Capital budgeting case study

Winnipeg frozen pizza expansion

Investment review and financial modeling summary

Academic case study prepared for MBA Financial Management

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Scope

- Project overview
- Financial model
- Scenario and sensitivity analysis
- Recommendation

Independent presentation of financial modeling work; not affiliated with any investment bank.

Executive summary

Recommendation: reject under current assumptions

Investment overview

- Proposed Winnipeg frozen pizza plant expansion to serve a potential U.S. grocery chain contract
- Initial project cost: $5.2M
- Project life: 10 years; salvage value assumed at zero
- Class 2 hurdle rate: 18%
- Ongoing capital expenditures: $520,000 annually

Metric	Optimistic (100%)	Expected (75%)	Pessimistic (50%)
NPV @ 18%	($2,865,310)	($3,720,645)	($4,575,981)
NPV @ WACC	($1,616,145)	($2,876,717)	($4,137,289)
IRR	4.49%	-1.24%	-8.91%
Decision	**Reject**	**Reject**	**Reject**

Key takeaway: Demand and unit cost savings do not cover the large upfront investment and ongoing capex. Even the optimistic case destroys value.

Opportunity overview

Strategic rationale

- Laurentian identified a capacity constraint at its Winnipeg frozen pizza plant
- Expansion would support a potential exclusive supply arrangement with a large U.S. grocery chain
- Winnipeg was preferred over other capacity options because of lower cost and a better operating fit
- Expansion would help protect Laurentian's position as a low-cost frozen pizza producer

Key commercial assumptions

Potential incremental unit sales	2.2M in 1996, 4.0M in 1997, 5.3M from 1998 onward
Selling price per pizza	$1.70
Unit cost savings	$0.019 per pizza
Other annual savings	$138,000
Guaranteed demand risk	50% chance of only guaranteed order volume
Project duration	10 years

What matters most: The economics depend on enough U.S. demand and on whether operating savings can offset the large upfront and ongoing capital burden.

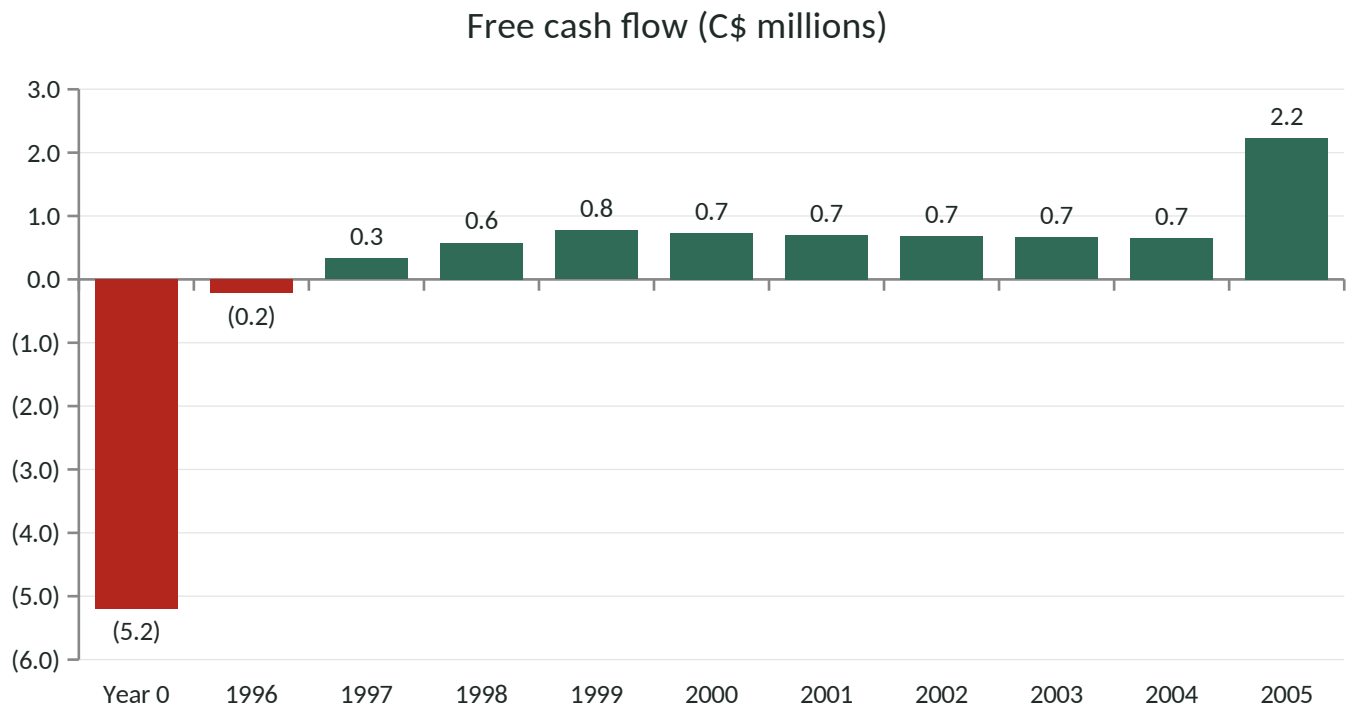
Financial model overview

Model framework

- Incremental free cash flow over a 10-year project life
- Operating income, taxes, CCA tax shield, ongoing capex and working capital
- Initial cost of $5.2M at Year 0
- Ongoing capex of $520K per year

Optimistic case outputs

NPV @ 18%	($2,865,310)
NPV @ WACC	($1,616,145)
IRR	4.49%



	Year 0	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Free cash flow (C$)	($5,200,000)	($221,263)	$331,090	$576,552	$766,299	$728,059	$699,379	$677,582	$660,756	$648,137	$2,231,318

Key takeaway: Even with full sales realization and projected savings, the project does not produce a positive NPV.

Scenario and sensitivity analysis

Metric	Optimistic (100%)	Expected (75%)	Pessimistic (50%)
NPV @ 18%	($2,865,310)	($3,720,645)	($4,575,981)
NPV @ WACC	($1,616,145)	($2,876,717)	($4,137,289)
IRR	4.49%	-1.24%	-8.91%
Decision	**Reject**	**Reject**	**Reject**

Sensitivity summary

Base NPV	($2,865,310)
At 150% combined realization, estimated NPV	($883,397)
At 50% combined realization, estimated NPV	($4,847,222)

Interpretation

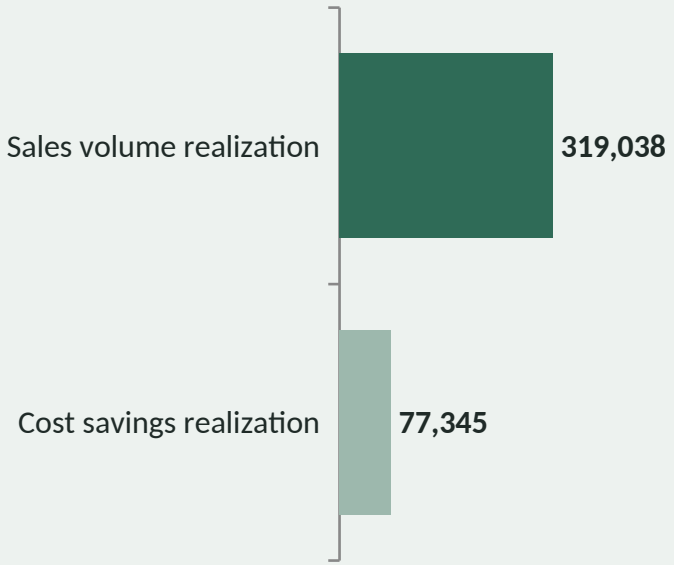
- The model destroys value in all three scenarios
- Sales realization matters more than cost savings, but neither driver is enough to create value
- Even aggressive upside assumptions do not give a positive NPV

The 50%, 75% and 100% cases are scenario assumptions, not formal probabilities.

Key drivers, risks and recommendation

Key value drivers

NPV swing from ±5% change in key drivers (C$)



Risk observations

- Project economics are highly sensitive to demand from the U.S. grocery chain
- Cost savings help, but their impact is much smaller than demand realization
- Large upfront capex and recurring annual capex weigh on returns
- Current assumptions do not support the 18% hurdle rate

Recommendation

- **Reject the expansion under current assumptions**
- Revisit if contract terms improve or capital intensity falls
- Focus management discussion on demand visibility, guaranteed volume and capital discipline

Bottom line: Strategic logic alone is not enough. The project needs stronger economics before approval.