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Development of the Model for Risk Management of Commercial Acceptance Bills in Supply Chain Finance: A Case Study of the Real Estate Industry in China

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ABSTRACT

This paper explores the credit risk management of commercial acceptance bills in supply chain finance, specifically within the real estate industry in China. The study integrates both qualitative and quantitative research methodologies to develop a comprehensive risk management model. Findings suggest that internal risk, external risk, and corporate reputation significantly influence supply chain finance risk, which, in turn, affects the credit risk of commercial acceptance bills. This research contributes to financial risk management by proposing a framework that enables enterprises to proactively assess and mitigate risks. The study has significant implications for policymakers, financial institutions, and real estate enterprises in fostering a more resilient financial ecosystem.

Keywords: Supply Chain Finance, Commercial Acceptance Bills, Credit Risk, Real Estate, Risk Management Model

1. INTRODUCTION

Real estate development is widely regarded as one of the most precarious endeavors in the corporate world (Barkham, Bokhari & Saiz, 2022). Risk and uncertainty are inherent in real estate development due to the speculative nature of creating real estate products without knowledge of future demand (Cai, Liu & Cao, 2020; Barreca, Curto & Rolando, 2020). The development industry is characterized by significant fluctuations and instability, as noted by Zhanda (2020). According to Wofford, Wyman & Starr (2021), real estate growth involves intentionally accepting and managing risks. The field of real estate development is influenced by several risk

variables (Voroshilo et al., 2020; Volkov & Sinturele, 2021). Oghee et al. (2020) have emphasized the significance of understanding risk management principles in the field of real estate. Although there is a significant quantity of literature on risk and general risk management, there is only a small amount of empirical data available on risk for real estate development projects. Furthermore, there is a lack of research especially focused on risk management methodologies in real estate development (Xu & Xia). The aim of this paper is to enhance the comprehension of how risk management is implemented in the real estate development business through performing empirical research on a wider scale. The objective of the dissertation is to provide a detailed analysis of risk management practices in prominent Chinese real estate development organizations. The primary objectives of this paper's research are focused on three important aspects:

I. To analyse how internal risk influence on the organization reputation in real estate industry in China

II. To investigate internal risk, external risk, and organization reputation on supply chain finance risk in real estate industry in China

III. To study internal risk, organizational reputation, and supply chain finance on credit risk of commercial acceptance bill in real estate industry in China.

2. LITERATURE REVIEW AND THEORETICAL BACKGROUND

2.1 Internal risk on Supply chain finance risk

Chakuu, Masi, and Godsell (2019) initially introduced that supply chain finance is a form of collaborative partnership between firms and financial institutions, typically commercial banks, within the supply chain. Song et al. (2018) assert that supply chain finance is a crucial method of integrating industry and finance, effectively utilizing modern science and technology to address financing issues. Yang et al. (2020) also found supply chain finance involves the merging of logistics, information flow, capital flow, and other transaction-based information between core enterprises in the supply chain and upstream and downstream chain enterprises. Zhu et al. (2022) highlights that supply chain finance converts unpredictable risks of an individual company into manageable risks of the entire supply chain industry, making it a commendable financing strategy. They examined the current state of supply chain finance development and its integration with blockchain technology. The analysis highlights that supply chain finance has successfully achieved coordination and integration of logistics, business flow, and capital flow. Hence,

H1: The internal risk of enterprise scale, manager quality, and solvency has a positive influence on the supply chain finance risk

2.2 External risk on supply chain finance risk

Wang, Jia, Chen, and Xu (2023) examined credit risk among micro, small, and medium-sized enterprises (MSMEs) and found that both financial and non-financial indicators played a crucial role in predicting default risk. Similarly, Cai, Liu and Cao (2020) identified that business site ownership, return on total assets, and key personnel titles were primary factors influencing credit risk in small and micro enterprises. Mao (2009) focused on MSMEs in China and identified enterprise size and operational history as significant determinants of credit risk. Similarly, Wang et al. (2023) emphasized the importance of credit risk identification, pointing out that macroeconomic conditions,

financial stability, and internal operational controls are key factors affecting enterprise credit risk. Yang et al. (2020) examined the risks associated with commercial acceptance bills, which have become a common financing tool for reputable businesses. Zhang et al. (2023) identified seven key factors for credit evaluation in small and micro manufacturing firms: profitability, solvency, operational capability, development potential, enterprise quality, business owner quality, and business environment. Hence,

H2: External risks, including macroeconomic conditions, political and social environment risks, market risks, and industry risks, positively influence supply chain finance risk.

2.3 Organization reputation on supply chain finance risk

Eliwa, Aboud and Saleh (2021) conducted a study on European Union firms and discovered a negative correlation between ESG performance and corporate debt financing costs. In their empirical study, Gao et al. (2023) examined China's A-share listed companies from 2009 to 2020. They found that a strong ESG performance can enhance the investment efficiency of enterprises. Wang et al. (2023) also found that firms that exhibit high levels of ESG transparency possess a favorable corporate reputation, social responsibility, and social image. Wu & Chen (2024) said that environmental, social, and governance (ESG) factors can attract more commercial credit financing. This is achieved by providing suppliers and customers with more detailed and transparent information, reducing the imbalance of information. Additionally, it helps to discourage short-sighted behavior, lower agency costs, and enhance corporate governance. Companies that demonstrate strong social responsibility and possess a favorable company reputation tend to have high profitability and a reduced likelihood of credit risk. Hence,

H3: The organization reputation of corporate image, social responsibility, and payer credit rating has a positive influence on the supply chain finance risk

2.4 Internal risk on credit risk of commercial acceptance bill

Marima et al. (2021) evaluated indicators for commercial acceptance bills which should be determined based on factors such as the size of the accepting enterprise, industry status, external rating, financial credit, and social evaluation. The proportion and score of each indicator should be established to comprehensively assess the acceptability of the commercial acceptance bill. Shi et al. (2022) determined that the credit default risk of private enterprises is primarily influenced by factors such as corporate assets, sales profits, capital flow, pledge of corporate fixed assets, investment in research and development, development trend of enterprises, management ability of leaders, and macro environment of enterprises. Financial institutions and firms begin by considering the primary elements that influence corporate credit. The analysis of early warning indicators for enterprise credit status enables the implementation of specific preventive and control measures, thereby mitigating the risk of enterprise credit default. Hence,

H4: The internal risk of enterprise scale, manager quality, and solvency has a positive influence on the credit risk of the commercial acceptance bill

2.5 Supply Chain finance risk on credit risk of commercial acceptance bill

The primary source of credit risk in organizations is the combination of their ability and willingness to fulfill their obligations. The ability aspect is directly tied to the operational and managerial aspects of the company, while the

willingness aspect is influenced by moral hazards and corporate social responsibility (Etim et al., 2023). Myles (2024) found that the social responsibility of corporations is primarily interconnected with the corporate reputation of enterprises. Enterprises that demonstrate strong social responsibility prioritize not just their own interests in production management but also the overall benefit to society. They possess a commendable track record of social reputation, a strong corporate reputation for their firms, and a minimal credit risk. Hence,

*H5: The supply chain fina*nce risk has a positive influence on credit risk of the commercial acceptance bill

2.6 Organization reputation on credit risk of commercial acceptance bill

Asaithambi et al. (2024) highlighted that in situations where bills face significant credit risk, the occurrence of credit defaults in key enterprises within the supply chain can lead to fund rupture, posing a systemic risk to the entire supply chain. There is a significant association between the risk of supply chain finance and the credit risk associated with commercial acceptance bills. Xia & Shannon (2024) discovered that AI tools can potentially enhance the commercial credit financing level of enterprises by enhancing their profitability and the quality of their accounting information disclosure. Companies that demonstrate strong social responsibility and possess a favorable commercial reputation tend to have high profitability and minimal credit risk. Hence,

H6: The organization reputation of corporate image, social responsibility, and payer credit rating has a positive influence on credit risk of the commercial acceptance bill

2.7 Internal risk on organization reputation

Silvestro & Lustrato (2024) found that banking institutions should prioritize certain indicators when engaging in supply chain finance business. Huang, Wang and Zhang (2023) identified risk early warning indications from five different dimensions. The dimensions include the creditworthiness of the degree, the overall quality of the drawer, the solvency of the acceptor, the value of the par, and the personnel quality of the unit. The risk warning indications of credit degree dimension comprise the credit rating of the drawer, the credit rating of the acceptor, the credit rating of the endorser, and the dependability of the credit rating. The risk warning indications for assessing the complete quality of the drawer encompass factors such as the industry, the nature and scope of the organization, and the operation and management. Hence,

H7: Internal risk has a positive influence on organization reputation

Based on the hypothesis development, the researchers built the conceptual framework. This paper mainly studies the credit risk problem of commercial acceptance bill, by collecting and analysing the influencing factors affecting the credit risk of commercial acceptance bill, finding the influence of these factors, and establishing the risk assessment model, so as to facilitate the enterprises in the supply chain to prevent the occurrence of credit risk in advance.

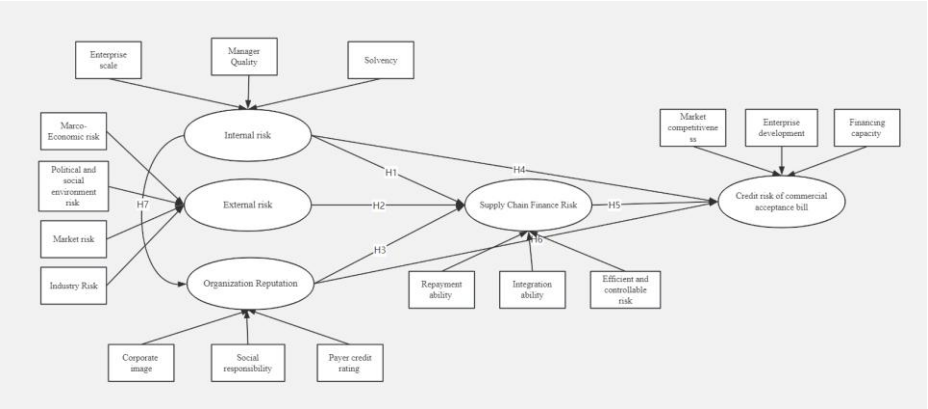

Figure 1: the proposed hypothesis on real estate in China

3. RESEARCH METHODOLOGY

Mixed methods research is an interactive strategy that integrates aspects of qualitative and quantitative research procedures to offer a holistic comprehension of a study issue.

3.1 Quantitative method

The qualitative phase of the study aims to gain an understanding of the importance of studying the credit risk problem of commercial acceptance bills. This will be achieved by collecting and analyzing the factors that influence the credit risk of commercial acceptance bills, determining the degree of correlation between these factors, and developing a risk assessment model. The ultimate goal is to help enterprises in the supply chain proactively prevent credit risk. The quantitative phase will investigate the potential correlation between accessing real estate and measurable outcomes related to supply chain financing risk among community members.

3.1.1 Population and sample size

This study primarily examines the credit risk associated with commercial acceptance bills, with a specific focus on real estate businesses who issue these bills. Mundfrom, Shaw & Ke (2005) found that the appropriate sample size for studying the factor analysis is from the 3 to 20 times the number of the variables. While the "20 times the number of variables" heuristic is a useful starting point, it should be complemented with more formal sample size determination methods tailored to the specific study objectives, desired level of precision, and population characteristics. Nonetheless, this approach offers a practical and effective way to ensure that survey research yields reliable and valid results, facilitating meaningful insights and informed decision-making.

N=20 times 16=320

Upon completing the calculation, the researchers determined that this survey requires a minimum of 320 respondents. This study chooses 320 respondents who worked in real estate companies that issue commercial acceptance bills as research samples. The questionnaire primarily targets 320 financial personnel employed by real estate businesses who issue commercial acceptance bills in order to gather data.

3.1.2 Data analysis

Upon completion of the online survey data collection, the researcher continued to modify and screen the data.

Confirmatory factor analysis (CFA) is a statistical technique used to assess latent variables, as discussed by Hoyle (1995), Kline (2010), and Byrne (2013). Confirmatory factor analysis is a statistical method that uses the relationships between variables in a dataset to estimate latent variables. It can help decrease the complexity of the data, standardize the scale of numerous indicators, and account for the inherent correlations in the dataset (Byrne, 2013). Hence, when proposing a latent variable, it is crucial to consider the rationale behind its utilization. In the previous example of abiotic stress, community stress and disturbance are unobservable variables that explain the relationship in the dataset.

Structural equation modeling (SEM) is a robust and sophisticated statistical technique that is becoming more prevalent in scientific research for examining and assessing causal links among several variables.

3.2 Qualitative method

The overall qualitative research findings from the credit risk problem of commercial acceptance bill, by collecting and analyzing the influencing factors affecting the credit risk of commercial acceptance bill, finding the correlation degree of these factors, and establishing the risk assessment model, so as to facilitate the enterprises in the supply chain to prevent the occurrence of credit risk in advance.

3.2.1 Data collection

A total of 15 in-depth interviews were conducted with the managers of the companies who worked in the real estate in China. The informants should understand their experiences and how they view the behaviours of members of the company. The qualitative analysis was somewhat exploratory, in nature. The interview was conducted at the premises of the companies (Top 10 real estate in China), as face to face interviews with open ended questions.

3.2.2 Data collection

Descriptive coding forms the initial layer of analysis, where researchers begin to make sense of raw data through basic categorization. Theoretical coding represents the highest level of analytical abstraction, where researchers begin to develop theoretical constructs and conceptual frameworks. This stage involves integrating pattern codes into coherent theoretical explanations of supply chain finance risk phenomena. Effective quality assurance in qualitative analysis of supply chain finance risk requires a comprehensive, systematic approach that addresses reliability, validity, and objectivity concerns. Through careful attention to documentation, verification, and reflexivity, researchers can ensure their findings provide trustworthy insights into complex supply chain finance dynamics. Regular review and updating of quality assurance procedures helps maintain high standards throughout the research process.

4. RESEARCH RESULT

4.1 Quantitative analysis

4.1.1 Respondents information

Based on the data screening, the researchers deleted some unclear data. The total number of the respondents are 326 after the data screening. Now, the Table 1 shows about the demographic information about the people who worked into the real estate industry in China.

Table 1: Demographic information (N=326)

Items	Category	Frequency	Percentage
Gender	Male	146	44.8%
	Female	180	55.2%
Age	Under 30 years old	18	5.5 %
	30-39 years old	123	37.7%
	40-49 years old	108	33.1%
	50-59 years old	65	19.9%
	60 years old and above	12	3.7%
Education level	Junior college degree or below	11	3.4%
	Bachelor's degree	59	18.1%
	Master's degree	166	50.9%
	Doctor's degree	90	27.6%
Working experience	1-5 years	39	12.0 %
	6-10 years	173	53.1%
	11-15 years	92	28.2%
	16-20 years	22	6.7%
	Above 21 years	64	19.3%

From the Table 1, the demographic composition of the respondents provides a critical foundation. Gender distribution within the sample reflects a slightly higher representation of female participants, with 180 females (55.2%) compared to 146 males (44.8%). Age distribution reveals that the majority of respondents belong to the middle-aged category. Specifically, 37.7% of participants are aged 30-39 years, while 33.1% fall within the 40-49 years range. Combined, these two groups constitute 70.8% of the sample, signifying a concentration of respondents at the peak of their professional careers. Conversely, the younger demographic (under 30 years) and older demographic (60 years and above) are underrepresented, accounting for only 5.5% and 3.7% of the sample, respectively. The education level of respondents underscores the advanced academic qualifications prevalent within the sample. Over three-quarters (78.5%) hold a Master's degree (50.9%) or a Doctoral degree (27.6%). Meanwhile, 18.1% possess a Bachelor's degree, and a small proportion (3.4%) have a Junior college degree or lower. Regarding working experience, a significant proportion of participants (53.1%) have 6-10 years of professional experience. Furthermore, 28.2% have 11-15 years of experience, and 19.3% possess over 21 years of experience.

4.1.2 Confirmatory Factor Analysis (CFA)

Table 2: The result of the Confirmatory Factor Analysis (CFA)

Constructs	Items	Factor Loading	AVE	Cronbach's Alpha
Enterprise Scale (ES)	ES1	0.796	0.640	0.877

Constructs	Items	Factor Loading	AVE	Cronbach's Alpha
	ES2	0.791		
	ES3	0.809		
	ES4	0.805		
Manager Quality (MQ)	MQ1	0.797	0.672	0.891
	MQ2	0.820		
	MQ3	0.807		
	MQ4	0.853		
Solvency (SO)	SO1	0.788	0.657	0.881
	SO2	0.850		
	SO3	0.783		
	SO4	0.818		
Marco-Economic Risk (MER)	MER1	0.807	0.650	0.893
	MER2	0.817		
	MER3	0.828		
	MER4	0.769		
Political And Social Environment Risk (PSER)	PSER1	0.803	0.675	0.897
	PSER2	0.831		
	PSER3	0.833		
	PSER4	0.820		
Market Risk (MR)	MR1	0.826	0.687	0.868
	MR2	0.823		
	MR3	0.841		
	MR4	0.824		
Industry Risk (IR)	IR1	0.796	0.621	0.874
	IR2	0.779		
	IR3	0.781		
	IR4	0.795		
Corporate Image (CI)	CI1	0.795	0.635	0.863
	CI2	0.806		
	CI3	0.779		
	CI4	0.806		
Social Responsibility (SR)	SR1	0.775	0.612	0.889
	SR2	0.790		
	SR3	0.798		
	SR4	0.763		
Payer Credit Rating (PCR)	PCR1	0.791	0.669	0.915
	PCR2	0.784		

Constructs	Items	Factor Loading	AVE	Cronbach's Alpha
	PCR3	0.834		
	PCR4	0.857		
Repayment Ability (RA)	RA1	0.831	0.732	0.901
	RA2	0.878		
	RA3	0.848		
	RA4	0.861		
Integration Ability (IA)	IA1	0.824	0.697	0.909
	IA2	0.824		
	IA3	0.820		
	IA4	0.869		
Efficient And Controllable Risk (ECR)	ECR1	0.849	0.715	0.907
	ECR2	0.862		
	ECR3	0.838		
	ECR4	0.849		
Market Competitive (MC)	MC1	0.834	0.710	0.901
	MC2	0.855		
	MC3	0.818		
	MC4	0.838		
Enterprise Development (ED)	ED1	0.846	0.695	0.924
	ED2	0.853		
	ED3	0.896		
	ED4	0.852		
Financing Capacity (FC)	FC1	0.832	0.756	0.937
	FC2	0.833		
	FC3	0.833		
	FC4	0.873		

The CFA results validate the constructs of risk management in the real estate sector, highlighting their reliability and significance. The discriminant validity analysis presented in Table 2 examines the relationships among constructs critical to understanding risks in the real estate sector. The square root of the Average Variance Extracted (AVE) for each construct, displayed along the diagonal, highlights the degree to which a construct is distinct from others. Values exceeding inter-construct correlations confirm robust discriminant validity across dimensions. These findings support the development of targeted strategies to address specific risk dimensions while considering their interconnections.

Table 3 'Goodness-of-fit' statistics for the structural model

Model Fit	Required Values	Model Result	Remarks

Indicators			
'CMIN/DF'	1-3	1.13	Acceptable
'RMSEA'	<0.08	0.020	Good
'SRMR'	<0.08	0.033	Good
'GFI'	>0.90	0.926	Good
'CFI'	>0.90	0.982	Excellent
'IFI'	>0.90	0.982	Excellent
'TLI'	>0.90	0.980	Good

The goodness-of-fit statistics in Table 3 demonstrate that the structural model fits the data well, meeting or exceeding the required thresholds across all indicators. Overall, these statistics confirm that the structural model is robust and well-suited for analyzing relationships within the dataset, providing a reliable basis for interpreting the underlying constructs.

Table 5 Hypotheses test result

Hypotheses	**Estimate**	**P**	**(Yes/No)**
H1: The internal risk of enterprise scale, manager quality, and solvency has a positive influence on the supply chain finance risk.	.327	.000	Yes
- *Enterprise scale*	.203	.000	Yes
- *Manager quality*	.552	.000	Yes
- *Solvency*			
H2: The External risk of Marco-economic risk, political and social environment risk, market risk, and industry risk has a positive influence on the supply chain finance risk.	.043	.000	Yes
- *Marco-economic risk*	.179	.000	Yes
- *Political and social environment risk*	.510	.000	Yes
- *Market risk*	.781	.000	Yes
- *Industry risk*			
H3: The organization reputation of corporate image, social responsibility, and payer credit rating has a positive influence on the supply chain finance risk	.263	.000	Yes
- *corporate image*	.260	.000	Yes
- *Social responsibility*	.478	.000	Yes
- *payer credit rating*			
H4: The internal risk of enterprise scale, manager quality, and solvency has a positive influence on the			

credit risk of the commercial acceptance bill.	.324	.000	Yes
- *enterprise scale*	.205	.000	Yes
- *manager quality*	.552	.000	Yes
- *solvency*			
H5: The supply chain finance risk has a positive influence on credit risk of the commercial acceptance bill.	.311	.065	No
	.269	.000	Yes
- *Repayment ability*	.441	.000	Yes
- *integration ability*			
- *efficient and controllable risk*			
H6: The organization reputation of corporate image, social responsibility, and payer credit rating has a positive influence on credit risk of the commercial acceptance bill.	.226	.000	Yes
	.237	.000	Yes
- *corporate image*	.538	.000	Yes
- *social responsibility*			
- *payer credit rating*			
H7: The internal risk has a positive influence on organization reputation.	.974	.000	Yes

Table 4 Discriminant validity analysis

Constructs	**ES**	**MQ**	**SO**	**MER**	**PSER**	**MR**	**IR**	**CI**	**SR**	**PCR**	**RA**	**IA**	**ECR**	**MC**	**ED**	**FC**
ES	**.800**															
MQ	.236	**.819**														
SO	.290	.350	**.811**													
MER	.179	.017	.339	**.806**												
PSER	.122	.114	.089	.407	**.822**											
MR	.168	.185	.152	.369	.399	**.829**										
IR	.113	.180	.203	.496	.486	.562	**.788**									
CI	.28	-.08	-.09	.174	.113	.14	.111	**.79**								

	4	9	1			4		7							
SR	.00	.175	-.09	-.07	.135	.15	.07	.26	**.78**						
	9		0	2		0	3	6	**2**						
PCR	-.09	.28	.-.0	-.00	.075	.09	.151	.31	.31	**.81**					
	4	9	24	3		4		7	4	**8**					
RA	.017	.173	.307	.248	.216	.22	.25	.17	.10	.23	**.85**				
						8	1	4	4	5	**6**				
IA	.371	.169	.08	.173	.138	.15	.18	.33	.01	.211	.45	.83			
			0			6	8	3	9		2	5			
ECR	.116	.201	.177	.08	.318	.30	.23	.17	.29	.15	.47	.42	**.84**		
				5		5	7	6	0	2	5	0	**6**		
MC	.22	.275	.120	.266	.226	.141	.29	.37	.05	.29	.27	.49	.251	**.84**	
	6						1	3	1	8	5	7		**3**	
ED	.07	.314	.193	.104	.242	.25	.27	.14	.22	.27	.37	.22	.35	.49	**.83**
	2					0	3	4	5	9	5	4	8	4	**4**
FC	.150	.04	.311	.166	.208	.191	.21	.21	.18	.116	.39	.20	.37	.41	.39	**.86**
		5					4	4	0		6	2	6	6	7	**9**

Note: The square root of AVE for each latent construct is given in diagonals.

4.1.4 Structural Equation Modelling

4.2 Qualitative analysis

Cash flow management emerged as a recurring theme across interviews, with managers frequently highlighting its criticality in mitigating supply chain finance risks. Many participants emphasized that poorly managed cash flow disrupts the ability of enterprises to meet financial obligations, leading to cascading effects on the supply chain. For instance, a manager stated, "The alignment of cash inflows with outflows is paramount. Any mismatch can lead to delays in supplier payments, which in turn affects the entire supply chain ecosystem." This statement underscores the importance of precise cash flow planning, particularly in capital-intensive industries like real estate. Another participant mentioned that the absence of cash flow forecasting mechanisms increased the unpredictability of financial commitments, exacerbating risks in supply chain finance.

Macroeconomic risks, such as interest rate fluctuations, inflation, and economic cycles, were consistently identified as key drivers of supply chain finance risk. Several managers emphasized that economic downturns reduce liquidity across the supply chain, creating cascading financial difficulties. For example, one participant stated, "When the economy slows down, our buyers delay payments, which disrupts the entire supply chain. This increases our reliance on external financing, which comes at a higher cost during such times." This highlights how macroeconomic shifts can intensify financial risks, especially in industries dependent on consistent cash flows.

Corporate image was identified as a central factor influencing supply chain finance risk. A positive image enhances stakeholder confidence, facilitating smoother financial operations within the supply chain. Several managers emphasized that organizations with a strong reputation face fewer challenges in securing financing and maintaining

supplier relationships. For instance, another Interviewee remarked, "Our company's strong reputation in the market has allowed us to negotiate better payment terms with suppliers and access lower-cost financing from banks." This highlights the trust-building effect of a strong corporate image, which reduces perceived risks and creates financial flexibility.

Financial health, particularly liquidity management, was a recurring theme in the interviews. Managers consistently linked the ability to honor commercial acceptance bills to the organization's financial stability and cash flow planning. For example, one Interviewee stated, "Commercial acceptance bills require precise cash flow planning. If cash inflows do not align with the maturity of these bills, it leads to defaults, damaging both reputation and financial relationships." This underscores the importance of liquidity management in minimizing credit risk.

A recurring theme in the interviews was the cascading effect of SCF risks on the creditworthiness of commercial acceptance bills. Managers frequently described how liquidity disruptions in one part of the supply chain affected downstream financial obligations, leading to defaults on commercial bills. For example, one interviewee explained, "When a supplier faces delayed payments, it triggers a chain reaction. The supplier struggles to meet its obligations, which eventually affects our ability to honor commercial acceptance bills." This highlights how interconnected supply chains amplify financial risks.

Corporate image was frequently cited as a cornerstone of reputation that significantly influences credit risk. A positive corporate image fosters trust among stakeholders, including suppliers, financial institutions, and regulators, thereby reducing the likelihood of credit defaults. For instance, one interviewee stated, "Our company's reputation for delivering high-quality projects on time has earned us the trust of our partners. This trust translates into better terms for our commercial bills and reduces credit risk." This underscores the importance of a well-maintained corporate image in minimizing financial vulnerabilities.

Effective financial management emerged as a critical internal factor influencing organizational reputation. Managers frequently emphasized that well-managed finances signal stability and reliability, enhancing trust among stakeholders. For example, one interviewee explained, "Stakeholders view our ability to manage finances as a measure of our overall competence. Poor financial management not only disrupts operations but also damages our reputation." This underscores the link between financial health and organizational credibility. The analysis strongly supports the all the hypothesis.

5. DISCUSSION

The findings support the established understanding that internal risks, such as financial mismanagement, operational inefficiencies, and high leverage, are significant contributors to supply chain finance risk. This aligns with previous studies, such as Chen, Kumara and Sivakumar (2021), which emphasized the importance of internal financial controls in maintaining supply chain stability. The interviews revealed that poorly managed cash flow often leads to payment delays, disrupting the financial health of the entire supply chain. This echoes Zhang et al. (2023) argument that liquidity management is central to financial resilience.

External risks emerged as a critical determinant of supply chain finance risk, consistent with prior research on systemic risks in supply chains (Tien, 2022). Macroeconomic fluctuations, regulatory uncertainty, and market

volatility were highlighted as major challenges. Regulatory uncertainty, in particular, was a recurring theme, with participants emphasizing the destabilizing effects of sudden changes in real estate financing policies. This finding aligns with Xu, Xu and Li (2018) observation that real estate enterprises are highly sensitive to shifts in policy and credit regulations.

Organizational reputation was consistently linked to reduced supply chain finance risk and lower credit risk of commercial acceptance bills. This finding aligns with Bali, Brown and Caglayan (2014), who highlighted the role of reputation in fostering trust and improving financial performance. Enterprises with strong reputations were found to enjoy better terms from suppliers and financial institutions, which reduced financial stress and the likelihood of defaults.

The systemic nature of supply chain finance risk, where disruptions in one part of the chain propagate across the network, was a major finding. This observation supports Zhu, Tang, Wang and Zhang (2022) work on supply chain interdependencies. However, the study highlights unique challenges faced by the real estate sector, such as long project cycles and high capital intensity, which amplify the cascading effects of supply chain disruptions. These sector-specific insights contribute to a deeper understanding of how supply chain finance risks manifest in high-risk industries.

6. IMPLICATIONS

6.1 Theoretical Contributions

This research makes significant theoretical contributions to the fields of supply chain finance (SCF) and risk management by addressing critical gaps in the existing literature and providing nuanced insights into the dynamics of risk factors in China's real estate industry. By exploring the interplay between internal risks, external risks, and organizational reputation, this study extends established frameworks and introduces new dimensions to the understanding of supply chain finance risk and credit risk in high-risk industries. This section details the theoretical advancements contributed by this research, focusing on three main areas: integration of risk factors, the role of organizational reputation, and industry-specific insights.

One of the primary theoretical contributions of this study is its emphasis on the interconnectedness of internal and external risks in shaping supply chain finance risk. Previous studies often treat these risks as isolated variables, with internal risks linked to financial mismanagement (Chen et al., 2021) and external risks associated with macroeconomic and regulatory uncertainties (Li, Wang, Chen, Zhao and Yang 2023). Organizational reputation has been widely recognized as an intangible asset that influences stakeholder trust and financial performance (Fombrun & Shanley, 1990). This study builds on these foundations by demonstrating how reputation functions as a mitigating factor in both supply chain finance risk and the credit risk of commercial acceptance bills. The findings highlight three specific ways in which reputation contributes to risk management:

By integrating qualitative insights into the theoretical discourse, this study contributes to a more comprehensive understanding of supply chain finance risks. It demonstrates the value of combining qualitative and quantitative approaches to develop theories that are both empirically robust and practically relevant.

6.2 Practical Implications

The findings of this research offer several actionable insights for practitioners in the real estate and supply chain finance sectors, especially in managing the risks associated with commercial acceptance bills. These practical implications address strategies to minimize risks, improve creditworthiness, and enhance organizational reputation, enabling enterprises to build financial resilience in an increasingly complex economic environment. This section outlines specific recommendations derived from the study, targeting the core challenges identified in the research. Effective internal risk management is critical for maintaining financial stability and mitigating supply chain finance risks. Enterprises should focus on the following areas:

These practical implications not only address the immediate challenges faced by enterprises but also contribute to the development of sustainable and adaptive risk management practices. Future studies could explore the implementation of these recommendations in different industries or evaluate their effectiveness through quantitative analysis, providing deeper insights into their practical utility.

7. CONCLUSIONS

This study explored the intricate dynamics of risk management within the context of supply chain finance, focusing on the real estate industry in China. By examining the roles of internal risks, external risks, and organizational reputation, the research shed light on their collective impact on supply chain finance risk and the credit risk of commercial acceptance bills. Through qualitative analysis, this study provided meaningful contributions to both theory and practice, offering insights into mitigating risks and enhancing financial stability in high-risk industries.

The study aimed to investigate how internal and external risks, alongside organizational reputation, influence supply chain finance and credit risk in real estate enterprises. Seven hypotheses were tested, revealing significant interdependencies among these factors. Internal risks, such as financial mismanagement and operational inefficiencies, were found to directly affect financial stability, while external risks, including regulatory uncertainty and market fluctuations, amplified systemic vulnerabilities. Organizational reputation emerged as a critical mitigating factor, fostering trust and improving access to financing.

8. LIMITATIONS AND FUTURE STUDY

While this study provides valuable insights into risk management in supply chain finance within the context of China's real estate industry, it is important to acknowledge its limitations. One of the primary limitations of this study is its relatively small sample size, consisting of 15 interviews with managers in the real estate sector. Expanding the sample size and including participants from a broader range of enterprises could provide more comprehensive insights. This study focuses exclusively on China's real estate sector, which has unique characteristics shaped by the country's regulatory environment, market dynamics, and economic policies. While this focus enhances the relevance of the findings for Chinese enterprises, it limits the applicability of the results to other geographical contexts.

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