INNOVATIVE PAYMENT TECHNOLOGIES IN THE SME SECTOR: METHODS FOR MODELING TRANSACTION COSTS AND CASH GAPS FOR SMES IN THE CONTEXT OF DIGITALIZATION OF SETTLEMENTS

Fedorov Danil Yevgenevich
Student, Academic lyceum branch of RSU of oil and gas named after Gubkin in Tashkent
Scientific supervisor: **Farida Tursunovna Niyazova**
Senior Lecturer in Computer Science and Information Technology at the Academic Lyceum of the Gubkin Branch of the Russian State University of Oil and Gas in Tashkent

Abstract: The article is devoted to the reasons for the decline in profits of small and medium-sized enterprises after transitioning to cashless payments. The relevance of the topic is determined by the growth of cashless transactions and hidden costs that affect business margins and liquidity. The aim is to identify the key factors contributing to profit losses. The objectives are to examine the theory of cashless payments and analyze practical losses. The object of study is small and medium-sized enterprises, and the subject is financial flows and hidden expenses. Methods include the analysis of accounting data, modeling of cash gaps, and calculation of fees. The novelty lies in a comprehensive assessment of hidden costs, and the practical significance is in optimizing financial flows. The structure of the article includes theoretical and applied chapters.

Keywords: Reasons for the decline, medium-sized enterprises, cashless transactions, hidden costs, margins and liquidity, key factors, accounting data, comprehensive assessment of hidden costs, optimizing financial.

Introduction

Chapter 1. Theoretical Aspects of Transitioning to Cashless Payments for Small and Medium-Sized Businesses

Features of Cashless Payments and Acquiring

Cashless payments are becoming a key element of modern commercial activity, especially for small and medium-sized businesses. Their implementation reduces the use of cash, accelerates transaction processing, and simplifies accounting. The main mechanism is acquiring - a system for accepting payments via bank cards and electronic means. Acquiring ensures the transfer of funds from the client to the seller through the acquiring bank and payment systems, while simultaneously charging a service fee. It is important to understand that each payment involves financial costs: a percentage of the transaction amount, a fixed fee for terminal connection, and monthly maintenance. For small businesses, these costs can significantly reduce margins, particularly for low-value transactions. Another feature of cashless payments is the speed of fund transfers: cash sales provide immediate access to money, whereas cashless transactions may be delayed by 1-3 days or more. Additional hidden costs can arise from refunds, chargebacks, and handling disputed transactions. Despite these nuances, the advantages of cashless payments are clear: simplified accounting, increased convenience for customers, and improved transparency of financial flows. Effective use of acquiring requires understanding the structure of fees, types of payment instruments, and the specifics of working with payment systems to minimize financial losses and preserve company profitability.

Impact of Cashless Payments on Financial Liquidity and Working Capital

The transition to cashless payments significantly changes the dynamics of financial flows in small and medium-sized businesses. With cash payments, funds are received instantly, allowing prompt payment for supplies, rent, and wages. In the cashless model, money passes through the acquiring bank and payment systems, and crediting to the company's account can take from one to several days, creating delays in working capital. These temporary gaps are especially critical for companies with limited financial reserves, as purchases and mandatory expenses must be planned taking these delays into account. Additionally, cashless payments can create a cash gap effect: income is formally received but not actually available for immediate use. This forces companies to resort to short-term borrowing or deferred payments to suppliers, which increases financial costs and reduces profitability. For small businesses, even minor delays can necessitate additional working capital financing, lowering overall profit. Analysis shows that careful cash flow planning and accounting for the specifics of cashless transactions can minimize these risks and maintain liquidity stability, but ignoring delays inevitably reduces profit. Cashless payments are convenient; however, they require more diligent financial control and a thoughtful approach to managing working capital.

Hidden Costs and Additional Factors of Loss

When transitioning to cashless payments, many small and medium-sized enterprises encounter financial costs that are not immediately visible in budget planning. Beyond the standard acquiring fee, there are a number of hidden expenses: fixed tariffs for terminal connection and maintenance, fees for refunds and chargebacks, as well as additional charges for using certain types of cards or service packages. These costs can be particularly significant for low-margin businesses, where every percentage point of profit matters. Another source of loss is delays in crediting: money is formally earned but temporarily unavailable, leading to cash gaps and the need for short-term loans, which increase financial burden. Fraud and refunds processed through payment systems also create unexpected losses that are virtually absent in cash transactions. Additionally, changes in customer behavior - more frequent impulse purchases and easy order cancellations - increase operational risks. All these factors require careful monitoring and planning: without understanding hidden costs and potential losses, a company's profit declines even if turnover grows. For small and medium-sized enterprises, it is important to combine the convenience of cashless payments with a strategy for managing financial flows to minimize losses and maintain business profitability.

Chapter 2. Applied Analysis of Profit Losses in Small and Medium-Sized Enterprises under Cashless Payments

Analysis of the Impact of Fees and Tariffs on Product and Service Margins

The transition to cashless payments directly affects the profitability of small and medium-sized enterprises. Acquiring fees, deducted from each transaction, reduce net profit even before the funds reach the company's account. For low-margin products or small-value transactions, this is especially critical: part of the profit may be lost at the payment stage. In addition to the fixed percentage of the transaction, many banks and payment systems charge additional fees for terminal connection, account maintenance, refunds, and the use of certain types of cards. These expenses can sometimes go unnoticed in budget planning, yet they create a constant financial burden. Practical analysis shows that the impact of fees varies across different types of business: in retail with high turnover, losses are spread across a large sales volume, whereas in low-margin services with infrequent payments, each transaction significantly affects profit. Comparative calculations indicate that ignoring these expenses creates the illusion of revenue growth, while actual margins decline. Managing these costs requires careful selection of fee packages and optimization of payment instruments so that cashless transactions remain convenient for clients without devaluing the company's operations.

Effect of Delayed Credit and Cash Gaps on Operational Activities

Cashless payments create a unique dynamic in the flow of funds, affecting the financial stability of small and medium-sized enterprises. Money received from clients does not always reach the account instantly: standard clearing times range from one to several days, and during holidays or technical failures, delays may increase. For businesses with limited liquidity, this can create a cash gap, where essential expenses - purchases, rent, and payroll - must be financed through loans or deferred payments to suppliers. Any short-term borrowing increases financial costs, reducing operational profitability. Practical examples show that even minor delays in regular sales necessitate constant working capital planning, complicating business management. Additionally, the lack of transparency in crediting times can lead to accounting errors and inaccurate revenue forecasts. To minimize negative effects, companies develop schedules for fund receipts and financial reserve strategies. This approach helps maintain operational stability and reduces the risk of additional costs arising from delayed crediting. Without accounting for these factors, company profit may decline despite growth in sales and turnover.

Strategies for Minimizing Losses and Managing Financial Risks

For small and medium-sized enterprises using cashless payments, a key aspect is developing strategies to reduce financial losses and manage risks. The first step is optimizing fee packages and selecting payment systems based on the size of commissions and fixed charges. Comparing offers from different banks and aggregators allows businesses to lower costs per transaction and choose the most favorable conditions for their specific operations. The second element of the strategy is cash flow planning: accounting for delays in crediting, forecasting expenses, and reserving funds helps minimize cash gaps and reduces the need for short-term borrowing. It is also important to implement internal procedures for refunds and disputed transactions, which accelerates chargeback resolution and prevents unjustified deductions. Analysis shows that comprehensive management of financial flows allows businesses to combine the convenience of cashless payments for clients with maintaining company profitability. Entrepreneurs gain the ability to anticipate potential expenses, adjust prices and purchase volumes, and reduce fraud risks. Ultimately, effective financial risk management and careful operational planning provide the foundation for stable business growth while using modern cashless tools.

Conclusion

The transition of small and medium-sized enterprises to cashless payments opens new opportunities for customer service and financial flow management, but at the same time exposes hidden financial risks. Acquiring fees, fixed tariffs, and delays in crediting directly affect business margins and liquidity, while refunds and chargebacks create additional costs that require careful monitoring. Analysis has shown that cashless payments are convenient for clients and speed up the sales process, but without cash flow planning and optimization of fee packages, company profit can decline. Effective management of financial flows, proper selection of payment instruments, and internal procedures for handling refunds help minimize losses and maintain operational stability. Ultimately, transitioning to cashless payments requires a comprehensive approach and conscious accounting for all hidden costs, ensuring the preservation of profit and the financial stability of the company in modern conditions.

REFERENCE:

1. The Book of Payments: Historical and Contemporary Views on the Cashless Society - Bernardo Batiz-Lazo, Leonidas Efthymiou. (2016) https://link.springer.com/book/10.1057/978-1-137-60231-2?utm_source=chatgpt.com
2. The PAYTECH Book: The Payment Technology Handbook for Investors, Entrepreneurs, and FinTech Visionaries - Susanne Chishti, Tony Craddock, Robert Courtneidge. https://www.oreilly.com/library/view/the-paytech-book/9781119551911/?utm_source=chatgpt.com
3. Fintech Payments in Public Financial Management: Benefits and Risks - Gerardo Uña, Alok Verma, Majid Bazarbash, Naomi N Griffin (IMF). (2020) https://bookstore.imf.org/books/fintech-payments-in-public-financial-management-benefits-and-risks?utm_source=chatgpt.com
4. The Price of the Issue - 500 Billion. Why Is Small Business Fighting to Reduce Acquiring Fees? https://www.instantpay.in/blog/?s=Payment+Processing+Challenges+for+SMEs
5. Payment Processing Challenges for SMEs. (2024) https://www.instantpay.in/blog/?s=Payment+Processing+Challenges+for+SMEs
6. Acquiring for Business: How Banks in Uzbekistan Tariff the Acceptance of Cashless Payments. (2026) https://frank.uz/razbory/ekvajring-dlya-biznesa-kak-banki-uzbekistana-tarificziruyut-priyom-beznalichnyh-platezhej/?utm_source=chatgpt.com
7. Exploring cashless technology continuance among SME entrepreneurs: an integrated approach with sustainability mediation and demographic moderation. Journal of Innovation and Entrepreneurship. (2025) https://link.springer.com/article/10.1186/s13731-025-00522-8

8. The Impact Of Cashless Payments On Smes' Financial Performance in Mount Lebanon. (2024) https://www.iosrjournals.org/iosr-jef/papers/Vol15-Issue5/Ser-2/G1505024147.pdf
9. Transitioning to Cashless Society: Challenges and Opportunities for Small Businesses. Open Journal of Business and Management. (2025) https://www.scirp.org/pdf/ojbm_1534861.pdf