

MEMORANDUM

To: CEO, Sampa Video, Inc.
From: Jayati Vyas
Date: April 30, 2026
Subject: Home Delivery Project - Valuation & Recommendation

Sampa is considering a \$1.5 million investment to launch home delivery, which raises two questions: does the project create value, and does the financing choice change that answer?

The project clears its hurdle rate under every financing structure we examined, with NPV ranging from \$1,228.49K to \$1,528.49K. We recommend approving it, funded with \$750,000 of initial debt managed against a 25% target leverage ratio.

We began by outlining the project's free cash flows from the operating projections in Exhibit 2: EBITA plus depreciation, minus the \$300,000 of annual capital expenditure specified in the case footnotes as continuing in perpetuity, with no incremental working capital. The pattern is typical for a rollout, cash-negative in 2002 as startup capex outruns operating earnings, then turning positive in 2003 and ramping to about \$495,000 by 2006. We extended the projection beyond 2006 as a perpetuity growing at the 5% long-term industry rate from the case. For the unlevered cost of capital, we used the asset beta of 1.50 from the closest pure-play comparables (Kramer.com and Cityretrieve.com), giving $R_u = 5.0\% + 1.50 \times 7.2\% = 15.80\%$. For the levered scenarios, relevering the asset beta at the 25% target debt-to-value structure produces an equity beta of 1.917, a cost of equity of 18.80%, and a WACC of 15.12%. The risk-free rate (5.0%), market risk premium (7.2%), cost of debt (6.8%), debt beta (0.25), and 40% tax rate are all from Exhibit 3. The 6.8% cost of debt is internally consistent with the 0.25 debt beta ($R_f + \beta_d \times \text{MRP} = 6.8\%$), which gave us comfort in the inputs. Detailed cash flow build-ups, debt schedules, and tax shield calculations are in the accompanying workbook.

Table 1. NPV by Financing Scenario

Financing Scenario	Discount Rate	PV(Tax Shield)	NPV
All-equity financing	$R_u = 15.80\%$	—	\$1,228.49K
\$750K perpetual debt (APV)	$R_d = 6.80\%$	\$300.00K	\$1,528.49K
\$750K amortized over 5 years (APV)	$R_d = 6.80\%$	\$52.67K	\$1,281.15K
Target D/V = 25% (WACC)	WACC = 15.12%	(embedded)	\$1,469.97K
Target D/V = 25% (APV)	$R_u = 15.80\%$	\$241.49K	\$1,469.97K

The first thing that stood out across the five results was that the financing structure shifts the project's value by hundreds of thousands of dollars, even though the underlying business is identical. That gap is entirely due to interest tax shields. With corporate taxes, the levered firm's value equals the unlevered firm's value plus the present value of those shields, so the all-equity case at \$1,228.49K is our operating-value benchmark, and every dollar of difference across the other four scenarios reflects the size of the shields and the discount rate that matches their risk.

The clearest way to see the trade-off is to split the four levered scenarios into fixed-debt versus target-ratio policies. When debt is held at a fixed dollar amount of \$750K, either in perpetuity or amortized on a fixed schedule, the interest payments are as predictable as the debt service itself, the resulting tax shields share the risk of the debt, and the right discount rate is R_d of 6.8%. The perpetual case captures shields forever, and the geometric series collapses to $t \times D = \$300K$. That is the largest tax-shield contribution

among our scenarios and explains why the perpetual structure produces the highest NPV at \$1,528.49K. The five-year amortizing case uses the same discount rate but captures shields only until the debt is repaid, so PV(TS) drops to \$52.67K, and NPV is \$1,281.15K. Same risk profile, very different durations, very different value contributions.

Under target-ratio financing, debt is not fixed; it scales with firm value to maintain a 25% leverage ratio. That shifts the picture meaningfully: tax shields now inherit the operating risk of the underlying business rather than the safer profile of contractual debt service, so the right discount rate is the unlevered cost of capital at 15.80%, not R_d . This is the Miles-Ezzell adjustment, and a useful internal check is that it forces the WACC and APV approaches to give identical project values when applied consistently. Both of our target-ratio results land exactly at \$1,469.97K, which gives us confidence that the model is internally consistent. The most interesting comparison is the perpetual case (\$1,528.49K) against the target-ratio cases (\$1,469.97K). Intuition might suggest target-ratio rebalancing should win, since it lets debt grow with the firm, but the perpetual case actually edges it out. The reason is that a permanent shield of \$300K discounted at 6.8% is worth more than a growing-but-riskier shield discounted at 15.80%. That is the central financing-policy trade-off here: committing credibly to fixed leverage locks in safer, more valuable shields, while giving up the flexibility to scale debt with the business.

Putting it together, the project earns its cost of capital comfortably under any reasonable financing assumption, with a positive NPV in every scenario we tested. The 25% target debt-to-value structure (NPV \$1,469.97K) strikes the right balance; it captures most of the available tax-shield value while keeping Sampa's debt level tied to the actual business, which is a far more realistic policy than committing to permanent fixed debt. We recommend approving the project, raising \$750K in initial debt at launch, and managing leverage toward the 25% target as the project ramps.