

Example of a Business Case

As a guide and for discussion purposes only

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Proposed development of a polyurethane dispersion and acrylic hybrid product line

Executive summary

Chemical Technology Inc. is a strong player in the wood flooring coatings market with its oil modified urethane technology. Environmental regulations have changed, and a number of good performing products with lower VOC (Volatile Organic Compounds) are being introduced in the market and present a threat to our business. It is proposed here that the company develops a new product line based on water borne hybrid polymers (acrylic and urethane polymers) that can be formulated into clear coats for the commercial and residential flooring markets.

The target waterborne market is approximately 30 million dry pounds per year with an approximate value of 81 million dollars in the US. Our three-year goal is 3 million additional pounds with a value of \$5.4 million dollars. We aim for 15 percent market share and \$16.8 m. In the 5-year horizon, our goal for acrylics is 10 million pounds at \$0.60 per pounds.

Our recommendations are based on the market analysis and financial metrics. The following measures were used: Net cash flow, discounted cash flow, NPV, gross profits, net sales, internal rate of return and payback. The time horizon considered was 10 years.

The financial metrics from the analysis were as follows:

Net Cash Flow	\$ 9.7 M	Net Sales	\$46.3M
NPV	\$ 3,210,280	IRR	52%
Gross Profit	\$ 17.1M	Payback Period	3.5 years

Some people might only read the executive summary, not the entire business case. Therefore, consider this section as a proposition with the rest of the business case supporting it. This is where you must give the essence of your proposition here. One needs to provide the objective of the case, the scope, the financial methods used and the key results. Is this executive summary well crafted?

Introduction

There is a need for Chemical Technology Inc. to develop and commercialize a PUD/acrylics product line. This proposal adds to Chemical Technology Inc.'s existing product offerings. It will require that we develop the products. Development, manufacturing and marketing costs will be associated with this projects, The company is targeting a share of water borne wood market of 15% after 10 years.

Market analysis indicates that in 1998 the waterborne interior urethane sales to be about \$225 MM/yr and growing at 10% per year. Exterior applications of similar product lines were estimated to be worth \$147 MM/yr and also growing at 10% per year. The dry urethane component of such systems was estimated to be about 12 MM lbs/yr, which roughly equates to 33 MM pounds of water borne urethanes.

Our current sales in 1998 were 2 MM lbs/yr., and our target is 15% market share in 10 years. Water borne technologies use various forms and levels of acrylics dispersions to lower cost of the total system. According to market analysis, the dry acrylic component of the waterborne urethane systems is approximately 34 MM lbs/yr. This corresponds to approximately 70 MM lbs/yr acrylic dispersions. The company does not have any position there today.

The leading competitors along with their estimated \$ Sales are shown below:

Company	Sales
Trono	\$ 45
Parker Chemicals	\$ 23
Durham & Bolder	\$13
Baldwin	\$10

Opportunities being addressed by this proposal are numerous. The company is well established in the solvent borne oil modified urethane, but it is losing share to water based urethanes systems due to environment friendliness, ease of use and performance. New environmental regulations taking effect will make it much more difficult to sell conventional solvent based coatings. Our scientists have developed a unique technology that may provide outstanding properties in WB 2k urethane systems. However, in order to be competitive in this market and leverage our position with our major wood coatings customers we need to develop a series of products that fit the current market needs as shown below. Because we already have a presence in the market place with our oil-modified urethane, we can leverage relationships with customers serving this market. Moreover, our existing PUD reactor in Kentucky is underutilized.

For the discussion: The introduction section gives the background, history and the context of the case. Check the following: What is the problem being addressed by the case? Are there other considerations like external considerations (such as the intensity of the competition) or internal considerations (such as management directives) to consider? Could there be alternate proposals to this one (if so, then those alternatives should be included)?

Methods and Assumptions

Methods and cost model

The financial metrics we used to assess this proposal were Net cash flow, discounted cash flow, NPV, gross profits, net sales, internal rate of return and payback. The time horizon considered was 10 years. This proposal is only concerned with the USA market. The company has decided to develop this technology internally building off of existing patents. It is planned to introduce products that are higher margin than those based on solve borne technology.

The cost model for the R&D investments is as follow:

Investment Cash Flows			
	Base	Year 1	Year 10
Project Design Phase			
Technical Resource Labor & Burden			
Other Direct Operating Expenses			
Total Operating Expenses			
Scale-Up Costs			
Patent Costs			
Patent Enforcement Costs			
Other Costs:			
<Please describe>			
<Please describe>			
Subtotal Other Costs			
Total Cost of Patent / R&D Investment			
Total Cost of Capital Investment			
Total Cost of Investment			

The reader of the case needs to know the financial measures, but also how they will be used. For example, the company might expect a certain level of IIR for all projects or a particular payback. The business case also must deal with scenarios. It must answer the questions as to whether to address the problem, are there many other ways that the story might unfold? How many scenarios do we need in this case? If there are many scenarios, the financial models must be applied to all scenarios. We need to ensure that all relevant line items are included in the cost model. Where will the company spend money? Which cost goes into the case? Is the cost model strong enough?

Business Case Preparation and Discussion

Assumptions in the financial models

(1) The sales/profit goals and rate of return are based upon a 10 year sales development assumption. (2) No capital investment. (3) Market demand is expected to climb over next 10 years. (4) Total uncertainty of 55% utilized in financial analysis. (5) Assume PUD's (current and new) will grow with pricing at approximately \$1.75/lb. (6) Production costs are scheduled to reduce as volumes expand. (7) Assume acrylics (new ones) will market at @\$0.60/lb. (8) Assume acrylic hybrid to be developed and market at \$2.00/lb due to high performance.

Financial models

Cash flow for each year through year 10

Operating Cash Flows

	Base	Year 1	Year 9	Year 10
Sales Volume				
Gross Sales				
Less: Freight-Out				
Net Sales				
Raw Material				
Manufacturing Costs (excl. Depr.)				
Depreciation				
Cost of Sales				
Gross Profit				
Gross Profit %				
SG&A				
Operating Income				
Gain on Sale of Asset				
Before Tax Income				
Income Tax				
After Tax Income				
Add Back Depreciation				
Working Capital				
Inventory				
Accounts Receivable				
Accounts Payable				
Investment Cash Flow				
Net Cash Flow				
PVIF				

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Present Value of Cash Flows				
Net Present Value of Cash flows				
Cumulative PV of Cash Flow				
Cash Payback Period:				
Cash Recovery				
Accum. Cash Recovery				
Peak Cash Requirement				
Payback Period -Years				

Benefits impacts: Not able to extract at this time

Analysis of results:

Net Cash Flow	\$ 9.7 M	Net Sales	\$46.3M
NPV	\$ 3,210,280	IRR	52%
Gross Profit	\$ 17.1M	Payback Period	3.5 years

Non-financial results:

Water borne capabilities fully developed within the company. Capability to make crosslink able polymers developed. Knowledge on alternate critical RMs and their use to control VOC and film formation expanded. Understanding of alternate monomer chemistry will be a reality and this enhances both our R&D and manufacturing capability.

Sensitivity analysis:

None completed at this time but can be easily done through modifications to attached financial model.

Risk Analysis:

Marketing success factor deemed to be 85% - high on competitive advantage in current market. Technical probability rated at 65% - high on process and moderate on product.

It is useful to show the benefits impact in quantifiable ways (For example, are there any productivity improvement?) Non-financial results need to be put on record. The analysis of the financial results comes from the cash flow analysis. A sensitivity analysis is required and this is done by changing assumptions or inputs factors. What happens if some of the assumptions change? Has it been performed here? Some of the inputs such as volume or sales, growth rate of the market, the price of raw materials, time for development of products, all can change. This must be simulated and discussed.

Conclusions and Recommendations

The financial projections provided given the success of this project substantiate this case making it worthy of consideration. Furthermore, this project fits our strategy of growing our product line into compliant higher performance products that will yield higher margins, which will restore our core business to improved profitability. This in conjunction with protecting and growth of our current wood position, along with the opportunity to further utilize an existing asset suggests that this project be given the resources to move forward.

Effective conclusions are typically arranged around the objective of the case. It should focus on expected contribution to the objective of the case in terms of results and analysis developed earlier. You must present and evaluate all the necessary important decision criteria. Also provide any useful interpretation. Looking at this report has this been performed here?