

Readiness on Modernization of the Virac Public Market in Catanduanes: A Case Study

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ABSTRACT

Public markets play a vital role in local trade and community livelihoods; however, the aging infrastructure of the Virac Public Market and increasing competition from modern retail establishments necessitate an evaluation of its readiness for modernization. This study assessed the readiness of the Virac Public Market in Catanduanes for modernization by examining its governance and management systems, level of readiness across key dimensions, and the hindering factors and progress toward modernization. The study employed a mixed-methods case study design integrating quantitative and qualitative approaches.

Participants included market vendors, market personnel, and local market authorities. Governance and management systems were assessed through documentary reviews of the Annual Investment Program; Market Code; Municipal Revenue Code; General Fund Budget; and Annual Financial Reports, focusing on market administration, policies, rules and regulations, and revenue collection mechanisms. Modernization readiness in terms of infrastructure, technology, workforce capability, and financial resources was measured through survey questionnaires administered to 190 respondents selected through quota sampling. Meanwhile, 26 key informants selected through purposive sampling participated in key informant interviews and focus group discussions to identify the hindering factors and progress toward modernization. Findings revealed that the governance and management systems of the Virac Public Market are generally functional; however, improvements in efficiency and system integration are needed. The market also demonstrates readiness for modernization, with gaps in infrastructure, technological integration, workforce capability, and financial management. Based on these findings, the study proposed the S.I.G.L.A.S. Market-Driven Modernization Framework to strengthen governance, digitalize revenue systems, improve infrastructure, enhance workforce development, and ensure sustainable financial management for long-term market modernization.

Keywords: *Governance and Management Systems, Market-Driven Modernization Framework, Modernization Readiness, Public Market Modernization*

INTRODUCTION

Public markets remain essential components of local economic systems, particularly in developing countries where they function as primary trading centers for fresh produce, household goods, and small-scale entrepreneurial activities. These markets serve not only as economic platforms for farmers, fishermen, and micro-entrepreneurs but also as important social spaces that support community interaction and cultural exchange. Public markets contribute significantly to food accessibility, employment generation, and local economic development (Hernandez et al., 2025; Silva, 2025). In many communities, they continue to provide affordable goods and livelihood opportunities while reinforcing social cohesion and local identity (Mendes et al., 2022).

Despite their importance, traditional public markets increasingly face pressures brought about by urbanization, technological change, and competition from modern retail establishments such as supermarkets, shopping malls, and online marketplaces. These modern retail formats often provide organized facilities, standardized pricing, digital payment systems, and improved customer experience, which influence consumer preferences and shopping behavior (Gulo and Zebua, 2025; Harsono et al., 2024). Consequently, many traditional markets struggle with issues related to sanitation, infrastructure deterioration, congestion, and inefficient management systems, which may reduce their competitiveness and attractiveness to consumers (Khairunnisa and Tjung, 2019; Manegdeg et al., 2019). As a result, governments in different countries have initiated modernization programs aimed at revitalizing traditional markets while preserving their cultural and socio-economic functions.

International experiences demonstrate that modernization can significantly enhance the functionality and competitiveness of public markets. Studies on market redevelopment projects highlight that improvements in infrastructure, spatial organization, sanitation systems, and accessibility can transform traditional markets into vibrant commercial spaces while maintaining their local identity (Darmawan et al., 2015; Fitria et al., 2018). Similarly, research on modern public markets in the United States shows that well-designed market environments that integrate retail spaces, dining areas, and community activities can attract diverse groups of consumers and strengthen local economies (Bentley, 2016). These initiatives indicate that modernization is not limited to physical redevelopment but also involves effective governance, strategic planning, and stakeholder participation.

In the Philippine context, several local government units have undertaken modernization initiatives to improve the condition and management of public markets. For instance, upgraded public market facilities in municipalities such as Nabua, Camarines Sur and Belison, Antique demonstrate how modern infrastructure, improved sanitation systems, and organized stall arrangements can enhance market operations and create more conducive environments for commerce (De Castro, 2021; Villafior, 2021). Likewise, the introduction of digital payment systems and e-commerce platforms has begun to influence traditional market operations, reflecting the growing importance of technological integration in market modernization (Quimba et al., 2021; Padayao-Rumbaoa, 2024). However, modernization initiatives are often accompanied by governance challenges, financial constraints, and stakeholder concerns, particularly among vendors who fear displacement, increased rental fees, or loss of livelihood (Roxas, 2024).

Recent studies emphasize that the modernization of public markets requires a multidimensional approach that integrates governance reform, infrastructure development, technological adoption, workforce capability, and financial sustainability (Isolana, 2021; Roxas, 2024). Effective governance structures, transparent revenue systems, and inclusive decision-making processes are essential to ensure that modernization initiatives are both sustainable and socially acceptable. At the same time, organizational readiness—including the availability of resources, stakeholder support, and institutional capacity—plays a critical role in determining whether modernization efforts can be successfully implemented (Padayao-Rumbaoa, 2024; Quimba et al., 2021).

Although existing literature provides valuable insights into the modernization of traditional markets, many studies focus on specific aspects such as infrastructure improvement, consumer perception, or governance reforms. There remains a limited number of empirical studies that comprehensively examine how governance and management systems, organizational readiness, and operational challenges collectively influence the modernization of public markets within a specific local government context. In particular, integrative assessments that simultaneously analyze governance structures, infrastructure conditions, technological readiness, workforce capability, and financial resources remain relatively scarce in the literature.

This gap is evident in the case of the Virac Public Market in Catanduanes, which has long served as the province's primary trading center for agricultural products, seafood, and basic commodities. Constructed in the late 1960s, the market has experienced structural deterioration, safety concerns, and operational limitations that affect its efficiency and long-term sustainability. Structural assessments have identified vulnerabilities in the building's structural integrity, while operational issues related to sanitation, facility utilization, and revenue management continue to pose challenges to effective market administration. Although policy initiatives, financial allocations, and institutional reforms have been introduced by the municipal government, a systematic evaluation of the market's governance systems and readiness for modernization remains necessary.

Therefore, this study aims to assess the readiness for modernization of the Virac Public Market in Catanduanes by examining its governance and management systems, readiness across key dimensions—namely infrastructure, technology, workforce capability, and financial resources—and the hindering factors and progress influencing modernization efforts. By providing an evidence-based assessment of these dimensions, the study seeks to contribute to the development of a market-driven modernization framework that can guide local government units, market administrators, and stakeholders in implementing sustainable modernization strategies. Ultimately, the research offers practical insights that may support the transformation of the Virac Public Market into a resilient, efficient, and inclusive commercial hub that strengthens local economic development and improves service delivery for vendors and the wider community.

Theoretical Framework

Figure 1 presents a theoretical framework explaining the modernization of the Virac Public Market through the integration of Modernization Theory, Organizational Readiness for Change (ORC) Theory, and Resource-Based View (RBV) Theory. These theories collectively highlight that successful modernization requires improvements in infrastructure, technology, workforce capability, and financial capacity. Guided by these perspectives, the study developed a Proposed Market-Driven Modernization Framework, which translates theoretical concepts into a practical model for sustaining modernization.

The framework emphasizes that modernization is achieved through the strategic use of internal resources, strong governance systems, stakeholder readiness, and institutional support. Overall, it serves as a practical roadmap for local government units and market stakeholders to implement modernization strategies that are coordinated, inclusive, and sustainable.

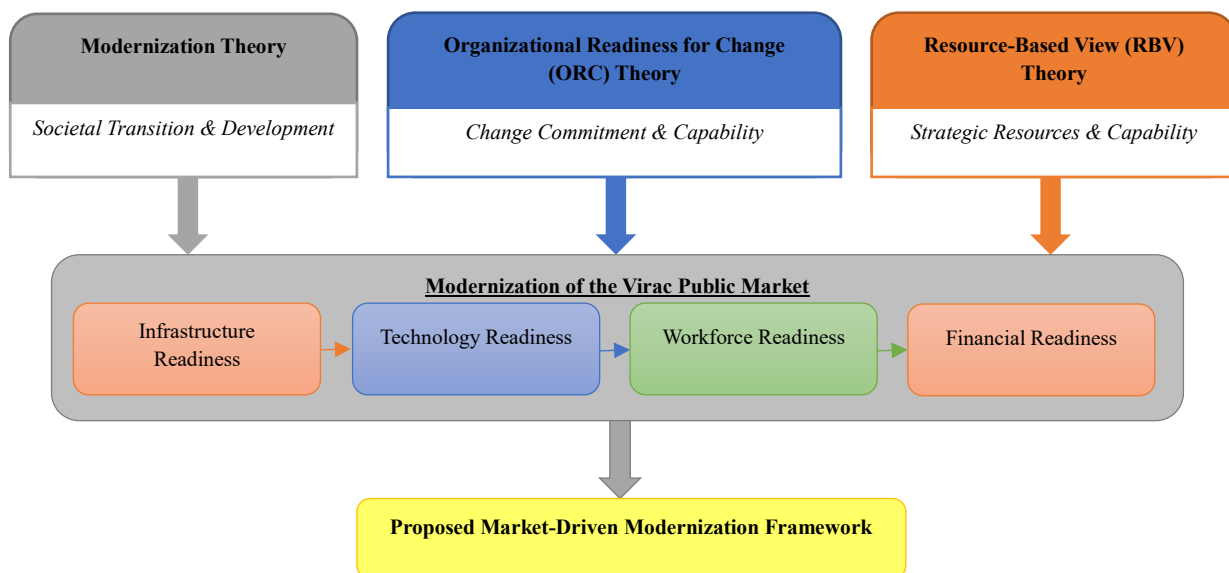


Figure 1. Theoretical Framework

METHODS

Research Design

This study employed a mixed-method case study research design to assess the readiness for modernization of the Virac Public Market in Catanduanes. A mixed-method approach integrates quantitative and qualitative techniques to provide a more comprehensive understanding of complex research problems by combining numerical measurement with in-depth contextual analysis (Creswell and Plano, 2018). Quantitative data were collected through survey questionnaires to measure the level of modernization readiness in terms of infrastructure, technology, workforce capability, and financial resources. Meanwhile, qualitative data were obtained through documentary review of the Annual Investment Plan, Market Code,

Municipal Revenue Code, General Fund Budget, and the Annual Financial Performance of LGU-Virac; key informant interviews; and focus group discussions, to examine the governance and management systems of the market and identify the hindering factors and progress toward modernization. The case study design was selected because it enables an in-depth investigation of a contemporary phenomenon within its real-life context, particularly when the boundaries between the phenomenon and context are not clearly evident (Yin, 2018). By integrating both methods, the study benefits from data triangulation, which enhances the validity and comprehensiveness of the findings by allowing multiple sources of evidence to explain the readiness and governance capacity of the Virac Public Market for modernization (Creswell and Plano, 2018; Yin, 2018).

Research Locale

The study was conducted at the Virac Public Market in Virac, a central trading hub in Catanduanes that plays a vital role in the local economy by supporting the exchange of goods and providing livelihood opportunities for vendors and stakeholders. Operated under the Municipal Government of Virac and guided by local policies such as the Market Code, the market consists of a main building with designated sections for various commodities. It has recently undergone infrastructure improvements as part of modernization efforts, yet continues to face challenges in governance, technology, and financial systems. Its significance as an economic and social institution, along with its ongoing transition toward modernization, makes it an appropriate locale for examining public market readiness and development strategies.

Sampling Technique

This study consists of market vendors, market personnel, and local market authorities of the Virac Public Market in Catanduanes, who were directly involved in the market's operations and governance (see Table 1). A total of 190 respondents participated in the survey to assess the level of readiness for modernization in terms of infrastructure, technology, workforce, and financial readiness. These respondents were selected using quota sampling to ensure representation of vendors operating within the main building of the market. This method ensures that the representation of each category in the sample mirrors its assumed proportion in the overall population (Rukmana, 2024).

Table 1. *Population of the Study*

Population	Key Informants (N)	Respondents (n)
Market Vendors	7	175
Market Personnel	6	7
Local Market Authorities	13	8
Total	26	190

Meanwhile, 26 key informants were selected through purposive sampling to participate in key informant interviews and focus group discussions due to their direct involvement in market administration, policy-making, and operational oversight which involves deliberate selection of specific units based on their relevance to the research question, enabling to explore complex phenomena in depth (Tajik et al., 2024).

RESULTS AND DISCUSSION

3.1. Governance and Management Systems of the Virac Public Market

In terms of Market Administration

The findings indicate that the governance and management systems of the Virac Public Market in terms of market administration are formally institutionalized and legally anchored under Municipal Ordinance No. 2021-16, which created the Virac Market Board as the central governing body responsible for policy direction, supervision, and oversight of market operations (see Table 2). The Board's multi-sectoral composition—comprising municipal officials, technical personnel, enforcement authorities, and vendor representatives—reflects a participatory governance structure that aligns market operations with broader municipal administration.

Table 2. *Governance and Management Systems of the Virac Public in terms of Market Administration*

	Theme	Supporting Policy Provisions	Interpretation
1.	Institutionalized Governance Structure	Creation of the Virac Market Board; defined composition including the Mayor, Vice Mayor, SB Committee Chair, Municipal Treasurer, Engineer, MPDO, Chief of Police, Vendors' Association President, and Market Administrator (Title II).	Governance is formalized and legally anchored. The multi-sectoral composition reflects participatory and institutional governance, ensuring representation of executive, technical, enforcement, and stakeholder sectors.
2.	Clear Delineation of Roles and Administrative Accountability	Market Board functions (policy-making, adjudication, dispute resolution); designation of Market Administrator/Supervisor for day-to-day operations and enforcement (Title II & IV).	There is separation between policy oversight and operational management, promoting administrative efficiency, accountability, and prevention of role conflict.
3.	Transparency and Fairness in Stall Allocation	Public posting of vacant stalls; screening and drawing/adjudication procedures; written lease contracts; defined lease terms; prohibition of subleasing; grounds for revocation (Title IV).	The system promotes transparency and rule-based allocation of market spaces, reducing favoritism and informal arrangements while strengthening trust and fairness.
4.	Regulatory Compliance and Consumer Protection	Sanitation and waste management policies; security provisions (including CCTV); mandatory price tagging; prohibition of illegal acts; monitoring of weights and measures (Title IV & VI).	Market administration extends beyond space management to regulatory enforcement, ensuring public health, safety, order, and consumer protection.

The ordinance also establishes a clear delineation of roles between policy oversight and operational management, where the Market Board performs policy-making and adjudication functions while the Market Administrator manages daily operations, enforcement, and coordination with market personnel. In addition, transparent procedures for stall allocation, including public posting of vacancies, adjudication processes, and formal lease contracts, demonstrate a rule-based administrative system designed to promote fairness, accountability, and orderly market operations. However, despite the presence of a comprehensive governance framework, the results reveal several operational challenges that affect the effectiveness of market administration. Interviews and documentary analysis indicate irregular convening of the Market Board, leadership instability during political transitions, and perceived inconsistencies in enforcement and stakeholder consultation, suggesting a gap between policy design and actual implementation. These findings support governance literature emphasizing that formal institutional structures must be complemented by consistent operational engagement and stakeholder participation to achieve effective governance outcomes (Rhodes, 2000; Cabilatazan, 2021). Similarly, studies on local public market governance highlight that administrative continuity, transparent implementation of policies, and participatory decision-making are essential to sustain institutional credibility and support modernization

initiatives (Isolana, 2021; Roxas, 2024). Thus, while the governance structure of the Virac Public Market is structurally sound and policy-driven, strengthening implementation mechanisms, enforcement consistency, and stakeholder engagement is necessary to fully realize its administrative effectiveness and modernization goals.

In terms of Policies, Rules, and Regulations

The findings show that the governance and management systems of the Virac Public Market in terms of policies, rules, and regulations are formally institutionalized through Municipal Ordinance No. 2021-16, also known as the Virac Market Code, which provides a comprehensive legal framework for market operations, administration, and regulation (see Table 3). The ordinance establishes clear policies governing stall allocation, lease agreements, sanitation standards, operating hours, rental rates, and prohibited acts, ensuring that market management is guided by codified rules rather than discretionary practices. The presence of structured procedures such as public posting of vacant stalls, formal adjudication processes, and written lease contracts promotes transparency, fairness, and accountability in the allocation of market spaces. In addition, the ordinance mandates compliance with sanitation, waste management, and consumer protection standards, reflecting a governance system that emphasizes public health, safety, and orderly market operations. These provisions demonstrate that the Virac Public Market operates under a rule-based and policy-driven governance framework that supports regulatory discipline and structured administration.

Table 3. Governance and Management Systems of the Virac Public in terms of Policies, Rules, and Regulations

	Theme	Supporting Policy Provisions	Interpretation
1.	Rule-Based and Codified Governance Framework	Enactment of Municipal Ordinance No. 2021-16; defined powers of the Market Board; written policies governing operations, stall management, fees, and vendor responsibilities.	Governance is legally institutionalized and policy-driven. Market administration operates under formal rules rather than discretionary practices, promoting order, predictability, and accountability.
2.	Structured Stall Allocation and Tenure Security	Public posting of vacant stalls; screening and adjudication procedures; written lease contracts; defined lease terms; prohibition of subleasing and unauthorized transfers; grounds for revocation.	Ensures transparency and fairness in allocation of public market spaces. Protects municipal assets and promotes equitable access while preventing informal or unauthorized arrangements.
3.	Regulatory Compliance and Market Discipline	Sanitation and waste management rules; vendor conduct guidelines; operating hours; mandatory price tagging; monitoring of weights and measures; list of prohibited acts.	Promotes public health, consumer protection, and orderly operations. Reflects a compliance-oriented governance model aimed at maintaining discipline and ethical trade practices.
4.	Financial Governance and Revenue Regulation	Standardized rental rates by stall classification; structured fee collection system; defined payment schedules; penalties for arrears; lease cancellation for non-payment	Establishes fiscal accountability and cost-recovery mechanisms. Ensures revenue sustainability and financial discipline among vendors while supporting municipal income generation.
5.	Enforcement and Accountability Mechanisms	Written warnings; suspension or termination of lease; declaration of vacancy; administrative sanctions for violations	Strengthens rule enforcement and regulatory authority. Demonstrates that policies are actionable and supported by corrective measures to maintain compliance.

Despite the presence of a comprehensive regulatory framework, the findings reveal that implementation challenges remain, particularly in terms of enforcement consistency and stakeholder

participation. Some vendors reported concerns regarding informal arrangements in stall allocation, uneven application of sanctions, and limited consideration of stakeholder inputs in policy implementation, suggesting a gap between codified policies and actual administrative practices. These findings align with governance literature emphasizing that formal rules and regulatory frameworks alone do not guarantee effective governance without consistent enforcement and participatory implementation (Rhodes, 2000; Cabilatazan, 2021). Similarly, studies on public market governance highlight that transparent monitoring systems, stakeholder engagement, and clear accountability mechanisms are necessary to strengthen compliance and institutional trust (Isolana, 2021). Therefore, while the Virac Public Market possesses a strong legal and regulatory foundation, improving enforcement consistency, transparency, and participatory governance is essential to ensure that policies effectively support sustainable market modernization.

In terms of Revenue Collection Mechanism

The findings on governance and management systems in terms of revenue collection mechanism of the Virac Public Market are summarized in Table 4, which presents the synthesized thematic results on the governance and management systems related to market revenue administration. The themes were derived through document analysis of key official records, including the Market Code (Municipal Ordinance No. 2021-16), the Municipal Revenue Code, the Annual Investment Program (AIP) 2025, the General Fund Budget 2025, and the CY 2024 Annual Financial Report. These documents provided the institutional and financial basis for examining how revenue policies, rental structures, and collection procedures are established and implemented in the public market. The findings, validated through triangulation with key informant interviews and responses, reveal that the Virac Public Market operates under a codified revenue governance framework with diversified income sources such as stall rentals, permits, and regulatory fees. This indicates that the market’s revenue system is structurally guided by formal policies designed to promote fiscal accountability and support municipal income generation.

Table 4. Governance and Management Systems of the Virac Public in terms of Revenue Collection Mechanisms

Theme	Key Evidence from Documents	Financial Evidence (CY 2024)	Interpretation
1. Institutionalized and Codified Revenue Governance	Market Code establishes Virac Market Board; defined stall rental matrix; lease contracts; enforcement rules	Overall LGU deficit of ₱17,233.00	Strong legal and institutional structure
2. Diversified and Multi-Stream Revenue Architecture	Stall rentals, vendor shed rental, mayor’s permit fees, accreditation fees, weights & measures, slaughterhouse fees, entrance fees	Revenue: ₱355,720.00; Expenses: ₱371,363.00	Revenue system is broad and multi-layered
3. Compliance-Oriented Enforcement Mechanism	Lease revocation for non-payment; penalties; confiscation authority; advance rental & deposits	Decline in cash balance by ₱49,281.00	Enforcement provisions are clearly codified
4. Personnel-Dependent Collection System	₱9.9M market operation budget; majority for Personal Services	Qualified audit opinion noted in financial performance; deficit recorded	Revenue collection largely manual and labor-intensive
5. Emerging Internal Control Modernization	AIP 2025 includes “Management Control System for effective revenue collection”	Fiscal deficit suggests corrective governance response	Institutional awareness of need for improved controls

6. Infrastructure Modernization Outpacing Revenue System Modernization	P50M market improvement; cold storage; CCTV; generator; drainage projects	Increasing liabilities; declining liquidity	Capital investments accelerating
7. Participatory Governance with Diffused Accountability	Multi-sectoral Market Board composition	Financial reports do not isolate market-specific revenue performance	Inclusive governance model

However, the results also show that while the revenue governance framework is structurally established, operational effectiveness remains constrained by implementation challenges. Stakeholder interviews revealed issues such as manual and paper-based collection systems, inconsistent enforcement of payment policies, and high levels of arrears among vendors, which contribute to revenue deficits despite the presence of formal regulations. These findings suggest that the efficiency of the revenue collection mechanism depends on stronger monitoring systems, improved enforcement of payment obligations, and greater transparency in financial administration. Supporting literature emphasizes that effective revenue governance in public markets requires clear accountability structures, systematic monitoring, and transparent financial management to ensure long-term fiscal sustainability (Isolana, 2021; Cabilatazan, 2021). Moreover, studies on market modernization highlight the role of digital payment platforms and automated monitoring systems in improving revenue efficiency, minimizing leakage, and strengthening financial transparency in local public markets (Quimba et al., 2021). Thus, strengthening revenue governance through digitalization and improved administrative oversight is essential for supporting the sustainable modernization of the Virac Public Market.

3.2. Level of Readiness on Modernization of the Virac Public Market

In terms of Infrastructure

The results indicate that the Virac Public Market demonstrates an overall level of readiness for modernization in terms of infrastructure, with an average weighted mean of 3.02, interpreted as “Ready” (see Table 5). This finding suggests that the market possesses the essential physical structures and utility systems required to support modernization initiatives. Existing facilities such as the market building, flooring, and waste management services provide a basic operational foundation that can support improvements in market operations and service delivery. However, the rating also implies that while the infrastructure is functional, further upgrading and rehabilitation are necessary to fully meet the standards of a modern public market and ensure a more efficient and competitive trading environment.

Table 5. *Level of Readiness on Modernization of the Virac Public Market in terms of Infrastructure*

Indicators	Market Vendors	Market Personnel	Local Market Authorities	Ave Weighted Mean	Adjectival Interpretation
A. Infrastructure					
1. The building is structurally sound for continued and expanded use.	2.52	3.43	3.00	2.98	Ready
2. The concrete flooring along Gogon Creek beside the Virac Public Market is well-constructed to support sanitation and safety purposes.	2.56	3.43	3.00	3.00	Ready
3. The garbage truck is available to support waste collection and disposal in the Virac Public Market.	3.19	3.57	3.63	3.46	Ready
4. The market facilities—including stalls, walkways, roofing, and comfort rooms—are	2.49	3.00	2.88	2.79	Ready

	well-maintained to support vendors and customers.					
5.	The electricity supply—including power lines and outlets—is sufficient to support all vendors’ daily operations.	3.25	3.86	3.25	3.45	Ready
6.	The water supply system—including faucets, drainage, and water access points—is reliable and safe to meet the daily needs of vendors and customers.	2.30	3.00	3.00	2.77	Ready
7.	The parking area is accessible and safe to accommodate vehicles of vendors and customers.	3.06	3.71	3.13	3.30	Ready
8.	The drainage system of the Virac Public Market is functional and sufficient to prevent flooding and maintain cleanliness within the market area.	2.03	3.00	3.25	2.76	Ready
9.	The sewerage treatment plant is operational and effective in managing wastewater to support sanitation and environmental safety in the market.	1.81	3.00	3.25	2.69	Ready
	Average Weighted Mean	2.58	3.33	3.15	3.02	Ready
Legend:	3.50-4.00 (<i>Very Ready</i>)	2.50-3.49 (<i>Ready</i>)	1.50-2.49 (<i>Quite Ready</i>)	1.00-1.49 (<i>Not Ready</i>)		

The findings also reveal variations in stakeholder perceptions regarding the adequacy of the market’s infrastructure. Market personnel and local market authorities rated the infrastructure more positively than market vendors, who provided relatively lower assessments. This difference may be attributed to the vendors’ daily interaction with the market environment, allowing them to directly experience issues related to sanitation, facility deterioration, and spatial limitations. Such perceptual differences highlight the importance of incorporating stakeholder perspectives in infrastructure planning and development. Similar studies emphasize that the physical condition and design of traditional markets significantly influence vendor operations and consumer satisfaction, and that infrastructure improvements are necessary to enhance competitiveness with modern retail establishments (Darmawan et al., 2015; Fitria et al., 2018).

Despite the presence of fundamental infrastructure components, the study identified several structural and maintenance challenges that limit the market’s full readiness for modernization. Persistent issues such as clogged drainage systems, roof leaks, water supply limitations, insufficient CCTV coverage, and maintenance backlogs were observed. Although certain improvements—such as retrofitting initiatives and installation of security systems—have already been undertaken, these efforts remain insufficient to fully address infrastructure needs. These findings support previous research indicating that aging facilities, inadequate sanitation systems, and limited infrastructure maintenance are common constraints affecting the modernization of traditional public markets (Cabilatazan, 2021; Bentley, 2016). Therefore, targeted investments in infrastructure rehabilitation, sanitation systems, and safety facilities are essential to strengthen the physical environment of the Virac Public Market and support sustainable modernization initiatives.

In terms of Technology

The results indicate that the Virac Public Market demonstrates a moderate level of readiness for modernization in terms of technology, with an overall weighted mean of 2.12, interpreted as “Quite Ready”

(see Table 6). This suggests that while some technological components are present, the level of technological integration in market operations remains limited. Administrative and financial processes in the market are still largely manual, which constrains operational efficiency, transparency, and monitoring of transactions. Although the market shows initial preparedness for adopting technological systems, further improvements are necessary to support the digital transformation required for a modern public market environment.

Table 6. *Level of Readiness on Modernization of the Virac Public Market in terms of Technology*

Indicators	Market Vendors	Market Personnel	Local Market Authorities	Ave Weighted Mean	Adjectival Interpretation	
B. Technology						
1. The CCTV security camera system is properly installed to enhance market security.	2.93	2.57	3.00	2.83	Ready	
2. The digital communication channels (such as social media, messaging apps, email) are functional and reliable to support information sharing with vendors and customers.	2.20	2.43	3.00	2.54	Quite Ready	
3. The digital payment systems (such as GCash, online payment apps) are functional to facilitate convenient transactions.	2.54	1.86	2.25	2.22	Quite Ready	
4. The process of conducting vendor and customer transactions digitally—including scanning QR codes, generating receipts, and recording payments—is efficient and reliable for regular use.	2.29	2.14	1.88	2.10	Quite Ready	
5. Vendors are provided with adequate training and support to use technological systems effectively in their daily operations.	2.25	1.57	1.50	1.77	Quite Ready	
6. The market vendors are knowledgeable, cooperative to adopt modernized practices, including using digital payment systems, Paleng QR, and other technological improvements.	2.58	1.71	2.13	2.14	Quite Ready	
7. The digital payment systems are secure, protecting the privacy of vendor and customer information.	2.29	1.43	1.63	1.78	Quite Ready	
8. The Wi-Fi connectivity, including PisoNet, in the Virac Public Market is reliable, accessible, and sufficient to support digital transactions and communication needs of vendors and customers.	1.73			1.73	Not Ready	
Average Weighted Mean	2.35	1.96	2.05	2.12	Quite Ready	
Legend:	3.50-4.00 (Very Ready)		2.50-3.49 (Ready)		1.50-2.49 (Quite Ready)	
					1.00-1.49 (Not Ready)	

The findings further reveal that technological adoption within the market remains uneven, particularly in areas such as digital payment systems, electronic monitoring, and automated administrative processes. Limited digital infrastructure, weak internet connectivity, and the absence of institutionalized electronic payment platforms restrict the effective implementation of technology-driven systems in market administration. Studies emphasize that digital integration—such as e-payment platforms, automated monitoring, and centralized digital databases—is essential for improving transparency, efficiency, and financial accountability in public market operations (Quimba et al., 2021). In addition, the Paleng-QR PH initiative of the Bangko Sentral ng Pilipinas highlights the importance of promoting cashless transactions in public markets to strengthen financial inclusion and improve revenue monitoring (PIA, 2024).

The limited technological readiness of the market also reflects broader challenges faced by traditional markets undergoing modernization. Previous studies indicate that insufficient digital infrastructure, lack of technological expertise, and limited investment in information systems often hinder the adoption of digital innovations in local markets (Isolana, 2021; Padayao-Rumbaoa, 2024). These

findings suggest that improving technological readiness requires strategic investments in digital infrastructure, enhanced internet connectivity, and capacity-building programs for market personnel and vendors. Strengthening technological capabilities will not only improve administrative efficiency and financial transparency but will also play a critical role in supporting the long-term modernization and competitiveness of the Virac Public Market.

In terms of Workforce

The findings indicate that the Virac Public Market demonstrates a favorable level of readiness for modernization in terms of workforce capacity, with an overall weighted mean of 3.16, interpreted as “Ready” (see Table 7). This suggests that the human resource component—comprising market administrators, staff, collectors, vendors, and local officials—possesses the competencies and coordination necessary to support modernization initiatives. The results show that the workforce is generally capable of performing administrative and operational responsibilities required in implementing modernization programs. Differences in perceptions among stakeholder groups were also observed, with market personnel and local authorities expressing stronger confidence in workforce capability, while vendors provided relatively more cautious assessments due to their direct exposure to day-to-day operational realities.

Table 7. Level of Readiness on Modernization of the Virac Public Market in terms of Workforce

Indicators	Market Vendors	Market Personnel	Local Market Authorities	Ave Weighted Mean	Adjectival Interpretation
C. Workforce					
1. The market administrators are competent and prepared to implement modernization initiatives such as upgraded facilities, improved infrastructure, digital systems, and efficient market operations.	3.08	3.86	3.25	3.40	Ready
2. The market staff are skilled and organized to assist in day-to-day operations, including managing upgraded facilities, digital systems, and efficient processes during modernization.	2.82	3.57	3.00	3.13	Ready
3. The market collectors are efficient and trained to manage fees and collections accurately using modernized systems and processes.	2.82	3.71	2.75	3.09	Ready
4. The local officials are supportive and active to provide guidance and assistance to ensure the success of the market’s modernization, including infrastructure, technology, and operations.	2.70	3.29	3.38	3.12	Ready
5. The market administrators and staff are provided with adequate training programs to enhance their skills and readiness for modernization initiatives such as technology adoption and facility upgrades.	2.70	3.43	2.75	2.96	Ready
6. The market staff, collectors, and administrators demonstrate effective communication and coordination to support smooth operations during the implementation of modernization initiatives.	2.93	3.57	2.88	3.13	Ready
7. The market administrators, staff, and collectors are capable of problem-solving and responding efficiently to challenges arising from modernization initiatives, such as digital payment adoption, facility upgrades, or operational improvements.	2.81	3.71	2.75	3.09	Ready
8. The market vendors, staff, and administrators are willing to adopt new technologies and systems introduced in modernization initiatives, including computerized record-keeping and digital transaction processes.	2.85	3.57	3.25	3.22	Ready
9. The market workforce—including administrators, staff, collectors, vendors, and local officials—demonstrates teamwork and collaboration to ensure the	2.91	3.71	3.38	3.33	Ready

successful implementation of all modernization initiatives in the market.

	Average Weighted Mean	2.85	3.60	3.04	3.16	Ready
Legend:	<i>3.50-4.00 (Very Ready)</i>	<i>2.50-3.49 (Ready)</i>	<i>1.50-2.49 (Quite Ready)</i>	<i>1.00-1.49 (Not Ready)</i>		

The findings further highlight that teamwork, leadership competence, and stakeholder collaboration are among the key strengths of the market workforce. Strong coordination among administrators, staff, collectors, vendors, and local officials contributes to effective market management and supports the implementation of modernization initiatives. In addition, the workforce demonstrates a willingness to adopt new technologies and operational improvements introduced through modernization programs. These results reflect a positive organizational environment characterized by cooperation, communication, and problem-solving capability, which are essential in managing institutional change and sustaining public market development.

However, the findings also suggest that continuous capacity-building remains necessary to further strengthen workforce readiness. Although training initiatives exist, the results imply the need for more structured and sustained professional development programs to enhance technical skills, particularly in relation to emerging technologies and modernized operational systems. These observations are consistent with literature emphasizing that successful modernization depends on human capability, leadership commitment, and stakeholder collaboration (Armenakis and Harris, 2009). Studies further highlight that staff knowledge, adaptability, and service quality significantly influence modernization outcomes and customer satisfaction, while continuous training and institutional support are essential for sustaining modernization efforts (Gulo and Zebua, 2025; Padayao-Rumbaoa, 2024; Quimba et al., 2021).

In terms of Financial

The findings indicate that the Virac Public Market demonstrates a favorable level of readiness for modernization in terms of financial capacity, with an overall weighted mean of 2.68, interpreted as “Ready” (see Table 8). This suggests that the market possesses functional financial management systems that can support modernization initiatives, particularly in areas such as revenue collection, budgeting practices, and allocation of funds. The results indicate that the market administration has established mechanisms for managing financial resources, including the collection of market fees, structured budgeting processes, and monitoring of financial transactions. However, the rating falls within the lower range of the “Ready” category, implying that while financial systems are operational, the overall financial capacity may still require strengthening to sustain large-scale or long-term modernization programs.

Table 8. *Level of Readiness on Modernization of the Virac Public Market in terms of Financial*

Indicators	Market Vendors	Market Personnel	Local Market Authorities	Ave Weighted Mean	Adjectival Interpretation
D. Financial					
1. The revenue generated market from vendor’s fees, rentals, and other market-related sources appears sufficient to support modernization activities such as facility improvements and system upgrades.	2.41	3.29	2.13	2.61	Quite Ready
2. The funds allocated by the market administration appear adequate and readily available to finance modernization projects, including infrastructure development and technology adoption.	2.41	3.00	1.63	2.34	Quite Ready

3.	The market fees and charges imposed on vendors appear reasonable and properly structured to help support the modernization of the market.	2.56	3.14	2.00	2.57	Ready
4.	The collection process of market fees and charges appears efficient, transparent, and well-managed to ensure consistent funding for modernization initiatives.	2.24	3.14	3.00	2.79	Ready
5.	The budgeting practices of the Virac Public Market appear well-planned and sufficient to support long-term modernization efforts.	2.49	3.29	2.75	2.84	Ready
6.	The allocation of market funds appears clearly communicated and properly prioritized for modernization needs such as facilities, technology, and services.	2.57	3.29	2.75	2.87	Ready
7.	The Virac Public Market appears financially capable of maintaining and sustaining modernized facilities and systems after implementation.	2.00	3.29	2.50	2.60	Ready
8.	The financial management of the Virac Public Market appears transparent and properly monitored to ensure funds are used for modernization purposes.	2.42	3.29	2.63	2.78	Ready
9.	The market administration appears capable of generating additional financial resources or external funding if needed for further modernization.	2.37	3.29	2.75	2.80	Ready
10.	The overall financial condition of the Virac Public Market appears stable and ready to support continuous modernization and development.	2.37	3.29	2.25	2.64	Ready
Average Weighted Mean		2.38	3.23	2.44	2.68	Ready
Legend:		<i>3.50-4.00 (Very Ready)</i>	<i>2.50-3.49 (Ready)</i>	<i>1.50-2.49 (Quite Ready)</i>	<i>1.00-1.49 (Not Ready)</i>	

A comparison of responses among stakeholder groups reveals differences in perception regarding the market's financial capability. Market personnel expressed stronger confidence in the financial systems and stability of the market, while market vendors and local market authorities provided more cautious assessments. These differences may be attributed to variations in access to financial information and differing experiences regarding the utilization and reinvestment of market funds. Nevertheless, the results suggest that financial processes—such as fee collection, budgeting, and financial monitoring—are generally perceived as structured and transparent, which are essential components for sustaining modernization initiatives.

Despite the presence of functional financial management mechanisms, the findings also suggest that revenue sufficiency and long-term financial sustainability remain areas of concern. While existing revenue sources from vendor fees, rentals, and market-related charges contribute to modernization efforts, they may not be sufficient to independently finance major infrastructure upgrades, digital transformation, and long-term maintenance. These results highlight the importance of strengthening revenue collection efficiency, improving reinvestment mechanisms, and exploring additional funding sources to support modernization. The findings are consistent with studies emphasizing that modernization requires stable revenue systems, transparent financial management, and long-term fiscal planning (Armenakis and Harris, 2009). Similarly, research on public market governance notes that diversified funding sources and participatory financial management are critical to sustaining modernization and institutional development (Gutterman, 2020; Isolana, 2021; Villafior, 2021).

Summary of Level of Readiness on Modernization of the Virac Public Market

The consolidated results in Table 9 indicate that the Virac Public Market demonstrates an overall level of readiness for modernization, with an average weighted mean of 2.75, interpreted as “Ready.” This suggests that the market possesses the basic institutional, infrastructural, and organizational conditions necessary to support modernization initiatives. However, the rating reflects moderate readiness rather than a highly advanced state of preparedness, implying that while essential systems are already in place, further improvements are required to fully sustain comprehensive modernization efforts. These findings support the view that modernization is a multidimensional process that requires alignment among governance, infrastructure, technology, human resources, and financial capacity to ensure sustainable development (Armenakis and Harris, 2009).

Among the four dimensions assessed, workforce readiness emerged as the strongest component, indicating that the human resource capacity of the market—including administrators, staff, collectors, vendors, and local officials—possesses the competence, coordination, and willingness to support modernization initiatives. Infrastructure was also assessed as “Ready,” suggesting that the market has the essential physical facilities and utility systems necessary for modernization, although improvements in sanitation, drainage, and structural conditions may still be required. Similarly, financial capacity was rated “Ready,” indicating that the market has operational systems for revenue collection, budgeting, and financial management, though strengthening revenue sustainability and reinvestment mechanisms remains necessary. Previous studies on public market governance emphasize that functional infrastructure, capable human resources, and stable financial management systems are fundamental prerequisites for successful modernization initiatives (Cabilatazan, 2021; Isolana, 2021; Gutterman, 2020).

Table 9. *Summary of Level of Readiness on Modernization of the Virac Public Market*

Readiness	Market Vendors	Market Personnel	Local Market Authorities	Ave Weighted Mean	Adjectival Interpretation
	WM	WM	WM		
A. Infrastructure	2.58	3.33	3.15	3.02	Ready
B. Technology	2.35	1.96	2.05	2.12	Quite Ready
C. Workforce	2.85	3.60	3.04	3.16	Ready
D. Financial	2.38	3.23	2.44	2.68	Ready
Average Weighted Mean	2.54	3.03	2.67	2.75	Ready

Legend: 3.50-4.00 (Very Ready) 2.50-3.49 (Ready) 1.50-2.49 (Quite Ready) 1.00-1.49 (Not Ready)

In contrast, technology received the lowest rating and was interpreted as “Quite Ready,” indicating that digital integration remains the weakest dimension of modernization readiness. Limited technological infrastructure, insufficient digital training, and weak internet connectivity constrain the market’s ability to fully adopt digital systems such as electronic payments and automated transaction processes. These findings are consistent with studies indicating that traditional public markets often face challenges in digital transformation due to limited connectivity, technological capacity, and institutional support (Quimba et al., 2021; Nordin et al., 2020). Programs such as the Bangko Sentral ng Pilipinas’ Paleng-QR initiative also highlight the importance of strengthening digital infrastructure and capacity-building to enable cashless transactions and improve financial transparency in public markets (PIA, 2024). Overall, the results suggest that while the Virac Public Market demonstrates foundational readiness for modernization, strategic

investments in technology and financial sustainability are necessary to achieve comprehensive and long-term modernization outcomes.

3.3. Hindering Factors and Progress to Achieve the Modernization of the Virac Public Market

Hindering Factors to Achieve Modernization

The findings revealed that modernization challenges are systemic and multidimensional, rather than isolated or technical in nature. Across all informant groups, financial limitation emerged as the most dominant and recurring hindering factor to modernization. Local market authorities directly identified funding as the principal obstacle (see Table 10).

Table 10. *Hindering Factors to Achieve Modernization*

Major Theme	Sub-Themes / Codes	Supporting Interview Responses (Condensed)
1. Financial Constraints (Most Dominant Theme)	Insufficient funds	“Insufficient funds.” / “Funding is the greatest factor.”
	Weak revenue collection	50–70% collection only; high arrears; market not self-sustaining
	Loan burden	₱50M retrofitting loan still amortized via DBP
	Low rental rates	Rent too low to sustain modernization
	No dedicated modernization budget	No allocated fund for digitalization and system upgrade
2. Infrastructure and Facility Limitations	Aging structure	Old building despite retrofitting; corrosion issues
	Drainage & flooding	<i>Baradong</i> drainage; clogging from fish scales; flooding
	Sanitation issues	Insufficient CR; water supply problems
	Poor layout design	Wet section upstairs; vacant stalls; congested aisles
	Utility gaps	Outdated wiring; no generator during brownouts
3. Technological Barriers	Security deficiencies	Limited CCTV; theft incidents; weak patrol
	Absence of digital system	Manual ticketing; no integrated software
	Limited GCash adoption	Vendors prefer cash; fear of scams; elderly not tech-savvy
	No IT personnel	No skilled IT staff; mostly Job Orders
4. Workforce and Human Resource Limitations	Weak connectivity	No Wi-Fi; unstable signal; limited CCTV integration
	Majority non-permanent staff	Mostly Job Orders and casual employees
	Lack of training	No structured digital or modernization training
	Resistance to change	Vendors hesitant due to age and fear of change
5. Governance and Policy Gaps	Weak monitoring practices	Guards not consistently roaming; inconsistent enforcement
	Political turnover	Change in administration disrupts continuity
	Inactive Market Board	Board not convened; weak screening of stall applicants
	Weak ordinance enforcement	Subleasing and dummy applications reported
	Limited stakeholder consultation	Consultation perceived as procedural
6. Social and Livelihood-Based Resistance	Collection enforcement gaps	Inconsistent daily collection; arrears tolerated
	Fear of relocation (SIV)	Vendors oppose transfer; fear of losing customers
	Fear of displacement by big investors	Concern about mall-style development
	Cultural attachment to traditional market	Concern about losing “public market essence”
	Competition from private establishments	VTC, LCC, malls affecting sales

Therefore, the findings of the study revealed that the modernization of the Virac Public Market is hindered by interconnected financial, infrastructural, technological, workforce, governance, and socio-cultural constraints, which are strongly supported by existing literature and theory. Consistent with studies by Cabilatazan (2021) and Isolana (2021), weak revenue collection, limited budget allocation, and loan burdens undermine financial sustainability, restricting investments in infrastructure and digital systems. Infrastructure deficiencies such as poor drainage, outdated facilities, and inefficient layout reflect challenges similarly identified by Darmawan et al. (2015) and Fitria et al. (2018), who emphasize that physical readiness is foundational to modernization. Technological barriers, including limited digital payment adoption and absence of IT systems, align with findings by Quimba et al. (2021) and Padayao-Rumbaoa (2024), highlighting that digital transformation requires both infrastructure and stakeholder capability. Workforce instability and resistance to change correspond with Organizational Readiness for Change theory (Weiner, 2009), which stresses that successful reform depends on collective commitment and efficacy. Governance gaps, such as weak policy enforcement and limited stakeholder participation, mirror concerns raised by Roxas (2024) and Prastyawan and Isbandono (2018) regarding inclusive planning and institutional sustainability. Anchored in Modernization Theory and the Resource-Based View, the results suggest that modernization requires not only physical upgrading but also strengthened governance systems, strategic resource mobilization, human capital development, and inclusive stakeholder engagement to ensure sustainable and competitive transformation.

Progress to Achieve Modernization

Table 11 presents that the Virac Public Market has initiated significant steps toward modernization. Progress is evident across five major dimensions: infrastructure upgrading, financial strengthening, technological integration, governance improvements, and vendor participation. These developments suggest incremental but meaningful movement toward modernization.

Table 12. *Progress to Achieve Modernization*

Major Theme	Specific Initiatives / Indicators of Progress	Supporting Interview Responses (Condensed)
1. Infrastructure Upgrading	₱50M retrofitting project	Structural reinforcement; safety restoration; building strengthened
	Sewerage Treatment Plant installation	Addressed wastewater management concerns
	Drainage improvements	Modified drainage in wet sections to reduce clogging
	CR renovation and reopening Increased stall accommodation	Improved sanitation facilities Renovation allowed better space utilization
2. Strengthening Financial and Revenue Management	Improved coordination in collection	Closer collaboration between market admin and finance office
	Enforcement of arrears payment	Stricter monitoring of vendor balances
	20% rental reduction ordinance (pandemic response)	Provided financial relief while sustaining compliance
	Loan financing through DBP	Enabled large-scale retrofitting investment
3. Initial Technological Integration	Installation of CCTV systems	Enhanced monitoring and security
	Adoption of digital weighing scales	Transition from manual to digital computation
	Discussions on Paleng-QR / GCash adoption	Treasurer's office coordination for digital payment
	Internal encoding of remittance records	Partial digitalization of administrative processes

4. Governance and Administrative Improvements	Improved inter-office collaboration Vendor consultation meetings Enforcement of due process in violations Collaborative decision-making	Market administration working closely with LGU units Regular meetings with vendor associations Warning system and compliance monitoring Decisions on collection and operations discussed collectively
5. Vendor Participation and Behavioral Shifts	Increased payment compliance Willingness to attend training Acceptance of digital tools (scales) Cooperation in sanitation practices	More vendors paying regularly after enforcement Vendors open to seminars if properly informed Vendors adjusted to digital weighing systems Daily cleaning and stricter waste monitoring

Therefore, the progress toward modernization of the Virac Public Market—particularly in infrastructure rehabilitation, strengthened revenue enforcement, initial technological integration, improved governance coordination, and increased vendor participation—is consistent with existing literature and theoretical frameworks. The ₱50 million retrofitting project, drainage improvements, and sanitation upgrades align with Modernization Theory (Rostow, 2013; Thaha & Galib, 2022), which emphasizes infrastructure investment as a foundational stage in economic transformation. Studies by Darmawan et al. (2015) and Fitria et al. (2018) similarly highlighted that upgrading physical facilities enhances competitiveness and public perception of traditional markets. Improvements in revenue monitoring and administrative coordination reflect findings by Cabilatazan (2021) and Isolana (2021), who stressed the importance of institutionalized financial and governance systems in sustaining modernization. Early adoption of CCTV, digital weighing scales, and discussions on cashless payment systems correspond with digital readiness literature (Quimba et al., 2021; Padayao-Rumbaoa, 2024), demonstrating incremental technological adaptation. From the perspective of Organizational Readiness for Change (Weiner, 2009), the growing cooperation of vendors suggests emerging commitment and change efficacy, while the Resource-Based View (Barney, 2012) explains how governance systems, financial mobilization, and human capital function as strategic resources for competitive sustainability. Overall, the progress achieved reflects a transitional but deliberate movement from a traditional operational model toward a more structured, resilient, and gradually modernizing public market system.

The Virac Public Market is in a transitional stage, shaped by persistent financial constraints, aging infrastructure, limited digital capacity, workforce instability, and governance gaps, which are consistent with studies by Cabilatazan (2021), Isolana (2021), and Darmawan et al. (2015) highlighting similar challenges in traditional markets. At the same time, measurable progress—such as the ₱50 million retrofitting project, sanitation improvements, strengthened revenue enforcement, improved administrative coordination, and initial technological adoption—reflects deliberate reform efforts. These developments align with Modernization Theory (Rostow, 2013), which emphasizes infrastructure and institutional investment; Organizational Readiness for Change (Weiner, 2009), which underscores collective commitment to reform; and the Resource-Based View (Barney, 2012), which highlights the strategic role of governance, financial systems, and human capital. Overall, while full modernization has not yet been achieved, the market demonstrates foundational progress that can support sustainable and competitive transformation if reforms are sustained and integrated.

3.5 Proposed Market-Driven Modernization Framework

The S.I.G.L.A.S. (Sustainable, Integrated Governance and Local Adaptive Systems) Market-Driven Modernization Framework was developed based on the study's findings on governance systems, readiness levels, and barriers to modernization of the Virac Public Market. The framework views modernization not merely as infrastructure improvement but as a systemic institutional reform integrating governance, financial, technological, and organizational changes. Grounded in Organizational Readiness for Change Theory, the Resource-Based View, Public Governance Theory, and digital transformation principles, the framework addresses gaps identified in the market's current operations despite the presence of formal governance structures under Municipal Ordinance No. 2021-16.

The framework consists of five interconnected pillars: (1) Governance Activation, (2) Financial Sustainability, (3) Infrastructure Rationalization, (4) Digital Transformation, and (5) Workforce Institutionalization. These pillars respond directly to the study's findings, which show that while governance structures and workforce readiness exist, operational inconsistencies, financial constraints, infrastructure limitations, and weak technological readiness hinder full modernization. Through strengthened governance oversight, improved revenue management, rationalized infrastructure upgrades, prioritized digital integration, and capacity-building for personnel, the SIGLAS framework provides a structured and integrated pathway for sustainable modernization of the Virac Public Market.

Financial, infrastructure, technological, and workforce limitations were identified as the primary barriers to the modernization of the Virac Public Market. Financial constraints were the most significant, with low collection efficiency, persistent arrears, and ongoing loan amortization indicating weaknesses in revenue performance. To address this, the S.I.G.L.A.S. Framework places Financial Sustainability as the foundation of modernization through improved collection systems, revised rental structures, digital billing, and the creation of a Market Development Fund.

Infrastructure issues such as drainage clogging, flooding, and sanitation deficiencies are addressed through Infrastructure Rationalization, focusing on functional improvements that enhance sanitation, spatial efficiency, and disaster resilience. Technological barriers, including manual collection systems and limited digital infrastructure, are tackled through Digital Transformation, which introduces a Market Management Information System, digital payments, and IT support to improve transparency and efficiency. Meanwhile, Workforce Institutionalization addresses reliance on non-permanent personnel and limited training by formalizing technical positions and strengthening capacity-building programs.

Therefore, the S.I.G.L.A.S. Framework integrates governance activation, financial sustainability, infrastructure rationalization, digital transformation, and workforce institutionalization to guide modernization as a coordinated institutional reform process. By strengthening governance oversight, fiscal capacity, technological capability, operational infrastructure, and human resources, the framework provides an empirically grounded pathway for achieving sustainable, resilient, and inclusive modernization of the Virac Public Market.

Proposed Framework Model

The S.I.G.L.A.S. (Sustainable, Integrated Governance and Local Adaptive Systems) Framework Model conceptualizes the modernization of the Virac Public Market as a layered and interdependent institutional reform system, rather than a single infrastructure project. The model is derived from the study’s findings on governance systems, readiness levels, and hindering factors, and presents modernization as a coordinated process supported by financial stability, digital integration, infrastructure improvement, workforce capacity, and governance oversight.

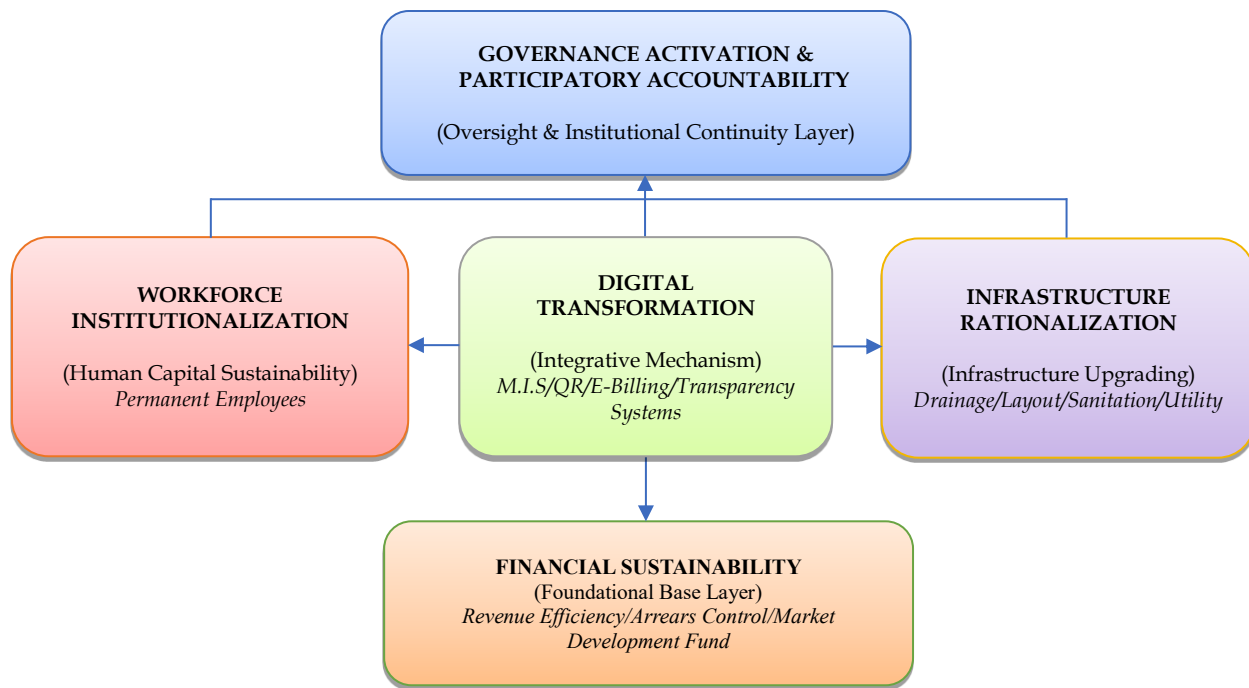


Figure 2. *Conceptual Structure of the S.I.G.L.A.S Framework*

At its foundation is Financial Sustainability, addressing major constraints such as weak collection efficiency, arrears, and loan amortization through strengthened revenue enforcement, rationalized rental structures, digital billing systems, and the creation of a Market Development Fund. Digital Transformation functions as the integrative mechanism that improves transparency, monitoring, and efficiency through administrative digitalization and phased adoption of digital payment systems (PIA, 2024; Quimba et al., 2021).

Supporting pillars include Infrastructure Rationalization, which prioritizes improvements in drainage, sanitation, layout efficiency, and utilities (Darmawan et al., 2015; Fitria et al., 2018), and Workforce Institutionalization, which strengthens capacity through formalized positions, training programs, and change management strategies consistent with Organizational Readiness for Change theory (Weiner, 2009; Armenakis & Harris, 2009).

At the apex of the framework is Governance Activation and Participatory Accountability, ensuring policy enforcement, stakeholder engagement, and institutional oversight consistent with public governance principles (Rhodes, 2000; Gutterman, 2020; Isolana, 2021). Overall, the S.I.G.L.A.S. Framework provides an integrated and empirically grounded pathway for sustainable public market modernization by aligning governance capability, financial sustainability, infrastructure development, digital transformation, and human capital as key drivers of institutional reform (Barney, 2012; Rostow, 2013).

CONCLUSIONS

The study concludes that the Virac Public Market demonstrates moderate readiness for modernization, with strengths in workforce capability and governance structures but limitations in technology adoption, financial sustainability, and infrastructure development. It highlights that modernization is not solely dependent on physical upgrades but requires an integrated and market-driven approach that aligns governance, financial systems, technology, and stakeholder participation. The study's key contribution is the development of the S.I.G.L.A.S. Market-Driven Modernization Framework, which provides a strategic and practical guide for achieving sustainable, inclusive, and competitive public market development. Overall, the findings emphasize that successful modernization depends on coordinated institutional efforts, continuous investment, and active engagement of stakeholders to ensure long-term effectiveness and resilience.

RECOMMENDATIONS

The study recommends strengthening governance and management systems through regular Market Board meetings, stricter enforcement of policies, improved revenue monitoring, administrative continuity measures, and enhanced transparency to build stakeholder trust. To elevate modernization readiness, it emphasizes prioritizing infrastructure upgrades, integrating them into formal planning and funding programs, implementing phased digitalization supported by capacity-building initiatives, and strengthening financial systems through improved collection and the establishment of a dedicated modernization fund. Addressing hindering factors requires coordinated efforts in revenue enhancement, synchronized infrastructure and financial planning, stricter policy enforcement, inclusive stakeholder engagement, and gradual digital adoption. The study also recommends institutionalizing the proposed modernization framework through a multi-sectoral steering committee, supported by enabling policies, digital integration, and a phased roadmap with continuous evaluation. Finally, future research should explore digital transformation readiness, vendor livelihood impacts, and governance capacity in public market modernization to further inform policy and practice.

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