



# The Innovation Factory – Start-up Catch 22s

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**Abstract.** The case uses the rise and growing pains of a consumer product based company from 2000 to 2003 to highlight the ever-constant struggles of developing new products and building a consumer products company – juxtaposed with the difficulty of satisfying the desires of all parties, ranging from investors to customers. The company, known as the Innovation Factory grew dramatically in its first several years. Building on its successes, the company raised the capital needed to increase sales significantly. Product development issues, sales goals, investor needs, and operational challenges are outlined as the Innovation Factory progresses towards a third sales cycle. The case discusses the business, operational, and developmental strategies and pitfalls experienced during company growth and sets the stage for the major push for increased sales in the coming year.

**Keywords:** entrepreneurship, startup, product development, growth.

## 1. Introduction

“Marvin, I have great news,” said Tucker Marion, co-founder of the Innovation Factory, on the phone to Marvin Weinberger, co-founder and CEO. It was early spring 2003, and Tucker had just finished a sales meeting with Canadian Tire, one of the largest big box retail chains in Canada. Canadian Tire agreed to a 9,000 unit initial order of their products, high-end ice scrapers called IceDozers™.

Tucker had completed a sales tour of Ontario, Canada with Larry Bershatsky, the Innovation Factory’s new sales manager. Their mission was clear, book as many orders with Canadian firms for the upcoming 2003/2004 winter sales cycle as possible. Firm orders would help garner much needed investment in order to complete the product development and tooling ramp-up required to meet the ever-increasing tally of orders.

The Innovation Factory had just come off three very successful airings on QVC, the television-based shopping network. They sold their first two products, the IceDozer and SnowMover in a combination package, dubbed the ‘Essential Tools for Safe Winter Driving’. Based on the success of their on-air sales, an investor gave Marvin \$50,000 on a handshake.

With the \$50,000 in the company bank account, Tucker submitted his resignation the next day to the large automotive company he had worked for over the last seven years. In the two months following his resignation, Tucker spent most of his time leading development of additional products and helping shape the

operational and sales plan for the upcoming season. The main issue was timing and money. In order to complete development of the new IceDozer Mini, a brush attachment for the existing IceDozer, and all-new high-volume injection molding tools; investment needed to be closed no later than April 2003. The fear was that investment that was too little or too late would make the booked orders impossible to fill, thereby sinking the company on the cusp of success. Conversely, without orders for products that did not yet exist, additional investment would be unattainable. Marvin and Tucker sat in their favorite Japanese restaurant to discuss the conundrum.

## **2. History of the Innovation Factory**

The idea behind the Innovation Factory began on a cold and icy day while Marvin, 47 and Tucker, 27 were driving to the Philadelphia airport. Both had struggled to get out on their way, due to an ice storm that had coated their cars. Once seated on the plane, they started discussing all the problems with current ice scrapers. This was a welcome diversion, as their efforts to raise money for ToyMark, Inc., a children's dot com portal and associated communication device were proving futile. This was their last attempt, an all-out assault on Silicon Valley and entertainment contacts in LA. Exhausted and empty handed, they flew back to Philadelphia. On the plane they listed several of the design issues of current scrapers and potential solutions, these were:

- Scrapers are not ergonomic and do a poor job at focusing energy. A scraper based on proven tool shapes, like wood planes could do a much better job.
- Windshields have contours, but scraper blades are flat. As such, they only scrape about a half inch in the middle of the blade. A scraper with a movable, curving blade could cure this trait.
- Hard ice is thick, and you need to crack it. Current scrapers are not substantial enough to do this. A heavy-duty scraper with focused teeth could crack through tough ice.
- Snow is cold and wet. Current scrapers allow snow to get on your clothes and sleeves. A scraper with a plow that deflects snow and ice could eliminate this annoyance.
- Scrapers are low cost and break often. A heavy-duty tool with the features explained above might be able to command a premium price.

The reinforce the brand image, the yellow and black color scheme of bulldozers would figure into the design.

Armed with these five critical elements, Tucker began to sketch out a potential design. This included a rear saw-like grip, a front palm handle, and a flexible blade connected to the front palm handle via struts. ToyMark's initial investors received a small 'brochure' enumerating design features of the 'IceDozer'. In the year since initial investment and development of the communication device, ToyMark's bank account had dwindled to just \$50,000. The feedback on the IceDozer from the investors was positive, and they agreed to allow development of the concept from the remaining funds.

As a first step, Tucker contacted an industrial design firm that produced a few initial sketches of ToyMark's communication device. EJM Design was located in Los Angeles, CA and had worked on products such as the Teledyne WaterPik and the Thermoscan baby thermometer. Their mission was clear, using the initial sketch and five critical characteristics as a guide, develop concepts with an eye toward simplicity. In May 2001, EJM Design produced 17 concept drawings. Marvin and Tucker reviewed them and selected a winning concept.

Concurrently to the initial design work, 600 respondents completed a market research survey, which gave insight into peoples' perceptions of ice scrapers, functionality, and branding. In addition to further highlighting the issues listed in the five critical characteristics, nearly all respondents could not identify the brand of their current ice scraper, and nearly the same percentage expressed dissatisfaction. The survey analysis focused Marvin and Tucker to develop a high-end brand, centered on quality tools that command premium pricing. The Innovation Factory was born.

Development continued over the summer of 2001, testing sizes, shapes, and how the blade might curve to the windshield. In June, a rough mock-up was constructed. Tucker took the mock-up to Ben Franklin Technology Partners, a state-funded organization established to fund Pennsylvania-based start-up companies. Ben Franklin agreed to fund several thousand dollars of CAD work. Over the next month, the virtual design team 'met' weekly by phone conference to refine the design. In August, the Innovation Factory selected a potential manufacturer who began participating in the design calls. On August 10, 2001, a near production ready mock-up of the IceDozer underwent testing in an aerospace environmental ice chamber in Lansdale, PA. The IceDozer is shown in Figure 1.

In September 2001, the IceDozer was ready for tooling and the Innovation Factory sourced a manufacturer via MFG.com. The manufacturer not only was the lowest bidder, but was located in the U.S. The injection molder also agreed to a key concession, financing half of the tooling cost over a two-year period. Based on this information, one of the original investors committed to the tooling deposit. In October 2001, the machining of IceDozer molds began. Additionally,

the IceDozer's sister product the SnowMover™, designed for clearing deep snow from on and around the vehicle, was also initiated.

Figure 1: The IceDozer



While the design was being finalized and the tooling kicked-off, Marvin began initial work on sales and marketing. The prototypes were shown to potential investors, and a press kit was readied. In a stroke of luck, *Popular Science* agreed to feature the IceDozer in its What's New section in the February 2002 edition that was due to reach newsstands on January 15, 2002. Coinciding with that publish date was a media blitz in which samples would be sent to newspapers and magazines nationwide. The hope was that the some articles would feature the scraper, thus driving Internet sales and developing some brand cache. As such, the Website and shopping cart 'live' date coincided with the article release. On December 3<sup>rd</sup>, the first tooling samples were ready for review. Tucker eagerly opened the box, only to find them unusable.

### 3. Engineering Issues and Launch

The chunky yellow parts had sink marks and sizing issues. Although common first sample issues, there was no time for iterative tooling modifications. The team agreed on an action plan, and the injection molder started making the changes immediately. The deadline was set to be on or around the 1<sup>st</sup> of the year, leaving 2 weeks until launch. The Holiday break was a tense one, with agitated calls between Tucker and Marvin discussing the criticality of the deadline, and the need for the first units to be perfect.

On December 27<sup>th</sup>, a box arrived with the revised samples – all the issues seen in the December samples were fixed. They both breathed a sigh of relief, for now... The next morning was a cold one, and luckily provided them with the perfect and most challenging conditions for the IceDozer, thick frost. That morning Tucker rushed out to his car and tried the IceDozer. It did not work, the

more pressure put on the blade, the worse it performed. Even more distressing, the blade was useless on flatter surfaces. Marvin made the same discovery at his house, and their next series of phone calls were unpleasant to say the least – the string of words exchanged is unsuitable for print. Two weeks to launch, and \$50,000 spent on development, the product was a failure.

Tucker scheduled another emergency phone call with the team, and afterwards went to his desk and started to sketch things in CAD, looking at the parts, trying to analyze the problem. Using the sketch Tucker had drawn, the molder sanded the blade to add the slight bow in the middle. Samples shipped over night and the next day Tucker tested them – they worked. The molder received instructions to modify the tool to match the sketch, send samples for review, and then begin production. Production units, boxes, and instructions needed to be ready in less than 2 weeks.

The Innovation Factory contracted two recent college graduates to develop the Website and shopping cart. To save money, Marvin and Tucker decided to implement a manual merchant account and order processing system. The molder constructed a small assembly line and the order processing system was tested. The *Popular Science* article hit the streets as expected on 15<sup>th</sup>.

Almost immediately, the Website started to get visitors, followed by orders. Very quickly, hundreds of orders piled in. While excited, Marvin and Tucker realized how precarious the situation was. Press kits needed sending, and due to merchant account rules, goods needed shipment within two weeks of credit card processing. Since they were trying to build a brand, customer service was paramount, along with quality of the product.

Issues came as fast as the orders were coming in. The molder was not including tracking numbers on order confirmations, shipments were being lost, late shipments were forcing reversals of credit card charges, and the IceDozer's companion product – the SnowMover – had issues of its own. A special adhesive epoxy secured the plow head onto the main body. Unbeknownst to the team, cold weather delayed and inhibited curing. Because SnowMovers were stored after assembly in an unheated staging area, none of the plows cured properly. One of the most critical contacts that received a press sample combination kit – the head of QVC quality control, discovered this issue. She eagerly opened the specially packed box, removed the pristine SnowMover from its bubble wrap, and the plow promptly fell off. There would be no QVC airing in 2002. All customers who purchased SnowMovers received an email, and were notified they would be shipped replacement units. A fix using fasteners was developed, and replacement units shipped. The IceDozer and SnowMover combination package is shown in Figure 2.

Figure 2: The SnowMover and IceDozer 'combo' package



Orders kept a steady pace through February, and slowly the operation smoothed out as the molder got more familiar with assembly and order processing. Additional positive press appeared, including this newspaper review from Winnipeg, Canada:

*Hey you, Jack Frost.*

*Did you really think your hot, sultry breath alone would melt that layer of ice on your windshield?*

*We can see your beady little eyes trying to navigate the road through that donut-sized hole you scraped clear with your Visa card. People like you are road hazards, hell on wheels, you're a prime candidate for the IceDozer. Click onto [www.innovationfactory.com](http://www.innovationfactory.com) and place your order now before MPI makes you its poster child.*

*While the name may conjure images of a narcoleptic Zamboni driver, the IceDozer is, in fact, the world's first high-tech ice scraper. Its Pennsylvania inventors applied the same principle as the folks who make lady shavers: Your windshields (legs) are curved, so why use an ice scraper (disposable razor) with a flat blade? IceDozer has a Flexiblade solves that problem, and the ergonomic design -- palm handle and saw handle -- is "suited to the body's normal motion." (Winnipeggers are masters of the 'motion' we hereby dub the Windshield Shuffle.)*

*And since ice can't always be scraped away, IceDozer has micro and macro teeth for cracking it. (Very therapeutic.) The media 'evaluation sample' was actually sent to the boss and he insists we return it to him when our evaluation is complete. Thus, we thought the IceDozer was best evaluated on his windshield.*

*We're pleased to report the macro teeth do indeed crack stubborn ice. We also strongly suggest you hold the 'saw handle' with both hands to prevent slippage.*

The season ended in March, the Innovation Factory had survived, and even had a little money in the bank. There were few complaints, and many customers had great testimonials. Armed with real products, real sales, and some positive feedback, Marvin and Tucker hoped for investment to turn the Innovation Factory into a 'real operation.' During the spring and summer, they labored over business plans, visited sales outlets, and made plans for the upcoming season.

#### **4. Growth and the Next Season**

Several high-end and automotive catalogs agreed to offer the IceDozer and SnowMover in the upcoming season. These included Herrington Catalog, Sporty's, and International Auto Sport. First shipments began in September, with sales continuing online through February. The sales and marketing plan was to build brand awareness through catalog exposure, followed by television coverage through airings on QVC and infomercials, finally culminating in volume sales through traditional retailers such as Target. QVC was contacted again, and this time received samples that were perfect. Marvin traveled to various locations such as Wal\*Mart in Arkansas, and interviewed potential sales managers. Feedback was positive, but price points were a clear hurdle to overcome.

Unable to convince additional investors, Marvin and Tucker turned to the initial angels. One decided to pass, but the other decided to extend a loan to cover the expenses of ramping production. The injection molder started to produce units in August, at a rate of approximately 4,000 IceDozers per month. SnowMover production was slower, at a rate of 2,000 per month. Orders shipped to the catalogs, and a much-refined Web shopping cart debuted.

Good news came in... through a Wal\*Mart sales contact, a company with a vendor number was interested in helping the Innovation Factory test the IceDozer in select stores. A 10,000-unit test was scheduled for November, at a selling price of \$9.99 (well below the standard price of \$14.95, and Herrington's price of \$19.95). In reviewing the production capacity, it was clear that the molder would need to increase capacity by increasing shifts and working weekends. In October, QVC agreed to test the IceDozer and SnowMover combination, ideally over the Thanksgiving holiday, with an initial inventory of 10,000 units. Tucker laid out a production schedule and delivery dates – there was no possible way both orders could be filled in the expected timeframe.

Marvin and Tucker lamented over the situation, having come this far, now with more orders than could be filled. Cancel one of the orders? What retailer is 'better' to disappoint? In the end, Marvin and Tucker approached both parties. The Wal\*Mart test was cut back to 5,000 units, and QVC was pushed back until January – unfortunately missing the key Holiday season. The IceDozer reached Wal\*Mart's shelves in December, and units began arriving at QVC's distribution

centers late in the month. Marvin and Tucker both took a much needed few days off over the New Year.

## **5. Strikeouts and Home Runs**

Tucker called Wal\*Marts all over the greater Boston area hoping to find one that carried the IceDozer. He finally located one in Southborough, MA, and quickly headed over. He searched every isle, every shelf, finally finding the IceDozer deep in the automotive section, on the top shelf. He wondered if every store had them displayed like this, and how many people would think to look for a scraper there? He took the box down and repositioned it on the middle shelf, and proudly proceeded to check out. Later in the season, all Wal\*Mart inventory would be sold off in discount bins for \$0.99.

Meanwhile, QVC was stretching the capabilities of the molders. Special barcodes, pallets, and box orientation needed to be just right, or else QVC would deny receipt of the order. Constant phone calls between Tucker, the molder, QVC, and freight companies took place to ensure smooth delivery. Finally, all inventory for the first airing delivered in the second week of January.

In preparation for the airing, Marvin headed development of a special video segment (b-roll) of the products ‘in-action,’ which highlighted a side-by-side comparison between the IceDozer and a regular ice scraper. He and Tucker sketched out how the airing would proceed. It was to be outside, weather permitting, maximizing demonstration of the products on real ice and snow. A special windshield stand was constructed, and boxes of fake snow shipped in. Dry runs in the days prior to the airing honed the segment, and a potential investor was invited to participate in the Green Room (QVC sales monitoring area).

On January 17<sup>th</sup>, 2003, the IceDozer was scheduled to be aired on the Morning Show, a special hour program on QVC. Marvin and Tucker arrived at 5am, and it was cold – around 15° Fahrenheit. Set-up began and the windshields were prepared. The sun came up and the cameras began to be set in-place. The temperature now hovered in the upper-teens. Marvin prepared his lines, and adjusted his wireless microphone. At 8:37am, the segment aired. The host and Marvin had good chemistry and the demonstrations went perfectly. Orders began to spike, and the calls per minute were increasing. The initial airing had a sales expectation of 2,000 packages. All inventory sold out in six minutes, well under the allotted airtime. Once all the calls were completed, the Innovation Factory had better per minute sales than *any* product aired that day. Sufficiently impressed, the investor handed Marvin a check for \$50,000. Marvin and Tucker agree on how to use the funds, and Tucker resigned from his job the next day. QVC wanted more products for a spot the next day, but due to capacity, additional spots could not air until the end of January. At the end of the season, the Innovation Factory aired three times on QVC, each time exceeding expectations.



Work continued on business plans and presentations for a larger investment. One issue that needed particular attention was product margin on continued sales. The cost of goods sold (C.O.G.S.) for the units made in Indiana were high, and the price structure would simply not work at mass retail. High-volume molds, resulting in much lower cost per unit would need to be manufactured if the company was to continue growth (see Exhibit 6 for C.O.G.S. information).

## **6. Investment and Sales: The Double Edged Sword**

In March 2003, Marvin and Tucker had three main objectives: generate firm sales leads, obtain investment, and plan for increased production capacity and additional products. Investor packages and offering agreements were prepared, and Marvin and Tucker 'hit-the-road' to pitch to potential investors. The investors were mostly high net worth individuals who were looking to fund something other than software and Internet companies. In nearly every meeting, investors expressed interest in participating in the round. \$25,000 packages were prepared and distributed with a total desired investment of \$750,000. Unfortunately, every investor also expressed a desire to see additional purchase orders before signing off on the investment. The sales goal for 2003/2004 was set at approximately \$1.5 Million.

The sales strategy continued from the previous year. As a basis, high-end catalog sales would lead off in September, followed by QVC and infomercial airings at Thanksgiving, and a retail blitz with in-store video in December. To ameliorate the Wal\*Mart disaster, heavy emphasis was put into point-of-sale display plannograms, and expensive packaging. A focus of the retail sales would be in Canada. The sales season is longer, and removing ice and snow is near and dear to the hearts of Canadians, accounting for an estimated 75% of production volume. The sales strategy as outlined in the Innovation Factory business plan from 2003 can be seen in Exhibit 2. Marvin and Tucker were put in touch with a sales manager that would lead the sales initiative for equity, Larry Bershatsky. Larry and Tucker then headed out on a series of trips to Canada to meet with buyers. Canadian Tire, Zellers, Home Hardware, and Home Depot Canada were primary targets.

Concurrently with sales, Marvin and Tucker laid out the product roadmap. Using the FlexiBlade™ as a basis, a smaller hand-held IceDozer named the Mini filled the lower price segments. A clip-on brush attachment (at the request of Canadian Tire) for the IceDozer would allow a higher priced SKU for retailers such as Brookstone. The SnowMover would need to be completely redesigned, eliminating the adhesive and costly stopgap bolt fix. In the long-term, a larger SUV-sized IceDozer with folding handle would be introduced. The product development roadmap, as illustrated by a market segmentation grid (Meyer and Lehnerd, 1997) is shown in Figure 3.



and desired packaging for the plannogram. Unfortunately, final product costs were not yet determined. Wholesale prices were based on estimates before final C.O.G.S. from Philadelphia Plastics were determined. Although this was a risk, Marvin and Tucker saw no other choice. C.O.G.S. and wholesale prices are shown in Exhibit 6.

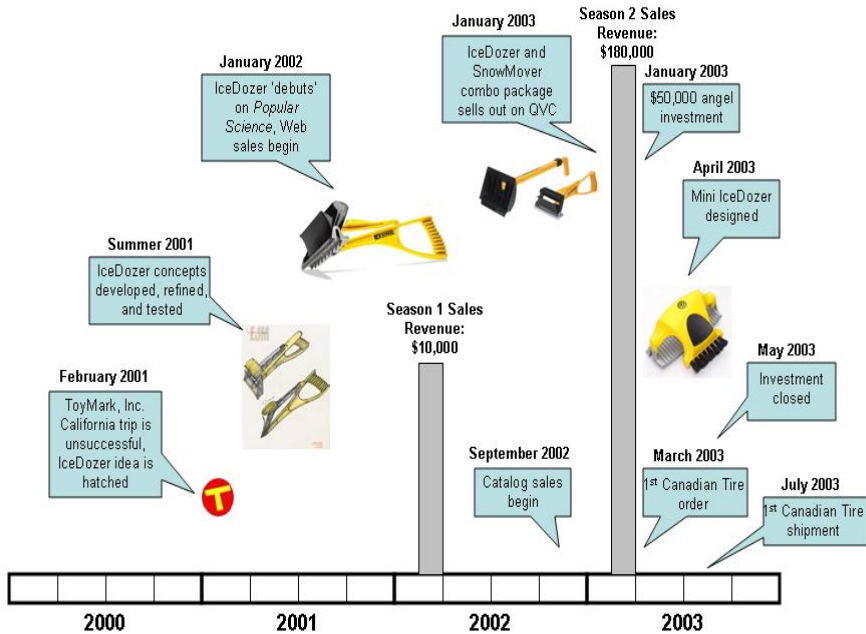
By the end of April, Zellers and BJ's Wholesale Club had also signed up to carry the Innovation Factory line-up and expectations were that the Innovation Factory could sell out its production capacity. In order to kick-off tooling, the investment needed finalization. Negotiations were getting contentious between Marvin and some of the potential investors regarding ownership percentages and valuations. On the morning of April 30<sup>th</sup>, as negotiations drew to a close, Tucker received a call from one of the investors that the deal collapsed over valuation issues. He drove over to Marvin's house to confront him. After a brief but heated argument, they both agreed to accept the investment terms. Later that day an uneasy investor called Tucker with news that his wife just spotted the IceDozer in one of the Wal\*Mart \$0.99 discount bins. Tucker was able to explain the test, reasons for failure, and upcoming plans to mitigate future issues.

On Monday, investment funds began funneling into the Innovation Factory account. Tooling construction began in China and later that week Marvin and Tucker reflected on the events over sushi. Anxiety tempered their excitement. What if the molds are not completed in time? Have we given away too much margin in incentives and packaging concessions to retailers? Are we sure the Wal\*Mart disaster won't repeat itself? As a first step, Tucker met with Philadelphia Plastics to develop a project and operational plan. The overall picture was bleak, and left little margin for error or delays, particularly with the Mini IceDozer. An option was trying to use the Indiana molder as a bridge, but this would torpedo any profit due to the unfavorable cost structure. Weekly project meetings were scheduled to keep a constant track on tooling progress. Sales forecasts, mold capacities and information are shown in Exhibit 3 and 4.

As June began, Marvin and Tucker further defined the marketing and sales strategy. Of particular focus was product packaging and the plannogram, as Canadian Tire had agreed to prominent store placement that necessitated quality product packaging. BJ's Wholesale Club, Zellers, and Home Hardware also expected premium packaging and floor displays. A vendor specializing in retail displays began working on prototypes, with samples expected later that summer. Unfortunately, packaging, displays, and the variety of shipping regulations (barcodes, etc.) necessitated a third-party fulfillment center nearby Philadelphia Plastics, which added another layer of supply chain complexity and cost. Since a major piece of the sales plan was infomercials, several firms were contacted and developed quotes. Besides production costs, each test would be approximately \$15,000 per airing. Marvin and Tucker decided to postpone that discussion for the time being and focus on the countdown to the fast approaching first shipment

to Canadian Tire. In 7 weeks trucks would be arriving in Philadelphia to pick up Mini IceDozers and IceDozers...

*Exhibit 1: Innovation Factory timeline*



*Exhibit 2: Innovation Factory sales plan (taken from the Innovation Factory Business Plan included in the investor package, dated April 7, 2003)*

The automotive aftermarket represents a rich selling opportunity. Our approach to business development and sales has been based on the following strategy and milestones:

- **Define the numerous channels** that we will evaluate and prioritize as we systematically tackle the automotive aftermarket. Highlighted in **bold** are those on which we plan to focus first, due to volume and brand-building capability, which include:

#### **Automotive**

- o AutoZone Inc.: 3,049 retail units, and distributes to 50,000 other retailers
- o Genuine Parts Company: 800 stores and distributes to 140,000 other locations

- o Advance Stores Company: 1,750 retail stores and distributes to 15,000 others
- o Sears Automotive: 1,050 stores and distributes to 40,000 others
- o The Pep Boys: 629 retail units and distributes to 12,000 others
- o General Parts: 2,800 stores and 25,000 distribution accounts
- o CSK Auto Inc.: 1,152 stores and 25,000 distribution accounts
- o O'Reilly Auto Parts Inc.: 716 stores and 53,000 distribution accounts

### **General Merchandise Stores**

- o Wal-Mart Stores Inc.: 2,649 retail units
- o Kmart Corp.: 2,103 units
- o Consolidated Stores: 1,303
- o Target Stores: 978 units
- o Ames Department Stores: 475 units
- o Canadian Tire, stores TBD
- o Zellers Canada, stores TBD

### **Buying Clubs**

- o Costco Wholesale Group: 310 retail units
- o Sam's Club: 486 retail units
- o BJ's Wholesale Club Inc.: 118 retail units

### **Hardware and DIY**

- o Ace Hardware Corporation: 5,100 stores
- o TruServ: 7,000 stores

- o Do It Best: 2,000 stores
- o Sears Hardware: 200 stores
- o Lowe's: 750 stores
- o The Home Depot: 1,200 stores
- o Home Hardware Canada, stores TBD
- **Commission an experienced sales representative agency**, to target the accounts listed above. We are in discussions with several well-known agencies that specialize in the automotive sector.
- **In 2003, establish a goal of accounts with three major retailers and two major automotive outlets.** If we are able to establish a foothold within these important retail sectors, the next line of targets will be a major push into Canadian and other international venues. The company also plans to explore distribution to the secondary outlets for automotive accessories. These include gasoline stations, convenience stores, supermarkets, pharmacies and car washes.
- Target significant non-retail channels for marketing our products:
  - o **Catalog Sales** – Our premium products would appear a natural ‘fit’ for leading catalog marketers targeting upscale consumers. We have identified the major players in each of the relevant categories (e.g. automotive accessories, gifts, tools). Our focus will remain on brand-building, and as such our first targeted catalogs will be:
    - o Hammacher-Schlemmer
    - o Sharper Image
    - o Brookstone Collections
    - o Herrington (expand our current relationship with additional product offerings)
    - o Expand upon current catalog resellers, which include: International Autosport, Sporty's, What's New Now, Solution's, Smart Systems, and Sports Imports
  - o **QVC/Infomercials** – The Company has retained Segel Associates, headed by Marvin Segel, son of the founder of QVC. Segel Associates has conducted numerous successful product campaigns on QVC as well as via other infomercial channels. For the remainder of 2003, we will

continue to offer our current package while expanding into different product lines and SKU's. We are also in preparations to begin an infomercial campaign in the 3<sup>rd</sup> Quarter of 2003. We are projecting that our first infomercial offering will be the IceDozer 'Classic' and SnowMover combination retailing for \$29.95.

- o **Internet** – The Company has created a premium web presence at [www.innovationfactory.com](http://www.innovationfactory.com), which can be readily extended to encompass new products. We plan to test advertising/promotion strategies to expand our Internet sales beginning in the 3<sup>rd</sup> Quarter of 2003.
- o **Direct Sales to Fleets** – There are more than 4 million fleet-managed vehicles within the United States, including corporate and government generally, as well as safety (fire/police/ambulance) and military constituencies. On a test basis, the Company plans to hire an in-house Sales Rep to determine whether direct sales represents an effective and profitable mechanism for selling fleet accounts. To start, we have joined the National Association of Fleet Administrators, whose 2,600 members manage 2.7 million vehicles. NAFA represents the fleet managers in the United States and Canada.
- o **Increase brand awareness through unique marketing initiatives.** In order to build and reinforce our brand and positioning, the Company plans to continue its public relations outreach. The two centerpieces of this initiative may include the following:
  - o **Safe Driving Survey<sup>TM</sup>** – We will continue to survey drivers to determine their concerns and interests. Newsworthy highlights will be publicized when the weather leads the news cycle. An example of such newsworthy findings includes the fear among 59% of respondents of getting into accidents when they neglect to completely clear snow and ice. We will conduct our surveys both among visitors to our website and via regular outreach to a scientific sampling of drivers.

Exhibit 3: Innovation Factory winter 2003 sales projections. Includes confirmed purchase orders (Exhibit 5)

|                      | May | June | July  | Aug    | Sept   | Oct    | Nov    | Dec    | TOTALS  |
|----------------------|-----|------|-------|--------|--------|--------|--------|--------|---------|
| IceDozer             |     |      | 2,000 | 8,200  | 15,000 | 25,000 | 15,000 | 10,000 | 75,200  |
| IceDozer w/<br>Brush |     |      | 4,498 | 2,000  | 4,500  | 15,000 | 7,500  | 5,000  | 38,498  |
| Mini IceDozer        |     |      | 4,498 | 10,000 | 20,000 | 45,000 | 30,000 | 20,000 | 129,498 |
| SnowMover            |     |      | 7,200 | 7,200  | 15,000 | 20,000 | 7,500  | 5,000  | 61,900  |

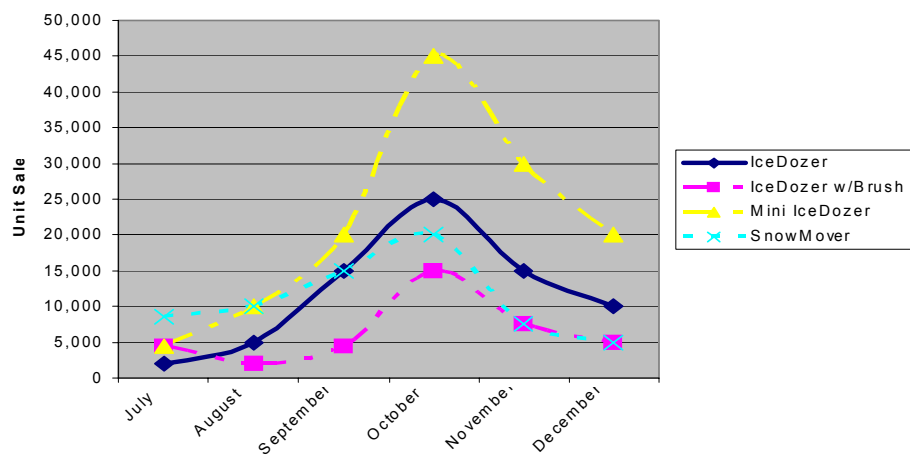


Exhibit 4: Innovation Factory Mold Information

| Molder                | Model            | Capacity (units/month) | Status (5/1/03) |
|-----------------------|------------------|------------------------|-----------------|
| Indiana*              | IceDozer         | 4,000                  | In production   |
|                       | SnowMover        | 2,000                  | In production   |
|                       |                  |                        |                 |
| Philadelphia Plastics | IceDozer         | 40,000                 | ETA 8/15/2003   |
|                       | SnowMover        | 40,000                 | ETA 9/1/2003    |
|                       | Mini             | 40,000                 | ETA 8/21/2003   |
|                       | Brush Attachment | 40,000                 | ETA 8/15/2003   |

\*The Indiana molder can make a temporary mold of the Mini and IceDozer brush attachment in 5 weeks (capacity ~2,000 units/month on a normal production schedule) for a cost of \$20,000.



Exhibit 5: Innovation Factory firm purchase orders (June, 2003).

### Canadian Tire

|             | INITIAL ORDER |                    | SALES FORECAST |                     |
|-------------|---------------|--------------------|----------------|---------------------|
| <b>Plus</b> | 4,498 units   | \$33,060.30        | 14,254 units   | \$104,766.90        |
| <b>Mini</b> | 4,498 units   | <u>15,293.20</u>   | 12,694 units   | <u>43,159.60</u>    |
|             |               | <b>\$48,353.50</b> |                | <b>\$147,926.50</b> |

Initial order to be shipped by July 21.

- Received vendor number from Canadian Tire (9230)
- The first units (expected to be 5,000 of each) are due to be shipped on 7/21
- Purchase order (PO) received, \$48,353.50 at Mini: \$3.40/unit, IceDozer w/ Brush: \$7.35/unit).
- Terms are 2% NET 30 days, FOB (Free On Board, no cost to IF) Philadelphia

### Zellers

- Zellers is expected to carry the Mini, IceDozer, and the SnowMover in 275 stores
- Initial purchase order 2,000 of each (\$51,000 est., at Mini: \$4.27/unit, IceDozer: \$8.12/unit, SnowMover: \$10.69/unit), due to be shipped on 8/21
- Sales are expected to be 18,500 for the Mini, 18,500 for the Dozer, and 14,000 for the SnowMover
- Terms are consignment, payment on sales is NET 10 days, PO's will be shipped as needed

### BJ's

- PO received, \$137,894.40 (Combo package at: \$15.17/combo unit)
- Sales, in 105 stores, 14,400 SnowMover and IceDozer combo packages, shipments begin 8/15
- Terms are Net 60 days, FOB Philadelphia

Exhibit 6: Innovation Factory wholesale price and unit costs.

| Model                              | Manufacturer          | Average Wholesale Price | COGS*    |
|------------------------------------|-----------------------|-------------------------|----------|
| IceDozer                           | Indiana               | \$ 7.66                 | \$ 4.73  |
| IceDozer                           | Philadelphia Plastics | \$ 7.66                 | \$ 3.62  |
| Mini IceDozer                      | Indiana               | \$ 3.85                 | \$ 4.07  |
| Mini IceDozer                      | Philadelphia Plastics | \$ 3.85                 | \$ 3.22  |
| IceDozer w/brush                   | Indiana               | \$ 7.93                 | \$ 6.94  |
| IceDozer w/brush                   | Philadelphia Plastics | \$ 7.93                 | \$ 4.93  |
| SnowMover                          | Indiana               | \$ 10.82                | \$ 11.22 |
| SnowMover                          | Philadelphia Plastics | \$ 10.82                | \$ 7.86  |
| BJ's Combo                         | Indiana               | \$ 15.17                | \$ 17.86 |
| BJ's Combo                         | Philadelphia Plastics | \$ 15.17                | \$ 15.39 |
| *Full allocated Cost of Goods Sold |                       |                         |          |

7. Background of the Founders

Below are the founder’s backgrounds at the time of the case:

Founder and CEO was Marvin Weinberger, a twenty-year veteran of business formation. Among the companies he has founded were Infonautics (formerly listed on NASDAQ: INFO) and Telebase Systems. Mr. Weinberger received his A.B. degree from the University of Michigan and his Juris Doctorate from Boston University. Marvin holds numerous patents in information technology.

Co-Founder and Chief Development Officer was Tucker Marion. At the time of the case, he had six years of experience in the design, development, manufacturing, and launch of high technology products both at Ford Motor Company and Visteon Corporation. Tucker received his B.S. in Mechanical Engineering from Bucknell University and his M.S. in the Management of Technology from the Wharton School of the University of Pennsylvania.