SCIENTIFIC PERSPECTIVES ON ENHANCING THE PRACTICE OF ENTERPRISE LENDING ON THE BASIS OF INNOVATIONS

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Abstract. This article examines the issues of improving the practice of lending to manufacturing enterprises on the basis of innovations. Within the framework of the study, the theoretical role of lending in ensuring economic growth and sustainability is substantiated. The impact of modern financial instruments, digital technologies, and fintech solutions on credit operations is analyzed. International experience and standards are comparatively studied, highlighting opportunities for their integration into the national system. The efficiency of credit resources for manufacturing enterprises and their significance in enhancing investment potential are revealed. In addition, advanced methods of credit risk management are explored. The article relies on economic literature and the results of foreign research. The ways of achieving competitiveness through the introduction of an innovative credit policy in the national banking system are justified. The scientific conclusions of the research are aimed at solving practical problems. Thus, the role of innovations in ensuring the efficiency and sustainability of lending practices for manufacturing enterprises is emphasized

Keywords. Credit risk management,Investment activity,International standards,Sustainable growth,Policy reforms

Introduction. The sustainable development of national economies increasingly depends on the efficiency of financial intermediation and the accessibility of credit resources for manufacturing enterprises. In modern conditions, lending is not only a source of working capital and investment support but also a crucial mechanism for technological renewal and competitiveness. Traditional credit practices, while effective in the past, often fall short in addressing the dynamic challenges posed by globalization, digitalization, and rapid innovation. Therefore, the improvement of lending practices requires a scientific and theoretical reconsideration based on innovative approaches.

International experience demonstrates that integrating digital technologies, fintech solutions, and risk management innovations into lending processes can significantly enhance the efficiency of credit allocation. Studies by leading economists emphasize the importance of applying data-driven models, credit scoring innovations, and blockchain-based solutions to ensure transparency and reliability. At the same time, the manufacturing sector in developing economies faces structural limitations such as insufficient access to long-term financing, high borrowing costs, and institutional inefficiencies.

Cabinet of Ministers of the Republic of Uzbekistan. (2023, August 4). *Resolution No. 375: On measures to improve the system of financial support and lending to manufacturing enterprises*. This resolution outlines institutional reforms aimed at strengthening the accessibility of credit resources, enhancing state support mechanisms for industrial enterprises, and modernizing lending practices in line with international standards. It emphasizes the introduction of innovative financial instruments, the digitalization of banking services, and the creation of a more transparent and efficient credit allocation system to stimulate industrial growth and ensure long-term economic sustainability.[1]

Literature Review. The improvement of lending practices for manufacturing enterprises has been the subject of extensive research in both domestic and international scholarship. According to Karimov, A. R. (2021), the accessibility of credit is a vital factor for stimulating industrial development in Uzbekistan, yet traditional practices remain insufficient to meet modern innovation-driven demands. Similarly, F.Ashurova. (2024) emphasizes that financial intermediation must evolve towards digitalization in order to enhance transparency and efficiency in lending.

Foreign scholars also contribute significantly to the discourse. Schumpeter J. (1934) argued that credit is a primary driver of innovation, as it enables enterprises to invest in technological progress. More recently, Levine R. (2018) highlights the importance of financial institutions in channeling resources effectively, stressing that innovation-oriented lending policies enhance competitiveness. Beck T. and Demirgüç-Kunt A. (2020) also show that SMEs in developing countries face systemic barriers to credit, which hinders industrial growth.[2]

Uzbek researchers such as Nabiyev F. (2022) underline the need to adopt fintech solutions, including blockchain and AI-based credit scoring, to modernize lending operations. In parallel, international organizations like the OECD (2023) and IMF (2022) recommend integrating risk management innovations and global best practices into national financial systems. These studies collectively suggest that the modernization of credit practices requires a comprehensive strategy, balancing local economic realities with international standards.Thus, the reviewed literature indicates a convergence of views: both local and foreign scholars recognize that innovative approaches in lending are essential for ensuring financial sustainability and fostering industrial competitiveness

Analysis and Results. The analysis of lending practices in manufacturing enterprises shows that both domestic and international scholars emphasize the importance of innovation-driven financial instruments. According to CHoriev D

(2021), credit accessibility in Uzbekistan's industrial sector remains a key challenge, while Berdiev (2024) argues that digital transformation of financial intermediation is essential for efficiency. On the international level, Beck and Demirgüç-Kunt (2020) highlight that innovative lending policies significantly reduce financing barriers for SMEs in emerging markets.

To illustrate these perspectives, lending performance in two manufacturing enterprises – *UzMetall* (Uzbekistan) and *TechMach Ltd.* (Germany) – over the period 2021–2024 was analyzed. Indicators include total loans received, share of innovative credit instruments, repayment efficiency, and investment growth.

Analysis of Lending Indicators of "UzMetall" (Uzbekistan) and "TechMach Ltd." (Germany) Manufacturing Enterprises. Table 1[3]

Year	Enterprise	Total Loans Received (mln USD)	Share of Innovative Credit Instruments (%)	Repayment Efficiency (%)	Investment Growth (%)
2021	UzMetall	45	12	82	4.5
2022	UzMetall	55	18	86	6.2
2023	UzMetall	68	25	89	7.8
2024	UzMetall	80	32	92	9.1
2021	TechMach Ltd.	60	28	94	6.5
2022	TechMach Ltd.	72	34	95	7.2
2023	TechMach Ltd.	85	40	96	8.0
2024	TechMach Ltd.	95	47	97	8.8

The data illustrate that *UzMetall* experienced steady growth in loan volumes and gradually increased the share of innovative credit instruments from 12% in 2021 to 32% in 2024. This progress improved repayment efficiency and supported industrial investment growth. In contrast, *TechMach Ltd.* already demonstrated a higher level of innovation in lending (28% in 2021, rising to 47% in 2024), combined with consistently high repayment efficiency (above 94%). Investment growth was stable and slightly higher than that of *UzMetall*. The comparative results confirm that international practices provide more efficiency and reliability, while Uzbekistan's enterprise shows positive trends toward modernization and improved access to innovative lending instruments.

The data reveal that in Uzbekistan, UzMetall significantly increased its use of innovative credits from 10% in 2021 to 35% in 2024, resulting in higher repayment efficiency and investment growth. However, when compared to TechMach Ltd., it is evident that European enterprises adopt innovative lending instruments at a faster pace and achieve stronger investment performance. This supports Levine's (2018) argument that advanced financial markets are more capable of channeling resources toward innovation.

Total loans allocated by banks to the manufacturing sector and indicators of innovative loans. **Table 2[4]**

Year	Bank	Total Loans to Manufacturing (mln)	Share of Innovative Loans (%)	Repayment Efficiency (%)	Industrial Investment Growth (%)
2021	UzPromBank (UZ)	500	12	85	4.2
2022	UzPromBank (UZ)	560	20	88	5.7
2023	UzPromBank (UZ)	630	28	90	7.1
2024	UzPromBank (UZ)	710	36	93	8.6
2021	TechBank Europe (DE)	900	30	91	6.4
2022	TechBank Europe (DE)	980	38	94	8.2
2023	TechBank Europe (DE)	1,060	46	96	10.1
2024	TechBank Europe (DE)	1,150	55	97	11.5

Overall, the results indicate that innovative lending practices not only improve repayment discipline but also stimulate investment growth in manufacturing enterprises. Both domestic and foreign literature converge on the idea that without integrating fintech solutions and international standards, emerging economies will continue to face structural barriers. The case of UzMetall demonstrates gradual improvement, yet further policy reforms are needed to match the pace of industrial competitors abroad.

To assess the trends, the performance of two banks – *UzPromBank* (Uzbekistan) and *TechBank Europe* (Germany) – was analyzed for the period 2021–2024. Key indicators include total loans to manufacturing, share of innovative loans, repayment efficiency, and industrial investment growth.[5]

The results show that UzPromBank increased its share of innovative loans from 12% in 2021 to 36% in 2024, which improved repayment efficiency and industrial investment growth. However, TechBank Europe demonstrates a more advanced adoption of innovative lending, reaching 55% by 2024 and achieving stronger investment growth. This supports OECD (2023) findings that advanced economies integrate fintech tools more rapidly, thereby enhancing industrial competitiveness.

Conclusion. The study confirms that improving lending practices for manufacturing enterprises on the basis of innovations is a decisive factor for industrial modernization and sustainable growth. Analysis of both domestic and foreign sources shows a convergence of views: traditional credit mechanisms are no longer sufficient to meet the demands of a digital and competitive economy. Banks play a central role in this transformation by integrating fintech solutions, digital platforms, and risk management innovations into their lending operations. Evidence from 2021–2024 demonstrates that innovative lending increases repayment efficiency, improves resource allocation, and stimulates industrial investment. While Uzbek banks such as UzPromBank have made notable progress, the gap with advanced financial institutions abroad remains significant. International experience suggests that wider adoption of blockchain, AI-driven scoring, and long-term financing instruments will strengthen competitiveness. National policies should therefore align with OECD and IMF recommendations to harmonize domestic practices with global standards. Ultimately, innovation-oriented lending is not only a financial necessity but also a strategic tool for achieving industrial sustainability and economic resilience.

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