Micro Tiles Limited
Case 1: Look Before You Leap

In June of 2014, Bill Madden considered expanding his micro tiles business. He planned to invest $2.0 million in 2016 to produce more and better quality plaster or metal tiles and lithographs. These silver and golden ornate tiles can be hanged individually or displayed as a collection of various themes (i.e., sports, outdoors, wildlife, music, actors, religion) on living, dining, bedrooms or family room walls. Although Bill had ten years of experience as an artist in designing and developing these products, he had little experience in managing a business. He realized that this was his greatest weakness and was preventing his business from growing to its full potential. He therefore asked his son, Robert, who had graduated in engineering and held a masters degree in business administration, to join his firm. Robert had six years of experience with a major consumer products company.

Management's Background

Prior to starting his business, Bill Madden had worked for twenty-five years in communications services for several federal government departments. When he took an early retirement in 2003 at the age of 50, he decided to realize his dream of starting his own business. At the time of incorporation in 2008, sales began to accelerate and the company moved from a hobby business to a full-time operating entity. That year, he decided to move the operating facilities from the basement of his house to a small space that he rented in an industrial park. Bill enjoyed the artistic side of the business. He liked to draw images. His friend, Harry Freeman, also a former federal public servant joined him in 2008. He was responsible for sales and general administration.

When Bill started his business, he sold his reproductions through small independent kiosk operators and even rented some himself on a short-term basis. He also advertised his products in catalogues to a wide-range of retail outlets particularly in the giftware business. As revenue continued to soar in 2014, he realized that he needed to invest money into his business and make his production operations more automated. Both Bill and Harry felt that they needed professional help since they had no qualifications and experience in managing a business that required skills in the field of marketing, human resources, production, and finance. For that reason, they asked Robert, Bill's 31-year-old son to join the business and become president of Micro Tiles. Bill would be responsible for the product design— a key factor in the success of the business. Harry would be responsible for sales and marketing activities, and Robert, as president, would be responsible for general administration.

Micro Tiles Limited

In 2014, Micro Tiles Limited was showing substantial growth. Revenue went from $1.0 million in 2011 to $2.0 million in 2014 (see appendix A). This huge gain was a result of some sales agreements that Bill had signed with several giftware retailers. His catalogues also helped his business to gain some recognition. A wide variety of consumer outlets and consumers were becoming acquainted with Micro Tiles products. Even some major retailers began to show an interest in carrying his product lines.

Bill signed a sales agreement in March, 2014 with a major retailer. The retailer would market Bill's products on a trial basis in several stores across Canada. After several months, the consumer response appeared to be positive and Micro Tiles was becoming recognized as a leading monthly sales consignment supplier. This helped generate a 48% sale increase in 2013 (from $1,058,000 to $1,564,000).

As the relationship with several retailers matured, Micro Tiles introduced several changes in the way of manufacturing and marketing the products. In the past, the company created a tile followed by a promotional plan. Now, the development of new products would be based on consumer research and social trends. For example, the company would develop new product lines as a tribute to a successful sport's heroes. Retailers and consumers both showed considerable interest in this marketing scheme and this was considered the cornerstone of Micro Tiles' success.

Marketing Strategy

Based on the data published by various industry sources, the memorabilia market was in a growing phase. The size of the market and the demand for products regarding "themes" or "celebrities" encouraged some medium-sized retailers to buy these types of products. Smaller retailers such as gift shops and even major department stores started to carry this line that they described as "commemorative" items. When Bill talked to store managers, they all showed an interest for tiles with NASCAR, basketball, Olympics, sport fishing, and other specialized baseball and hockey themes.

Since 2003, Bill was responsible for all activities in his business, a sort of jack-of-all-trades. He designed, produced, and sold the products and thus became very knowledgeable about his products, the market, the retailers, and consumer tastes. Bill learned that:

- Each product has its own shelf life (i.e., 6 months) and a lot depended on the location before it reached full maturity.
- Products that did not meet sales objectives within a prescribed time frame were considered a "flop" and removed from the store shelves.
- Floor store location was considered vital to a product's success and turnover.

- Slow-moving products lost their “premier” floor location.
- Slow-moving products significantly tied up cash flow.
- Distributors were considered too expensive. They wanted a 100% mark-up.

With this background, Bill adjusted his marketing strategies.

Distribution Strategy

In order to product effective and efficient service, Micro Tiles distributed its products through a courier company. The process was simple:

- Individual department stores placed orders directly with Micro Tiles.
- Micro Tiles would keep sufficient inventory on hand to meet product demand for the more popular tiles.
- The courier accepted a total of 10 tiles per case.
- The courier picked up the packages and delivered them directly to the retail stores.

The company was able to ship the products for less than any department store’s distribution and warehousing facilities. Micro Tiles adopted this distribution strategy since it was considered the most cost-effective method.

Products and Pricing Strategy

Micro Tiles had a “standard” product line that was offered through its catalogue; a total of 25 images. These 12” × 15” images were considered standard size and made of either plaster or metal. All products had original designs. Once a model was created, it went into production. Each item was hand-finished with appropriate solutions before shipment. Over the years, this process was perfected and the quality of each reproduction was considered “flawless” or using conventional business terminology, “zero-defects”. The per-unit cost (including shipping and packaging) was in the $20.00 range and sold for $59.95 less commission.

Micro Titles developed their first “premium” products with several hockey, golf and baseball idols. Although the production process of these items was the same as the standard products, incremental costs associated with marketing each piece had to be taken into account. For instance, the licensing cost for producing the image of a hockey idol was $5 per unit.

A list of product lines such as Canadian hockey images, NASCAR images, golf images, basketball images, etc. was designed and presented to several retailers and they were very interested. These images would be considered the imperative for the company’s sales efforts and future success. The traditional product line would be marketed jointly with the new images. These niche products were considered to have exceptional marketability and expected to boost sales volume.

Robert's Vision and Plans

Robert spent several weeks listening to his father's objectives and plans and was encouraged by what he heard. However, after looking at the company's 2011 to 2013 actual financial statements, he had some reservations about the financial strength of the business. Robert was working as a product manager for an international consumer products company and was earning a good salary; he liked the financial stability. He was married and had two children.

Robert decided that before he "leaped" into his father's business, he would closely examine the profile of each financial statement to determine whether or not it was possible to make Micro Tiles a profitable venture. There was nothing much that he could do about the 2014 estimated year-end financial results. The company was already in its fourth quarter and based on some rough estimates, Robert estimated that it would end the year with a $47,000 profit, just $6,000 more than the previous year.

Robert had little reservations about the sales estimates. He felt that revenue would continue to increase in view of the good quality product lines and the good working relationships that Bill had nurtured over the years. However, he felt that the operating costs were a big obstacle for the company's success. Robert made the following statement in a meeting with his father Bill and friend Harry Freeman:

> "I'm very interested in joining the company. However, I have to be assured that I will be given "carte blanche" about how this business should be managed. We have to make some major changes in our cost structure. I'm glad that in a more automated production process was installed in 2014. If we use that production process effectively, we could considerably improve the company's bottom line. I have made some financial projections for the year 2015 and would like to review them with you. If you agree with these plans, I think that we have a good chance of turning the financial statements into a healthier state. The challenge will be to change the way we do things. This will have to take place now. If we succeed and are patient, I firmly believe that Micro Tiles will become a leader in the giftware and memorabilia industry. My intention is to increase our return on sales for 2015 and plan for a major $2.0 million investment in 2016."

The following paragraphs describe the planning assumptions for the statement of income and the statement of financial position for the year 2015.

Financial Statements

Micro Tiles' three financial statements: the statements of income, the statements of changes in equity and the statement of financial position for the years 2011 to 2014 are presented in Appendix A. Although revenue doubled between the years 2011 to 2014, the company's profit for the year remained relatively flat. Bill was able to increase the company's revenue but had problems in keeping his costs in line.

The statement of financial position indicated that total assets increased substantially from $450,000 in 2011, to $1,132,000 in 2014. In 2011, approximately 67% of the company's assets were financed by debt, a ratio that remained unchanged during the four-year period. This meant that every time assets were purchased, 67% was financed by debt, and the rest, equity.

In 2014, Bill decided to invest $300,000 in his business to purchase new production equipment in order to meet product demand and more importantly, improve plant efficiencies. Bill re-mortgaged his house and obtained $100,000 from the bank for the purchase of these assets.

Financial Projections

When Robert considered joining the company in October of 2014, he realized that his first task was to bring about changes in the business that would have positive effects on both the statement of income and the statement of financial position. If the company wanted to invest $2.0 million to expand its operations in 2016, he knew that some cash would have to be generated internally. He could not continue relying on 67% external funding. This meant going through a cost-reduction program in addition to reducing the level of working capital accounts such as inventories and trade receivables.

Statement of Income Planning Assumptions

Robert's first objective was to boost operating efficiencies. He wanted to improve the company's return on revenue from 2.3% in 2014 to 9.0% in 2015. He was confident that this could be realized by substantially cutting back on production costs. Based on some preliminary figures, he estimated revenue to increase by 8% in 2015, or reach $2.2 million.

In 2014, cost of sales as a percent of revenue was 76.6% and he wanted to bring it down to 64.0% by 2015. Here are Robert's 2015 cost of sales estimates for individual expense items:

Purchases	$850,000
Freight in	84,000
Labour	460,000
Depreciation/amortization	25,000

As far as marketing activities are concerned, Robert wanted be more aggressive. Distribution costs for 2015 were estimated as follows:

Salaries	$ 70,000
Commissions	80,000
Travelling	35,000
Advertising	30,000
Depreciation/amortization	10,000

The administrative expense projections for 2015 were to remain flat compared to 2014. However, as a percentage of revenue, these expenses would also show an improvement in efficiencies. Finance costs would show a substantial increase in view of the extensive debt financing obtained from the bank for the purchase of new assets. He estimated administrative expenses and finance costs to be as follows:

Salaries	$ 120,000
Leasing	40,000
Depreciation/amortization	25,000
Other charges	13,000
Financing costs	110,000

Statement of Changes in Equity Planning Assumptions

The only four numbers to be inputted in the statement of changes in equity (retained earnings) are:

- In the first template under the year 2011:
  - under *common shares*, for the balance at the beginning of year: $25,000.
  - under *retained earnings*, for the balance at the beginning of the year for retained earnings: $87,000
- In the second template under the year 2013:
  - under *common shares*, common shares issued: $25,000.
  - under *retained earnings*, for the balance at the beginning of the year for retained earnings: $171,000.

Statement of Financial Position Planning Assumptions

There were two major improvements that Robert wanted to realize in 2015. Reduce the level of investments in inventories and trade receivables. His objective was to increase the inventory turnover (based on cost of sales) from 5.3 times to 8.1 times in 2015. This target was also based on industry averages and benchmarks. He also wanted to reduce the average collection period from 71.1 days in 2014 to 47 days in 2015. This objective was based on some financial benchmarks that he had obtained from his banker.

With these changes in inventories and trade receivables, he felt that he could increase *Micro Tiles'* internal cash flow which would then help finance the purchase of the $300,000 non-current assets.

The current asset accounts were estimated as follows:

Inventories	$ 175,000
Trade receivables	285,000
Prepaid expenses	4,000
Cash and cash equivalents	$ 25,000
Short-term deposits	100,000

As previously indicated, Robert expected to invest an additional $300,000 in non-current assets in 2015. As a result, the estimated accumulated depreciation/amortization would increase by $60,000. Goodwill would be maintained at the $14,000 level.

On the equity and liability side of the statement of financial position, Robert wants to reduce working capital loan and long-term debts. His strategy was to improve the company's debt-to-total assets ratio in order to have some leverage for obtaining additional financing in 2016 that would be used for the $2.0 million investment. The following are his estimates for the year 2015:

Share capital	$ 125,000
Non-current liabilities	270,000
Trade and other payables	235,000
Short-term borrowings	120,000
Accruals	36,000

Micro Tiles' weighted average cost of capital for the years 2013 to 2015 is estimated at 10%.

Break-Even Point Cost Assumptions

Robert felt that the company's break-even points for the years 2013 and 2014 were not healthy and by going through a cost reduction program, he was aiming for a significant improvement in 2015. He estimated that 75% of the cost of sales for "labour" to be variable and the other 25%, fixed.

Case Assignments

Part 1: Running the Numbers

a) Open *Part A – Financial Statement Analysis* spreadsheet templates. Input the information contained in the *Micro Tiles* 2011 to 2014 financial statements that are attached to this case into Templates 1, 2, and 3. ***Note****: Because the spreadsheet templates have a maximum of three years, you will have to input the financial statements for years 2011, 2012 and 2013 using one set of templates and years 2013, 2014 and 2015 using another set.*

b) Using the financial planning assumptions in this case, produce the statement of income, statement of changes in equity, and statement of financial position for *Micro Tiles* in the year 2015.

c) Make an analysis of the company's financial statements for the years 2011, 2012 and 2013 (actual), 2014 (year-end estimates), and 2015 (forecast). This information should be drawn from the following templates:

Template 4: Statement of Sources and Uses of Funds
Template 5: Statement of Cash Flows
Template 6: Vertical Analysis of the Statement of Income
Template 7: Horizontal Analysis of the Statement of Income
Template 8: Vertical Analysis of the Statement of Financial Position
Template 9: Horizontal Analysis of the Statement of Financial Position
Template 10: Financial Ratios

Part 2: Interpreting the Numbers

Summarize your understanding the above analysis in a memo, no more than 2 pages long. Your memo should discuss items such as:

- What has been happening with sales?
- Is the company making money (look at total profit, gross profit, operating profit, etc.) and what is their trend?
- How well is the company collecting it's accounts receivables?
- How has the company's working capital been changing?
- Can the company pay it's a) current liabilities and b) total liabilities?
- Where is the company's cash coming from and how is it being used?

Be sure to refer to your calculations to support your interpretations and conclusions.

Part 3: Analyzing Break-Even

Open the *Part B - Decision-Making Tools* spreadsheet templates. Input the revenue and cost information for 2013-2015 from Micro Tiles' financial statements into Template 2 (Break-Even Analysis using the PV ratio).

a) Based on this information and break-even planning assumptions, what are the company's unit and revenue break-even points for the years 2013, 2014 and 2015?

b) How much sales revenue should Micro Tiles have to sell in 2015 in order to reach a $300,000, $350,000, and $400,000 before-tax profit objective?

c) Prepare a brief (no more than 3 paragraphs) discussion memo to Robert about the break-even results, and the implications on his future plans. Should Robert move forward, or not? Why or why not?