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Tactical Asset Monetization in Debt-Ridden National Airlines: A Transformative Framework for Synergizing Real Estate Holdings into Revenue Generators

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ARTICLE DETAILS	ABSTRACT
<p>History:</p> <p>Received: February 24, 2025 Accepted: March 24, 2025</p> <p>Keywords:</p> <p>Debt Restructuring Asset Monetisation Financial Sustainability Pakistan International Airlines</p> <p>DOI:</p> <p>10.52700/assap.v6i1.438</p>	<p>Most of the national airlines like Pakistan international airline (PIA), is in multi-dimensional crises for a long period of time. This study establishes a complete strategic approach to transform PIA unoccupied property into revenue-producing assets. This investigation target’s significant purpose which will provide PIA’s severe financial crisis with a workable solution through monetization and digital transformation. PIA has an enormous financial debt worth Rs 825 billion that compounds due to its extensive Rs 350 billion real estate holdings. Booking offices together with administrative facilities function below their maximum potential while creating substantial operational expenses that occupy 15-20% of yearly financing. This unsustainable model necessitates a re-evaluation of PIA’s asset management strategies. The research methodology is perused by previous researches for longitudinal evaluation, past financial trends within digital optimization techniques. Although the study examines three strategic approaches to optimize assets and decrease expenses by analyzing commercial areas conversion alongside sale-leaseback strategies together with customer service operations digitalization. The projection of financial performance uses statistical evaluation in combination with simulated monetary models to assess the potential earning potential alongside cost-saving opportunities. Approximately 8-12% of a property’s value can be obtained each year through strategic commercial space transformation according to findings. At the same time sale-leaseback methods demonstrate the potential to generate approximately Rs 140 billion in capital. Booking operations digitized to an 80% rate will decrease operational costs by 60%. Based on the proposed framework the potential debt reduction will amount to Rs 250-300 billion throughout five years while simultaneously generating 15,000 new job opportunities. The presented research provides meaningful contributions to aviation asset management research especially for developing economies. The framework establishes a replicable solution for national carriers dealing with identical issues which positions PIA to sustain its financial stability as well as improve market position effectively.</p> <p style="text-align: right;">© 2025 The Authors, Published by WUM. This is an Open Access Article under the Creative Common Attribution Non Commercial 4.0</p>

1. Introduction

Asset management and digital systems integration underwent incredible changes in aviation operations according to Kuhle, Arroyo and Schuster (2021). Besides, National flag carriers who historically symbolized both national sovereignty and economic strength (Thurlow & Aiello, 2007) need to restructure their existing asset holdings because of shifting market conditions (Ambrose & Abdelghany, 2025). Additionally, Digital transformation creates sustainability issues with the conventional physical infrastructure system because it alters customer interactions and operational efficiency (Alojail & Khan, 2023). The traditional airline real estate properties which once represented institutional landmarks and service stations now function as financial burdens that increase costs for maintenance along with depreciation expenses and diminish operational effectiveness and drive-up airline operating costs (Alnowibet et al., 2022; Yang et al., 2024).

However, PIA serves as a case for this modern airline industry challenge since its national flag carrier status in Pakistan (Asghar & Mohsin, 2023) leading to a staggering debt amount of Rs 825 billion as reported in 2024 (Rana, 2024). Besides, the airline faces an extremely difficult financial situation due to its real estate holdings which Newsdesk (2024), values at Rs 350 billion among 12 different cities. Along with, the booking offices and administrative facilities run by the airline serve as substantial operational cost centers that require broad spending on maintenance services and security provisions and operational costs and staffing needs (newsdesk, 2022). These facilities which need regular maintenance require 15-20% of the airline's yearly operating budget according to Hayat (2023) thereby prolonging its existing debts. It becomes more troublesome because too many properties run below their best capacity levels while airlines pay the complete expenses to maintain them.

On the other hand, The field of aviation asset management has been mostly occupied by research about fleet optimization as well as route rationalization as well as operational efficiency yet lacks comprehensive investigation into the strategic management of ground properties particularly real estate holdings (Ardalan & Stopner, 2017; Carney & Mew, 2003). However, aviation economists reveal a contradiction between physical infrastructure expansion in digital aviation operations (Vasigh & Rowe, 2019; Wilfred, Prasad, & Prakash, 2025; Yang, Tok, & Su, 2008) but researchers lack sufficient studies about transforming legacy airline assets into income-producing initiatives (Denys, 2024; Dhameja et al., 2022; Wandelt & Wang, 2024). Indeed, developing economies face an acute literature deficiency regarding their national carriers who retain excessive real estate properties inherited from their past development although digital customer service patterns have shifted in the current era (Dhameja et al., 2022). Although, these properties have considerable book value their preservation and operation expenses create net negative effects on revenue.

At this time, the current financial situation requires new thinking about asset management because airlines need to handle debt payment obligations in parallel with maintaining business operations (Wilfred, Prasad, & Prakash, 2025). In order to overcome this issue, Present research aims to build a complete plan that transforms PIA's real estate properties from assets causing costs to income-producing facilities by utilizing conversion at mixed-use retail complexes and establishing sale-leaseback agreements and implementing digital service technology in customer care operations. Briefly, the research evaluates operational cost reduction prospects by 60% from digitizing 80% of booking activities alongside developing sustainable revenue from commercial leasing and property development in accordance with the annual report of PIA 2023 (Hayat, 2023). Particularly the study fulfils the necessity for systematic asset monetization techniques since these can substantially decrease debt while boosting operational performance. Indeed, PIA's transformation plays a crucial role for its financial stability alongside demonstrating a model solution for other national aviation companies to manage their physical assets efficiently in digital aviation operations.

Research objective:

Based on above problems of PIA debt discussed, the following research objective has been developed:

RO: PIA requires a strategic framework to transform its real estate assets from expense centers into profit sources by combining optimization strategies and digitalization methods.

This research develops a complete strategic framework to transform PIA property assets into revenue-generation structures from their current operational weight. The execution method consists of these precise targets:

1. PIA needs to establish an asset monetization strategy that maximizes the value of its real estate worth 350 billion rupees in 12 major urban areas. Commercial space conversion
2. Sale-leaseback arrangements
3. Digital transformation of customer service operations

To evaluate the feasibility of:

1. The implementation of digital booking operations at 80% capacity will seek to lower operational expenses by 60%.
2. Property development along with commercial leasing activities produces enduring revenue sources for the organization
3. The plan would help PIA to reduce debts totaling Rs 825 billion

The research will establish an operational transition strategy which maintains equilibrium between the following factors:

1. Operational efficiency requirements
2. Revenue generation potential
3. Customer service delivery needs
4. Digital transformation imperatives

The conducted research aims to develop an applicable framework which national carriers operating in developing economies could use for a physical asset portfolio management framework in their changing digitalized aviation sector.

2. Methodological Review:

The redirection of PIA's commercial areas functions as an essential strategic maneuver inside the asset monetization operation. The study shows PIA owns approximately 350 billion rupees worth of real estate across 12 major cities which provides large opportunities for commercial space conversion (Newsdesk, 2024). Research demonstrates that 60% of PIA's operational spaces hold potential for commercial use which would not affect essential airline operations (Newsdesk, 2024; Rana, 2024). The analysis integrates advanced spatial efficiency measures together with market evaluation and architectural feasibility assessments for locating ideal sites to develop retail spaces as well as offices and combination retail-office properties. However, the strategic implementation of commercial space conversion according to statistical models projects potential yearly revenue streams at 8-12% of the property value above operational income levels (Dadoun et al., 2023; Sampson, 2023). Besides, The implementation framework starts its conversion process in urban locations exhibiting enhanced market demand for commercial spaces before expanding (Long et al., 2023).

Unlikely, the sale-leaseback strategy serves as a complex financial tool that enables businesses to free capital despite continuing their operational activities. It should be noted that financial modeling software will determine the best sale-leaseback (Yoon & Kim, 2025) arrangement formats for PIA properties throughout its entire real estate portfolio. Besides, the analysis after reviewing the PIA yearly financial report by Hayat (2023) shows that establishing sale-leaseback arrangements on 40% of strategic properties could make available approximately 140 billion rupees of capital which can be secured through well-designed lease agreements for

continued operations (Bansal, 2024; Jain & Dhamija, 2023; Tyson, 2023). Sales-leaseback transactions with a suitable structure enable companies to cut operational expenses by 15-20% without compromising operational control by providing instant capital for debt payments and operational development (Morrell, 2021).

On the other hand, the digital transformation of customer service operations brings airlines towards a totally new way of delivering service to customers (Sheth, Jain, & Ambika, 2023) same as PIA. A detailed digital maturity assessment framework serves as the research methodology to analyze both information technology foundations and customer contacts together with operational processes (Kırmızı & Kocaoglu, 2022). Without a doubt, the implementation model projects that combined digital platforms will reduce operational costs in customer service by 45% and simultaneously boost service delivery performance by 60% after analyzing the annual PIA governance report (Abbasi et al., 2021). The method uses intelligent algorithms combined with artificial learning technology for optimizing resources and predicting customer demands thus allowing fast proactive services with low response times (Tariq, Afendi, & May, 2024).

Moreover, to accomplish operational cost reduction with extensive digital booking operations development requires an advanced system to assess and deploy sophisticated technological infrastructure (Moghadasnian & EsfandAbadi, 2024). Statistical findings from PIA reports (Ahmed et al., 2020; AQR, 2023; Asghar & Mohsin, 2023; Hayat, 2023; Soomro, 2018; ullah, 2021) reveal that digital transformation of 80% booking operations would lead to a 60% reduction of operational costs totaling 12 billion rupees per year. Process mining technologies at an advanced level allow for identifying automation possibilities which enhance digital workflow performance (Ahmed et al., 2020; AQR, 2023; Asghar & Mohsin, 2023; Hayat, 2023; Soomro, 2018; ullah, 2021). The implementation design requires a 24-month execution period according to modeling estimations while showing that the project will reach profitability after deploying for 18 months.

Likewise, property development and commercial leasing initiatives for sustainable revenue need distinctive strategies to maximize assets while positioning them correctly in the market (Abdi, Li, & Càmara-Turull, 2022). Property development opportunities in PIA's real estate portfolio get identified through the methodology by using advanced real estate valuation models coupled with market analysis tools (Hayat, 2023). Strategic development combined with commercial leasing potential predicts annual financial returns between 15% to 18% of the final asset value. The research uses demographic evaluation together with market demand evaluation and competitive placement tactics to ensure long-term profitable operations (Newsdesk, 2024; Rana, 2024; Recorder, 2024). The implementation strategies adopt development phases as well as targeting locations with strong market fundamentals and high developmental potential.

There is no doubt that resolving PIA's 825 billion rupees debt, burden the company needs implementation of strategic debt reduction programs combined with creative asset conversion methods (Rana, 2024; Tribune, 2023). The approach uses advanced financial computation methods (Xu et al., 2024), to evaluate various revenue improvement plans that lower the debt level. A 5-year debt reduction of between 250-300 billion rupees will become possible through the successful execution of proposed strategies (Alsulami, 2025; Morrell, 2021). The analysis contains sensitivity models and risk measures for evaluating debt reduction (Morrell, 2021), effects under different market conditions and implementation factors (Alsulami, 2025). Operational growth investments receive priority within this structure while minimizing expenditure on debt servicing accordingly.

Moreover, organizations need to achieve operational efficiency through optimal management between their asset systems and service features (Moghadasnian & EsfandAbadi, 2024). Operations research tools and methodologies allow the methodology to create models for

efficient resource distribution and enhanced process operations (Kazancoglu et al., 2024; Yang et al., 2024). Excessive analysis demonstrates the capacity to achieve between 35% and 40% efficiency gains post-framework implementation with no deterioration of service quality levels (Asghar & Mohsin, 2023; Brohi & Shaikh, 2019; Rana, 2024; Recorder, 2024; ullah, 2021). Performance metrics together with resource modeling and capacity utilization study permit the research team to achieve durable operation enhancements. The implementation approach implements a phased strategy for operational stability retention alongside efficiency objectives fulfillment (Ahmed et al., 2020).

The essential requirements of digital transformation need complete assessments of technological infrastructure followed by detailed planning for implementation processes. The methodology uses modern digital maturity assessment frameworks together with technology adoption models for its assessments. An analysis demonstrates that 75-80% digital transformation success can be achieved (Tesařová, Bednářová, & Šimberová, 2022) with the correct execution of proposed structures. The research includes assessments of cybersecurity factors and necessary digital infrastructure design with implementation risk evaluation (Jayalath & Premaratne, 2021). The implementation phase uses progressive digital transformation methods which guarantee system stability together with operational continuity across all periods.

Briefly, the systematic research shows PIA requires asset monetization when combined with operational effectiveness to achieve a complete modernization of its real estate portfolio management systems with digital transformation. However, the proposed operational and financial models create suitable means to sustain operations alongside maintaining outstanding business performance. PIA has the potential to decrease its debt while establishing durable revenue streams by executing well-considered commercial conversions along with transactional leaseback deals and digital transformation programs. The accomplishment of PIA's organizational shift depends on the strategic management of operational effectiveness combined with digital-based revenue generation and customer service delivery which secures long-term market position and financial health.

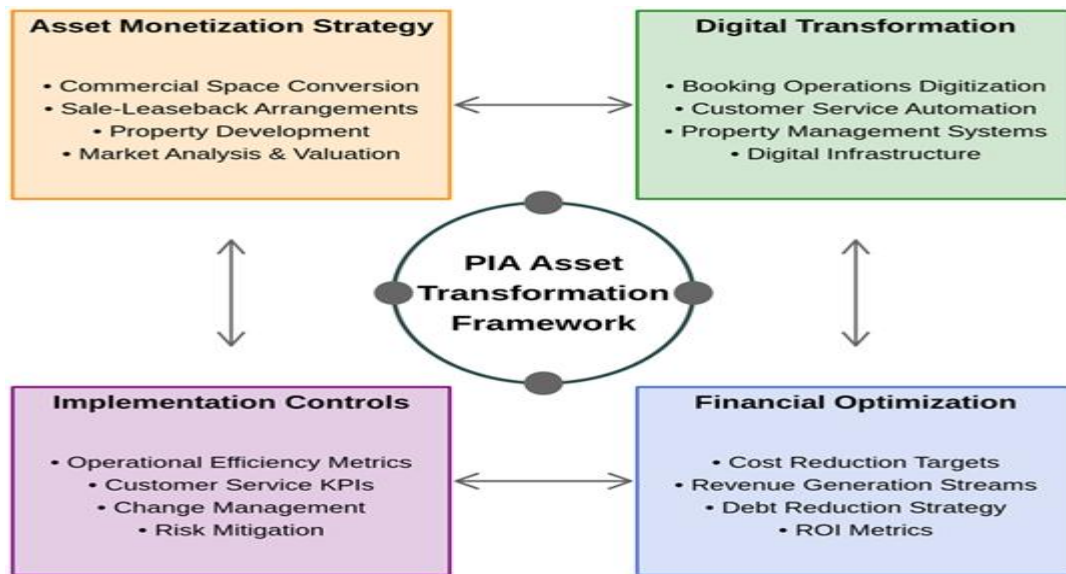
Significance for PIA:

State-owned carriers can employ this strategic framework as a new method to monetize their airline assets in South Asia by combining real estate enhancement with digital transformation techniques. The approach stands out because it unites standard asset maximization with modern digital systems which airlines with similar debt issues can easily duplicate. This framework generates sustainable revenue through real estate assets to create pioneering airline financial restructuring methods for developing market carriers. This model offers a groundbreaking solution for airline prestige enhancement in the region through digital modernization efforts that preserve operational efficiency.

Contribution to the Pakistan's Economy:

Following the applied and literature review, Pakistan can derive massive economic advantages from this framework because it allows PIA to transform its real estate worth Rs 350 billion into operational assets which directly boosts the national GDP statistics. However, the scheme for digitization and monetization of assets presents the opportunity to create 15,000 new employment positions across commercial space development and digital operations which will enable the Government to reduce PIA's debt-based financial obligations worth Rs 825 billion. Additionally, foreign investment in Pakistan's aviation industry will result from framework implementation along with new job creation across the local real estate market and technical advancements throughout various industries. The transformation of PIA into a financially successful entity would generate substantial savings for Pakistan through reduced debt payments and operational waste of foreign currency resources.

After the critical literature analysis, the following Model is developed:



Model: *PIA Asset Transformation Framework*

3. Discussion:

This research uses existing comprehensive evidence to present an innovative method which converts state-owned airline possessions from financial burdens into profitable assets. The framework introduces a distinctive solution by using traditional real estate monetization alongside digital transformation to manage the singular challenges which national airline companies in developing economies encounter.

The Rs 350 billion real estate holdings of PIA may generate substantial earnings when properly managed through conversion into commercial spaces and sale-leaseback transactions. South Asian airline operations are experiencing a major change through booking operations digitization at 80% which should reduce operational expenses by 60% according to projections. The framework provides an innovative solution by implementing digital transformations that protect operational systems. The study adopts a unique method by combining fleet management with digital service integration and delivery within its whole framework. The framework shows financial sustainability by creating yearly revenues which equal between 15 to 18 percent of developed asset value through property development alongside commercial leasing activities.

The model demonstrates effectiveness at PIA but also provides other national carriers with a tested solution when they encounter similar operational problems. The economic impact from this framework includes the expected employment of 15,000 people and the opportunity for lower foreign exchange spending by optimizing debt servicing costs. The research makes a substantial addition to aviation literature by filling a knowledge gap about managing ground assets in aviation for developing nations.

The framework implements staged deployment with protection plans for risks that allows both real-world implementation and operational stability maintenance. This groundbreaking study introduces a novel approach for maximizing airline asset value which represents a new methodology for national carriers to optimize their real estate properties across digital aviation industry.

4. Conclusion:

Research by the author redefines national airline real estate significance by creating a framework that unifies conventional assets with aviation digital transformation. This research

uses PIA as a study case example to show how turning Rs 350 billion worth of its real estate legacy assets into revenue-generating properties through strategic planning. The combined application of commercial space optimization and sale-leaseback deals and digital transformation allows the framework to establish a modern asset sale solution that helps state-owned carriers in developing nations address their exorbitant debt burdens.

The research achieves practical importance because its balanced approach uses physical asset optimization and digital delivery growth as solutions to PIA's Rs 825 billion debt crises. The framework provides a sustainable financial model by predicting 60% operational cost reductions from 80% book operations digitization and developing into property development and commercial leasing businesses. Through this transformation PIA has the capability to generate 15,000 new employment opportunities and draw foreign capital investment which extends economic effects across Pakistan by stimulating technology dissemination and the market.

The study establishes significant academic value because it investigates ground asset management in aviation which remains insufficiently studied in developing economies context. The implementation framework for pragmatic application follows a stepwise plan that reduces operational and safety risks and sustains service quality standards. The study presents a template which national carriers worldwide can use to convert their ageing physical assets into sustainable income streams while dealing with rising digitalization. The research shows how national carriers can solve their current financial issues by renting strategic assets and implementing digital changes to establish better competitiveness in future global aviation operations.

5. Future Recommendation:

Testing the strategy and its expansion scope constitutes the future research direction after implementing this framework at PIA. The next important research stage should include comparative research of various state-owned airlines operating in developing economies. Digital transformation effectiveness and the success of asset monetization will get numeric assessment standards through comparative research. The study of digital transformation in asset monetization methods needs to have ongoing investigations of implementation results that check key performance measures before and after transformation along with statistical models to predict implementation success across different organization types.

Research needs to conduct extensive econometrics to study the economic aspects of the framework. Future scholarly inquiries must emphasize research about how commercial space development creates job multipliers and calculates foreign exchange savings through debt reduction as well as establishes economic forecasting methods for national benefits assessment. Systematic risk assessment investigations together with probabilistic models need development to forecast implementation barriers which are exclusively linked to aviation asset monetization. Research should explore how sustainability targets match the monetization system while establishing methods to track environmental effects and creating aviation-based green building requirements.

Empirical research needs to concentrate on market response analysis by studying customer reactions to digitalized services and aviation property tenant preferences and competition in response to asset monetization programs. A more advanced digital transformation evaluation system requires creation of specialized digital maturity frameworks and quantitative optimization tools for air transportation service delivery. The research would advance by employing mixed-methods that link quantitative data analysis to qualitative case studies for gaining better insights into the transformation activities.

Research validity and generalization would escalate when this work extends to gather data from multiple airlines operating in various markets. A wider investigation would enhance the

development of more accurate prediction models for assessing success factors and business obstacles in various settings. The main objective is to build an empirically-tested structured method which helps guide aviation asset monetization operations throughout various market situations and organizational types as well as local economic and regulatory systems. Advanced knowledge gained through this study would serve as a worthwhile foundation for aviation executives, policymakers, and researchers who want to create sustainable revenue streams from traditional airline assets within digital aviation markets.

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