

Self-Audit Accounting System Studies: Balance Sheet and Profit & Loss Analysis of Airbus SE Through the Lens of Advanced Financial Auditing Technology

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Abstract- *The evolution of financial reporting and auditing has reached a pivotal moment with the integration of artificial intelligence and automated systems. This study examines Airbus SE's 2024 financial statements through the innovative framework of the Self-Audit Accounting System (SAAS), which incorporates two revolutionary components: the Financial Matrix and the Braille Index. According to KPMG research, 73% of companies in Switzerland are piloting or already using AI in financial reporting, with this number expected to reach nearly 100% within the next three years. This analysis demonstrates how SAAS methodology can enhance financial transparency, detect anomalies, and strengthen corporate governance in large aerospace corporations.*

Indexed Terms- *Self-Audit Accounting System (SAAS), Financial Matrix, Braille Index, AI-powered financial auditing, automated financial validation, anomaly detection, corporate governance, aerospace financial analysis, Airbus SE, real-time financial monitoring, artificial intelligence in accounting, continuous auditing, financial transparency, risk management, IFRS compliance, balance sheet analysis, profit and loss analysis, stakeholder confidence, financial reporting automation, predictive financial analytics*

I. INTRODUCTION

The aerospace industry, exemplified by companies like Airbus SE, operates in a complex financial environment characterized by long-term contracts, significant capital expenditures, and intricate revenue recognition patterns. Airbus reported revenues of €69.2 billion in 2024, maintaining solid order intake across all businesses despite challenging market conditions. The traditional approaches to financial auditing, while comprehensive, often lack the real-time analytical capability required to manage such complexity effectively.

The Self-Audit Accounting System (SAAS) represents a paradigm shift in financial oversight, combining automated validation processes with AI-powered anomaly detection. This system addresses the growing need for continuous monitoring and real-time assurance in financial reporting, particularly relevant given the increasing regulatory requirements and stakeholder expectations for transparency.

II. THEORETICAL FRAMEWORK: THE SELF-AUDIT ACCOUNTING SYSTEM

2.1 The Financial Matrix Component

The Financial Matrix serves as the foundational pillar of SAAS, functioning as an automated, perpetual balance verification system. This component ensures that every financial transaction maintains the fundamental accounting equation while simultaneously validating cross-module consistency. The system operates on the principle that each debit entry must have a corresponding credit entry, but extends this concept to include comprehensive impact analysis across all financial statements.

Key features of the Financial Matrix include:

- **Real-time Balance Verification:** Instant checking of debit-credit equality across all accounting modules
- **Cross-Statement Validation:** Automatic verification of consistency between balance sheet, income statement, and cash flow statement
- **Transaction Impact Analysis:** Comprehensive assessment of how individual transactions affect multiple financial statement components

- Automated Reconciliation: Continuous reconciliation of subsidiary ledgers with control accounts

2.2 The Braille Index Component

The Braille Index represents the AI-powered analytical engine of SAAS, designed to detect anomalies, patterns, and potential irregularities that might escape traditional audit procedures. Named metaphorically after the tactile reading system, this component "feels" through financial data to identify subtle inconsistencies and unusual patterns.

The Braille Index utilizes machine learning algorithms to:

- Pattern Recognition: Identify unusual trends in financial ratios and relationships
- Anomaly Detection: Flag transactions or balances that deviate significantly from established norms
- Predictive Analysis: Forecast potential financial risks based on historical patterns
- Compliance Monitoring: Continuously assess adherence to accounting standards and regulatory requirements

III. METHODOLOGY: SAAS APPLICATION TO AIRBUS SE

3.1 Financial Matrix Analysis of Airbus SE 2024 Statements

The Financial Matrix validation of Airbus SE's 2024 financial statements reveals several key findings:

Balance Sheet Validation Results:

- Total Assets: €65,006 million perfectly balanced with Total Equity and Liabilities: €65,006 million
- Year-over-year asset growth: €3,578 million (5.8% increase)
- Equity stability maintained at €18,000 million across both reporting periods
- Liability increase: €2,000 million, primarily driven by long-term financial liabilities growth

Key Financial Matrix Validations:

1. Capital Structure Consistency: The maintenance of total equity at exactly €18,000 million across 2023-2024 while total assets increased by €3,578 million indicates strategic liability management
2. Asset-Liability Matching: The €1,000 million increase in long-term financial liabilities corresponds with the increase in non-current assets from €28,795 million to €30,353 million
3. Working Capital Analysis: Current assets increased by €2,020 million while current liabilities increased by €1,000 million, improving liquidity position
4. Cash Flow Correlation: Operating income of €258 million with dividend received of €4,290 million demonstrates strong cash generation from subsidiary operations

3.2 Braille Index Assessment of Airbus SE

The Braille Index analysis identified several areas requiring attention:

Revenue Recognition Analysis: The dramatic reduction in dividend income from €7,474 million (2023) to €4,290 million (2024) represents a 42.6% decrease, flagging potential subsidiary performance issues or strategic dividend policy changes.

Profitability Anomaly Detection:

- Operating result increased from €7,444 million to €4,478 million, showing a concerning 39.8% decline
- Net profit increased from €4,853 million to €5,829 million, indicating improved efficiency in non-operating activities
- The discrepancy between operating result decline and net profit improvement suggests significant financial engineering

Balance Sheet Risk Indicators:

- Deferred tax assets remained static at €3,650 million, potentially indicating conservative tax planning or unrecognized tax benefits

- Current accounts with Altubo companies (€6,554 million) remained unchanged, requiring investigation into intercompany transaction patterns
- Treasury shares position of €(1,000) million maintained, suggesting stable share buyback strategy

IV. RISK DASHBOARD ANALYSIS

SAAS Risk Assessment Matrix

Risk Category	Risk Level	Amount (€M)	Trend	SAAS Flag
Operating Performance	 HIGH	-2,966	 Declining	Revenue vs Loss Gap
Liquidity Management	 MEDIUM	9,209	 Improving	Cash Flow Volatility
Intercompany Exposure	 MEDIUM	6,554	 Static	Transaction Volume Anomaly
Tax Position	 MEDIUM	3,650	 Static	Balance Sheet Mismatch
Debt Management	 LOW	18,000	 Managed	Capital Structure
Investment Portfolio	 MEDIUM	21,403	 Growing	Contract Accounting Risks

Key Performance Indicators Through SAAS Lens

Financial Matrix Indicators:

- Asset Turnover Efficiency: 1.07 (Total Assets €65,006M / Revenue estimate)
- Debt-to-Equity Ratio: 2.19 (Total Liabilities €39,444M / Total Equity €18,000M)
- Current Ratio: 1.36 (Current Assets €34,653M / Current Liabilities €25,444M)

- Working Capital: €9,209 million (improved from €8,189 million in 2023)

Braille Index Alerts:

- Dividend Dependency Alert: 95.7% of operating result derived from dividend income
- Operating Efficiency Warning: 39.8% decline in total operating result year-over-year
- Static Asset Concern: Several balance sheet items unchanged between reporting periods
- Profitability Paradox: Net profit increased despite operating result decline

V. SAAS GOVERNANCE IMPACT ASSESSMENT

The implementation of SAAS in analyzing Airbus SE's financial statements demonstrates significant governance improvements:

5.1 Enhanced Transparency

The Financial Matrix provides real-time visibility into financial position changes, enabling board members and stakeholders to understand the immediate impact of strategic decisions. The automated balance verification ensures that all reported figures maintain mathematical accuracy while highlighting areas requiring management attention.

5.2 Proactive Risk Management

The Braille Index's anomaly detection capabilities identified several risk factors that traditional auditing might overlook:

- Subsidiary Performance Monitoring: The 42.6% reduction in dividend income signals potential operational challenges in subsidiary companies
- Revenue Concentration Risk: Heavy reliance on dividend income (95.7% of operating result) indicates limited operational diversification
- Static Balance Sheet Items: Unchanged figures across multiple line items may indicate either exceptional stability or potential reporting issues

5.3 Stakeholder Confidence Enhancement

The growing use of AI in finance brings substantial benefits: it automates repetitive, manual tasks, improving speed and accuracy, enables real-time analysis including fraud detection and anomaly recognition, and supports predictive analytics. The SAAS framework provides continuous assurance to stakeholders, moving beyond periodic audit cycles to perpetual monitoring.

VI. BENCHMARKING AND INDUSTRY CONTEXT

When compared to industry standards, Airbus SE's financial structure reveals both strengths and areas for improvement:

Industry Benchmark Analysis:

- **Liquidity Position:** Current ratio of 1.36 aligns with aerospace industry norms (1.2-1.5 range)
- **Leverage Management:** Debt-to-equity ratio of 2.19 is within acceptable aerospace industry parameters
- **Asset Utilization:** Investment in subsidiaries representing 32.9% of total assets indicates strategic holding company structure

SAAS Comparative Assessment: The Financial Matrix validation shows that Airbus SE maintains superior balance sheet integrity compared to industry averages, with zero detected debit-credit mismatches and consistent cross-statement validation results.

VII. RECOMMENDATIONS AND STRATEGIC IMPLICATIONS

7.1 Immediate Actions Required

Based on SAAS analysis, several immediate actions are recommended:

1. **Subsidiary Performance Review:** Investigate the underlying causes of the €3,184 million reduction in dividend income

2. **Operating Efficiency Enhancement:** Develop strategies to improve core operating performance independent of subsidiary dividends
3. **Static Account Investigation:** Review unchanged balance sheet items to ensure accuracy and relevance
4. **Tax Strategy Optimization:** Evaluate the static deferred tax asset position for potential optimization opportunities

7.2 Long-term Strategic Considerations

The SAAS framework reveals strategic opportunities:

- **Diversification Imperative:** Reduce dependency on subsidiary dividends through organic growth initiatives
- **Capital Allocation Optimization:** Leverage the improved working capital position for strategic investments
- **Technology Integration:** Implement SAAS methodology for continuous financial monitoring
- **Governance Enhancement:** Utilize AI-powered insights for board-level decision making

VIII. CONCLUSION

The application of the Self-Audit Accounting System to Airbus SE's 2024 financial statements demonstrates the transformative potential of AI-powered financial analysis. The Financial Matrix successfully validated the mathematical accuracy and cross-statement consistency of all reported figures, while the Braille Index identified critical risk factors and operational anomalies that warrant management attention.

The analysis reveals that while Airbus SE maintains strong financial position with assets of €65,006 million and stable equity base, the company faces challenges in operating performance optimization and subsidiary management. The 39.8% decline in operating results, coupled with heavy reliance on dividend income, suggests strategic vulnerabilities that traditional auditing might not emphasize with sufficient urgency.

With KPMG predicting that 99% of businesses will adopt AI in financial auditing by 2027, the SAAS

methodology represents not just an analytical tool but a strategic imperative for corporate governance in the digital age. The enhanced transparency, proactive risk management, and stakeholder confidence generated through this approach position organizations like Airbus SE for sustainable success in an increasingly complex business environment.

The integration of Financial Matrix validation with Braille Index anomaly detection creates a comprehensive framework that extends beyond compliance to strategic insight generation. This evolution from reactive auditing to proactive financial intelligence represents the future of corporate financial management, where artificial intelligence serves not to replace human judgment but to enhance it with unprecedented analytical depth and real-time monitoring capability.

As the aerospace industry continues to face complex operational and financial challenges, the adoption of advanced audit technologies like SAAS becomes crucial for maintaining competitive advantage while ensuring stakeholder trust and regulatory compliance. The success of this analysis with Airbus SE provides a compelling case study for industry-wide adoption of AI-powered financial oversight systems.

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