

Tri-Mode Systems: Continuity Issues in a Lifestyle Business Case Study

**Eric Nelson
University of Central Missouri**

**Heather Loomis
University of Central Missouri**

**Gregory Bendorf
University of Central Missouri**

Tri-Mode Systems, Inc., is a successful manufacturer of Start/Stop Control Units for industrial applications. The owner, Del Gouldsmith, sees Tri-Mode as his life's work; but as he enters his seventies, he has to determine his next business step. This case chronicles Tri-Mode through the years of inception, growth, decline, revival, re-growth, and retrenchment— a running example of a business' growth cycle. Students answer fundamental questions dealing with business strategy formulation and the future of Tri-Mode: Mission, Vision, Goals, SWOT, and strategy development and implementation. As an introductory-level case in strategy, it provides insight into lifestyle businesses.

Since the purchase of Tri-Mode Systems in 1986, Del Gouldsmith has overcome many changes and rebuilt the company structure innumerable times. Now in his late seventies, Del wants to spend more time with his wife and growing grandchildren than at work. He feels that he is ready to retire, but is not quite sure what direction to go with the business and how to remove his business from his personal life. None of Del's family is interested in taking over the business, so Del is running short on options. He is asking himself some big questions: "What's next for Tri-Mode? Do I close the business and really retire? Should I sell off Tri-Mode? Can I really let go of what I have worked so hard to accomplish? What do I do now?"

DEVELOPMENT OF A NEW PRODUCT IN A PROMISING MARKET: 1974

The idea for Tri-Mode began in 1974 when Jim Smith, an aggressive young owner of a hydraulic parts distribution company noticed that aerial lifts, more commonly referred to as bucket trucks, were making a debut in the electric service and telecommunications field. Rather than climbing a pole using spiked boots and safety harness, bucket trucks provided a safer and more effective way for workers to access their service areas.

Since Jim's company provided hydraulics, he was familiar with this potentially new marketable application. He observed that the trucks would be parked with their hoods open so the engine of the truck could run the movement of the bucket. Because the operation of the buckets movement required a second person operating from the ground, Jim realized he could market a product that could allow the aerial lift to be operated by the person in the aerial bucket.

Jim brought the idea to a friend, an electrical engineer named Harry Smith, who not only design the stop/start controller, but also served as Tri-Mode's owner. In late 1974 the controllers started to leave Jim's distribution warehouse. Those early start/stop control units were used in aerial lifts, derrick diggers, and any other equipment that required a Start/Stop/Throttle Control/Emergency Power option for its application.

START-UP AND DECLINE OF TRI-MODE: 1974 TO 1986

Harry incorporated the company as Tri-Mode Engineering, Inc. and served as the sole owner. Sales and distribution for the product was Jim's responsibility, who used his distribution business as a point of customer contact. Harry built the stop/start controllers, sold the products to Jim, who sold them to customers. Early Tri-Mode never achieved the volume that Harry and Jim had hoped. The slow sales led to poor quality control as Harry lost motivation to complete projects on time; which led to a backlog of returned products. The high number of repairs on controllers led to such a backlog of units that after nearly 12 years of business, Tri-Mode had difficulties filling new orders within 6 months of product purchase.

REVIVAL OF TRI-MODE AND A NEW BEGINNING: 1986

Real estate broker Bob Rite, a friend of Del and Maxine Gouldsmith, saw Tri-Mode's struggle and wondered if he could help. As a personal friend of the Gouldsmiths, he knew that Del was looking for a small business to run from his home to keep him busy once he retired from IBM.

Del quickly discovered the business was "badly broken". There were unfilled orders and six months worth of backlogs. There was no active manufacturing – only parts in boxes and several boxes with return tags indicating the company name and a reason for return. The only glimmer of hope came in the form of a phone call an hour into their meeting from a New York customer who desperately needed Tri-Mode's products to complete his vehicle orders.

Bob understood Del's potential as a businessman, so he made the Gouldsmiths an offer to become co-owners; with the promise to purchase the business from Del and Maxine if "it didn't work out." In turn, Harry offered to spend two weeks personally training Del, as well as work with him over the weekend to get the emergency order built and shipped. The Gouldsmith's made a risky decision by paying \$15,000.00 for the company.

GROWTH: SEPTEMBER 1986

Del asked himself, "Do we try to rebuild a business relationship with the known customer set?" It was going to take time to rebuild Tri-Mode's credibility on a customer-by-customer basis and would require many days of travel to meeting with customers personally Del wanted to retire in five years from IBM where he was in his 34th year as a Systems Engineer. How he chose to handle his new company required careful task management skills because he could, under no circumstance, jeopardize his current full time job working at a major semi-conductor manufacturing facility.

Del decided to call Jim, the original developer of the control unit idea, who had handled the distribution and sales of Tri-Mode products. It was going to be a tough to "sell" himself as a dedicated new owner of a manufacturing company he knew nothing about. Del needed to assure Jim that he could meet delivery schedules, re-establish a quality product, and clear up any outstanding issues such as issuing credit for or repairing the broken products which had been returned to the old owner. Del reasoned that using Jim's distribution company instead of selling directly to customers seemed to be the best short-term option to get the business back on track.

Del and his son Ed, an electrical engineer, set up the meeting at Jim's office. The meeting was cordial but intense. After exchanging formalities, Jim informed Del and Ed that Tri-Mode was the worst vendor Jim had ever dealt with. Orders went unfilled, returns piled up, quality was extremely poor, satisfaction

was low, and Tri-Mode's industrial reputation was awful. To seal the deal with Jim, Del and Ed promised to fix or replace the returns; and, if given an opportunity, their product quality and customer satisfaction would be the keystone of their company's mission.

Jim said he would think about it and let them know within a week or two if he would work with Tri-Mode again; giving him some time to check with former users of Tri-Mode products to establish if there was any interest. Del spent those next two weeks constructing an inventory of parts that came with the business and researching suppliers for additional inventory. In addition, Tri-Mode moved locations to Del's home.

Two weeks later, Tri-Mode received their first 'conditional' order from Jim who had secured an order for a remote throttle controller, a sub-component of a start/stop control unit. Jim was testing Tri-mode and Del knew it. "We got that order right, 100%. No mistakes!" Literally, at a snail's pace, Tri-Mode began to fill a very small quantity of orders. As their distributor's confidence began to build, Tri-Mode gradually developed a product flow that would prove successful.

MATURATION AND CHANGE: 1990

It took about 4 years to establish a presence in the industry – and to remove the stigma of "being the worst vendor" Jim's company had ever dealt with. Tri-Mode went from Zero Dollar Revenue to about 20K a year, which was substantial considering it was Del's side business.

Del started to worried that they were producing a product designed 16 years earlier. Although the controllers were still meeting the general requirements of the industry, there were so many technological advances that change seemed necessary and inevitable. The lack of innovation came to light when a customer of Jim's wanted to discuss a change in the basic operation of the Start/Stop Controller. After much back and forth communication, Jim agreed that Tri-Mode "would be allowed to talk to an end-user."

The change was a simple request: when switching the boom to the Tri-Mode Controller the customer wanted to leave the engine running instead of shutting it down. Having to restart the truck engine when switching to the remote operation was a nuisance and it was unnecessary wear on the battery and starter. After some deliberation, Del felt that this customer's problem could become the catalyst to make changes Del felt were necessary to the main line product. After several interviews with design engineers, Tri-Mode moved forward with a designer that they felt would help them the most: Harry Smith was back on the job!

After several prototypes, a product emerged which allowed the engine to remain running while control was switched to a remote operation. Tri-Mode continued to produce both the first and second-generation products offering the customers a choice between the two. While still in the process of "working out the kinks", another idea emerged, which Del felt would allow Tri-Mode to combine functions of two products into a single controller. They were producing a start/stop controller and a throttle (up or down) controller. Hardly without exception Tri-mode would receive orders for the identical number of each. Combining the two products would be more efficient and lower the cost. The downside risk was if either function failed, it would require replacement of the more expensive combination unit rather than a separate unit.

Tri-Mode decided to take the risk and removed the old product line.

GROWTH, YET AGAIN: 1991

Although Tri-Mode's distributor had allowing contact with one of its customers, Tri-Mode was still unsettled because they had no real knowledge what was beyond that one contact. There were now hundreds or perhaps a few thousand trucks with a Tri-Mode controller in operation. And so in the midst of a product revolution, Del decided to shy away from his distributor and take the lead in Tri-Mode's future. Tri-Mode would no longer be dependent on a distributor to determine what the product line should

look like or to whom it would be sold. Tri-Mode became a direct seller of their product line to the OEM's (Original Equipment Manufacturers).

HUGE GROWTH/DECLINE/RETRENCHMENT: 1991 TO 2001

The next ten years saw steady and substantial growth; thru cold calling and reference selling a stable customer set was established. Tri-Mode eliminated the stigma of being an unreliable vendor, and establishing a key ingredient: customer rapport by making customer satisfaction its first priority. Tri-Mode's strategy was based on being responsive to their customer's needs. Some products saw an evolution of up to three versions in order to stabilize the product and respond to customer requirements.

From a low of \$20,000 in gross sales after changing their marketing philosophy in 1991; they were on a projected revenue year of over a quarter million in sales until 9-11-2001. Tri-Mode's largest customer would eventually fold because of 9/11, leaving TriMode with a greatly reduced customer set, and an uncertain future.

Tri-Mode followed the economic recovery curve, growing slowly with their remaining customer set. With the future holding little promise from the remaining customer set and two extra employees that were no longer needed. In late 2001, Del decided to focus his efforts on cold calling potential customers, addressing his need to generate new clients.

GROWTH: 2002 TO 2008

Del's stubborn 4-year long cold-calling initiative paid off in 2005, as he found a client even larger than his former pre-9/11 customer. This change was a huge boost for Tri-Mode and Del had to hire another employee to keep up with the growing demand of his new customer, but with this increased demand came many troubles. The new employee unintentionally sacrificed quality for quantity resulting in returned products and frustrated customers. Because of the time consuming and labor-intensive work that was required for each board, it was more cost effective at the time to produce new boards and set the faulty boards aside, which tied up capital.

In 2006, Del and Maxine bought a new house and were in the process of moving when that huge rush of orders from their new client hit. They had actually never finished moving in to their new home. Thus, on top of the return orders, Del had to travel four hours one way to get to work, which was not a huge issue since he could stop off at his suppliers to restock parts and bring them with him. All of his employees were based out of their homes and all lived within 45 minutes of Del's old house which he still owned and stayed at frequently. He was confident that his employees could get the manufacturing work done without him.

The resupply trips were not a major problem until Maxine had major car accident, which almost took her life in late 2008. The nearly 800-unit per year sale increase in 2006 (see Figure 2) combined with the travel arrangements between Maxine and his second home/workstation had now become unbearable.

THE COMPETITION AND THE PROBLEM: 2009

Three major companies occupied the market for outsourced aerial lift control units; Tri-Mode, Wired Rite, and Transportation Safety Devices (TSD). The rest of the market was controlled by the aerial lift truck manufacturers who constructed the control units in-house and had no intention of outsourcing this function. According to Del, Tri-Mode controlled about half of the remaining market, with approximately 4-5 large customers. Unfortunately, he also felt that the greatest obstacle to growth was the limited size of the market. In addition, the aerial lift truck manufacturers were really pushing the technology in the market and he knew that TriMode's current computer boards in the control units were outdated with unnecessary parts and were patchworked to make the current product fit the improvements that Del's customers desired.

Tri-Mode was looking at upgrading the product line to include changes in design and manufacturing techniques. Eliminating patchwork, creating a board that would eliminate wasted parts, and creating new features that the industry standard did not offer currently were necessary changes that Del was considering. He really believed that change was an ever-present element and was a key ingredient in keeping up with and ahead of the industry. Change brought Tri-Mode to where it was and change could carry them into a promising and challenging future; but, would that future include Del Gouldsmith?

With nearly 25 years invested in the business, Del was looking forward to spending more time with his family; therefore, determining what needed to be done to get the business saleable should be his sole focus. Like many lifestyle business owners, the business' financials were mixed with his personal accounts and Del had no means of quickly creating financial statements for the sale of the company. Should he close the business for good or try to sell the company to an interested investor?

"Do I sell off Tri-Mode? My grandson Greg says that I need to show financials if do, but I bought the business on an idea, why should I show financials? Besides, there are not many financials to show since I keep my personal and business books in one place. I've invested so much of myself into this place, can I let it go? What do I do?"

TRIMODE SYSTEMS: CONTINUITY OF A LIFESTYLE BUSINESS TEACHING NOTE

Overview

Del Gouldsmith's business, Tri-Mode Systems, Inc., is a successful manufacturer of Start/Stop Control Units in industrial applications; in particular, control units for commercial vehicles such as lifts, booms, and similar equipment. Del sees Tri-Mode as his life's work, but he is now in his seventies and is looking to step back from the business. He does not want to close Tri-Mode and needs to consider his next steps.

This case takes the reader to the beginnings of Tri-Mode, through the years of inception, growth, decline, revival, regrowth, and retrenchment to the current status. It is a running example of a business' growth cycle. Students are asked fundamental questions that deal specifically with business strategy formulation and the future of Tri-Mode: Mission, Vision, Goals, SWOT, strategy development and implementation. As an introductory-level critical incident in strategy, it has and provides insight into lifestyle businesses.

Audience

This case is intended as an introductory glimpse into entrepreneurship and strategic management. The concepts and principles discussed can be applied to small business management, entrepreneurship, and to a lesser extent, marketing. As a small business case, it is easy for novice learners to relate to, while providing a view into an industry and business type many students are unfamiliar with.

Learning Objectives

As a result of analyzing this critical incident, students will:

- Perform a SWOT analysis.
- Write a mission, vision, and strategic goals appropriate to Tri-Mode.
- Evaluate Del Gouldsmith as a lifestyle entrepreneur.
- Evaluate a TOWS overlap analysis to generate strategic options for Tri-Mode.

Discussion Questions

1. Perform a SWOT analysis for Tri-Mode.

2. Write a mission statement, a vision statement and a brief set of strategic objectives for Tri-Mode based on Del's past history in the company and his own personal philosophy.
3. In what ways does Del Gouldsmith exhibit characteristics of a successful entrepreneur?
4. Lifestyle entrepreneurs are fueled by the desire to earn a respectable living, find satisfaction in career attainment and achievements, and spend quality time with family and friends (Henderson, 2002). To what extent has Del treated Tri-Mode like a lifestyle business?
5. Provide an outline of strategic options for Tri-Mode using a TOWS Matrix.

Answers

1. Perform a SWOT analysis for Tri-Mode.

A SWOT analysis is a scan of the internal and external environments of a business for the purpose of strategic planning. The environmental factors that are internal to the business are strengths (**S**) and weaknesses (**W**). Those factors that are external to the business are opportunities (**O**) and threats (**T**). This analysis provides a firm with helpful information to match capability and resource advantages of the firms competitors. Ultimately it is an instrument of strategy formulation and selection.

Tri-Mode is in a position to greatly benefit from such an analysis to provide measures to avoid another business drop like post 9-11 when their major customer went into bankruptcy. In completing this question, students should place themselves in Del's shoes, his customer's shoes, and his competitor's shoes. Through doing so, they will be able to gain a multi-viewpoint analysis for Tri-Mode and gather an exhaustive list of strengths, weaknesses, opportunities and threats. The following is a SWOT analysis that we feel would cover all the factors in the internal and external business environment scan. Instructors may want to consider using a more structured template such as can be found at: <http://www.businessballs.com/swotanalysisfreetemplate.htm>

Strengths

- S-1. Excellent customer relationships
- S-2. Control of at least half of the open market for start/stop boxes
- S-3. Custom order fulfillment
- S-4. Home based (can move when needed)
- S-5. Excellent reputation among those who have used Tri-Mode
- S-6. Customer satisfaction
- S-7. Small failure rate b/c of complete hand-manufacturing

Weaknesses

- W-1. Small workforce
- W-2. Long hours
- W-3. Current product of little appeal for an outsider to be introduced to and be taught how to manufacture
- W-4. Travel time between home base and main office (Lee's Summit and Branson)
- W-5. Slow manufacturing process due to intensive manual labor

Opportunities

- O-1. Market product to boom truck manufacturers and truck owners that current manufacture their own start/stop boxes
- O-2. Add automation to product manufacturing
- O-3. Redesign board to eliminate patch work to create appeal to potential business investor
- O-4. Create a new industry standard product with another feature that hasn't been explored to date that would make operation safer and easier
- O-5. Fuel price increase resulting in larger use of phone and electricity where boom trucks are required for routine maintenance and repair

Threats

- T-1. Small public market with approximately 4 to 5 businesses that purchases plug-and-play control units as opposed to in-house manufacturing of the unit.

- T-2. Competitors purchasing current product, reverse manufacturing and reproducing at a lower cost to the consumer
- T-3. Current customer being bought out by a company that purchases from a competitor or manufactures in-house
- T-4. Fuel price increase resulting in part price increase
- T-5. Competition lowering price of direct competition product

2. Write a mission statement, a vision statement and a brief set of strategic objectives for Tri-Mode based on Del's past history in the company and his own personal philosophy.

A mission statement is a brief and clear description of the fundamental purpose of a company. It is ultimately the end result of the company's function. This statement is the answer to the basic question, "What is our business?" (Drucker, 1974, pg. 78) "The mission tells you and the world why you exist, what business you are in and, by implication, what business you are not in" (Scholtes, 1998, pg. 61). A mission must be unique to each company so that current/potential customers and employees sense the *above standard* mentality of the business. A vision statement is much like a mission statement yet it describes the businesses purpose in term of the company's values.

Company goals are a set of objectives that provide the roadmap for a company to achieve the end-result, the mission. According to Peter Drucker (1974, pg. 99), "Goals need to reflect the...mission." They are the commitments through which the mission is to be carried out and the standards that performance is measured against. Drucker also points out that goals need to be operational, or be able to convert into specific targets and specific assignments. We feel that based on the case information, the mission statement would include the following elements:

- Target Market Definition: Business-to-Business, Predominantly OEM
- Purpose: Tri-Mode Systems, Inc. is a Start/Stop Control Unit manufacturer for the aerial lift industry.
- Value Statement: Del firmly believes in high value – low price with a high quality product catered to each customer's needs.

The key element in answering these questions is for the student to think like Del Gouldsmith. Although Del possesses many characteristics of a "text book" manager, students should realize that Del would write a very straightforward mission statement, vision statement and goals set that address his highest priority, his customers. To date, Del has had one mission statement drafted in the 1990's but cannot locate the draft, which obviously has no effect of Tri-Mode. A good mission statement that Del would write could read:

"Tri-Mode Inc. strives to provide the best start/stop control units for aerial lift trucks at an appealing price point with guaranteed customer satisfaction by continuously exceeding the industry standard."

Like many lifestyle entrepreneurs, Del has never written down a vision statement, but students should be able to glean a clear view of his aspirations for Tri-Mode. A vision statement that Del might write could read:

"Tri-Mode Inc. will continue to be a personable company with its focus on customer satisfaction and quality product production through continuous, sound technological improvements."

Similar to most small business owners, Del has never drafted a set of company goals. In talking with him, we realize that he has a very clear set of goals in his mind that indicate his comprehension of the industry. A short set of strategic goals for Tri-Mode to achieve its mission could read as follows:

Goals

A. Communication

- We strive to open pathways of communication between the customer and Tri-mode to allow for ease in order placement, problem solving, returns and customer service.

B. Product Development

- Tri-mode will continually modify the current product to create a final piece of equipment that will meet the needs of each individual customer through site visits and detailed need requests.

C. Customer Service

- Tri-Mode is committed to customer satisfaction and guarantees results of installed equipment.
- Tri-Mode is committed to ensuring satisfaction through routine and emergency facility visits to correct any possible problems and prepare for potential changes in the current product.
- Tri-Mode will replace any module that is defective at no cost through the fastest method possible to reduce the delay of the end result.

D. Price

- Tri-Mode is committed to having a high quality product at a competitive price. This commitment involves a well compensated staff that produces high quality/low defect work that keeps recall and excessive labor costs at a minimum. Built with high quality material and work, the product is high quality that will last.

3. In what ways does Del Gouldsmith exhibit characteristics of a successful entrepreneur?

From research and conceptual writing conducted at Harvard Business School the following definition of entrepreneurship is now generally accepted by most authors:

"Entrepreneurship is the process of creating or seizing an opportunity and pursuing it regardless of the resources currently controlled (Timmons, 1994, pg. 7)."

It is interesting to note that an actual dictionary definition of the word 'entrepreneurship' does not exist; however, Merriam-Webster defines an entrepreneur as: "one who organizes, manages, and assumes the risks of a business or enterprise." So, the question then becomes, what makes an entrepreneur successful?

While there are many answers to this question, our favorite is a list of six traits compiled in a manual published by FastTrac to aid entrepreneurs in the design and growth of their manufacturing businesses: (1) Initiative/Aggressiveness, (2) Perseverance, (3) Responsibility, (4) Persuasiveness, (5) Self Discipline, and (6) Self-Confidence (1999). We recommend using Timmons and the FastTrac manual as a framework for answering the question. The information in the case suggests that Del Gouldsmith exhibited many of these characteristics. To answer this question, students should review the case material and identify behaviors or decisions indicative of these characteristics. We feel that Del exhibits these characteristic in the following fashion:

TABLE 1

Entrepreneurial Characteristics	Actions/Behaviors
(2) Perseverance, (3) Responsibility, (4) Persuasiveness,	Del has always been concerned about his customers (puts them first in his business). Their needs have been his top concern, even when it was not profitable in the short-term. His short-term losses have resulted in long-term relationships and gains that have placed him in the top among start/stop control unit suppliers.
	Del was and is willing to work as hard as he needs to ensure the completion of the product and satisfaction of the customer.
	He has worked with his customers on a personal basis.
	He doesn't ask his employees to do a job that he himself would not do.
	He is always in contact with his customers to meet the new needs/wants that develop
	Has made the business mobile to allow for flexibility for emergencies
(1) Initiative/Aggressiveness, (6) Self-Confidence	He took a chance on a business that was clearly failing.

4. Lifestyle entrepreneurs are fueled by the desire to earn a respectable living, find satisfaction in career attainment and achievements, and spend quality time with family and friends (Henderson, 2002). To what extent has Del treated Tri-Mode like a lifestyle business?

Most business students, through their training, will quickly recognize the benefits of entrepreneurship: economic activity, profit, job creation, innovation. The literature is beginning to distinguish lifestyle entrepreneurs by their contributions to family, community, and life quality versus high growth (Burns, 2001; Davidson & Henrekson, 2002; Pastakia, 1998; Thompson, Alvy, & Lees, 2000). A unique aspect of lifestyle businesses is that they are highly interactive and interdependent with all other domains of the owner's life. Looking from the outside in, we would struggle to differentiate between the owner and his/her business. The fact that Del cannot or will not provide financial statements for Tri-Mode is a clear indicator that the man, Del Gouldsmith, and his business, Tri-Mode Systems, are difficult to separate. This fact alone points strongly to the notion that Tri-Mode is a lifestyle business.

What many people would consider to be negative, or unsuccessful characteristics of a business tend to be strong indicators that a business is a lifestyle business: 1) the focus on family, 2) the contribution to community, and 3) the focus on steady income as opposed to profit maximization. Comparing these elements with reference to Del should show:

TABLE 2

Lifestyle Entrepreneur Characteristics	Actions/Behaviors
Steady Income/Life Quality	Has not grown workforce a great extent since purchase and development of current business
Life Quality/Access to Family	Has business spread out between two locations with a 3 hour distance between both points
	Has had no working inventory system to keep track of current material and partial/completed product inventory

In 1997, Buttner and Moore conducted research into the notion of a business as a lifestyle and they found that “the launch of business ventures follows a consistent pattern among the entrepreneurs. Common among the 12 respondents was the idea of starting businesses to meet personal needs for creativity. Entrepreneurs consistently mentioned foregoing opportunities for growth in favor of fulfilling family and personal commitments. These benefits highlighted key differences between lifestyle entrepreneurs and other small business owners (p. 248). “Lifestyle entrepreneurs view their decision to start businesses not as a career, but as a personal strategy to achieve self-actualization. In other words, lifestyle entrepreneurs uniquely developed activities of day-to-day living into fully-functioning businesses (Buttner&Moore, 1997, p. 248).” More recent researchers have defined lifestyle entrepreneurs as individuals who own and operate businesses closely aligned with their personal values, beliefs, interests, and passions (Wadhwa, Holly, Aggarwal, & Salkever, 2009; Henricks, 2002). Students should be able to articulate that Tri-Mode is a direct reflection of Del’s values and motivations.

5. Provide an outline of strategic options for Tri-Mode using a TOWS Matrix.

The TOWS Matrix (or SWOT overlap) approach helps organizations narrow down the number of strategic choices available by basing their strategic options on their SWOT analysis (David, 1993). In practice, SWOTs are developed as guideposts to examine strategic options. Often, these strategic options do not clearly relate to either strengths or weaknesses. ATOWS Matrix presumes that ALL strategic options should be based on clear overlaps of internal (SW) and external (OT) factors. As a result, overlaps at the Strengths and Opportunity junction should be given greater consideration than Weakness and Opportunity overlaps. By using the matrix, organizations should be better able to allocate resources toward strategic options that are attainable, or must be addressed (as is the case of a Strength-Threat overlap). A Weakness-Threat overlap would lead to a very different discussion than a Strength-Opportunity overlap. For example, the W-T discussion would probably be an eye-opening discussion for Tri-Mode as the organization needs to fundamentally question whether it will continue to exist in the near future.

The intent of this discussion question is to teach students how to prepare and analyze a medium-scale TOWS Matrix. This critical incident lends itself to a very nice application of the TOWS Matrix since Del’s options are somewhat limited, as can be seen in the below table. We recommend including this question early in strategic management and entrepreneurship courses where future cases can be analyzed using the TOWS Matrix; or late in marketing or marketing management courses where the concept can be introduced for future course work.

	Strengths	Weaknesses
	<p>S-1. Excellent customer relationships</p> <p>S-2. Market control</p> <p>S-3. Custom order fulfillment</p> <p>S-4. Home based</p> <p>S-5. Reputation</p> <p>S-6. Customer satisfaction</p> <p>S-7. Minimum failure</p>	<p>W-1. Small workforce</p> <p>W-2. Long hours</p> <p>W-3. Little appeal to an</p> <p>W-4. Travel time</p> <p>W-5. Slow manufacturing process</p>

Opportunities		
O-1. Market to in-house sufficient boom truck manufacturers	1. Perform dry calls to truck owners and manufacturers who produce own units with an offer of a unit with a new feature, product guarantee, and customized to their needs. (S-3, S-7, O-1, O-4)	1. Hire temporary employees to get caught up on current orders and allow time for development by cutting down on hours, leading to automation through the redesign and creating a new industry standard. (W-1, W-2, O-2, O-4)
O-2. Add automation	2. Redesign the board to eliminate the excess work time in patching, excess parts, lower the failure rate, and include automation to lower production price and turnaround. (S-6, S-7, O-2, O-3)	2. Redesign the unit to eliminate the patchwork, cut down on long manual labor hours and appeal to current/potential customers and potential business investor (W-3, W-5, O-2, O-3, O-4)
O-3. Redesign board		
O-4. Create a new industry standard		
O-5. Fuel price increase		
Threats		
T-1. Small public market	1. Continue to nurture customer relationships through the custom order fulfillment and guarantee to reduce the chance of losing customers to competition price decrease. (S-1, S-3, S-6, S-7, T-1, T-4, T-5)	6. Remove any possible trace of part identification from product to reduce the likelihood of competitors reverse engineering and finding suppliers to lower price. (W-5, T-2, T-4, T-5)
T-2. Reverse manufacturing	2. Begin to build relationships with prospective buyers of current customers with an emphasis on satisfaction, quality and reputation. (S-3, S-5, S-6, S-7, T-1, T-3)	7. Increase the workforce to eliminate the possibility of taking too much time in order fulfillment so current customers will not search for new suppliers. (W-1, W-2, W-5, T-1, T-5)
T-3. Current customer bought out Fuel price increase	3. Keep current with customers to ensure the product from being let out for reverse engineering. (S-1, S-5, S-6, T-2)	8. Create a steady price with suppliers so part's price is not dependent on fuel price to keep end product price at a minimum. (T-4)
T-4. Competition lowering price		9. Create a home base where all the work takes place to eliminate the travel time, extra lead time for product completion, and fuel price increase. (W-4, W-5, T-4)

REFERENCES

- Burns, P. (2001). Entrepreneurship and small business. *Hampshire, UK: Palgrave Macmillan.*
- Businesballs.com, Chapman, A. (ed). (2010). SWOT analysis method and examples, with free SWOT template. Retrieved on 4/30/10, from: <http://www.businessballs.com/swotanalysisfreetemplate.htm>
- Buttner, E. H., & Moore, D. P. (1997). Women's organizational exodus to entrepreneurship: Self-reported motivations and correlates with success. *Journal of Small Business Management*, 35(1), 34-46.
- David, Fred R. (1993). Strategic Management (4th Edition). *New York: Macmillan Publishing Company.*
- Davidson, P., & Henrekson, M. (2002). Determinants of the prevalence of start-ups and high growth firms. *Small Business Economics*, 19(2), 81-104.

Drucker, Peter F. (1974). Management: Tasks, Responsibilities, Practices. *New York, NY: Harper and Row.*

FastTrac Manufacturing: Participant Manual. (1999). *Denver, CO: Kauffman Center for Entrepreneurship.*

Henricks, M. (2002). Not just a living: The complete guide to creating a business that gives you a life. *Cambridge, MA: Perseus.*

Marcketti, S., Niehm, L. & Fuloria, R. (2006). An Exploratory Study of Lifestyle Entrepreneurship and Its Relationship to Life Quality. *Family and Consumer Sciences Research Journal*, Vol. 34, No. 3, 241-259.

Merriam-Wenster. *Entrepreneur*. Encyclopedia Britannica. Retrieved on May 26, 2011 from:
<http://www.merriam-webster.com/dictionary/entrepreneurship>

Pastakia, A. (1998). *Grassroots ecopreneurs: Change agents for a sustainable society*. Journal of Organizational Change Management, 11(2), 157-168.

Scholtes, Peter R. (1998). The Leader's Handbook: Making Things Happen, Getting Things Done: New York, NY: McGraw-Hill.

Thompson, J., Alvy, G., & Lees, A. (2000). Social entrepreneurship: A new look at the people and the potential. *Management Decision*, 38(5), 328-339.

Timmons, J.A. (1994). New Venture Creation: Entrepreneurship for the 21st Century, Fourth Edition, Burr Ridge, IL.

Wadhwa, V., Holly, K., Aggarwal, R. & Salkever, A. (2009). Anatomy of an Entrepreneur: Family Background and Motivation, Retrieved on July 7, 2009). *Kauffman Foundation Small Research Projects Research*. Available at SSRN: <http://ssrn.com/abstract=1431263>

Post Script

As of May, 2011, Del is still seeking a buyer for Tri-Mode. He is committed to selling the company since he does not want to see a lifetime of work simply disappear. He sees Tri-Mode as his legacy to the stop/start control industry. He is now 76 years young.

Teaching Tips

On the next page is a timeline of the events as they occurred at Tri-Mode to help instructors to more quickly gain an understanding of the salient points of the case. We do not recommend handing out this timeline to students, they need to make sense of the facts using their own analysis process.

TIME LINE FOR TRI-MODE, INC.

Early 1974	Jim Smith, a hydraulic parts distributor, noticed a need for a control that could be used to operate an aerial lift from the bucket rather than from the truck's engine on the ground.
Late 1974	Harry Smith, an electrical engineer, created Tri-Mode Engineering Inc. and designed a stop/start controller based on Jim Smith's idea.
1974-1986	Harry Smith, the sole owner of Tri-Mode, never reached the desired sales volume he had hoped, which led to a decline in product quality.
Early 1986	Tri-Mode had a backlog of repairs and replacements with 6 months of new orders unfilled.

Mid 1986	Bob Rite, Real estate Broker, saw Tri-Mode as a good investment for his Friend, Del Gouldsmith, who was looking for a small business to run after his retirement.
Sept. 1986	Del Gouldsmith purchased Tri-Mode for \$15,000 and attempted to rebuild the company's relationship with the distributor Jim Smith.
Oct. 1986	Despite the reputation of being the worst vendor the distributor had ever worked with; Del's promise for high quality products and customer service lead to a conditional first order.
1990	After finally establishing a presence in the industry, Tri-Mode raised its profits from zero to \$20,000 a year. Del started to worry about the age of his product and was allowed for the first time to speak to an end user about updates they would like in the product.
1990	After speaking to customers Del hires Harry Smith to redesign the start/stop product and create a new line of multifunction controllers.
1990	Tri-Mode leaves distributor and becomes a direct seller.
1991-2001	Tri-Mode through cold calling and references gained a stable customer base and increased its gross sales from \$20,000 to a projected \$250,000 pre 9/11.
Late 2001	Tri-Mode's biggest client went out of business in the post 9/11 economy.
2005	Del and his wife Maxine purchased a new home four hours away from where his employees and shop were. Del only had a chance to move half of his business when a large rush order stopped their move.
2006	Tri-Mode found a new client that exceeded the orders of its former client and had to hire another employee to fill the demand.
2006	The new employee unintentionally sacrificed quality for quantity resulting in returned products and frustrated customers.
2008	Del's wife Maxine had a major car accident which almost took her life.