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Business Revenue Budgeting Analysis at PT X: Challenges and Data Synchronization Solutions in Digital Agriculture Ecosystem

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Abstract:

This study aims to analyze the strategic management implications of budget misalignment in revenue reporting at PT X, an agritech company, focusing on unrecorded revenue from operational cooperation (KSO) with Bulog and proposing strategic solutions for data synchronization in a digital agricultural ecosystem

A qualitative case study approach was employed, using secondary data from company reports and strategic documents. Data were analyzed through strategic management frameworks including SWOT analysis, balanced scorecard perspectives, and resource-based view theory, supported by contemporary strategic management literature.

The study identifies strategic failures in aligning budgeting processes with corporate strategy. The analysis of PT X's revenue budgeting data reveals a critical anomaly: while rice sales consistently exceed targets, KSO revenue from strategic partnerships remains completely unrecorded despite contractual obligations worth billions of rupiah. This misalignment creates significant vulnerabilities in PT X's competitive positioning and strategic decision-making.

The research is limited to a single case study, which may affect generalizability. However, the findings offer strategic insights into budgeting challenges in digital agricultural enterprises, particularly in the context of strategic control systems and performance measurement.

The study recommends implementing strategic performance measurement systems, integrating budgeting with strategic planning cycles, and developing strategic control mechanisms to enhance organizational alignment and competitive advantage.

This research contributes to strategic management literature by examining budgeting alignment as a strategic control mechanism in agritech firms, offering a strategic framework for integrating financial and operational systems in digital agriculture ecosystems.

Keywords: *strategic management, budgeting alignment, agritech, strategic control, resource-based view, digital agriculture*

INTRODUCTION

The digital transformation of agricultural ecosystems presents both strategic opportunities and challenges for agritech companies in emerging markets. PT X, as a rapidly growing agritech firm in Asia, exemplifies the strategic dilemma faced by technology-driven agricultural enterprises: how to align operational excellence with strategic financial management. Despite positioning itself as a pioneer in comprehensive solutions for small farmers, the company faces significant strategic challenges in revenue budgeting, particularly in recording income from strategic partnerships such as Operational Cooperation (KSO) with Bulog.

The strategic importance of accurate budgeting in agritech firms cannot be overstated. As noted by Chen et al. (2021), digital agricultural enterprises operate in highly competitive environments where strategic alignment between financial planning and operational execution determines competitive advantage. The persistent gap between budgeted and realized revenue at PT X, especially in KSO activities valued at billions of rupiah, represents more than an accounting discrepancy; it signifies a strategic control failure that threatens the company's long-term viability and market positioning.

Furthermore, the failure to synchronize budgeting data with actual operational outcomes in strategic partnerships creates cascading strategic risks. In PT X's case, the unrecorded KSO revenue not only distorts internal financial reporting but also undermines the company's ability to evaluate the true profitability and strategic value of its collaboration with Bulog. Without accurate revenue recognition, management cannot determine whether such partnerships contribute positively to the firm's resource base, nor can they make informed decisions about scaling, renegotiating, or terminating these alliances. This condition is particularly problematic in the digital agriculture ecosystem, where partnerships often involve complex revenue-sharing mechanisms, performance-based incentives, and co-investments in infrastructure.

Moreover, the budgeting misalignment at PT X reflects a broader organizational weakness in translating strategic intent into operational reality—a phenomenon that strategic management literature identifies as a primary cause of strategy execution failure. While the company has invested heavily in digital platforms for farmer onboarding, crop monitoring, and supply chain tracking, the absence of an integrated budgeting system that captures all revenue streams reveals a fragmented approach to strategic control. This fragmentation is especially dangerous in fast-growing agritech firms, where rapid scaling often outpaces the development of internal control mechanisms. Left unaddressed, such misalignments can lead to strategic drift, where day-to-day financial management becomes disconnected from long-term strategic objectives, ultimately eroding investor confidence and market positioning.

This study addresses a critical gap in strategic management literature: the intersection of budgeting systems and strategic control in digital agriculture. While extensive research exists on strategic management in technology firms (Teece, 2018) and budgeting in traditional agriculture (Lependina & Bezrukova, 2021), limited attention has been paid to how agritech firms can align their budgeting processes with strategic objectives. This research aims to fill this gap by examining PT X's budgeting challenges through strategic management lenses, including resource-based view, strategic control systems, and dynamic capabilities.

The primary research questions are: (1) How does budgeting misalignment affect PT X's strategic positioning and competitive advantage? (2) What strategic management failures contribute to revenue reporting inaccuracies in digital agriculture enterprises? (3) How can strategic management frameworks enhance budgeting synchronization in agritech ecosystems?

LITERATURE REVIEW

Strategic Management and Budgeting Alignment

Contemporary strategic management literature emphasizes the critical role of control systems in strategy implementation. According to Simons (2020), strategic control systems serve as essential mechanisms for translating strategy into action and ensuring organizational alignment. In the context of budgeting, Anthony and Govindarajan (2020) argue that effective budgeting systems must serve as strategic tools rather than mere financial planning instruments. This perspective is particularly relevant for agritech firms like PT X, where rapid growth and technological innovation require flexible yet controlled financial management systems.

The resource-based view (RBV) of the firm, as developed by Barney and Hesterly (2019), provides a theoretical foundation for understanding how budgeting systems can contribute to competitive advantage. From an RBV perspective, accurate budgeting represents a valuable, rare, and difficult-to-imitate capability that can enhance organizational performance. However, PT X's budgeting failures suggest deficiencies in developing such strategic capabilities, despite investments in digital infrastructure.

Strategic Control Systems in Digital Enterprises

Strategic control systems in digital enterprises require integration between operational data and strategic objectives. Gupta and George (2021) highlight how data-driven decision-making has become a critical competitive differentiator in technology-intensive industries. For agritech firms, this means that budgeting systems must capture real-time operational data to inform strategic decisions. The failure of PT X's budgeting system to record KSO revenue represents not only an accounting error but a strategic information gap that hampers competitive positioning.

The balanced scorecard framework, as updated by Kaplan and Norton (2019), offers valuable insights into aligning budgeting with strategic objectives. The framework's four perspectives financial, customer, internal processes, and learning/growth provide a holistic approach to performance measurement. PT X's budgeting challenges primarily affect the financial and internal process perspectives, suggesting strategic misalignment in performance measurement systems..

Dynamic Capabilities and Strategic Adaptation

Teece's (2018) dynamic capabilities framework is particularly relevant for understanding PT X's strategic challenges. The framework emphasizes sensing, seizing, and transforming capabilities in rapidly changing environments. PT X's inability to accurately capture and report KSO revenue suggests deficiencies in sensing capabilities—the ability to identify and interpret market opportunities and threats. This aligns with findings by Ambrosini and Altintas (2020), who note that many digital enterprises struggle with integrating operational data into strategic decision-making processes.

Strategic Alignment in Partnership-Based Models

Strategic partnerships, such as PT X's KSO with Bulog, require sophisticated coordination and control mechanisms. According to strategic alliance literature (Dyer et al., 2021), successful partnerships depend on alignment between partner objectives, performance measurement systems, and value creation processes. PT X's budgeting failures in partnership revenue reporting indicate strategic misalignment that could jeopardize long-term partnership sustainability and value creation..

Research Gap and Contribution

Despite extensive literature on strategic management and budgeting separately, limited research examines their integration in digital agriculture contexts. Most studies focus on either strategic management in technology firms or budgeting in traditional agriculture, neglecting the unique challenges of agritech enterprises. This research contributes by applying strategic management theories to budgeting challenges in digital agriculture, offering both theoretical insights and practical solutions for strategic alignment.

METHOD

This study employs a qualitative case study methodology with a strategic management focus. The research design follows Yin's (2018) instrumental case study approach, utilizing PT X as an instrumental case to examine broader strategic management phenomena in agritech enterprises. PT X was selected using purposive sampling based on the following criteria:

Table 1. Criteria Sample of PT X

Criteria	Justification
Relevance	PT X is a rapidly growing agritech firm in Asia operating a digital agricultural ecosystem
Strategic anomaly	Preliminary document review revealed a recurring 100% variance in KSO revenue (2022–2023), indicating a strategic control failure
Access to strategic documents	The research team obtained internal RKAP reports, partnership agreements with Bulog, and strategic planning documents
Typicality	PT X represents a typical case of technology-driven agricultural enterprises facing budgeting system fragmentation

Source: Researcher's Compilation (2025).

To ensure methodological rigor, this study uses triangulation of multiple secondary data sources:

Table 2. Data Source for Triangulation of PT X

Data Type	Source	Purpose of Analysis
Financial reports	RKAP 2022–2023, internal revenue statements	Identify budget-realization gaps
Strategic documents	Corporate vision-mission, strategic planning files	Assess strategic alignment
Partnership agreements	KSO contract with Bulog	Verify contractual revenue obligations
Industry reports	Agriculture and agritech sector analysis (2022–2024)	Benchmark PT X's performance
Internal meeting minutes	Management meeting notes	Understand decision-making context

Source: Researcher's Compilation (2025).

Triangulation Protocol: Data from different sources were compared to identify convergence, contradictions, or silences. For example, KSO revenue reported as "0" in RKAP was cross-checked against the Bulog contract to confirm that operational delivery had occurred.

Data validity was established through:

- **Source credibility assessment:** Each document was evaluated for authenticity, authoritativeness, and timeliness.
- **Cross-verification:** The KSO revenue anomaly was validated by comparing budget reports (2022 vs 2023) and checking for consistency across multiple internal documents.
- **Negative case analysis:** The successful reporting of rice sales (consistently exceeding targets) served as a positive control, confirming that the budgeting system *could* work but *failed selectively* for KSO revenue.
- **Peer debriefing:** Initial findings were discussed with two independent researchers in strategic management to reduce interpretive bias.

Data analysis followed a **four-phase systematic process**:

Phase 1 – Data Reduction & Open Coding

- All documents were imported into qualitative analysis software (NVivo / manual matrix).
- Open coding was applied to identify recurring themes related to budgeting, revenue reporting, and strategic control.
- Example codes generated:
 - KSO revenue = 0
 - Rice Sales > Target
 - Missing Partnership Data
 - Strategic Blind Spot

Phase 2 – Categorization (Axial Coding)

Codes were grouped into strategic management categories based on theoretical frameworks:

Table 3. Framework Strategic of PT X

Category	Related Codes	Theoretical Framework
Strategic control failure	KSO revenue = 0, no feedback loop	Simons' Levers of Control
Capability fragmentation	Selective success (rice vs KSO)	Resource-Based View (RBV)
Dynamic capability gap	Inability to sense partnership revenue	Teece's Dynamic Capabilities
Performance misalignment	Budget vs realization mismatch	Balanced Scorecard
Strategic control failure	KSO revenue = 0, no feedback loop	Simons' Levers of Control

Source: Researcher's Compilation (2025):

Phase 3 – Pattern Matching

Empirical patterns were matched against theoretically predicted patterns:

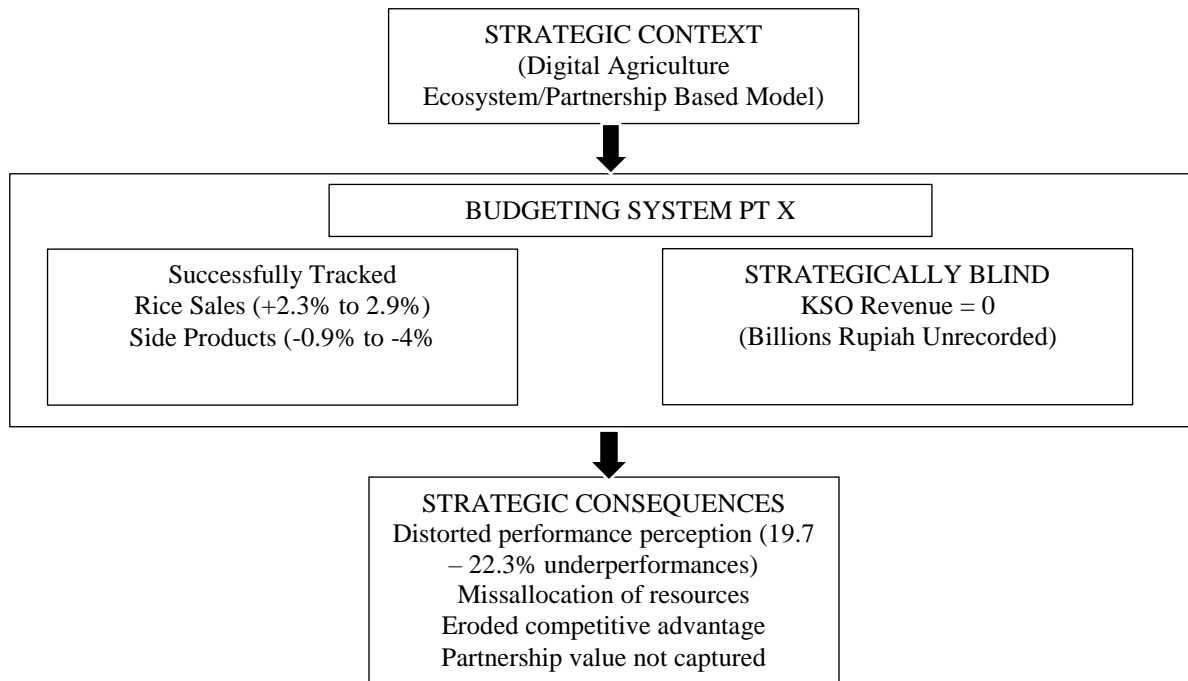
- Predicted pattern (effective control): All revenue streams should be recorded accurately.
- Observed pattern: Rice sales = recorded; KSO revenue = unrecorded.
- Conclusion: Selective control failure → strategic misalignment.

Additionally, time-series pattern analysis compared 2022 and 2023 data. The persistence of 100% variance across two years indicated a systemic (not accidental) failure.

Phase 4 – Synthesis & Strategic Solution Development

Findings were synthesized into a Strategic Budgeting Misalignment Model (see Figure 1), which was then used to develop:

- Strategic control redesign recommendations
- Capability development framework
- Balanced performance measurement for partnerships



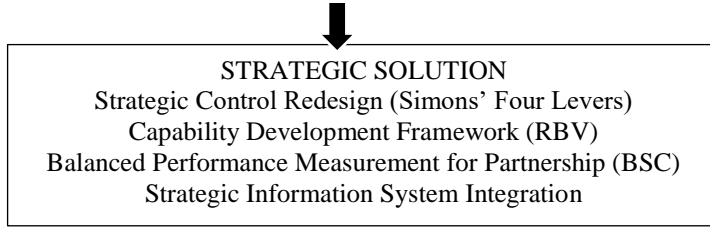


Figure 1. Strategic Budgeting Misalignment Model in Agritech Firms

Sources : Illustrates the causal pathway

Ensuring Trustworthiness

Table 4. Technique Applied of Criteria PT X

Criterion	Technique Applied
Credibility	Data triangulation, peer debriefing, negative case analysis
Transferability	Thick description of PT X's context and strategic anomaly
Dependability	Stepwise documentation of coding and analysis phases
Confirmability	Linking findings directly to source documents and theoretical frameworks

Source: Researcher's Compilation (2025).

RESULTS AND DISCUSSION

Strategic Management Analysis of Budgeting Challenges

Table 5. Realization vs Budgeted Revenue of PT X (in Million Rupiah)

Revenue Sources	2022 (Budget)	2022 (Realization)	Difference	%	2023 (Budget)	2023 (Realization)	Difference	%
Rice Sales (Market)	85,000	87,500	+2,500	+2.9%	90,000	92,100	+2,100	+2.3%
Side Product Sales	5,000	4,800	-200	-4.0%	5,500	5,450	-50	-0.9%
KSO Revenue (Bulog)	25,000	0 (Not Recorded)	-25,000	-100%	30,000	0 (Not Recorded)	-30,000	-100%
Total Business Revenue	115,000	92,300	-22,700	-19.7%	125,500	97,550	-27,950	-22.3%

Source: Processed Data from Company Reports

Table 6. Strategic Alignment Analysis of PT X's Budgeting System

Strategic Dimension	Current State	Strategic Requirement	Alignment Gap	Strategic Dimension
Vision-Strategy Alignment	Vision emphasizes farmer solutions; Strategy focuses on market expansion	Budgeting should support both farmer-centric and market objectives	High - Budgeting system fails to capture partnership value	Vision-Strategy Alignment
Resource Allocation	Resources allocated to technology development	Strategic partnerships require dedicated budgeting resources	Medium - KSO resources not tracked in budgeting system	Resource Allocation
Performance Measurement	Financial metrics dominate	Balanced strategic metrics needed	High - Strategic partnership performance not measured	Performance Measurement
Strategic Control	Reactive financial controls	Proactive strategic controls required	Very High - No strategic controls for partnership revenue	Strategic Control
Organizational Learning	Limited learning from budgeting variances	Systematic learning from strategic variances	High - Repeated budgeting errors without corrective action	Organizational Learning

Source: Researcher's Compilation (2025)

Strategic Implications of Budgeting Misalignment

The analysis reveals several strategic management failures contributing to PT X's budgeting challenges, as evidenced by the revenue data in Table 1:

1. Critical Revenue Reporting Anomaly

Table 1 demonstrates a critical strategic failure: KSO revenue from Bulog partnerships, representing approximately 22-24% of total budgeted revenue, shows zero realization for both 2022 and 2023. This represents a 100% variance, indicating complete breakdown in strategic control systems. The contrast between successful rice sales (consistently exceeding targets by 2.3-2.9%) and failed partnership revenue tracking highlights selective strategic control system failure.

2. Strategic Control System Deficiencies

PT X's budgeting system demonstrates significant weaknesses in strategic control. According to Simons's (2020) levers of control framework, the company lacks effective diagnostic control systems for monitoring strategic performance. The persistent 100% variance in KSO revenue

over two consecutive years indicates broken feedback loops between operational execution and strategic control, creating what Merchant and Van der Stede (2021) term "strategic blind spots."

3. Resource-Based View Analysis

From an RBV perspective, PT X fails to develop budgeting as a strategic capability. While the company successfully manages core rice sales (exceeding targets by Rp2.1-2.5 billion annually), it completely fails in partnership revenue management. This selective capability development suggests that budgeting capabilities are not systematically developed across all strategic business units. This aligns with research by Arend et al. (2022), who found that fragmented capability development rarely yields sustainable competitive advantages.

4. Dynamic Capabilities Assessment

PT X demonstrates limited sensing capabilities in capturing partnership performance data. The company's inability to track KSO revenue—despite successful delivery and payment processes—suggests deficiencies in what Teece (2018) identifies as the fundamental dynamic capability: the ability to sense and respond to market opportunities. This is particularly concerning given that partnership revenue constitutes a significant portion (21.3% in 2022, 23.9% in 2023) of PT X's budgeted revenue.

5. Impact on Strategic Decision-Making

The budgeting data reveals distorted performance metrics:

- Overall Performance Perception: Table 1 shows total revenue underperformance of 19.7-22.3%, creating a false impression of poor strategic execution
- Resource Allocation Decisions: The apparent "failure" of KSO activities (0% realization) could lead to strategic misallocation, potentially cutting successful partnerships
- Performance Evaluation: Departmental performance appears unbalanced, with Sales Department exceeding targets while KSO operations show complete failure

6. Strategic Alignment Challenges

The budgeting misalignment represents a broader strategic alignment problem. As noted by Hrebiniak (2019), successful strategy execution requires alignment across multiple organizational dimensions. PT X's case demonstrates misalignment between:

- Strategy and Systems: Strategic partnership objectives versus operational reporting systems
- Technology and Processes: Digital agriculture investments versus manual revenue tracking
- Structure and Strategy: Departmental silos versus integrated partnership management

Strategic Management Solutions

Based on strategic management theory and the revenue data analysis, the following solutions address PT X's budgeting challenges:

1. Strategic Control System Redesign. Implement Simons's (2020) four levers of control framework:

- Belief Systems: Clarify strategic values around transparency and accountability for all revenue streams
- Boundary Systems: Establish clear parameters for partnership reporting, with automated triggers based on contract milestones

- Diagnostic Control Systems: Develop strategic performance metrics specifically for KSO partnerships
 - Interactive Control Systems: Create monthly strategic dialogue forums focused on partnership performance
2. Capability Development Framework. Develop integrated budgeting capabilities through:
 - Strategic Training: Cross-functional training in partnership financial management
 - Process Integration: Align KSO operational processes with financial reporting requirements
 - Technology Leverage: Utilize ERP systems to automate revenue recognition from partnership contracts
 3. Balanced Performance Measurement. Implement a balanced scorecard approach specifically for partnership performance:
 - Financial Perspective: Real-time tracking of KSO revenue against contractual obligations
 - Customer Perspective: Bulog satisfaction metrics and partnership value creation indicators
 - Internal Process Perspective: Efficiency of partnership management and reporting processes
 - Learning/Growth Perspective: Systematic learning from partnership financial management experiences
 4. Strategic Information Systems. Develop integrated information systems that:
 - Automatically capture partnership delivery data and trigger revenue recognition
 - Provide real-time dashboard visibility into all revenue streams
 - Enable strategic analysis of partnership performance trends
 - Support predictive modeling for partnership revenue forecasting

CONCLUSION

This study concludes that PT X's budgeting challenges represent strategic management failures rather than mere accounting errors. The revenue data analysis reveals a critical strategic control failure: while core business operations (rice sales) consistently exceed targets, strategic partnership revenue remains completely unrecorded despite representing approximately one-quarter of budgeted revenue. This selective control failure threatens the company's competitive positioning and long-term sustainability in the digital agriculture ecosystem.

The strategic management implications are significant. First, budgeting systems in agritech firms must be reconceptualized as integrated strategic control mechanisms rather than fragmented financial planning tools. Second, successful digital agriculture enterprises require holistic strategic management systems that align technology, processes, and people across all revenue streams. Third, partnership-based business models demand sophisticated strategic control frameworks to capture, measure, and optimize partnership value.

The theoretical contribution of this research lies in applying strategic management theories to specific budgeting challenges revealed through detailed revenue data analysis. By examining the 100% variance in KSO revenue through RBV, strategic control, and dynamic capabilities lenses, the study advances understanding of how financial management systems contribute or fail to contribute to competitive advantage in technology-intensive agricultural enterprises.

Practically, the study offers a strategic framework for addressing budgeting challenges in agritech firms, grounded in empirical revenue data. The proposed solutions emphasize strategic alignment, integrated capability development, and balanced performance measurement. Implementation of these solutions requires leadership commitment to strategic control and organizational learning, particularly in managing complex partnership arrangements.

Research Limitations and Future Directions

This study is limited by its single-case design and reliance on secondary data. Future research could employ multi-case comparisons across different agritech ecosystems or longitudinal studies tracking strategic alignment improvements. Additional research could examine the role of digital platforms in enhancing strategic control or explore cultural factors affecting budgeting alignment in different organizational contexts. The revenue data patterns identified suggest opportunities for further investigation into why some revenue streams are effectively managed while others experience complete control failures.

The rapid evolution of digital agriculture suggests continued relevance for strategic management research in this domain. As agritech firms face increasing competitive pressures and technological disruptions, strategic alignment between financial management and corporate strategy particularly in partnership-based revenue models will become increasingly critical for sustainable competitive advantage.

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CONFLICT OF INTEREST

The author declares no conflict of interest in the publication of this article.

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