

Providing a Model for the Securitization of Bank Claim Collateral through the Capital Market

Mohammad Ehsan Keivan ¹, Roya Darabi ^{2,*} and Ali Baghani ³



¹ Department of Finance, ST.C., Islamic Azad University, Tehran, Iran; 

² Department of Accounting, ST.C., Islamic Azad University, Tehran, Iran; 

³ Department of Accounting, ST. C., Islamic Azad University, Tehran, Iran; 

* Correspondence: royadarabi@iaau.ac.ir

Citation: Ehsan Keivan, M., Darabi, R., & Baghani, A. (2025). Providing a Model for the Securitization of Bank Claim Collateral through the Capital Market, *Marketing, and Finance Open*, 2(3), 196-218.

Received: 06 March 2025

Revised: 17 May 2025

Accepted: 24 May 2025

Published: 30 May 2025



Copyright: © 2025 by the authors. Published under the terms and conditions of Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

Abstract: The objective of this article is to propose a comprehensive conceptual model for the development of securitization of bank claim collateral through the capital market in Iran, designed with an emphasis on financial stability. The study was conducted in 2024 using a mixed qualitative–quantitative methodology. In the qualitative phase, thematic analysis was employed, leading to the identification of six principal dimensions, including legal and regulatory frameworks, information transparency and disclosure systems, risk management and asset quality, institutional and organizational infrastructure, economic and financial market factors, investor participation and behavioral economics, financial technology and innovation, alignment with macroeconomic objectives, and model sustainability and resilience. Qualitative sampling was carried out purposively based on the expertise of banking managers, credit and risk specialists, and capital market practitioners. In the quantitative phase, data were collected through questionnaires developed from qualitative findings and analyzed using Interpretive Structural Modeling (ISM) and MICMAC analysis to determine causal relationships as well as the driving and dependence power of variables. The findings indicated that prioritizing key variables such as risk management, institutional and organizational infrastructure, and directing financial resources toward productive sectors can generate positive cascading effects across other model components. The study provides an operational framework for strategic decision-making, resource allocation, securitization instrument design, and enhancement of investor confidence, thereby contributing to capital market development, increased securities liquidity, improved bank financial soundness, and alignment with national macroeconomic objectives.

Keywords: Securitization; Bank Collateral; Interpretive Structural Modeling (ISM); MICMAC Analysis.

1. Introduction

The stability and efficiency of the banking system constitute one of the fundamental pillars of sustainable economic development, financial resilience, and capital market expansion in modern economies. Banks play a central intermediary role by transforming savings into productive investment and facilitating liquidity allocation across economic sectors. However, the accumulation of non-performing loans and unresolved bank claims has emerged as one of the most persistent structural challenges confronting financial systems worldwide. The expansion of problematic bank receivables weakens asset quality, reduces credit creation capacity, increases systemic risk exposure, and ultimately undermines financial stability [1, 2]. In recent decades, financial

polymakers and researchers have increasingly emphasized innovative mechanisms capable of restructuring bank balance sheets while simultaneously improving market efficiency and risk distribution.

Empirical studies demonstrate that non-performing loans are shaped by a complex interaction of bank-specific characteristics, macroeconomic conditions, regulatory frameworks, and institutional governance structures. Banking-sector performance indicators such as capital adequacy, loan portfolio composition, and risk management practices significantly influence credit risk dynamics and asset deterioration [3, 4]. Furthermore, macroeconomic instability—including fiscal pressures, economic downturns, and financial crises—amplifies credit risk transmission and accelerates the growth of impaired assets across banking systems [5, 6]. Evidence from emerging economies indicates that fluctuations in economic growth, inflation expectations, and fiscal consolidation policies directly affect the evolution of non-performing loans and banking-sector fragility [7, 8]. Consequently, addressing accumulated bank claims requires integrated solutions extending beyond traditional credit recovery mechanisms.

Within this context, securitization has attracted growing attention as a strategic financial innovation designed to redistribute risk, enhance liquidity, and improve capital allocation efficiency. Securitization allows banks to transform illiquid receivables into tradable securities, transferring part of credit risk to capital markets while releasing regulatory capital and improving financial flexibility. Empirical evidence suggests that securitization influences banks' risk appetite, asset management strategies, and overall financial performance by enabling risk diversification and balance-sheet optimization [9]. By converting long-term credit exposures into marketable financial instruments, securitization can strengthen financial intermediation and support sustainable credit expansion.

Despite its theoretical advantages, implementation of securitization frameworks—particularly in emerging financial systems—faces significant legal, institutional, and operational challenges. Legal uncertainty surrounding asset transfer, ownership rights, enforcement procedures, and contractual guarantees can hinder investor participation and weaken market confidence. Studies examining legal and jurisprudential barriers emphasize that insufficient regulatory coordination and unclear executive procedures constitute major obstacles to securitization development [10]. Similarly, judicial delays in the recovery of bank claims and inconsistencies in bankruptcy enforcement mechanisms create additional risks that discourage market-based financing solutions [11, 12]. These structural constraints highlight the necessity of designing comprehensive institutional models that integrate legal governance with financial innovation.

Another critical dimension influencing bank claim management relates to internal banking performance and asset composition. Research shows that the proportion of productive versus non-productive assets directly affects bank risk exposure, profitability, and resilience against financial shocks [13]. Excessive concentration of non-performing assets restricts banks' lending capacity and increases systemic vulnerability, particularly under external economic pressures such as sanctions, capital outflows, or liquidity shocks [14, 15]. Moreover, the growing expansion of shadow banking activities and alternative financial intermediaries introduces additional layers of risk interaction, affecting capital adequacy and amplifying banking-sector instability [16]. These developments reinforce the importance of integrated risk management frameworks capable of addressing interconnected financial risks.

Recent international research has also emphasized the role of macroprudential policies and capital buffers in mitigating systemic banking risks. Sudden stops in capital inflows and global financial volatility can rapidly transmit shocks to domestic banking systems, requiring coordinated regulatory responses and adaptive risk governance mechanisms [17]. Ownership structures, regulatory supervision, and capital buffer policies further

influence banks' profitability and cost of financial intermediation, shaping their ability to absorb risk and sustain lending activities [18]. Therefore, successful securitization initiatives must operate within a broader macro-financial governance framework aligned with stability-oriented policies.

Beyond institutional and macroeconomic determinants, behavioral and social factors increasingly appear as important drivers of banking performance. Behavioral economics approaches demonstrate that borrower decision-making, social trust, and institutional credibility significantly affect repayment behavior and the formation of bank claims. Behavioral policy tools, including nudging strategies and incentive-based interventions, have proven effective in reducing default rates and improving credit discipline among borrowers [19]. Additionally, social capital and governance quality influence public- and private-sector repayment performance, emphasizing that financial stability is not solely a technical issue but also a socio-institutional phenomenon [14]. Integrating behavioral insights into financial system design therefore represents an essential element of modern banking reform.

The evolution of Islamic banking and alternative financial systems further demonstrates the growing importance of ethical governance, transparency, and risk-sharing principles in strengthening financial stability. Literature reviews indicate that institutional innovation and compliance with ethical financial frameworks contribute to improved resilience and diversified financing mechanisms [20]. These developments suggest that securitization models must incorporate not only technical financial engineering but also institutional legitimacy, transparency standards, and investor confidence mechanisms.

In emerging economies, the relationship between banking stability and capital market development has become increasingly interdependent. Capital markets provide alternative funding channels capable of complementing traditional bank lending while distributing financial risks across broader investor bases. When securitization mechanisms operate effectively, they enhance liquidity, deepen debt markets, and facilitate long-term financing for productive economic activities. Conversely, weak institutional infrastructure and fragmented regulatory coordination can prevent securitization from achieving its intended benefits. Hence, developing an integrated conceptual framework that simultaneously addresses risk management, institutional capacity, regulatory coherence, and investor participation becomes essential.

From a policy perspective, securitization of bank claim collateral represents a multidimensional solution capable of addressing several structural challenges simultaneously. First, it supports banking-sector stability by transferring credit risk away from bank balance sheets. Second, it strengthens capital markets through the introduction of diversified financial instruments. Third, it promotes macroeconomic efficiency by reallocating financial resources toward productive investment sectors. Fourth, it enhances transparency and governance by requiring standardized disclosure systems and improved monitoring mechanisms. These advantages collectively position securitization as a strategic instrument for financial modernization and systemic risk management.

Nevertheless, the success of securitization depends on the interaction of multiple interconnected components, including legal frameworks, institutional infrastructure, risk management integration, financial innovation, behavioral participation of investors, and alignment with macroeconomic objectives. Previous research has typically examined these factors independently; however, the complexity of contemporary financial systems necessitates a systemic modeling approach capable of capturing causal relationships among them. Structural modeling techniques, combined with influence-dependence analysis, provide an analytical foundation for identifying key driving variables and designing evidence-based policy interventions.

Given the increasing pressure on banking systems caused by rising credit risks, evolving financial technologies, and global economic uncertainty, there is a growing need to develop localized yet theoretically grounded securitization models tailored to institutional realities. Such models must integrate risk governance, regulatory compliance, technological innovation, and market participation within a coherent framework capable of enhancing financial stability while supporting economic growth. The development of a comprehensive conceptual model for securitizing bank claim collateral through capital markets therefore represents both a theoretical advancement and a practical necessity for modern financial systems.

Accordingly, the aim of this study is to design and validate a comprehensive model for the securitization of bank claim collateral through the capital market by identifying and structuring the key legal, institutional, economic, technological, and risk management components influencing its successful implementation.

2. Methodology

This study employs a mixed-methods research design consisting of two main phases: a qualitative phase and a quantitative phase. The research was conducted during the year 2024. In the qualitative phase, thematic analysis was applied to identify and analyze barriers and determinants influencing the securitization of bank claim collateral in Iran. Qualitative data were collected through semi-structured interviews with experts from the banking sector, legal domain, and capital market. Following coding and categorization procedures, key concepts and themes were extracted. This phase contributed to the development of the conceptual framework and identification of the principal components of the proposed model.

In the quantitative phase, the model developed during the qualitative stage was tested and validated using Interpretive Structural Modeling (ISM). Quantitative data collected from banks and capital market specialists were utilized to examine relationships among model components and subsystems and to determine hierarchical structures and interdependencies among variables. The integration of qualitative and quantitative findings enabled the development of a comprehensive and practical model for securitizing bank claim collateral through the capital market.

In the qualitative phase, the statistical population consisted of banking, legal, and capital market experts selected through purposive sampling based on expertise and professional experience. A total of ten interviews were conducted until theoretical saturation was achieved, leading to the extraction of the primary components of bank claim collateral securitization.

In the quantitative phase, the statistical population included experienced bank managers, financial experts, and capital market practitioners selected purposively. Data were collected through a questionnaire developed from qualitative findings, enabling ISM analysis and validation of relationships within the conceptual model. The use of expert-based samples in both phases provided a reliable and coherent foundation for developing and testing the research model.

3. Findings and Results

This section presents the results derived from the qualitative data coding process aimed at explaining the dimensions of the studied phenomenon. Based on the thematic analysis approach, interview data were organized into three hierarchical levels: *basic themes*, *organizing themes*, and an *overarching theme*. This hierarchical structure allows detailed concepts and primary meanings expressed by participants to be progressively aggregated into

coherent conceptual categories and ultimately synthesized into a comprehensive theoretical framework. Each organizing theme consists of several basic themes grounded in experts' experiences, perspectives, and professional interpretations. The table below illustrates the logical relationships among thematic levels and provides an integrated understanding of the conceptual structure of qualitative findings.

Table 1. Classification of Themes

No.	Basic Theme	Organizing Theme	Overarching Theme
1	Existence of clear and comprehensive securitization laws	Legal and Regulatory Frameworks	Securitization of Bank Claim Collateral through the Capital Market
2	Determination of ownership status and true transfer of collateral	Legal and Regulatory Frameworks	Securitization of Bank Claim Collateral through the Capital Market
3	Legal protection for investors and contracts	Legal and Regulatory Frameworks	Securitization of Bank Claim Collateral through the Capital Market
4	Alignment between banking and capital market regulations	Legal and Regulatory Frameworks	Securitization of Bank Claim Collateral through the Capital Market
5	Development of standardized executive regulations and guidelines	Legal and Regulatory Frameworks	Securitization of Bank Claim Collateral through the Capital Market
6	Transparency of asset and bank collateral information	Information Transparency and Disclosure System	Securitization of Bank Claim Collateral through the Capital Market
7	Fast and reliable access to asset information	Information Transparency and Disclosure System	Securitization of Bank Claim Collateral through the Capital Market
8	Continuous reporting of asset and securities performance	Information Transparency and Disclosure System	Securitization of Bank Claim Collateral through the Capital Market
9	Reduction of information asymmetry and increased investor trust	Information Transparency and Disclosure System	Securitization of Bank Claim Collateral through the Capital Market
10	Transparency of cost structure and security returns	Information Transparency and Disclosure System	Securitization of Bank Claim Collateral through the Capital Market
11	Accurate assessment of credit risk of facilities	Risk Management and Asset Quality	Securitization of Bank Claim Collateral through the Capital Market
12	Quality and reliability of bank collateral	Risk Management and Asset Quality	Securitization of Bank Claim Collateral through the Capital Market
13	Multi-layer risk management (credit, market, operational)	Risk Management and Asset Quality	Securitization of Bank Claim Collateral through the Capital Market
14	Continuous monitoring and evaluation of asset risks	Risk Management and Asset Quality	Securitization of Bank Claim Collateral through the Capital Market
15	Design of dynamic risk assessment models	Risk Management and Asset Quality	Securitization of Bank Claim Collateral through the Capital Market
16	Strengthening coordination among banks and supervisory institutions	Institutional and Organizational Infrastructure	Securitization of Bank Claim Collateral through the Capital Market
17	Establishment of specialized institutions and professional risk teams	Institutional and Organizational Infrastructure	Securitization of Bank Claim Collateral through the Capital Market
18	Capacity building and training of specialized human resources	Institutional and Organizational Infrastructure	Securitization of Bank Claim Collateral through the Capital Market
19	Improvement of data and information technology infrastructure	Institutional and Organizational Infrastructure	Securitization of Bank Claim Collateral through the Capital Market
20	Standardization of securitization operational processes	Institutional and Organizational Infrastructure	Securitization of Bank Claim Collateral through the Capital Market
21	Impact of interest rate and inflation on security design	Economic and Financial Market Factors	Securitization of Bank Claim Collateral through the Capital Market
22	Development of debt markets and capital market depth	Economic and Financial Market Factors	Securitization of Bank Claim Collateral through the Capital Market
23	Creation of active secondary markets and improved liquidity	Economic and Financial Market Factors	Securitization of Bank Claim Collateral through the Capital Market
24	Analysis of macroeconomic conditions in securities pricing	Economic and Financial Market Factors	Securitization of Bank Claim Collateral through the Capital Market
25	Forecasting economic and financial changes affecting performance	Economic and Financial Market Factors	Securitization of Bank Claim Collateral through the Capital Market

26	Use of incentive tools and behavioral nudges	Investor Participation and Behavioral Economics	Securitization of Bank Claim Collateral through the Capital Market
27	Investor education and information dissemination	Investor Participation and Behavioral Economics	Securitization of Bank Claim Collateral through the Capital Market
28	Increasing investment attractiveness via guarantees and ratings	Investor Participation and Behavioral Economics	Securitization of Bank Claim Collateral through the Capital Market
29	Reduction of perceived investor risk	Investor Participation and Behavioral Economics	Securitization of Bank Claim Collateral through the Capital Market
30	Strengthening trust of institutional and retail investors	Investor Participation and Behavioral Economics	Securitization of Bank Claim Collateral through the Capital Market
31	Use of data analytics and modern financial technologies	Financial Technology and Innovation	Securitization of Bank Claim Collateral through the Capital Market
32	Application of blockchain for asset registration and tracking	Financial Technology and Innovation	Securitization of Bank Claim Collateral through the Capital Market
33	Improved asset valuation accuracy using advanced technologies	Financial Technology and Innovation	Securitization of Bank Claim Collateral through the Capital Market
34	Enhancement of operational efficiency in issuance processes	Financial Technology and Innovation	Securitization of Bank Claim Collateral through the Capital Market
35	Reduction of operational errors through intelligent systems	Financial Technology and Innovation	Securitization of Bank Claim Collateral through the Capital Market
36	Allocation of resources toward productive projects	Alignment with Macroeconomic Objectives	Securitization of Bank Claim Collateral through the Capital Market
37	Strengthening the role of capital markets in economic financing	Alignment with Macroeconomic Objectives	Securitization of Bank Claim Collateral through the Capital Market
38	Alignment with production-growth policies	Alignment with Macroeconomic Objectives	Securitization of Bank Claim Collateral through the Capital Market
39	Contribution to banking system financial stability	Alignment with Macroeconomic Objectives	Securitization of Bank Claim Collateral through the Capital Market
40	Release of bank resources for new lending	Alignment with Macroeconomic Objectives	Securitization of Bank Claim Collateral through the Capital Market
41	Model flexibility against market changes	Sustainability and Flexibility of the Executive Model	Securitization of Bank Claim Collateral through the Capital Market
42	Continuous monitoring and updating of securitization model	Sustainability and Flexibility of the Executive Model	Securitization of Bank Claim Collateral through the Capital Market
43	Strengthening public and private institutional participation	Sustainability and Flexibility of the Executive Model	Securitization of Bank Claim Collateral through the Capital Market
44	Reduction of execution complexity through standardization	Sustainability and Flexibility of the Executive Model	Securitization of Bank Claim Collateral through the Capital Market
45	Establishment of sustainable supervisory and control mechanisms	Sustainability and Flexibility of the Executive Model	Securitization of Bank Claim Collateral through the Capital Market
46	Collateral quality and credit risk management	Integration of Risk Management Models	Securitization of Bank Claim Collateral through the Capital Market
47	Need for integrated and simultaneous risk analysis	Integration of Risk Management Models	Securitization of Bank Claim Collateral through the Capital Market
48	Identification of operational constraints and risks	Integration of Risk Management Models	Securitization of Bank Claim Collateral through the Capital Market
49	Staff expertise and experience in risk management	Integration of Risk Management Models	Securitization of Bank Claim Collateral through the Capital Market

The organizing theme “Legal and Regulatory Frameworks” is recognized as a fundamental foundation for the successful securitization of bank claim collateral, because without a transparent and coherent legal basis, asset transfer and securities issuance will face ambiguity and heightened legal risk. Within this framework, comprehensive securitization laws, clear determination of ownership and the true transfer of collateral, legal protection of investors, and assurance of contract enforceability are essential. Moreover, alignment between banking regulations and capital market rules prevents institutional conflicts and helps avoid legal gaps in issuance,

offering, and supervision processes. The development of standardized executive guidelines and bylaws also promotes procedural consistency, reduces discretionary interpretation, and facilitates the operational execution of securitization. From a functional perspective, robust legal and regulatory frameworks reduce legal risk, strengthen investor confidence, and enhance the credibility of the instrument in the capital market. The greater the legal protection of securities holders' rights and the transparency of asset transfer procedures, the lower the financing cost and the broader the capacity to attract large-scale investment. In addition, effective supervisory bodies and clearly defined control mechanisms prevent potential misconduct and safeguard the long-term sustainability of this financial instrument. Therefore, legal and regulatory frameworks are not only a precondition for operationalizing securitization, but also a decisive driver of its efficiency, acceptance, and sustainable development in the capital market.

The organizing theme "Information Transparency and Disclosure System", as one of the key pillars of successful bank receivables securitization, emphasizes the provision of accurate, timely, and reliable information regarding underlying assets and collateral. In this framework, rapid access by investors and supervisory institutions to information on loan quality, repayment status, collateral type and value, and contractual structures is critical. Continuous reporting of the performance of underlying assets and issued securities reduces information asymmetry among the originator, the special-purpose vehicle, and investors, thereby enabling more informed decision-making. Transparency regarding cost structure, rates of return, and risks associated with the securities also prevents ambiguity and misinterpretation in the market. Functionally, establishing a coherent and standardized disclosure regime strengthens investor trust and reduces perceived risk. The more complete and transparent the information, the more accurate the risk assessment and the more efficient the pricing of securities, which ultimately reduces banks' financing costs. Furthermore, information transparency contributes to improved banks' financial discipline and asset quality, since disclosure requirements create more effective external monitoring. Overall, information transparency and disclosure not only enhance the efficiency of the securitization market, but also provide the infrastructure for trust-building and sustainable development of this instrument in the capital market.

The organizing theme "Risk Management and Asset Quality" is grounded in the principle that securitization success depends substantially on the quality of underlying loans and collateral, as well as on precise mechanisms for risk assessment and control. Within this framework, rigorous evaluation of credit risk, assessment of borrowers' repayment capacity, and validation of bank collateral are of high importance. Collateral quality and liquidity, the ratio of non-performing loans, and asset maturity structures are among the factors that directly influence credit ratings and the attractiveness of the securities. In addition, multi-layer risk management—covering credit, market, liquidity, and operational risks—must be designed and implemented in an integrated manner to minimize default probability and unexpected volatility. Operationally, continuous monitoring and assessment of underlying-asset risk and the use of dynamic, data-driven models to forecast repayment behavior play a critical role in strengthening the resilience of securitization structures. Employing advanced risk analytics and scenario analysis enables timely responses to economic shifts and financial shocks and prevents the transfer of hidden risks to investors. Consequently, the more professional and rigorous the risk management system, the higher the market confidence and the lower the financing cost. Therefore, risk management and asset quality enhancement are not only safeguards of the health of issued securities, but also prerequisites for the long-term sustainability and development of securitization mechanisms within the financial system.

The organizing theme “Institutional and Organizational Infrastructure” emphasizes providing the structural, human, and technological foundations required for efficient execution of securitization processes. In this framework, strengthening coordination among banks, supervisory authorities, investment banks, and other capital market actors is essential to ensure that asset transfer, issuance, and oversight occur coherently and without conflict. Establishing specialized institutions and professional teams in risk management, financial law, and debt-instrument structuring improves the quality of securitization design and execution. Capacity building and training of specialized human resources also play a decisive role in reducing operational errors and increasing process efficiency. On the technological side, the development of data and information technology infrastructure, along with standardization of operational procedures, facilitates information exchange, reduces time-to-issuance, and enhances supervisory precision. Integrated information systems strengthen asset traceability, performance monitoring, and accurate reporting. Standardized procedures further reduce operational complexity, increase transparency, and promote consistent practices among stakeholders. Overall, effective institutional and organizational infrastructure constitutes the operational backbone of securitization, and without it, achieving the instrument’s objectives in the capital market would face serious challenges.

The organizing theme “Economic and Financial Market Factors” highlights the determining role of macroeconomic variables and capital market structure in the efficiency and attractiveness of securitization. In this framework, interest rates, inflation, economic stability, and inflation expectations directly affect security structuring, expected returns, and investor participation. Incorporating macroeconomic conditions into pricing processes enables the determination of rational and competitive rates and helps prevent supply–demand imbalances. The development of the debt market and deeper capital markets also enable larger resource mobilization and investor diversification. Structurally, creating an active secondary market and increasing liquidity is a core prerequisite for the success of this instrument, because investors are more inclined to participate when they are confident of ease of trading. Forecasting economic and financial changes that influence securities performance helps managers tailor issuance structures to market conditions and control risks arising from economic volatility. In sum, simultaneous attention to macroeconomic variables and financial market infrastructure plays a key role in improving efficiency, attractiveness, and sustainability of securitization in the capital market.

The organizing theme “Investor Participation and Behavioral Economics” underscores that securitization success depends not only on the instrument’s technical and legal design, but also on investors’ acceptance and trust. In this framework, targeted investor education and information disclosure—addressing institutional and retail investors regarding the nature of underlying assets, return mechanisms, and associated risks—enhances awareness and improves decision quality. The use of incentive mechanisms, credit enhancements, and credible ratings can increase investment attractiveness and strengthen incentives to enter this market. Reducing perceived risk through transparency and comparative disclosures helps mitigate behavioral biases and build confidence. From a behavioral economics perspective, accounting for risk perception, time preferences, and investors’ sensitivity to market volatility is important when designing securitization structures. Behavioral nudges, simplified financial information, and understandable return–risk scenarios can facilitate decision-making and encourage broader participation. Strengthening investor confidence through a track record of performance, effective oversight, and regulatory stability further supports sustainable development of this instrument. Overall, active investor participation and behavioral economics approaches complement the technical and legal dimensions of securitization and play an important role in deepening the market and improving its efficiency.

The organizing theme “Financial Technology and Innovation” emphasizes leveraging technological tools and solutions to improve efficiency, accuracy, and transparency in securitization processes. In this framework, big-data analytics and intelligent algorithms for asset-quality assessment and repayment-behavior forecasting can enhance the precision of risk measurement. The use of blockchain technology in the registration, transfer, and tracking of underlying assets enables stronger transparency, fraud reduction, and information integrity. Moreover, integrated intelligent systems can streamline issuance, allocation, and settlement processes, reducing execution time and operational costs. Strategically, financial innovation enhances structural flexibility and faster adaptation to market developments. Advanced technologies in designing hybrid instruments, smart credit rating, and real-time monitoring of asset performance strengthen responsiveness to economic and managerial changes. Reducing human and operational errors through automation increases trust among investors and supervisory institutions. Overall, financial technology and innovation—acting as a transformation driver in capital markets—play a key role in improving transparency, reducing costs, and strengthening the sustainability of securitization mechanisms.

The organizing theme “Alignment with Macroeconomic Objectives” stresses that bank receivables securitization should be designed and implemented in line with national macroeconomic and development policies. In this framework, directing mobilized resources through the capital market toward production, infrastructure projects, and productive economic activities is essential. Strengthening the role of the capital market in financing the economy, reducing reliance on short-term bank resources, and diversifying financing instruments are among the strategic functions of this theme. Converting receivables into securities also releases bank resources, enabling new lending and increasing credit circulation in the economy. From a financial stability standpoint, aligning this instrument with monetary and fiscal policies can support liquidity management, inflation control, and reduced balance-sheet pressure on banks. Designing securities structures consistent with production-growth programs, job creation, and development of priority sectors increases macro-level effectiveness. Consequently, securitization is not only an asset-management tool for banks, but also a mechanism for achieving developmental objectives and reinforcing financial system stability. Therefore, alignment with macroeconomic objectives is a necessary condition for the long-term effectiveness and legitimacy of this instrument within the national economic structure.

The organizing theme “Sustainability and Flexibility of the Operational Model” emphasizes designing a mechanism that is sufficiently resilient to environmental change, market volatility, and regulatory shifts. In this framework, continuous monitoring of securities and underlying assets performance, periodic evaluation of issuance-structure efficiency, and updating operational models to reflect new economic conditions are highly important. Reducing operational complexity through standardization of contracts, processes, and supervisory mechanisms supports stability and replicability of the instrument. Flexibility in maturities, rates, and credit enhancement structures also allows faster adaptation to changing market conditions. Additionally, establishing stable supervisory and control mechanisms and strengthening public-private participation ensure long-term continuity and legitimacy of implementation. Coherent cooperation among banks, capital markets, and policymakers enables gradual correction of deficiencies and continuous structural improvement. The more the operational model is capable of learning and adapting, the lower the probability of structural crises and the greater the preservation of investor confidence. Overall, sustainability and flexibility of the operational model ensure durability, efficiency, and continuous development of securitization within the national financial system.

The theme “Integration of Risk Management Models” represents a comprehensive, organization-wide approach to identifying, assessing, managing, and monitoring risks at the enterprise level. Unlike traditional risk management—where risks were assessed separately within individual organizational units—this approach aims

to align risk management processes with the organization's overall strategic and operational objectives. It enables the organization to identify not only unit-level internal risks, but also cross-functional risks that arise at the intersection of multiple units or at the enterprise level. By providing a holistic view of all risks and their impacts on strategic objectives, managers can make more informed and intelligent decisions, avoid duplication of efforts, and improve efficiency through process standardization. In essence, integrated risk management enables the organization to manage risks using a unified and coordinated strategy rather than fragmented reactions, thereby supporting stability, growth, and value creation; it also reduces risks and costs so that securitization processes can be implemented more effectively.

Table 2. Organizing Themes and Their Functional Implications

Organizing Theme	Core Emphasis in the Securitization Model	Primary Expected Implication
Legal and Regulatory Frameworks	Clear laws, enforceable contracts, regulatory alignment, standardized bylaws	Reduced legal risk; higher credibility and investor confidence
Information Transparency and Disclosure System	Timely, reliable asset/collateral data; continuous performance reporting	Lower information asymmetry; better pricing efficiency; reduced financing cost
Risk Management and Asset Quality	Credit risk assessment; collateral validation; integrated multi-risk controls	Lower default/volatility exposure; improved resilience and market trust
Institutional and Organizational Infrastructure	Inter-institution coordination; specialized teams; IT/data infrastructure; process standardization	Higher operational efficiency; fewer execution errors; stronger monitoring capacity
Economic and Financial Market Factors	Interest/inflation impacts; debt-market depth; secondary market liquidity; macro forecasting	Higher attractiveness and liquidity; better market fit and sustainability
Investor Participation and Behavioral Economics	Education, incentives, credit enhancements, ratings, behavioral nudges	Higher acceptance and participation; reduced perceived risk and behavioral bias
Financial Technology and Innovation	Big data, intelligent models, blockchain traceability, automation	Greater accuracy and transparency; lower costs; fewer operational errors
Alignment with Macroeconomic Objectives	Channeling funds to productive sectors; bank balance-sheet relief; policy coherence	Improved financial stability; stronger macro-level effectiveness and legitimacy
Sustainability and Flexibility of the Operational Model	Ongoing monitoring; adaptive updates; stable oversight; standardization	Long-term durability; adaptability to market/regulatory changes
Integration of Risk Management Models	Enterprise-wide and cross-unit risk identification and alignment with strategy	More coherent risk governance; reduced duplication; improved decision quality

In this section, quantitative data are analyzed using the **Interpretive Structural Modeling (ISM)** approach to identify and explain the structure of relationships among the study's key variables. This method enables the researcher to determine, step by step, the causal linkages among the different dimensions of the conceptual model and to analyze their hierarchy of influence. In addition to providing a clear representation of interrelationships among variables, ISM helps identify pivotal and strategic variables that exert the greatest influence on other components. Applying ISM to quantitative analysis—particularly in complex, multidimensional studies with reciprocal interdependencies—offers substantial advantages. Beyond examining direct and indirect effects, this approach reveals the network structure of variables and enables the formulation of operational strategies and policy recommendations based on prioritizing influential variables. Consequently, this quantitative analytical approach provides a comprehensive and systematic depiction of the influence structure among the research dimensions and establishes a robust basis for strategic decision-making aimed at proposing a model for the securitization of bank claim collateral through the capital market.

In the second stage of ISM implementation, pairwise relationships among variables were determined to specify the direct and indirect effects of each of the ten dimensions of the conceptual model on the other dimensions. For this purpose, each pair of variables was examined and—drawing on insurance-industry experts' judgments and the study's qualitative findings—it was determined whether one variable influenced the other. This careful

assessment supported the identification of primary influence pathways and provided the necessary foundation for hierarchical analysis.

At this stage, the role of each dimension in producing changes in the other variables was assessed. For example, it was found that “Risk Management and Asset Quality” has a direct effect on “Economic and Financial Market Factors,” “Investor Participation and Behavioral Economics,” and “Integration of Risk Management Models,” whereas “Financial Technology and Innovation” exerts its indirect effects through improving computational accuracy and data transparency. This analysis helped distinguish direct from indirect paths, thereby enabling clear identification of driving and dependent dimensions. The outcomes of this stage were recorded in the direct reachability matrix, which represents all pairwise relationships among variables. This matrix provides the basis for computing the final reachability matrix and determining the hierarchical ordering of variables in subsequent ISM stages. Accordingly, the second stage played a critical role in clarifying the influence structure among the conceptual model’s dimensions and preparing the data for more advanced analyses.

Table 3. Matrix of Inter-Variable Relationships (Direct Reachability Matrix)

Variables (Row → Column)	Legal and Regulatory Frameworks	Information Transparency and Disclosure System	Risk Management and Asset Quality	Institutional and Organizational Infrastructure	Economic and Financial Market Factors	Investor Participation and Behavioral Economics	Financial Technology and Innovation	Alignment with Macroeconomic Objectives	Sustainability and Flexibility of the Operational Model	Integration of Risk Management Models
Legal and Regulatory Frameworks	1	1	1	1	0	1	1	1	1	0
Information Transparency and Disclosure System	1	1	1	1	0	1	1	1	0	0
Risk Management and Asset Quality	1	1	1	0	0	1	1	1	1	0
Institutional and Organizational Infrastructure	1	0	0	0	1	1	0	0	0	0
Economic and Financial Market Factors	1	1	0	1	0	1	1	1	1	0
Investor Participation and Behavioral Economics	1	1	1	0	0	1	1	1	1	0
Financial Technology	1	1	1	1	0	1	1	1	1	1

Alignment with Macroeconomic Objectives	1	1	0	0	0	1	1	0	1	0
Sustainability and Flexibility of the Operational Model	1	0	1	0	0	1	1	1	1	0
Integration of Risk Management Models	1	1	0	0	0	1	1	1	1	1

In the third stage of ISM implementation, the final reachability matrix is constructed, serving as the basis for hierarchical analysis and for identifying both direct and indirect relationships among variables. At this stage, all chain effects among the ten components of the conceptual model are examined so that indirect relationships are incorporated. For example, if “Risk Management and Asset Quality” directly affects “Integration of Risk Management Models,” and “Integration of Risk Management Models” influences “Investor Participation and Behavioral Economics,” then the indirect effect of “Risk Management and Asset Quality” on “Investor Participation and Behavioral Economics” is recorded in the final matrix. This procedure provides a fuller and more accurate representation of the influence network among components.

To construct the final reachability matrix, the direct reachability matrix is first reviewed, and then indirect relationships are added using logical rules and matrix computations. This approach ensures that no influence pathway among components is overlooked and that all chain effects are identified. After the final reachability matrix is completed, components are prepared for level partitioning. Each component has a reachability set (elements it can reach) and an antecedent set (elements that can reach it). Examining the intersection of these sets enables identification of each component’s level within the hierarchical structure: components with high driving power and low dependence are placed at the foundational levels, whereas more dependent components are positioned at higher levels of the model.

The final reachability matrix not only captures direct and indirect cause–effect relationships, but also provides a basis for analyzing each component’s role and importance. This analysis supports identification of driving components, linkage components, and dependent components, enabling strategic decisions through component prioritization. For instance, “Risk Management and Asset Quality” and “Integration of Risk Management Models” are identified as driving components, whereas “Investor Participation and Behavioral Economics” appears at higher levels as a dependent component. The final reachability matrix also enables drawing the ISM structural digraph and visually analyzing relationships among components. This diagram clearly presents the hierarchy and influence paths, allowing the researcher to develop an integrated understanding of relationships among the ten conceptual model components and to combine quantitative and qualitative analyses in a coherent manner. Accordingly, the third stage plays a key role in preparing data for final analysis and in designing operational strategies and strategic decision-making.

The results of the indirect influence analysis of components at the 5% significance level, conducted using the MICMAC method, indicate that certain components play a vital and strategic role within the influence network, and their chain effects on other components are highly significant. In this analysis, indirect effects were calculated in a manner that incorporated not only direct relationships but also all interaction paths among components, and the magnitude of component influence was confirmed with a 5% probability of error. This approach increased the accuracy of identifying driving and dependent components of the system and enabled a more precise understanding of each component's actual role in system dynamics. The analysis demonstrated that components such as Risk Management and Asset Quality and Integration of Risk Management Models, in addition to their direct effects, exert considerable indirect impacts. This finding implies that minor changes in these components may generate cascading effects throughout the system and influence dependent components such as Investor Participation and Behavioral Economics and Economic and Financial Market Factors, which function as dependent variables within the model. The importance of these components at the indirect level confirms their position as primary drivers of development and strategic decision-making.

Intermediate or linkage components such as Financial Technology and Innovation and Alignment with Macroeconomic Objectives also showed substantial importance at this analytical level. Although these components do not directly influence all other components, their intermediary position between key driving components and dependent components enables them to transmit indirect effects across the system. The analysis revealed that effective management of these components can enhance the efficiency of the influence network and improve overall system stability while facilitating the achievement of development goals and strategic decision-making. Dependent components such as Investor Participation and Behavioral Economics and Information Transparency and Disclosure System exhibited the highest level of indirect susceptibility. These components are influenced by a combination of direct and indirect effects originating from other variables, and their performance largely reflects decisions and changes occurring within key and intermediary components. The 5% level analysis indicates that improvements in driving and linkage components can generate extensive indirect impacts on dependent components, which is particularly important for strategic planning, policymaking, system development, and enhancement of influence-network performance.

Table 4. Indirect Influence at the 5% Level (MICMAC Analysis)

Component Type	Example Components	Role in the Influence Network	Description of Indirect Influence
Key / Driving Component	Risk Management and Asset Quality; Integration of Risk Management Models; Legal and Regulatory Frameworks	Main driver of development and strategic decision-making	In addition to direct effects, these components exert strong indirect impacts; minor changes can create cascading effects throughout the system and influence dependent components.
Intermediate / Linkage Component	Financial Technology and Innovation; Alignment with Macroeconomic Objectives; Sustainability and Flexibility of the Operational Model	Transmitter of indirect effects	These components do not directly affect all variables but transmit indirect effects due to their intermediary position between key and dependent components; effective management improves network efficiency and system stability.
Dependent / Influenced Component	Investor Participation and Behavioral Economics; Information Transparency and Disclosure System; Institutional and Organizational Infrastructure; Economic and Financial Market Factors	Highest indirect susceptibility	Influenced by a combination of direct and indirect effects; improvements in driving and linkage components produce extensive indirect impacts important for strategic planning.

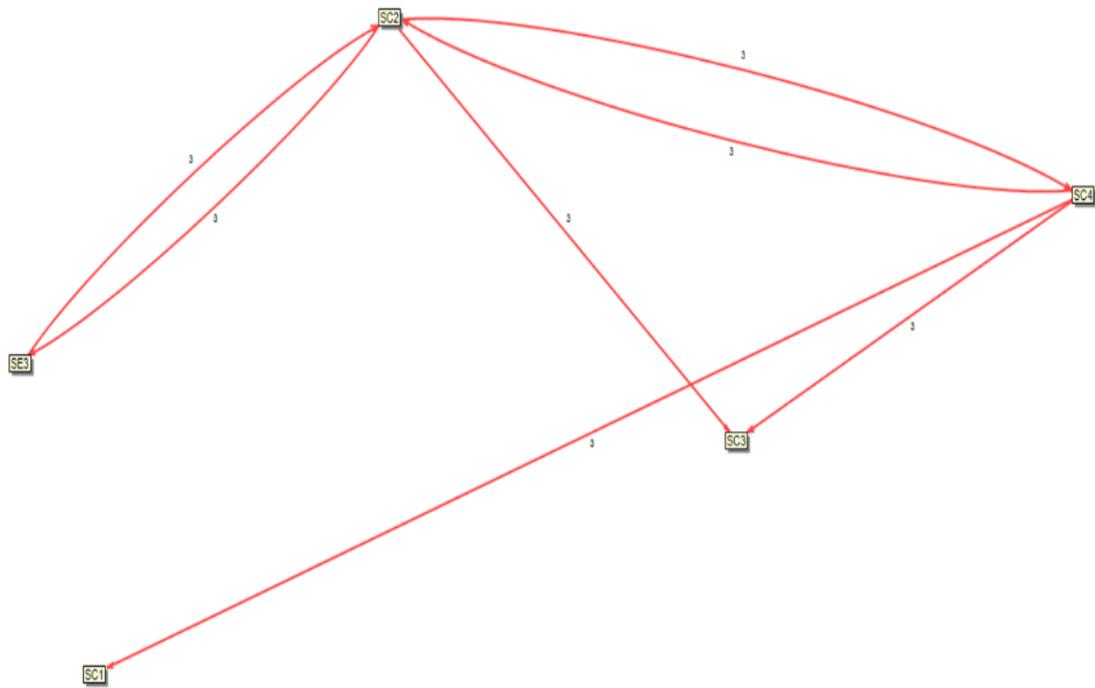


Figure 1. Results of Indirect Influence Analysis at the 5% Level

The results of indirect influence analysis at the 50% level, conducted using the MICMAC method, indicate that beyond the vital and key variables, certain variables play an important role in transmitting significant indirect effects. At this analytical level, stronger relationships and dominant influence pathways among variables were emphasized, while minor or weak effects identifiable at the 5% level were reduced. This approach enables analysts to identify the structure of the influence network from the perspective of dominant systemic effects.

At the 50% level, variables such as Risk Management and Asset Quality and Integration of Risk Management Models continued to function as primary driving forces; however, the scope of their indirect influence became more concentrated on core influence paths. This finding suggests that changes in these variables primarily affect major dependent variables such as Investor Participation and Behavioral Economics and Economic and Financial Market Factors, whereas dispersed and marginal effects observed at the 5% level diminish.

Intermediate or linkage variables such as Financial Technology and Innovation and Information Transparency and Disclosure System retained their importance at this level, but their function became more focused on transmitting principal indirect effects rather than weaker secondary influences. In other words, the influence network at this stage appears more concentrated, highlighting dominant pathways connecting key, linkage, and dependent variables.

From a strategic planning perspective, the 50% level analysis demonstrates that intervention and management efforts concentrated on key and intermediary variables along dominant pathways can produce the greatest effectiveness in achieving banking development objectives. Major dependent variables consequently operate under optimized conditions shaped by both direct and indirect effects transmitted through these primary pathways. This analytical level enables decision-makers to allocate resources and managerial attention toward the most influential pathways while avoiding dispersion of effort across minor effects.

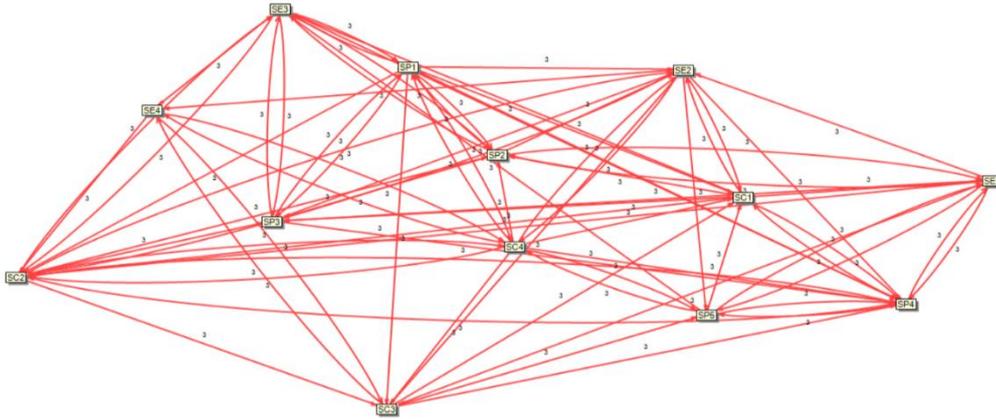


Figure 2. Results of Indirect Influence Analysis at the 50% Level

In this section, the results obtained from structural modeling using the MICMAC method are interpreted with the aim of analyzing the influence–dependence pattern of the identified components. MICMAC analysis, based on direct and indirect influence matrices, enables identification of key, driving, linkage, and dependent components and systematically explains the causal structure governing the studied system. The extracted influence–dependence map indicates that the components can be classified into four principal groups—driving, linkage, dependent, and autonomous components—each performing a distinct function within system dynamics.

The modeling results indicate that Risk Management and Asset Quality and Integration of Risk Management Models are positioned within the driving components zone. These components exhibit high influence and low dependence and therefore function as the primary driving forces of the system. Their placement in this region implies that any improvement or deterioration in these components can generate cascading effects across other system elements, while they themselves remain relatively unaffected by external changes. Consequently, these components play a strategic and foundational role in designing and implementing macro-level policies within the studied system.

Conversely, a considerable number of components—including Financial Technology and Innovation, Alignment with Macroeconomic Objectives, Sustainability and Flexibility of the Operational Model, and Institutional and Organizational Infrastructure—are located within the linkage zone. Because these components simultaneously possess high influence and high dependence, they represent the most sensitive elements of the system. Changes in these variables can rapidly trigger responses throughout the system, while they themselves are strongly influenced by systemic transformations. This condition highlights the necessity of coordinated and intelligent management of these components to enhance system stability and operational efficiency.

The findings further show that Investor Participation and Behavioral Economics, Information Transparency and Disclosure System, and Economic and Financial Market Factors fall within the dependent component category. These components demonstrate low influence but high dependence and are primarily interpreted as outcomes of the performance of other system components. In other words, successful realization of these components depends on strengthening driving and linkage components; improvement cannot occur independently without adequate organizational, technological, and managerial infrastructure.

The component Legal and Regulatory Frameworks is positioned within the autonomous or semi-independent zone, reflecting its supportive and relatively peripheral role in the overall system structure. Although it does not serve as a primary driving force, its presence remains essential for maintaining system coherence, legitimacy, and regulatory alignment.

Overall, MICMAC modeling results suggest that managerial and policy focus should primarily concentrate on strengthening driving components (Risk Management and Asset Quality and Integration of Risk Management Models) and subsequently on effectively managing linkage components (Financial Technology and Innovation, Alignment with Macroeconomic Objectives, Sustainability and Flexibility of the Operational Model, and Institutional and Organizational Infrastructure) to ensure sustainable realization of dependent components and improvement of overall system performance.

Table 5. Influence and Dependence Calculation of Study Variables Based on MICMAC Method

Variable Code	Variable Title	Degree of Influence	Degree of Dependence	MICMAC Variable Type
O1	Legal and Regulatory Frameworks	8	2	Driving
O2	Information Transparency and Disclosure System	7	8	Linkage
O3	Risk Management and Asset Quality	6	7	Dependent
O4	Institutional and Organizational Infrastructure	3	9	Dependent
O5	Economic and Financial Market Factors	7	9	Linkage
O6	Investor Participation and Behavioral Economics	7	7	Linkage
O7	Financial Technology and Innovation	9	3	Driving
O8	Alignment with Macroeconomic Objectives	6	5	Autonomous
O9	Sustainability and Flexibility of the Operational Model	7	8	Linkage
O10	Integration of Risk Management Models	8	10	Linkage

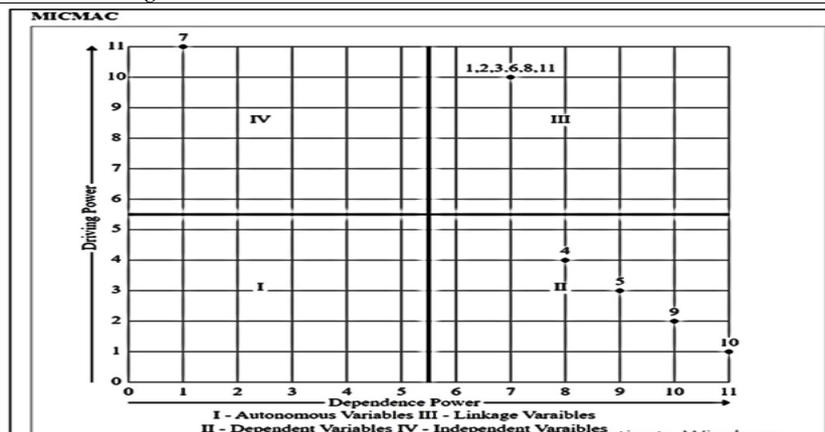


Figure 3. Variable Influence–Dependence Map

Figure 3 illustrates the influence–dependence map derived from the MICMAC method to clarify the position and role of each key component within the system structure. The map is constructed based on calculated influence and dependence values for the ten principal components and displays four standard zones: driving, linkage, dependent, and autonomous components. At the upper region of the map are components characterized by high influence and low dependence—namely Risk Management and Asset Quality and Integration of Risk Management Models—which perform the system’s strategic driving role. These components can generate extensive changes across the system and represent the starting point for overall performance improvement.

In the central–upper area of the map, linkage components such as Financial Technology and Innovation, Alignment with Macroeconomic Objectives, Sustainability and Flexibility of the Operational Model, and Institutional and Organizational Infrastructure are located. These variables possess both high influence and considerable dependence, meaning that any modification within them can produce chain reactions throughout the system.

In the lower-right region, dependent components—including Investor Participation and Behavioral Economics, Information Transparency and Disclosure System, and Economic and Financial Market Factors—are positioned. These components demonstrate limited influence but high sensitivity to other variables. The Legal and Regulatory Frameworks component appears within the autonomous zone and performs a supportive yet relatively peripheral function. Overall, this structural mapping provides clear insight into hierarchical relationships and causal interactions among components and establishes a basis for managerial prioritization and strategic decision-making.

The conceptual model of this study was designed to present a comprehensive framework for the securitization of bank claim collateral through the capital market and seeks to systematically explain the interrelationship between risk management, modern financial instruments, and institutional requirements of the capital market. The model consists of ten key components that interact to form an integrated framework for enhancing efficiency, transparency, and financial sustainability in securitization processes.

At the core of the model lies Risk Management and Asset Quality, which functions as the central element responsible for identifying, measuring, and mitigating risks associated with bank receivables and long-term obligations. Securitization of bank claim collateral, as an innovative mechanism for risk transfer and distribution, enables the transformation of long-term risks into tradable securities within capital markets, thereby significantly strengthening risk management capacity.

Economic and Financial Market Factors represent a direct outcome of effective risk management and securitization utilization. Transferring part of credit risk to capital markets releases financial resources, improves capital adequacy ratios, enhances financial flexibility of banking and insurance institutions, and reinforces financial stability.

Within this structure, Financial Technology and Innovation acts as an intermediary and enabling component. Technologies such as big data analytics, artificial intelligence, blockchain, and intelligent risk-analysis systems allow more accurate asset evaluation, continuous risk monitoring, and improved transparency and transaction security, directly contributing to investor confidence and market efficiency.

Investor Participation and Behavioral Economics constitutes a fundamental prerequisite for securitization success. Strengthened through information transparency, reliable credit ratings, and effective control mechanisms, investor confidence determines the ability to mobilize capital market resources. Without adequate trust, adoption of innovative financial instruments remains constrained.

Information Transparency and Disclosure System together with Legal and Regulatory Frameworks represent institutional and legal pillars ensuring effective implementation of securitization. Transparent contracts, standardized procedures, and legally supported regulatory frameworks reduce legal and operational risks and promote participation by institutional and retail investors.

Institutional and Organizational Infrastructure refers to internal capacities of banks, insurance companies, and financial institutions. Appropriate organizational structures, skilled human resources, an innovation-oriented culture, and effective control systems constitute essential prerequisites for successful implementation of the securitization model.

Regulatory and Legal Requirements provide the structural governance framework. Compliance with banking, insurance, and capital market regulations reduces systemic risks while strengthening legitimacy and acceptance of innovative financial instruments.

Alignment with Macroeconomic Objectives emphasizes that securitization should not be treated solely as a financial instrument but must support broader objectives such as capital market deepening, investment expansion, financial stability, and sustainable economic growth.

Finally, Integration of Risk Management Models ensures that all components operate within a coherent and coordinated framework, preventing policy fragmentation and enabling optimal decision-making and efficient resource allocation.

Overall, Figure 4 (Conceptual Model Derived from the Qualitative Phase) presents a comprehensive multidimensional framework illustrating causal and interactive relationships among Risk Management and Asset Quality, securitization of bank claim collateral, Financial Technology and Innovation, and other key components. The model provides both a theoretical and practical foundation for analyzing, designing, and evaluating financial policies and instruments at the national level.

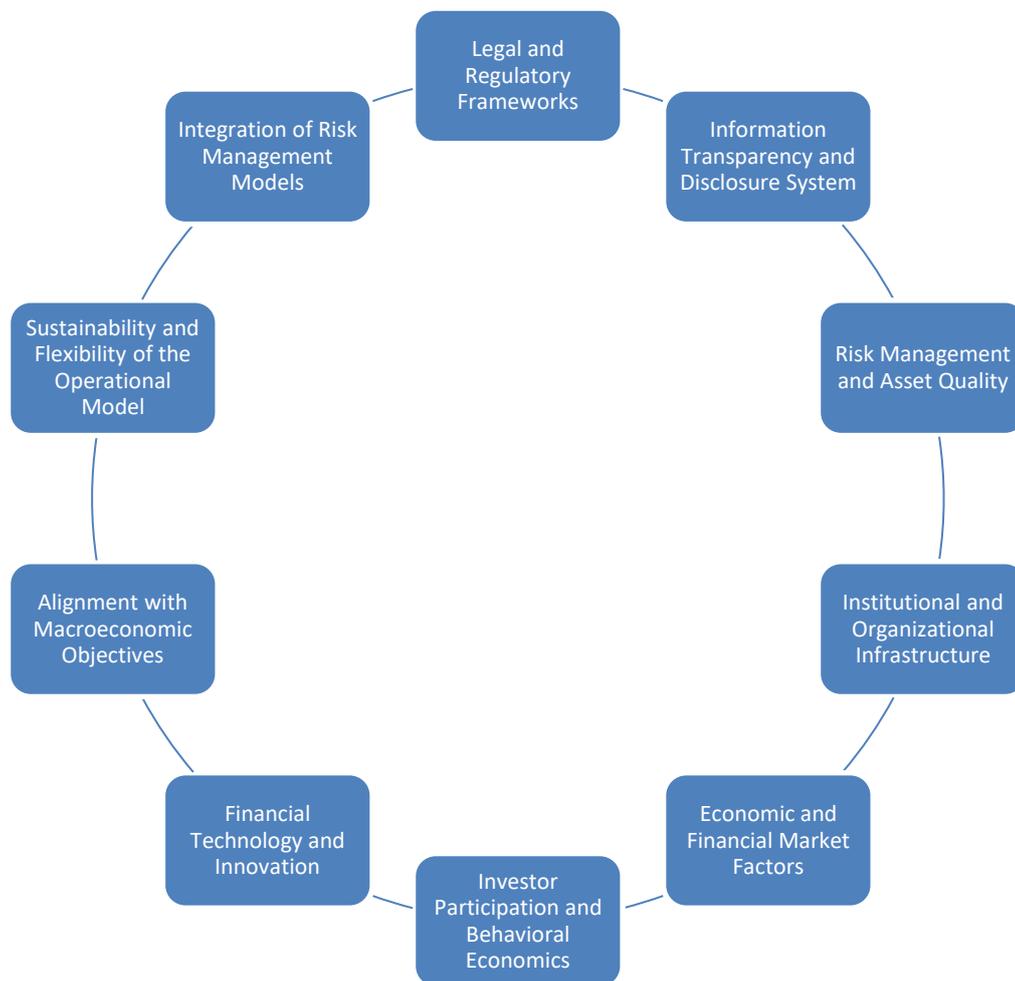


Figure 4. Conceptual Model Derived from the Qualitative Research Phase

4. Discussion and Conclusion

The present study aimed to design and validate a comprehensive model for the securitization of bank claim collateral through the capital market by identifying the structural relationships among legal, institutional, economic, technological, behavioral, and risk management components. The findings derived from thematic analysis, Interpretive Structural Modeling (ISM), and MICMAC analysis revealed a structured hierarchy of

influence in which certain components function as primary drivers of system performance, while others operate as linkage or dependent outcomes. The discussion of results demonstrates that securitization effectiveness depends not on isolated financial mechanisms but on the coordinated interaction of multiple institutional and risk-governance dimensions.

One of the most significant findings of the study is the identification of risk management and asset quality together with integration of risk management models as the main driving components within the influence-dependence structure. These variables exhibited high influence and low dependence, indicating that improvements in these areas produce cascading effects throughout the entire securitization ecosystem. This result aligns strongly with empirical banking literature emphasizing that credit risk management remains the primary determinant of banking stability and loan performance. Studies across G20 banking systems confirm that internal risk governance and asset quality indicators significantly shape the evolution of non-performing loans and financial resilience [3]. Similarly, research on bank-specific determinants shows that credit portfolio composition and risk control mechanisms directly influence banking-sector vulnerability and performance outcomes [1]. The present findings therefore reinforce the argument that securitization cannot compensate for weak asset quality; rather, it functions as an amplifier of effective risk governance.

The prominence of integrated risk management also supports findings highlighting systemic interactions among different risk channels. Evidence suggests that banking risk increasingly emerges from interconnected financial activities rather than isolated exposures, particularly in environments influenced by shadow banking expansion and capital adequacy pressures [16]. The current study demonstrates that integrating risk management models allows banks to anticipate indirect effects and avoid fragmented responses to credit deterioration. This systemic interpretation corresponds with international analyses showing that macroprudential policy effectiveness depends on coordinated risk-monitoring frameworks capable of managing both direct and indirect financial shocks [17].

Another major outcome of the model concerns the role of legal and regulatory frameworks as structural enablers of securitization. Although this component appeared relatively autonomous in the MICMAC structure, its presence remains indispensable for maintaining system legitimacy and operational feasibility. Legal uncertainty regarding ownership transfer, enforcement mechanisms, and investor protection has been repeatedly identified as a central obstacle to securitization markets in emerging economies [10]. Judicial inefficiencies in claim recovery and bankruptcy procedures further weaken confidence in financial instruments backed by bank receivables [11, 12]. The study's findings confirm that legal infrastructure acts as a stabilizing foundation rather than a dynamic driver; without regulatory clarity, even technologically advanced securitization frameworks cannot achieve sustainable development.

The research also revealed that financial technology and innovation, institutional and organizational infrastructure, alignment with macroeconomic objectives, and operational sustainability and flexibility function as linkage components characterized by simultaneous high influence and dependence. These variables transmit systemic effects across the model and therefore represent sensitive leverage points for policy intervention. The mediating role of financial technology observed in this study corresponds with contemporary banking transformations where digital analytics, automation, and data integration enhance credit evaluation accuracy and market transparency. Technological adoption improves risk monitoring and investor confidence, thereby supporting securitization performance. Previous research indicates that financial innovation reshapes banking intermediation by improving operational efficiency and enabling more effective allocation of financial resources [9].

Institutional infrastructure likewise emerged as a critical linkage factor. Organizational capacity, human capital expertise, and coordinated governance structures enable effective implementation of complex financial instruments. Evidence from banking performance studies shows that internal organizational strength significantly influences asset productivity and risk-adjusted performance [13]. The results of this study suggest that securitization initiatives succeed when institutional readiness accompanies financial innovation, reinforcing the importance of structural reform alongside market development.

The placement of alignment with macroeconomic objectives as a linkage component further highlights the macro-financial nature of securitization. The findings demonstrate that securitization effectiveness increases when aligned with broader economic policies such as financial stability, investment expansion, and credit market development. Macroeconomic research indicates that economic growth dynamics and fiscal conditions strongly influence banking-sector credit risk and loan performance [5, 7]. Accordingly, securitization should not be treated solely as a financial engineering tool but rather as an integrated economic policy instrument supporting long-term development strategies.

The study also identified information transparency and disclosure and investor participation and behavioral economics as dependent components. These variables showed high dependence but lower driving power, indicating that investor confidence and market participation largely reflect upstream institutional and risk-management conditions. This result aligns with behavioral finance research demonstrating that borrower and investor behavior responds strongly to institutional trust, transparency, and policy credibility [19]. Investor participation cannot be independently stimulated without improvements in disclosure standards, governance quality, and regulatory reliability. Literature on Islamic and alternative banking systems similarly emphasizes that transparency and ethical governance enhance financial participation and resilience [20].

The strong dependence of economic and financial market factors further confirms the interconnected relationship between banking stability and macroeconomic conditions. Studies examining non-performing loans across emerging markets show that economic cycles, inflation dynamics, and fiscal pressures shape credit outcomes and financial stability [2, 8]. The present findings extend this insight by demonstrating that securitization outcomes ultimately manifest through market reactions influenced by earlier structural reforms.

An additional contribution of the study lies in demonstrating the importance of social and institutional capital in managing bank claims. Prior research highlights that social trust, governance efficiency, and public-sector expenditure effectiveness influence repayment performance and banking stability [14, 15]. The model developed here integrates these socio-institutional dimensions indirectly through behavioral participation and institutional infrastructure, suggesting that securitization success requires both technical and social legitimacy.

Furthermore, the findings reinforce recent evidence regarding the role of capital structure and ownership characteristics in shaping banking profitability and intermediation efficiency. Studies show that capital buffers and ownership structures influence financial resilience and cost efficiency within banking systems [18]. Securitization contributes to these outcomes by improving capital allocation efficiency and enabling risk redistribution, thereby strengthening financial sustainability.

Overall, the results indicate that securitization of bank claim collateral operates as a systemic governance mechanism rather than merely a financial instrument. The hierarchical relationships identified through ISM and MICMAC analyses reveal that sustainable securitization requires sequential strengthening of drivers (risk governance), stabilization through linkage mechanisms (technology, institutions, macro alignment), and eventual improvement of dependent outcomes (investor confidence and market performance). This systemic perspective

advances existing literature by integrating risk management, institutional economics, behavioral finance, and financial innovation within a unified analytical framework.

Despite its contributions, this study has several limitations. First, the analysis relied on expert-based judgments and structured modeling techniques, which, although appropriate for complex systemic investigations, may introduce subjective bias in determining inter-variable relationships. Second, the study focused on conceptual and structural modeling rather than empirical testing using large-scale banking datasets, limiting the ability to generalize quantitative magnitudes of influence. Third, institutional and regulatory characteristics specific to the studied financial environment may reduce direct applicability of results to countries with fundamentally different legal or capital market structures. Finally, rapid technological change and evolving financial regulations may alter the relative importance of identified components over time.

Future research should extend the proposed model through empirical validation using longitudinal banking data and advanced econometric or machine-learning approaches. Comparative cross-country analyses could examine how differences in institutional maturity affect securitization effectiveness. Researchers may also explore dynamic simulations to analyze how shocks such as financial crises, liquidity disruptions, or technological innovations influence the interaction among model components. Additional studies could investigate behavioral responses of investors and borrowers to securitized instruments using experimental or behavioral economics methodologies. Integrating environmental, social, and governance (ESG) factors into securitization modeling also represents a promising direction for expanding the framework toward sustainable finance.

From a practical perspective, policymakers and banking regulators should prioritize strengthening integrated risk management systems as the primary foundation for securitization development. Financial institutions should invest in technological infrastructure and data analytics capabilities to enhance transparency, monitoring, and operational efficiency. Coordinated collaboration between banking authorities, capital market regulators, and legal institutions is necessary to create coherent regulatory frameworks supporting investor confidence. Capacity-building programs aimed at improving professional expertise within banks and financial intermediaries can facilitate effective implementation of securitization instruments. Finally, aligning securitization initiatives with national economic development strategies can maximize their contribution to financial stability, credit expansion, and sustainable economic growth.

Authors' Contributions

Authors equally contributed to this article.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

Acknowledgments

Authors thank all participants who participate in this study.

Conflict of Interest

The authors report no conflict of interest.

Funding/Financial Support

According to the authors, this article has no financial support.

References

- [1] C. Barra and N. Ruggiero, "Bank-specific factors and credit risk: Evidence from Italian banks in different local markets," *Journal of Financial Regulation and Compliance*, vol. 31, no. 3, pp. 316-350, 2023. [Online]. Available: <https://doi.org/10.1108/JFRC-10-2022-0096>.
- [2] M. A. I. Chowdhury, M. S. Uddin, H. Ullah, M. Ahmmed, and M. J. Shadek, "What causes non-performing loans? Evidence from the Islamic Banking Sector of Bangladesh," *International Journal of Accounting & Finance Review*, vol. 14, no. 1, pp. 11-21, 2023. [Online]. Available: <https://doi.org/10.34109/ijafr.2023.14.1.2>.
- [3] M. L. Erdas and Z. Ezanoglu, "How do bank-specific factors impact non-performing loans: Evidence from G20 countries," *Journal of Central Banking Theory and Practice*, vol. 11, no. 2, pp. 97-122, 2022. [Online]. Available: <https://doi.org/10.2478/jcbtp-2022-0015>.
- [4] C. Ciptawan and M. Melly, "The influence of loan to deposit ratio, effective tax rate, and non-performing loan toward return on asset in banking companies listed on the Indonesia Stock Exchange," 2023, vol. 2, pp. 357-365. [Online]. Available: <https://ojs.uph.edu/index.php/IConEnt/article/download/6220/2811>.
- [5] H. U. Rahman, A. Arian, and J. Sands, "Does fiscal consolidation affect non-performing loans? Global evidence from heavily indebted countries (HICs)," *Journal of Risk and Financial Management*, vol. 16, no. 9, p. 417, 2023. [Online]. Available: <https://doi.org/10.3390/jrfm16090417>.
- [6] K. Tomczak, "Transmission of the 2007-2008 financial crisis in advanced countries of the European Union," *Bulletin of Economic Research*, vol. 75, no. 1, pp. 40-64, 2023. [Online]. Available: <https://doi.org/10.1111/boer.12345>.
- [7] M. T. Kartal, D. Kirikkaleli, and F. Ayhan, "Nexus between non-performing loans and economic growth in emerging countries: Evidence from Turkey with wavelet coherence approach," *International Journal of Finance & Economics*, vol. 28, no. 2, pp. 1250-1260, 2023. [Online]. Available: <https://doi.org/10.1002/ijfe.2611>.
- [8] F. F. Umaternate and A. Mongid, "Modelling non-performing loans (NPL) for small banks in Indonesia: Are macroeconomic factors relevant?," *International Journal of Economics Business and Management Research*, vol. 7, no. 1, pp. 57-67, 2023. [Online]. Available: <https://doi.org/10.51505/IJEBMR.2023.7106>.
- [9] S. Filomeni, "Securitization and risk appetite: Empirical evidence from US banks," *Review of Quantitative Finance and Accounting*, vol. 63, pp. 433-468, 2024. [Online]. Available: <https://doi.org/10.1007/s11156-024-01261-9>.
- [10] H. Horvarani, A. Arab Mazar, and S. H. Arabi, "Investigating the Legal and Executive Obstacles to Securitizing Banks' Current Assets from Economic and Jurisprudential Perspectives," *Parliament and Strategy Quarterly*, vol. 31, no. 119, 2024. [Online]. Available: https://nashr.majles.ir/article_9607.html.
- [11] M. Rouhani Moqaddam, "The Role of Criminal Intervention in Bankruptcy Rulings and the Collection of Bank Claims," *Journal of Criminal Law Research*, vol. 26, pp. 107-130, 2022. [Online]. Available: <https://ensani.ir/fa/article/518076/>.
- [12] F. Zare Arand and O. Fazeli, "Delay in Payment of Bank Claims in Light of Law and Judicial Precedent," *Rai (Judgment)*, vol. 35, pp. 99-125, 2022. [Online]. Available: https://www.raayjournal.ir/article_247527.html.
- [13] D. Gholami Siahboomi, R. Moayedfar, and N. Izadinia, "The Impact of Productive and Non-Productive Assets on Risk and Performance Indices of Banks Listed on the Tehran Stock Exchange," *Asset Management and Financing*, vol. 37, pp. 5-21, 2022. [Online]. Available: https://amf.ui.ac.ir/article_26018.html.
- [14] S. Roodri, M. Salimifar, and M. Homayounifar, "The Impact of Social Capital on Bank Claims from the Private and Public Sectors with Emphasis on the Efficiency of Government Expenditure," *Economic Research (Sustainable Growth and Development)*, vol. 21, no. 1, pp. 1-2, 2021. [Online]. Available: <https://www.sid.ir/paper/1038675/en>.
- [15] S. Roodri, M. Salimifar, and M. Homayounifar, "A Study of the Impact of Certain Determinants of Non-Performing Bank Claims from the Public Sector under Sanctions Conditions: An Application of Wavelet Transform and Markov Switching Models," *Economic Research and Policies*, vol. 97, pp. 131-168, 2021. [Online]. Available: <https://doi.org/10.52547/qjerp.29.97.131>.
- [16] H. Rostami-Jaz, H. Salari, and F. Safari, "The effects of shadow banking on bank risk with an emphasis on capital adequacy," in *Sixth International Conference on Management, Business, Economics, and Accounting*, 2025. [Online]. Available: <https://civilica.com/doc/2322750/>.
- [17] Y. Wang, Y. Lu, and G. Song, "Sudden stops of capital inflows, macroprudential policies, and bank systemic risk: An international investigation," *Journal of International Financial Markets, Institutions and Money*, vol. 99, p. 102111, 2025, doi: 10.1016/j.intfin.2025.102111.

- [18] K. A. Tasnim, K. M. Z. Islam, and M. N. Alam, "Impact of capital buffer and type of ownership on bank profitability and cost of financial intermediation: Evidence from Bangladesh," *Journal of Financial Economic Policy*, vol. 18, no. 1, pp. 38-63, 2025, doi: 10.1108/JFEP-11-2023-0314.
- [19] S. A. Ebrahimi, A. Erfani, and M. Eshaghi Gorji, *Nudging and Behavior-Based Policies, a Powerful Tool in Reducing Bank Claims*. Semnan University, 2024.
- [20] M. K. Hassan, M. T. Islam, Z. Ahmed, and J. I. Sarker, "Islamic banking in Bangladesh: A literature review and future research agenda," *International Journal of Islamic and Middle Eastern Finance and Management*, vol. 16, no. 5, pp. 1030-1054, 2023. [Online]. Available: <https://doi.org/10.1108/IMEFM-07-2023-0276>.