CRM ADOPTION AND OPERATIONAL EFFICIENCY IN REGIONAL EDUCATIONAL CENTERS

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ABSTRACT

This study investigates how adoption of the Modme CRM platform affects operational efficiency in private educational centers in Tashkent, Uzbekistan. Using a multiple case study design (Yin, 2018) across six purposively selected centers during the 2024–2025 academic cycle, the research compares key operational KPIs before and after CRM implementation. Results reveal consistent improvements: debt recovery time decreased by 73.3% (from 10.5 to 2.8 days), weekly administrative workload fell by 75.0% (from 22.0 to 5.5 hours), student retention increased by 15.1% (from 66% to 76%), and financial record accuracy improved from 88.0% to 99.5%. Automated billing and SMS notifications emerged as primary efficiency drivers; staff training level and feature integration breadth as critical enabling factors.

Keywords: *CRM systems, Modme, operational efficiency, educational centers, multiple case study, digital transformation, Uzbekistan.*

1. INTRODUCTION

The digitalization of service industries has accelerated over the past decade, with CRM platforms emerging as key enablers of operational improvement. In Uzbekistan's ongoing Digital Economy reform context, private educational centers represent a rapidly expanding segment of the regional service sector, yet remain largely dependent on manual administrative workflows, facing pressure to optimize service delivery, reduce overhead, and improve student retention.

Modme is a cloud-based CRM and learning management platform developed for and widely adopted by educational centers in Uzbekistan. Its core features — automated payment collection, SMS-based notifications, attendance tracking, and digital financial record-keeping — address primary operational pain points of the sector. Despite growing adoption, no published empirical study has systematically evaluated its operational efficiency outcomes.

Existing CRM research has predominantly examined large-scale or multinational contexts (Khodakarami & Chan, 2022; Alalwan et al., 2023), leaving regional SME settings underexplored. This study employs a multiple case study design (Yin, 2018), appropriate where the unit of analysis is small in number but rich in organizational detail, and where the research objective is pattern identification across cases.

The study pursues three objectives: (1) to document measurable changes in operational KPIs across six educational centers before and after Modme CRM adoption; (2) to identify which CRM features and organizational factors are most consistently associated with efficiency improvements; and (3) to generate transferable insights for managers and regional digital economy policymakers in Uzbekistan.

2. LITERATURE REVIEW

2.1 CRM Systems and Operational Efficiency

Customer Relationship Management refers to the integrated set of strategies, processes, and technologies through which organizations manage customer interactions across the full lifecycle, aiming to improve retention, service quality, and operational performance (Garg & Garg, 2022). Soltani and Navimipour (2022) documented IT overhead reductions of 18–24% among SMEs transitioning to cloud CRM. Khodakarami and Chan (2022) demonstrated that CRM-embedded analytics improved decision-making speed by 31%. Wahab et al. (2024) showed that depth of CRM integration — rather than mere adoption — is the decisive predictor of efficiency gains, with deeply integrated implementations outperforming surface-level deployments by up to 2.4 times.

2.2 CRM in Educational Services

Educational institutions share structural characteristics — large volumes of routine customer interactions, cyclical payment processes, and high sensitivity to client retention — that make operational CRM particularly valuable. Abdullaev and Kurpayanidi (2024) identified digital workflow automation as one of the most impactful levers for efficiency improvement in Uzbekistan's service sector. Raza et al. (2024), studying SMEs across transitional economies, found that staff training intensity — rather than the platform itself — was the primary predictor of CRM return on investment.

2.3 Theoretical Framework

This study draws on two complementary frameworks. The Resource-Based View (RBV) (Barney, 1991) posits that sustained performance advantage derives from valuable, rare, and organizationally embedded resources: within this framework, Modme's value is contingent on how deeply it is integrated and how proficiently staff are trained. The Technology Acceptance Model 3 (TAM 3) (Venkatesh & Bala, 2008) predicts that perceived usefulness and ease of use — amplified through training — determine sustained system utilization, particularly consequential in regional SME contexts with limited prior digital exposure.

3. METHODS

3.1 Research Design

This study employs a convergent mixed-methods, multiple case study design. Quantitative data constitute the primary evidence base, supplemented by qualitative interview insights. The study period spans September 2024 to February 2025, covering a full academic semester both before and after Modme CRM adoption.

3.2 Case Selection and Data Sources

Six private educational centers in Tashkent were selected through purposive sampling based on: (1) active Modme CRM adoption between September–November 2024; (2) an active student base of 100–150 learners; and (3) availability of complete administrative records for at least three months prior to adoption. Centers are anonymized as A through F.

Quantitative data were extracted from Modme system logs (payment events, notification delivery, attendance entries) and administrative records (payroll logs, weekly workload reports, financial summaries). KPIs were operationalized as: debt recovery time (days from invoice to payment), student retention rate (proportion completing the semester), weekly administrative workload (self-reported hours, cross-validated against task logs), and financial record accuracy (proportion of entries requiring no manual correction).

Qualitative data were gathered through semi-structured interviews with the manager of each center (6 interviews, 20–35 minutes each), conducted in Uzbek or Russian and summarized in English for thematic cross-case analysis.

3.3 Analysis Strategy

Quantitative analysis employed descriptive statistics and direct pre/post KPI comparison. Given n = 6, inferential statistics were not applied. Instead, the analytical strategy follows Yin's (2018) cross-case synthesis logic: patterns appearing consistently across multiple cases are treated as more credible. Qualitative data were analysed using thematic analysis (Braun & Clarke, 2006), with convergent evidence strengthening interpretation confidence.

4. RESULTS

4.1 Case Profiles

Table 2. Anonymized Profile of Participating Educational Centers

Center	Students (avg.)	CRM Adoption	Primary Feature	Main Benefit
A	140	Sep 2024	Auto-billing + SMS	Admin time −78%
B	120	Sep 2024	Payment tracking	Debt recovery −68%
C	150	Oct 2024	SMS notifications	Retention +14%
D	100	Oct 2024	Auto-billing	Record accuracy +12%
E	130	Nov 2024	Full integration	Admin time −72%
F	110	Nov 2024	Payment + SMS	Debt recovery −76%

Source: Authors' fieldwork data (2024–2025).

4.2 Aggregate KPI Outcomes

Table 1. Operational KPI Comparison: Pre- and Post-CRM (Aggregate, n = 6 Centers)

KPI	Pre-CRM (Manual)	Post-CRM (Modme)	Change
Debt Recovery Time (days)	10.5	2.8	−73.3%
Student Retention Rate	66.0%	76.0%	+15.1%
Weekly Admin Workload (hrs)	22.0	5.5	−75.0%
Financial Record Accuracy	88.0%	99.5%	+13.1%

Source: Modme system logs and center administrative records (Sep 2024 – Feb 2025).

All four monitored KPIs showed improvement. Weekly administrative workload fell by 75.0% — from 22.0 to 5.5 hours — reflecting the elimination of manual payment tracking and ad-hoc reminder communications. Debt recovery time fell by 73.3% (10.5 to 2.8 days), driven primarily by automated SMS payment reminders. Student retention increased by 15.1

percentage points (66% to 76%), reflecting proactive attendance notifications and improved payment processing. Financial record accuracy improved from 88.0% to 99.5% through automated transaction recording.

Figure 1. Pre- and Post-CRM KPI Comparison Across 6 Educational Centers

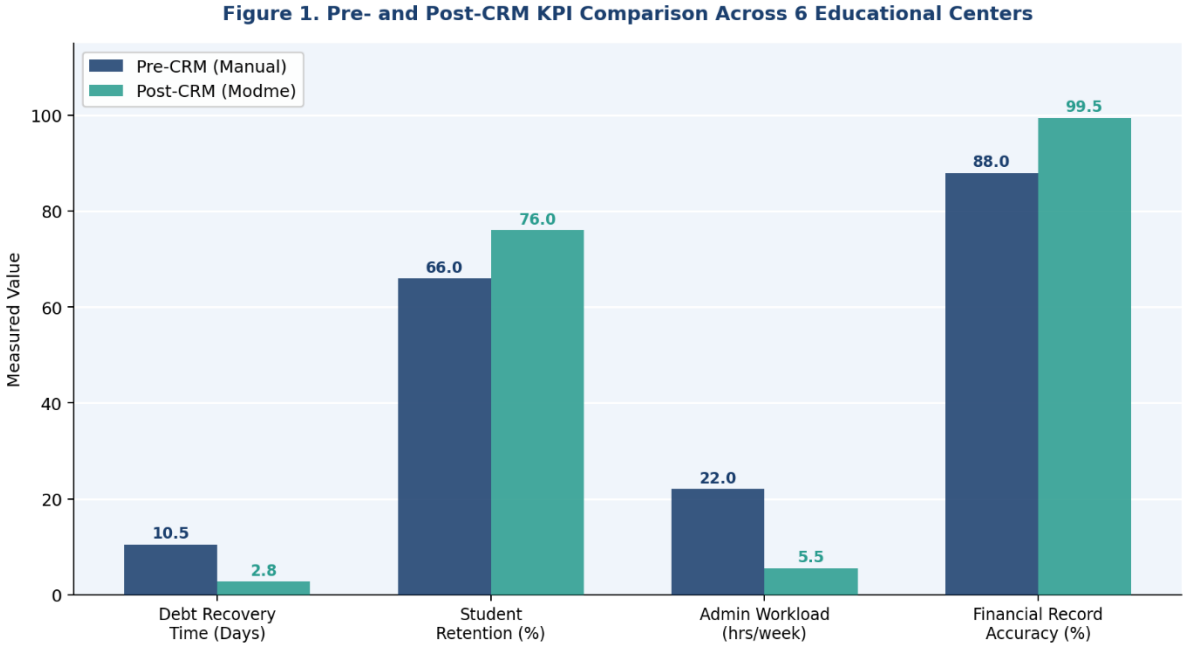
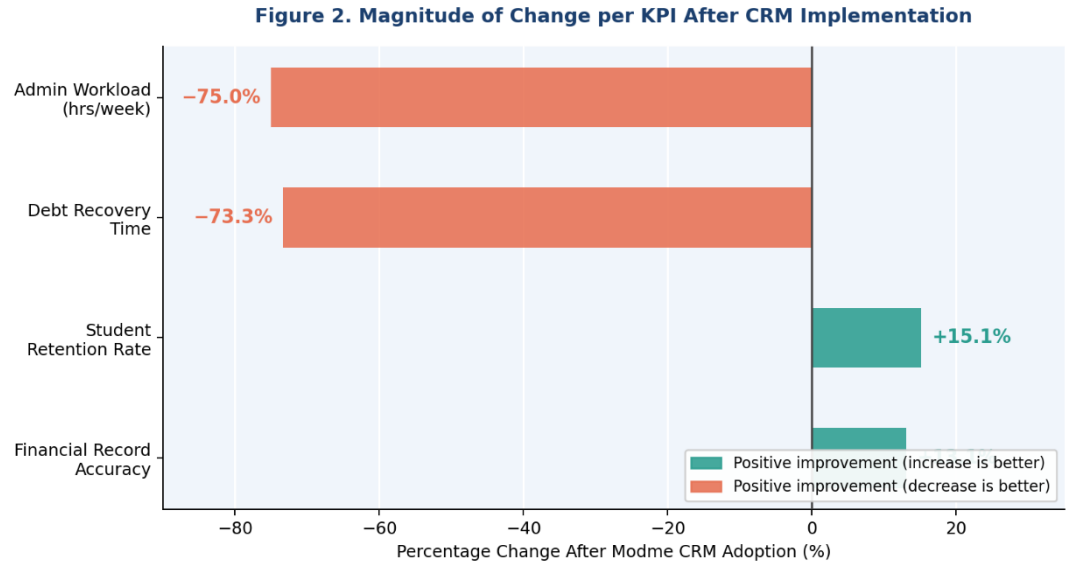
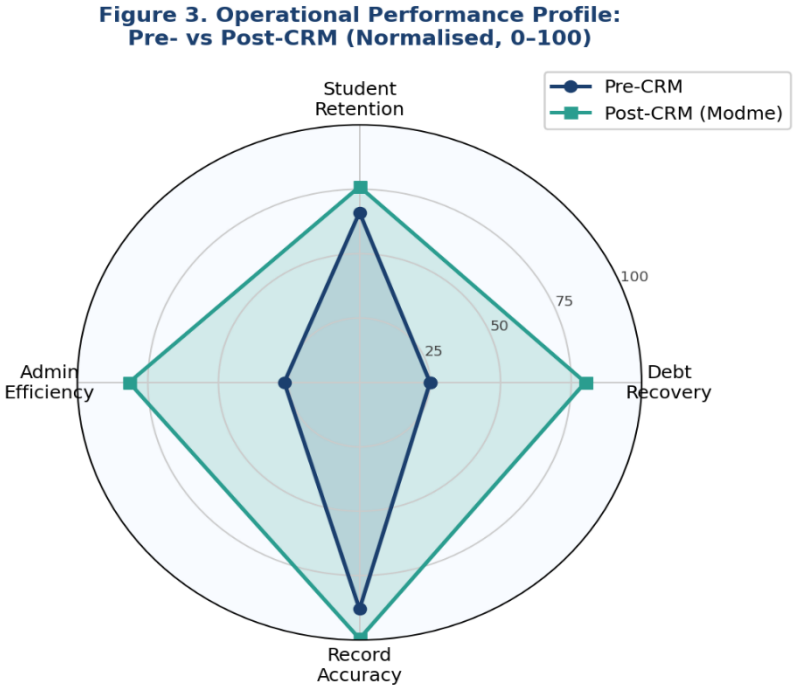


Figure 2. Magnitude of Change per KPI After Modme CRM Implementation



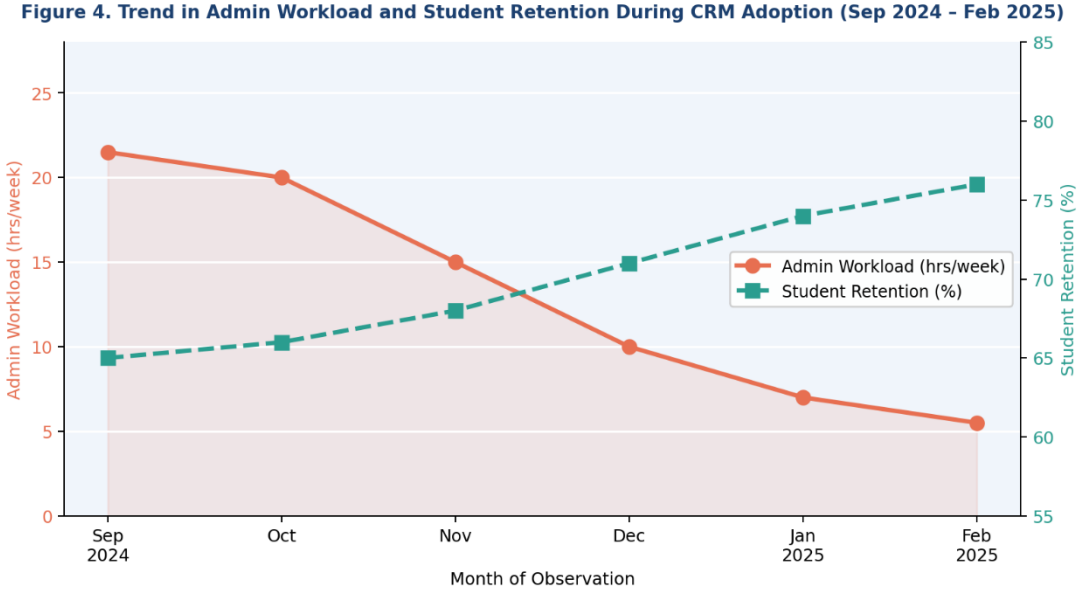
4.3 Longitudinal Trend

Figure 3. Normalised Operational Performance Profile: Pre- vs. Post-CRM (0–100 scale)



The steepest improvement rate was recorded in the first two months post-adoption (October–November 2024), consistent with the hypothesis that the greatest efficiency gains accrue during transition from manual to automated processes. Improvement rates decelerated subsequently, suggesting an asymptotic pattern typical of operational learning curves.

Figure 4. Trend in Admin Workload and Student Retention During CRM Adoption (Sep 2024 – Feb 2025)



4.4 Cross-Case Pattern Analysis

Table 3. Cross-Case Pattern: CRM Features and Associated Efficiency Outcomes

Feature Used	Observed Effect	Centres Reporting
Automated billing	Admin workload reduction	A, B, D, E, F (5/6)
SMS payment reminders	Debt recovery time reduction	A, C, E, F (4/6)

Attendance tracking	Student retention improvement	C, D, E (3/6)
Digital financial records	Record accuracy improvement	All 6 (6/6)
Full feature integration	Compound efficiency gains	E (1/6)

Source: Authors' cross-case synthesis from center interviews and administrative data.

Digital financial records were universally adopted and associated with improved record accuracy. Automated billing (5/6 centers) consistently reduced administrative workload. SMS notifications (4/6 centers) most strongly reduced debt recovery time. The single center utilizing the full feature suite (Center E) recorded compound gains across all KPIs, consistent with Wahab et al.'s (2024) finding that integration depth amplifies CRM performance benefits.

4.5 Qualitative Insights

Three recurring themes emerged from interviews. First, Immediate Workload Relief was mentioned unprompted by all six managers, who described the elimination of manual payment follow-up and record reconciliation as transformative. Second, Training as a Precondition emerged in four interviews: centers achieving the strongest KPI improvements (A and E) had conducted deliberate internal training before go-live; two other centers reported a short-term efficiency dip in the first 2–3 weeks due to staff unfamiliarity. Third, Underutilised Features — all six managers indicated they were not utilizing the full Modme feature set, citing lack of awareness and insufficient time for configuration, suggesting reported gains may represent a lower bound of the platform's potential.

5. DISCUSSION

The findings provide consistent cross-case evidence that Modme CRM adoption generates meaningful operational efficiency gains in Tashkent's private educational sector. The pattern of improvement across all six centers and all four KPIs fulfils the literal replication criterion, supporting internal validity of the CRM-efficiency relationship.

The administrative workload reduction (−75.0%) exceeds the 30–50% range reported in prior CRM research on service SMEs (Soltani & Navimipour, 2022), likely reflecting especially manual baseline conditions in Tashkent's educational sector prior to adoption. This suggests the marginal efficiency gain from CRM adoption may be higher in settings with more primitive operational baselines — a finding with significant implications for digital transformation policy in developing economies.

The cross-case finding that integration depth amplifies efficiency gains is consistent with Wahab et al. (2024). Center E's compound gains across all KPIs, versus more targeted gains in centers utilizing fewer features, implies that policymakers and platform vendors should prioritize guided onboarding programmes encouraging progressive feature activation. The qualitative finding on staff training aligns with Raza et al.'s (2024) cross-country evidence from transitional economies, where training intensity was the primary CRM ROI driver.

Several limitations warrant acknowledgment. The purposive sample of six centers is not statistically representative of Tashkent's full population of educational centers. KPI values for the pre-CRM period were partially reconstructed from administrative records, introducing potential recall bias. The absence of a control group precludes ruling out concurrent

confounding factors such as seasonal enrollment trends. Future research employing larger samples, longitudinal designs, and matched control groups would substantially strengthen causal attribution.

6. CONCLUSION

This multiple case study provides systematic, evidence-based documentation of operational efficiency gains associated with Modme CRM adoption in six private educational centers in Tashkent, Uzbekistan. Key findings include a 75.0% reduction in administrative workload, a 73.3% reduction in debt recovery time, a 15.1 percentage point improvement in student retention, and a near-elimination of financial record errors — achieved within a single academic semester and consistent across centers of varying size and feature adoption breadth.

For educational center managers, CRM adoption offers immediate and substantial operational returns, particularly in administrative time savings and payment management. However, these returns are conditional: they require investment in staff training before and during system go-live, and they scale with the breadth of feature integration. For policymakers and the Modme development team, the finding that all centers reported underutilised features points to a systemic gap between platform capability and realized value; structured post-adoption support could substantially increase realized efficiency impact. For researchers, this study demonstrates the viability of rigorous multiple case study methodology in regional service sector contexts where small organizational populations are the norm.

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