APPRAISING THE RETURN ON INTEGRATING A SMALL CRAFT WORKSHOP INTO DIGITAL SALES, PAYMENT AND ACCOUNTING PLATFORMS IN UZBEKISTAN

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Abstract. A small enterprise deciding whether to join digital sales, payment and accounting platforms rarely has a calculation that links the outlay to the profit it may bring. The paper builds a compact net-profit model in which revenue growth and operating cost saving reach full size gradually, and values the resulting cash flows by net present value, internal rate of return and discounted payback. The model is applied to a pottery workshop in Rishton, whose revenue, operating cost and net profit before integration were UZS 450, 270 and 180 million. Integration requires UZS 60 million of initial investment and UZS 7.5 million of annual running cost. At a 15 percent discount rate over five years the net present value equals UZS 96.3, 153.0 and 221.1 million in the conservative, base and active scenarios, the internal rate of return 58, 78 and 100 percent, and the discounted payback 2.4, 1.9 and 1.6 years. The investment stays profitable while the realised effects reach about 36 percent of the base values, and it stays profitable when additional revenue carries a 60 percent cost share. The results rest on one workshop and on effect sizes that are assumed within observed ranges and not estimated.

Keywords. digital platforms; small business; net present value; internal rate of return; payback period; Uzbekistan.

1. Introduction

Small producers now reach customers, accept payments and keep their books largely through digital platforms. In Uzbekistan the turnover of electronic commerce grew from UZS 1 trillion in 2020 to UZS 22.6 trillion in 2025, its share in retail turnover rose from 0.5 to 4.6 percent, and the number of electronic trading platforms went from 36 at the beginning of 2024 to 115 at the beginning of 2026 (Kursiv Uzbekistan, 2026). The Central Bank reported that cashless receipts in trade and services reached 48 percent in 2025, against 44 percent a year earlier (Gazeta.uz, 2026). The legal ground was prepared by the Law on Electronic Commerce of 2022 and by the Digital Uzbekistan 2030 strategy (Republic of Uzbekistan, 2022; President of the Republic of Uzbekistan, 2020). Adoption inside the smallest firms moves more slowly than the infrastructure around them. Cirera et al. (2022) document large gaps in technology adoption among firms of developing countries, and the OECD (2021) treats limited skills, finance and information as constraints that hold small firms back.

The managerial literature supplies frameworks built mostly around large companies. Westerman et al. (2014) set out priorities for the leaders of established corporations, Brynjolfsson and McAfee (2014) describe the wider technological change, and Vial (2019) arranges the research field around disruptions, strategic responses, organisational changes and value creation. An owner of a pottery workshop faces a narrower decision. The owner needs to know how much capital the move requires, how much profit it adds and in which year the outlay comes back. Capital budgeting offers the tools for an answer, net present value and the internal rate of return among them (Brealey et al., 2020), and the paper applies them to a concrete case.

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The paper builds a compact net-profit model in which revenue growth and operating cost saving reach full size gradually, and values the resulting cash flows for a pottery workshop in Rishton, one of six enterprises studied in the author's dissertation research on the digital transformation of small business in the Fergana Valley and the Samarkand region. The calculation addresses the return under conservative, base and active assumptions, the sensitivity of that return to investment, running cost, discount rate and model structure, and the smallest effect for which the outlay is still recovered.

2. Data and Method

The workshop produces pottery in Rishton. Its annual revenue (R_0) before integration was UZS 450 million, operating cost (C_0) UZS 270 million and net profit UZS 180 million. The integration package has five items (Table 1) and requires an initial investment I_0 of UZS 60 million and a running cost c of UZS 7.5 million a year. The amounts rest on workshop data and market prices and are the author's estimate.

Table 1. Integration package of the Rishton workshop, UZS million

Item	Initial investment	Annual running cost
Online cash desk, QR and terminal payments	5.0	1.0
Cloud accounting and CRM (licence, set-up)	15.0	3.0
Marketplace storefront (shop, content, photography)	10.0	2.0
Warehouse and accounting automation equipment	20.0	1.0
Staff training	10.0	0.5
Total	60.0	7.5

Net profit after integration follows from revenue growth g and operating cost saving s applied to the pre-integration base, as in equation (1). The additional cash flow ΔCF_t of year t, equation (2), scales both effects by a phasing factor φ_t that equals 1/3, 2/3, 1, 1 and 1 over five years, since staff training and the marketplace storefront need time to produce results. Net present value, equation (3), discounts the flows at r = 15 percent. The internal rate of return is the rate that sets net present value to zero, and the discounted payback is the moment at which the cumulative discounted flow turns positive, interpolated linearly inside the year. Flows fall at year end, and taxes, financing and terminal value are left out.

$$P_1 = R_0(1 + g) - C_0(1 - s) - c \quad (1)$$

$$\Delta CF_t = \varphi_t (g \cdot R_0 + s \cdot C_0) - c \quad (2)$$

$$NPV = -I_0 + \Sigma \, \Delta CF_t / (1 + r)^t, \; t = 1,\ldots,5 \quad (3)$$

Effect sizes come from field observation and not from estimation. Revenue growth of 10 to 15 percent and cost saving of 10 to 20 percent are consistent with the observations at the case enterprises and with the ranges stated in the implementation act of a participating enterprise, and the scenarios take the pairs (g, s) of 10 and 10 percent (conservative), 12 and 15 percent (base) and 15 and 20 percent (active). The discount rate of 15 percent is an assumption of the author. Equation (1) leaves operating cost independent of sales volume, so additional revenue enters profit in full, and Section 3.2 relaxes the assumption.

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3. Results

3.1. Scenario results

Table 2 and Figure 1 report the outcome. Net profit in the year of full effect rises from UZS 180 million to 244.5, 267.0 and 294.0 million, growth of 36, 48 and 63 percent, and the annual additional profit equals 64.5, 87.0 and 114.0 million. Net present value is positive in every scenario and reaches UZS 153.0 million in the base case, about 2.5 times the initial investment. The internal rate of return of 58, 78 and 100 percent lies far above the 15 percent discount rate. The discounted payback takes 2.35, 1.93 and 1.56 years and the simple payback 2.05, 1.65 and 1.37 years, so the cumulative flow crosses zero in the second year in the base and active scenarios and in the third year in the conservative one (Figure 1). The net profit that the workshop actually obtained after integration, UZS 320 million, exceeds the base estimate of 267 million, which places the base case on the cautious side for the Rishton workshop, although a single observation settles little.

Table 2. Results of the net-profit and discounted cash flow model (UZS million unless stated)

Indicator	Conservative	Base	Active
Revenue growth g, %	10	12	15
Cost saving s, %	10	15	20
Net profit in the year of full effect	244.5	267.0	294.0
Growth of net profit, %	36	48	63
Annual additional profit	64.5	87.0	114.0
Initial investment	60.0	60.0	60.0
Net present value (r = 15 %, 5 years)	96.3	153.0	221.1
Internal rate of return, %	58	78	100
Discounted payback, years	2.35	1.93	1.56
Simple payback, years	2.05	1.65	1.37

Source. Author's calculations from equations (1) to (3).

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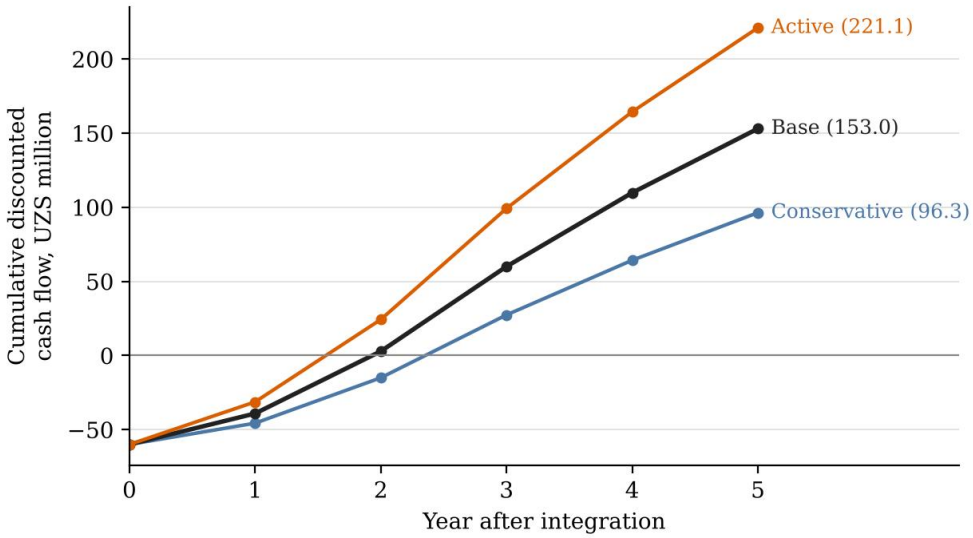


Figure 1. Cumulative discounted cash flow by scenario, UZS million (values in brackets give the net present value after five years)

3.2. Sensitivity and break-even values

Table 3 varies one assumption at a time around the base case. An overrun of fifty percent in the investment (UZS 90 million) lowers net present value to UZS 123.0 million, and a doubled running cost lowers it to 127.9 million. Discounting at 20, 25 and 30 percent leaves it at 125.8, 103.4 and 84.8 million. Removing the revenue effect alone cuts net present value to 16.9 million and removing the cost saving alone to 51.0 million, so the revenue channel carries the larger part of the base-case return, UZS 54.0 million of the 94.5 million gross annual gain. A delay of one year in the start of the effects reduces net present value to 81.1 million. The break-even values are 36 percent of the base effects, which means revenue growth of 4.3 percent together with cost saving of 5.4 percent, an initial investment of UZS 213 million, or a running cost of UZS 53 million a year.

Table 3. Sensitivity of the base case (UZS million unless stated)

Case	NPV	IRR, %	Discounted payback, years
Base case	153.0	78.0	1.93
Initial investment UZS 90 million	123.0	53.0	2.47
Annual running cost UZS 15 million	127.9	67.5	2.18
Discount rate 20 percent	125.8	78.0	2.03
Discount rate 25 percent	103.4	78.0	2.12
Discount rate 30 percent	84.8	78.0	2.22
No revenue growth (g = 0)	16.9	24.0	3.97
No cost saving (s = 0)	51.0	39.8	2.96
Extra revenue carries 60 percent cost (margin 40 percent)	71.4	48.3	2.64
Conservative scenario with margin 40 percent	28.3	29.6	3.55
Effects start one year later	81.1	43.5	3.24

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Weak effects (g = 5, s = 5)	5.6	18.1	4.61

The test with the largest consequence concerns equation (1). When additional revenue carries cost in proportion to the existing cost ratio of 60 percent, so that only 40 percent of it reaches profit, the base-case net present value falls to UZS 71.4 million, the internal rate of return to 48 percent and the discounted payback lengthens to 2.64 years. The conservative scenario under the same margin keeps a positive net present value of 28.3 million with an internal rate of return of 29.6 percent and a payback of 3.55 years. Every row of Table 3 returns a positive net present value, and the weakest effects (5 percent for both g and s) clear the 15 percent hurdle only barely, with an internal rate of return of 18 percent and a payback of 4.6 years.

4. Discussion

The sensitivity results locate the risk of the investment in the size of the effects and in the model structure, and far less in the price of the package. A fifty percent overrun of the outlay or a doubled running cost leaves the investment comfortably profitable, while a cut in the effects to a third of their base values removes the profit. Running costs in Table 1 are fixed amounts. Marketplaces and payment systems usually charge merchants in proportion to sales, a feature of two-sided platform pricing (Rochet & Tirole, 2003), so the cost of selling through them grows with volume. The margin test above approximates that behaviour only roughly, and a calculation for a firm with a high marketplace share should add the commission to the cost ratio explicitly.

The break-even value gives a screening rule of practical use. For a firm with the same cost structure and an outlay of about 13 percent of annual revenue, an owner who expects less than roughly 4 percent of additional revenue and 5 percent of cost saving will not recover the outlay at a 15 percent hurdle rate. A voucher scheme that co-finances platform integration, for instance the scheme proposed in the author's dissertation, can test applications against the same threshold and direct the support towards firms whose expected effects clear it. Bank loan officers can apply the same arithmetic to a credit request.

The limits are plain. The evidence comes from one workshop, the effect sizes are scenario assumptions bounded by field observation and not coefficients estimated on a panel, the discount rate is chosen by the author and not derived from local loan rates, and taxes, financing and terminal value are left out. Estimating g and s on a panel of firms observed before and after integration would remove the largest source of uncertainty.

5. Conclusion

For the pottery workshop in Rishton, integration into digital sales, payment and accounting platforms returns its UZS 60 million outlay in about two years and adds UZS 96 to 221 million of present value over five years, depending on the scenario. The result survives a doubled running cost, a fifty percent investment overrun, discount rates up to 30 percent and a 40 percent margin on additional revenue, and it fails only when the effects fall below about a third of the base values. The model is simple enough for owners and support programmes to reuse with their own inputs.

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