of the flexibility and depth that narrative synthesis provides, the method is not devoid of limitations. Its dependence on qualitative interpretation is subjective and it may not be generalized due to lack of statistical incorporation. Moreover, the sources are heterogenous (theoretical to policy-oriented) which creates difficulties in ensuring thematic coherence. The limitations were, however, alleviated by the transparent processes and the systematic application of a guiding theoretical framework.

Findings and Discussion – Applying Porter’s Diamond Model to PAMCO

This segment entails a detailed narrative synthesis of the Punjab Agriculture & Meat Company (PAMCO), a public sector non-profit organization, under the auspices of the Punjab government, based on the Diamond Model of analysis propounded by Porter. Analysis shows that PAMCO is the first of its kind in the public sector, has state of the art infrastructure in meat processing, and

highly trained staff who are acting in a catalyzing manner to enable Pakistan to have a strong Agri-livestock red meat processing ecosystem (Afshar & Shah, 2025). Even though PAMCO is institutionally mature and has sectoral leadership, it is confronted by international market limitations especially on the traceability and certification processes, which are being resolved by overreach government interventions (Afshar, 2023).

Factor Conditions: Advanced Infrastructure and Skilled Human Capital

The diamond model by Porter places factor conditions as one of the important inputs that determine competitiveness (Bouchra & Hassan, 2023). PAMCO is one of the government enterprises which has managed to create high levels of factor conditions by making huge investments in physical and human capital. The Company has the following strengths:

- A contemporary, ISO- and Halal-certified slaughterhouse plant with built in chilling/ blast freezing and storage set up.
- Specific export-quality red meat processing lines which are OIE and GCC compliant.
- Implementation of quality assurance systems according to the international standards.
- Well trained and competent staff with veterinarians, quality assurance specialist, and compliance managers, who are trained on HACCP, ISO and Halal certification.

These features make PAMCO a leader in the red meat processing sector, which is able to address local and global requirements in regard to quality, hygiene, and safety. It has infrastructure that competes with the private sector competition in the region, and its staff demonstrates the culture of knowledge-intensive institutions that are uncommon in the public sector NPOs in developing economies.

Key Insight: PAMCO can serve as a model of how organizations in the public sector, having access to advanced infrastructure and professional capacity can operate as organizations that are competitive in the global environment, as long as limitations imposed by institutional affluence are held to a minimum.

Demand Conditions: Rising Global Demand and Policy-Driven Objectives

The demand characteristics within the setting of PAMCO are influenced by the global market demands and the provincial policy objectives. The market size of the Halal meat, particularly of the GCC countries, offers a great potential considering the livestock and religious compatibility of Pakistan (Afshar, 2023; Magsi et al., 2020). Nevertheless, the existence of strict animal traceability, origin certification and FMD-free assure conditions have inhibited the complete export potential of PAMCO.

Meanwhile, PAMCO has been mandated to:

- Facilitate red meat processing stakeholders.
- Facilitate meat bi product processors.
- Encourage digital traceability mechanisms from initiating from the abattoir.
- Initiate leather traceability mechanism.

The latest changes in the global meat trade dynamics, particularly, after COVID-19 and in the context of growing consumer awareness when it comes to food safety, have accelerated the need in

transparent, traceable, and ethically processed meat (Juárez et al., 2021; Yang et al., 2025). PAMCO has taken a leading response in this regard, launching pilot digital traceability programs.

Core Insight: PAMCO is an organization that works on policy-market interface. It is also not just reactive to global demand, but with adequate solutions of issues at government-to-consumer (G2C) level, it attempts to timely resolve these matters.

Related and Supporting Industries: Coordinating a Fragmented Ecosystem

PAMCO operates in a value chain of livestock that is fragmented with input suppliers, animal health services, feed mills, transporters and certification agencies tend to work in isolations. In spite of such fragmentation issues, PAMCO has created sectoral integration efforts whereby it provides linkages along the value chain by:

- Technical backstopping to the Agri-livestock farmers.
- Partnerships with quality certification institutions for quality compliances.
- Coordination with quarantine department for facilitation of red meat exporters.

In addition to that, PAMCO is a source of innovation diffusion, introducing the practices of the private sector into the public sphere, including digitization, and data driven decision making.

Key Insight: PAMCO occupies an important institutional position in the Agri-Livestock red meat value chain of Pakistan: it is a coordinator of public-private ecosystems, developing supporting industries which, otherwise, would lack strategic direction or integration.

Firm Strategy, Structure and Rivalry: Autonomous Execution within a Public Mandate

As a public sector non-profit organization, PAMCO is granted a semi-autonomous structure, whereby it combines the principles of the private sector operation and the development goals of the public sector. Although it is governed by a system that holds it accountable to the Board and Livestock Department, it has strategic flexibility in its governance structure.

Internally PAMCO has implemented a results-based strategic management set up and it is concentrating on:

- Documentation compliance and facilitation of red meat industry stakeholders.
- Optimization of resources by developing operations that conserve energy.
- Strategic alliances with the private sector for effective service delivery.

Although the organization is not experiencing conventional market-based competition, it constantly needs to defend its value propositions in the face of other policy institutions as well as individual and trade organizations. The mission of PAMCO is characterized by emphasizing transparency, traceability, as well as professional service delivery-oriented growth.

Key Insight: The hybrid strategy structure gives PAMCO the flexibility, responsiveness, and impact orientation despite the bureaucratic environment in the public sector.

Government: Strategic Enabler and Regulatory Anchor

In the operational domain of PAMCO, government has a central role that is two-fold; acting as a strategic facilitator and a regulator. On one side, PAMCO enjoys policy stability, financial control and credibility of being a government sponsored export facilitator. Critical decisions, like the

solution of traceability protocols, are on the other subject to inter-ministerial coordination and diplomatic outreach.

Key Insight: The government support is needed not just to pass the regulatory stage but also to gain a strategic entry into the global market. The competitive advantage of PAMCO can be increased by the coordinated action of state organs for improvement in its service delivery mechanism and to create effective market linkages among key livestock stakeholders.

Chance: External Disruptions and Institutional Learning

Exogenic shocks (e.g., COVID-19 interferences, FMD Issues, and smart Agri livestock farming issues) have influenced the strategic position of PAMCO. Nevertheless, these shocks have also been the points of inflection of institutional learning. For instance:

- The issue of diversified logistics and digital documentation was revealed and promoted during COVID-19.
- The Global market changes have triggered fast adjustments of compliance and redesigning of supply chains.
- The pressure of the climate change mitigation sped up the innovation of smart Agri livestock farming practices for resilience.

These chance events have not resulted in stalling on the part of PAMCO, instead it has served as a recalibration and innovation opportunity which has served to make it stronger in terms of adaptive capacity to ensure organizational resilience.

Key Insight: Crisis can be used as an opportunity by adaptive organizations in the public sector such as PAMCO to introduce innovation and long term strategic re-alignment.

Applying the porter's diamond model on PAMCO operations explains the effectiveness of the strategic transformation of the organization, its institutional adaptability, and industry-level relevance within the Pakistani Agri-livestock ecosystem. Boasting modern state-of-the-art facilities and well-trained staff as well as having a strong developmental mandate, PAMCO helps to illustrate how even public sector entities can compete globally on a level playing field- so long as the enabling policy and access to international markets are aligned. The fundamental issue of traceability compliance still exists, yet the continuous interventions on the government level indicate the gradual course of the development of the role of PAMCO as a national export accelerator.

Conclusion and Policy Implications

Conclusion

The study has applied the diamond model to understand the operational dynamic and strategic issues of the Punjab Agriculture & Meat Company (PAMCO), a non-profit public sector organization operating in the dual role of Agri- livestock development of red meat processing segment and integration of value chains in Pakistan. The results indicate that PAMCO with its modern infrastructure, highly qualified personnel, and institutional integrative role, represents a new image of the progressive public sector entity that does not correspond with historical baggage of inefficiency and stagnation of state-owned enterprise.

All the elements of the Diamond Model unveiled some important details:

- Factor conditions revealed comparative advantage of PAMCO that rested on modern facilities and skilled human resources.
- The demand conditions focused on the increasing demand of Halal meat and the willingness of PAMCO for effective red meat processing service delivery.
- Other supporting and related industries highlighted the value of the work done by PAMCO to coordinate an otherwise disintegrated livestock value chain.
- Firm strategy and competition validated the semi-autonomous governance model of the organization as a source of agile operations and innovation.
- Government came out as a key player whose policies, interventions and diplomatic leverage plays a key role in opening up international market access.
- Events of chance such as pandemics and geopolitical change acted as catalysts to organizational learning and operation innovation.

Though the efforts done by PAMCO in the industry are quite huge, there still exists a fundamental limiting factor, which is international trade limitations mainly caused by lack of a strong, certified animal traceability system, a market access precondition in most high value markets. Nevertheless, regulatory resolution and system-level reforms have a positive prospect owing to continued negotiations and interventions on the government level. The research has made a considerable contribution to theory and practice as it has implemented an internationally accepted competitiveness model (Porter Diamond) to a public sector NPO in a developing country setting and thus expands the applicability of the model beyond its usual corporate and national scopes.

In a world where competitiveness is more frequently based on compliance, coordination and innovation, PAMCO provides an interesting example of how well-funded and strategically situated public sector organizations can perform better than expected and deliver both national and global value. The recontextualized Porters Diamond Model used in this study not only confirmed the operational relevance of PAMCO but also underline the required structural reforms that are a precondition to a sustainable Agri-livestock sector organizations.

Policy Implications

As per the results, there would be a number of strategic and policy-level implications to the stakeholders in the public sector, regulators, and development planners:

Traceability Mechanism

For making it institutionalized in pursuit of export competitiveness, PAMCO needs certified, government-supported animal identification and traceability systems to take advantage of its infrastructure and abilities. This has to be prioritized by:

- A national level traceability system, which is OIE and GCC compliant.
- Digital documentation to ensure transparency and verification.
- Consistency with current FMD-free zoning and compartmentalization.

Enforcing the Public-Private Synergies

The experience of PAMCO indicates that public sector NPOs are capable of performing an efficient job of coordinating gaps in multiplex value chains. Policymakers should:

- Encourage strategic partnerships between PAMCO and the key value chain players.
- Blending finance: find ways to ensure that expansion of PAMCO can be financed without straining public coffers.

Transformation of Governance to be Agile

Semi-autonomous corporate structure in line with Section 42 of the Companies Act 2017 provides a way to be agile in decision-making with accountability. Enhancement of this model can further be done by:

- Simplification of the process of board constitution in a timely manner for smooth decision making.
- Provision of endowment for smooth funding mechanism.

Future Research Directions

This study synthesis raises a number of avenues for potential academic and practitioner research:

- Other public sector export facilitators in South Asia, the Middle East or Sub-Saharan Africa comparative studies.
- The empirical testing of the components of Porters Diamond in the measurement of complete value chain of meat industry.
- Evaluation of the effects of traceability interventions in the livestock industry in terms of expansion and generation of rural income.

Declaration

Ethics Approval and Consent to Participate

This study strictly adhered to academic ethical guidelines for research, ensuring the acquisition of informed consent and compliance with data privacy standards.

Conflicts of Interest

The author affirms that there are no conflicts of interest associated with this study.

Acknowledgement

All contributing authors have been properly acknowledged, and all relevant author details are mentioned appropriately.

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