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Transforming Banking Data into Strategic Insights: An MSBI Architecture for Analytics, Risk Management, and Regulatory Compliance

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Abstract: *The banking industry currently operates in a high-velocity, data-intensive environment where the transition from transactional processing to strategic intelligence is a prerequisite for survival. This research explores the implementation of the Microsoft Business Intelligence (MSBI) stack, comprising SQL Server Integration Services (SSIS), Analysis Services (SSAS), and Reporting Services (SSRS), as a unified framework for banking analytics. Using architectural case simulations modeled after two Tier-1 banking environments, the research examines the optimization of ETL workflows, dimensional modeling, and automated regulatory reporting for Basel III and AML compliance. Technical audits reveal that transitioning to an integrated MSBI environment reduces data consolidation latency by 30% to 50% while enhancing the granularity of risk-weighted asset calculations through multidimensional modeling. The findings demonstrate that a disciplined, phased adoption of MSBI, supported by robust data governance and row-level security, effectively transforms fragmented data silos into a strategic asset, significantly improving institutional agility, fraud detection, and regulatory transparency.*

Keywords: Microsoft Business Intelligence (MSBI), Banking Analytics, SSIS, SSAS, SSRS, ETL Framework, Data Warehousing, Basel III, Risk Management, Regulatory Compliance, Decision Support Systems

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