Eureka! Winning Ways:

Case Studies of Early Client Experiences

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Introduction

The Manufacturing Extension Partnership (MEP) of the National Institute of Standards and Technology (NIST) has a longstanding record of helping small- and medium-sized (SME) manufacturers to identify and implement technologies and practices that improve manufacturing efficiency and product quality. In light of a changing global manufacturing environment, MEP has more recently begun to develop a growth services portfolio to assist SMEs with development of new products, new customers, and new markets that in turn will help manufacturing SMEs define and build attributes that distinguish them from their competition. MEP's first growth services offering, called Eureka! Winning Ways, was piloted in the fall of 2006, launched in early 2007, and now (in mid-2008) is being implemented widely.

In order to identify more precisely the profiles of and outcomes experienced by E!WW clients, MEP contracted with SRI International, in collaboration with Georgia Tech, to conduct case studies of early E!WW client engagements conducted by MEP centers. The target case studies were selected to reflect the universe of E!WW participants to date according to criteria including: size of company; industry or industry sub-sector in which the company operates; length of affiliation with the respective MEP centers; diversity of E!WW growth coaches; and geographic locations. The following table outlines the characteristics of the selected cases.

Distribution of Eureka! Winning Ways Case Study Clients	
Criterion	Number of Cases
Company Size	
1 to 30 employees	2
31 to 55 employees	2
56 to 100 employees	2
101+ employees	2
Industry or Industry Sub-Sector Characteristics	
Number of different NAICS codes	9[1]
Number of companies in growing/declining/mixed industries[2]	4/3/2
Number of companies in R&D-intensive sectors[3]	5
Number of companies in industries with R&D spending as a percentage of sales that is above average/average/below average/n.a.[4]	3/2/2/2

[1] One company operates in two NAICS codes.

[2] Based on one-year and ten-year changes in employment and value of production at manufacturing establishments, using data from the U.S. Census Bureau, *2006 Annual Survey of Manufactures*, http://factfinder.census.gov. For purposes of this report, a "growing" industry sector means at least three of the four data points are positive, "declining" means at least three of four data points are negative, and "mixed" means the industry has an equal number of positive and negative data points. The four data points include employment change at manufacturing companies from 2005 to 2006, employment change from 1997 to 2006, value of production change at manufacturing companies from 2005 to 2006, and value of production change from 1997 to 2006.

[3] As defined by National Science Foundation, *Science and Engineering Indicators 2006*, Table 8-43: High-technology NAICS Codes.

[4] As defined by National Science Foundation, "Expenditures for U.S. Industrial R&D Continue to Increase in 2005; R&D Performance Geographically Concentrated," Tables 2 and 3, NSF 07-335, September 2007.

Distribution of Eureka! Winning Ways Case Study Clients	
Criterion	Number of Cases
Year of Affiliation with MEP	
1995 to 1998	3
1999 to 2005	3
2006 and 2007	2
Representation of Growth Coaches	
Number of different growth coaches	5
Geographic Location	
Number of states or MEP centers	5

In preparation for conducting the case studies, the SRI-Georgia Tech team developed a logic model and case study methodology, including detailed interview protocols for the two types of interviewees, namely companies and growth coaches. This report provides details of the individual case studies, along with findings and observations for each respective case. The seven case studies[5] that follow in this report cover the following companies:

- CARDSource, Eagan, Minnesota
- Harmony Enterprises, Harmony, Minnesota
- Maple Landmark Woodcraft, Middlebury, Vermont
- Sanderson Industries, Atlanta, Georgia
- Trimline Medical Products Co., Branchburg, New Jersey
- Whirltronics, Buffalo, Minnesota; and
- Woodbury Box, Woodbury, Georgia.

Each case includes an introduction to the company and the industry in which it operates, an overview of the context surrounding the company's decision to participate in E!WW, a description of how E!WW was implemented at each company, a discussion of any parallel activities that might have affected the company's E!WW experience, and SRI-Georgia Tech's findings and observations about the case.

A subsequent report will provide analysis of and conclusions from across the cases, with the intent of exploring issues including:

- The circumstances and issues that propel companies to try the E!WW approach;
- The factors – both internal and external to the company – that seem to influence achievement of results; and
- The types of activities that are pursued by E!WW participants and the benefits that participants experience.

[5] The case study project was originally planned to cover eight cases. However, one company requested that its case study not be published.

CARDSource

Introduction to the Company and Its Industry

CARDSource is a thirty year old company in the plastic card business, based in Eagan, Minnesota. With approximately 50 employees, it produces and distributes personalized plastic cards such as membership, credit, and gift cards on revenues of approximately $12 million. Over the last three to four years the company has experienced approximately 10% growth in revenues, but that growth has flattened in the last year. CARDSource operates in the manufacturing and reproducing magnetic and optical media industry, NAICS 3346. During the period from 1997 to 2006 the industry has experienced dramatic decreases in employment levels and in its value of shipments, 48% and 28%, respectively.[6]

Over the past several years the number of producers of specialty plastic cards has increased dramatically resulting in increasing competition among firms. In addition, some large marketing firms that are the clients of businesses like CARDSource have begun producing custom plastic cards themselves. As a result, there is increased competition for a limited market. The changing market and increased competition has heightened the pressure on CARDSource to expand its products and services.

Context for Participation in E!WW

Past Technological Changes and Improvements at the Firm

CARDSource has a history of making incremental changes to its products and services. These changes have been largely bound by streamlining production and improving the quality of their existing products. According to a statement from the CEO, "producing the same product faster and squeezing more costs out only goes so far." Over the last two to three years, the changing industry landscape forced the company to focus on new means of generating business and expanding their revenue stream. They reorganized their management structure to enable at least one person to focus more directly on marketing and new product development.

Decision Process for E!WW Participation

The opportunity to utilize the Eureka! Winning Ways process was offered to CARDSource by Minnesota Technology, the local Manufacturing Extension Partnership (MEP) affiliate. The company had a long standing relationship with Minnesota Technology, which was piloting Eureka! Winning Ways as a program to help develop new business ideas. Minnesota Technology offered E!WW to CARDSource at a considerably reduced rate, approximately $5,000.

[6] U.S. Census Bureau, *2006 Annual Survey of Manufactures*, http://factfinder.census.gov.

Experience of E!WW Implementation

Description of the E!WW Intervention

The Eureka! session took place on June 25, 2007. It was facilitated by two Minnesota Technology staff members and two Minnesota Technology consultants that had been trained in the E!WW process.[7] Participants in the session included members from various divisions of the company: sales, finance, production and engineering. There were also outside participants, namely strategic business consultants affiliated with CARDSource. According to one of the CARDSource participants, the Eureka! session was very well received. The pace was very fast and the day was long, but it spawned a lot of creative thinking and several new ideas. Out of the Eureka! session, four ideas were selected for Merwyn success screening:

- Marketing Made Easy – a service to provide small companies the marketing techniques to track and leverage data using loyalty programs;
- The Pocket Diploma Card – a card, to be issued by universities, which can carry a person's academic vitae for employment reference;
- Youth Sentry – a specialized identification card for schools, senior citizen complexes, day cares, etc.; and
- Health Club Service Monitoring – a card that can record exercise performance statistics and track personal fitness progress.

The first idea, Marketing Made Easy, was a radical idea that could potentially take the company in a very new direction based on the acquisition of new skills. The other ideas were new uses of existing products.

CARDSource staff thought that the Merwyn evaluation of the ideas was "skewed" by the ability of the people presenting the various ideas to articulate them. The use of carefully selected words that make claims about the potential novelty, impact on growth or savings associated with an idea could overshadow its merit, thus influencing whether or not Merwyn rated the idea highly. They felt that the articulation of ideas during the session is nearly as important to the outcome of the process as the ideas themselves.

During the Trailblazer planning meeting, CARDSource selected the Marketing Made Easy and the Pocket Diploma Card as ideas to be pursued during the Trailblazer period. These two ideas were selected in part because of their high scores,[8] but largely because they had individual champions that wanted to serve as scouts. Marketing Made Easy, for example, was an idea that CARDSource had been considering prior to participation in E!WW.

[7] This practice (of using four people for each Eureka! session) is an adaptation the Minnesota Technology routinely uses for the Eureka! session. Minnesota Technology adopted this change to the standard E!WW procedure to improve "table coaching" and to maintain momentum, which in Minnesota Technology's experience is slowed when participants wait for help from a single coach.

[8] All four CARDSource ideas that were submitted to Merwyn received scores above 50, which translates to "Go" in Eureka! verbiage.

The personal interests of the scouts, however, were not matched by the members of their respective scouting teams. As a result, the Trailblazer period in both instances was marked by a lot of the research and feasibility work being placed on single individuals. In addition to the imbalance in motivation, day-to-day responsibilities severely encroached upon the team members and scouts' time allocated to Trailblazer activities. In the words of one scout, "business got in the way" of pursuing new ideas. The growth coaches during this period were helpful in developing strategies for exploring the new ideas, but CARDSource scouts expressed frustration with their own limited capacity both in time and skills. These were limits that the scouts did not feel the growth coaches were sensitive to and did not help them move beyond.

Highlights, Challenges, and Key Elements of the E!WW Process

The Eureka! session provided a critical outlet for the company to focus on the development of new ideas at a time that is critical for its continued success. Until participation in the E!WW process, the burden of new business development and idea generation was born entirely by the CEO and the current director of marketing. To that end the E!WW process was particularly useful in distributing the function of idea generation more broadly within the company. More importantly, according to one of the scouts, it introduced the idea that the responsibility of business improvement and new development is not held by the top managers alone. This is a critical function of the E!WW process in small companies that have a very specific niche skill.

CARDSource staff reflected that the Trailblazer period needs to be tailored to suit the special needs of small, subsistence firms – those with limited extra resources of both time and skill. In addition, CARDSource recommended that the growth coaches tailor the services offered during Trailblazer to reflect companies' "readiness to create," one of the categories of the initial E!WW assessment. In CARDSource's case, in five of the seven characteristics used to gauge the company's readiness to create, the company scored significantly lower than the E!WW client benchmarks – cause for "concern" in the language of E!WW. In the important characteristic of "company success with new innovations" CARDSource scored particularly poorly. That is likely because the company meets the needs of a very specific niche market, but it suggests that there may be a reluctance to pursue new ideas that stray too far from the company's core competency for risk of failure. In this case CARDSource also scored "concern" in its "courage" ranking, demonstrating the company's discomfort with high risk.

According to CARDSource staff, these concerns about tailoring the Trailblazer period to suit the needs of the company rest on the abilities of the growth coaches. The CARDSource scouts felt that the growth coaches did not recognize the specific limitations they faced. One of those limitations was the inability of the scouts to devote the requisite amount of time to properly research the ideas. The scouts believed that there was an expectation that they devote 50%–60% of their time to Trailblazer activities during the 30-day period. Once they entered the Trailblazer period, they determined that was an unreasonable amount of time for many people within this small company in light of the need to maintain their daily functions. One scout, whose primary role within the company was new business/new product development, was able to devote the requisite time to Trailblazer activities, but the other scout, whose responsibilities did not focus on new products, was not able to allocate the amount of

time required; moreover, it was difficult to get other members of the company to demonstrate interest or a sense of urgency about the project because it was perceived as being far removed from the core business.. The other limitation was skills-based. The scouts felt that they were able to take the research on their ideas to a point, beyond which they required assistance. Their challenge was that they did not know exactly what assistance they needed, hence their expectation that the coaches would intervene.

According to one of the CARDSource scouts, the need to tailor the "all important" Trailblazer period to meet the specific needs of firms the E!WW process would be improved by introducing some follow through. There was a feeling that after a period of close interaction in developing the ideas with particular emphasis on the Merwyn success screening, the company was left alone. The period corresponds with a critical phase of idea development when there is a transfer from creating to developing.

Ideas Identified and Pursued through E!WW

The two ideas pursued by the scouts were Marketing Made Easy and the Pocket Diploma Card. Both ideas received high rankings in their probability of success from the Merwyn, 60 and 57, respectively. Both scores exceeded the E!WW MEP client average of 47, as well as the top two concept average of 55.

The difficulties of the Trailblazer period, compounded with changes in the company, resulted in neither idea being pursued. At the conclusion of the Trailblazer period, the company thought that the Marketing Made Easy idea would be too far from their core competency. It was felt, however, that the shortcomings of the idea may have resulted from the limitations of the Trailblazer period, i.e., there may have been more creative ways to approach the idea or leverage partnerships to realize its potential had the scout been able to access additional or better sources of information and assistance. The second idea, the Pocket Diploma card, is still being worked on, but at a pace entirely dependent on the availability of the scout to devote time to pursuing it.

Changes and Outputs Associated with E!WW

New Capabilities or Activities

Members of the CARDSource team valued the philosophy of the Eureka! session and the practice of meeting with cross sections of the firm to generate new ideas. However, participants in the E!WW process thought that there was incongruity between the positive rankings of ideas and their practicality. They have since held "in house" E!WW sessions to take advantage of the aspects of the process they deemed most helpful, but constrained the ideation period to ideas that represented "incremental shifts" from their core competency. Their "in house" session resulted in an idea that they feel is promising, sufficiently close to their current competency, and championed by enough of the staff that it may be successful.

Short-term Outputs

In the short-term, the Eureka! Winning Ways process has not yielded immediate results for CARDSource. Neither of the two ideas pursued during the Trailblazer process have moved into advanced stages of implementation. However, the company's attempt to

replicate the process demonstrates that one of the outcomes of participating in E!WW was an acknowledgement of the importance of idea generation. Prior to E!WW, CARDSource did not have a system for new idea generation and evaluation. Whether the E!WW process will be adopted by CARDSource remains an unanswered question, but one of the short-term outcomes of the their participation is the recognition that they need a system. Another short-term outcome is dedicating human resources more explicitly to developing new ideas and exploring new practices.

Long-term Outcomes and Implications

The manufacturing and reproducing magnetic and optical media industry is changing quickly. Despite the lack of success with the Marketing Made Easy idea, CARDSource staff recognize that, ultimately, the firm may have to engage in products and practices that deviate significantly from their core competency. Participation in the E!WW process demonstrated that in order to do that, CARDSource will have to move gradually and dedicate both human and capital resources to that end.

Parallel Activities and Alternative Explanations

Other Activities Undertaken and Ideas Pursued

CARDSource has reorganized its management structure. This is due in part to the extended leave of the CEO, rather than entirely because of the E!WW process. Executive decisions in the company are now shared between five executive managers. The Eureka! session highlighted the benefits of sharing the responsibility of idea generation, and the new management structure will hopefully "help more people feel vested" in the success of the company and in its attempts to develop new ideas.

Changes and Outputs from Other Activities

To date, there have not been significant outputs directly related to the new organization.

Findings and Observations

CARDSource is a firm that has experienced considerable success in a very specific niche market. The company, like their competitors, is always looking for new ways to remain competitive in the marketplace. CARDSource received relatively low scores compared to the E!WW MEP client benchmarks in their "readiness to create." This was particularly true in the categories measuring their success with new innovations and their attitude towards taking new action. The categorization of CARDSource regarding their creativity is consistent with the challenges the company experienced with the E!WW process. The specific areas where CARDSource indicated that more help was needed were directly related to their identified weaknesses. As discussed above, the major obstacles encountered during the company's E!WW experience were that:

1. They had considerable difficulty getting members of the scouting teams to adopt an attitude of ownership toward the selected ideas. That problem was partly due to time and resource constraints, but left the scouts operating largely by

themselves. This situation illustrates the weaknesses in the company's capacity to take action toward new ideas.

2. Company staff believed that there was a limit to what they could do in the Trailblazer period, stating, for example, "We are only experts at what we know." This comment implies that operating beyond their knowledge boundary is a challenge. Implementing ideas that are too far away from their core competencies requires the acquisition of new skill sets, which also was a challenge. At least in hindsight, CARDSource staff expected that the role of the growth coach would include recognizing or intervening when the scouts had reached the limit of what they could do for themselves, especially in light of the company assessment describing past difficulties with new products or innovations.

CARDSource's challenges with the E!WW process indicates that the importance of carefully analyzing the results of the Eureka! assessment and modifying or tailoring the process to meet the needs made evident as a result of the assessment. The results of CARDSource's internally-conducted Eureka! session exemplifies how the first Eureka! session might have been targeted to meet the company's needs, i.e., to ideas closely related to the company's core competencies. CARDSource's case highlights the specific need for the growth coaches to be responsive the individual characteristics of their client firms as well as the need for follow-up services. While it is beyond the purview of E!WW per se, since it is an idea development program, firms such as CARDSource could benefit from assistance with taking their ideas into the implementation stage.

Chronology of Key Events

Chronology of Key Events CARDSource	
Date (Month/Year)	**Activity, Service or Other Change**
June 25, 2007	▪ Eureka! session conducted by Minnesota Technology with staff of CARDSource plus invited business strategists.
July 2, 2007 (approximate date)	▪ Trailblazer planning session conducted and two ideas identified: o Marketing Made Easy o Pocket Diploma Card
July 9, 2007	▪ Trailblazer meeting for the Marketing Made Easy idea, with in-person participation by five members of the CARDSource team plus the growth coach.
July 17 and August 7, 2007	▪ Follow-up Trailblazer meetings. Follow up meetings were by phone.
August 15, 2007	▪ Meeting with entire scout team and growth coach. Team members determined that Marketing Made Easy was not progressing very well. Decided to pursue the second idea, "Diploma Card" at the same time and established a second scout team. The growth coach placed two follow-up calls regarding the Diploma Card idea, activities that comprised the totality of contact with the growth coach regarding the second idea.
December 2007	▪ Scout team decides that Marketing Made Easy is not feasible

Chronology of Key Events CARDSource	
Date (Month/Year)	**Activity, Service or Other Change**
	and ceases to pursue it further. The Diploma Card is still being pursued but at the leisure of a single scout.
Spring 2008	▪ Company conducts an "in-house" E!WW session to generate ideas that are closer to its core competencies and that are perceived internally as having greater likelihoods of success.

Sources

Interview with director of marketing, CARDSource, April 25, 2008

Interview with Minnesota Technology MEP center director, April 25, 2008

U.S. Census Bureau, *2006 Annual Survey of Manufactures*

Harmony Enterprises

Introduction to the Company and Its Industry

Harmony Enterprises, founded in 1962, is a family owned business in Harmony, Minnesota. Harmony's core business is the design and manufacture of recycling products – balers and material compactors. Using very high pressure, balers and compactors compress materials such as cardboard, plastics and solid waste to fractions of their original volume. Harmony is classified as a general purpose machining and manufacturing firm, NAICS 33399. Over the ten year span between 1997 and 2006 the industry has seen a precipitous decline in the number of employees (24%), but strong growth in the value of shipments (27%).[9]

Harmony Enterprises has approximately 65 employees and operates on annual revenues of approximately $11 million in a town with a population of less than 1,200 people. It has an international market base with products sold in more than 60 countries around the world. In each of the last five years Harmony has experienced growth in revenues of 10%-15% while maintaining a constant number of employees. Their current objective is to grow revenues by approximately 25%-30% per year.

In the early stages of Harmony's development, balers and compactors comprised approximately 15%-20% of the company's business. Other products that Harmony manufactured included portable ice fishing canopies and expandable camping trailers. Since the mid 1990's the company has narrowed its business focus to balers and compactors, which now comprise approximately 90% of their business. The shift to recycling products reflects broader market trends towards environmental consciousness and more efficient means of conserving materials and reducing waste.

Context for Participation in E!WW

Past Technological Changes and Improvements at the Firm

Harmony Enterprises has a history of innovative practices. The company's early product lines, which included the ice fishing canopies and expandable camping trailers, were designed and developed at Harmony. Since the mid 1990's, Harmony has pursued a close relationship with Minnesota Technology Manufacturing Extension Partnership in efforts to improve the quality of their products and processes. As a company they have gone through Lean Manufacturing and Lean Office training and have benefited significantly from those experiences. One of the challenges faced by Harmony, for example, was the length of time it took the company to deliver project quotes to potential clients. As a result of their Lean Office training and Value Stream Mapping Assessment they were able to reduce their response time from approximately three weeks to three to five business days.

[9] U.S. Census Bureau, *2006 Annual Survey of Manufactures*, http://factfinder.census.gov.

The 10%-15% annual expansion in revenue experienced by Harmony was the result of considerable focus on growth. They have improved the quality and introduced more varieties of their balers and compactors to meet a broader set of client needs. Harmony's reputation as being an innovative company with a culture of willingness to incorporate new practices and technologies was well known by Minnesota Technology (MN Tech) and made it a good candidate for the Eureka Winning Ways (E!WW) process.

Decision Process for E!WW Participation

Harmony was approached by Minnesota Technology to participate in E!WW. According to the company CEO, the established trust between Harmony and Minnesota Technology made their decision to participate easier. The offer to participate coincided with Harmony's goal of 25%-30% percent growth in revenue. Their annual incremental growth was insufficient to bring them to this "next level." The decision to participate in E!WW, therefore, was not only based on institutional trust, but also on an existing, specific and urgent company need. Harmony invested $3,000 of the $12,000 total cost to participate in the process, and Minnesota Technology subsidized the remainder of the cost.

Harmony Enterprises' participation in the E!WW process was principally determined by the following factors:

- Harmony Enterprises had a history of being innovative and a demonstrated willingness to invest in growth and development.
- Harmony had a long and positive relationship with Minnesota Technology and there was a personal relationship of trust between the CEO and the MN Tech representative offering the E!WW process.
- Harmony had specific growth goals and was actively searching for means to meet them.

Experience of E!WW Implementation

Description of the E!WW Intervention

The Eureka! session, which took place on June 27, 2007, included 14 members of the Harmony staff. The staff were from various parts of the organization: engineering, accounting, sales, customer service and production. According to the CEO, one of the distinct advantages of the mix of participants was that it included people whose ideas on the company's direction and product portfolio are seldom heard. The session was facilitated very well by the growth coach and, as a result, reduced the significance of the CEO and instead emphasized the ideas rather than the persons from whom they came.

During the Eureka! session, 64 ideas were generated and then filtered to four which were sent for evaluation by Merwyn. The Trailblazer planning meeting resulted in two highly-ranked ideas being selected for the 30-day Trailblazer period.

1. Introduction of photovoltaic cells as the principal power sources for Harmony balers and compactors
2. An improved automatic binding system for tying compressed bales of material

These ideas scored 82 and 71, respectively, on the Merwyn report of the probability to succeed. The scores are extremely high relative the average scores of all MEP clients for their top two ideas, which is 55. According to the CEO, the high scores of their ideas significantly bolstered the confidence and enthusiasm of the team as they entered into the scouting period.

Scouts were identified for each of the two ideas and the Trailblazer period was marked by a high degree of interaction with the growth coach. The scouts were successful not only because of the effective and regular interaction with the growth coach, but also because of the group support within Harmony. The ideas were treated as "organizational property" and as a result the scouts were assisted by several members of the Harmony staff. This collaborative research effort improved the company knowledge base concerning the ideas and vested more people in their success. As a result of the successful Trailblazer period, the report-out session on August 14, 2007, yielded a ranking of "yes," that both ideas ought to be pursued to implementation.

Highlights, Challenges, and Key Elements of the E!WW Process

One of the highlights of the process was the quality of the growth coach. In Harmony's case, the growth coach is also the Center Director of Minnesota Technology. His prior knowledge of the company and the manufacturing landscape coupled with his sound understanding of the E!WW process was uniquely beneficial to the process. In this case, the growth coach was instrumental in Harmony's decision to participate as well as in their positive experience in all of the different stages of the process. His familiarity with the company, personal relationship with the CEO and easy access were all critical components of Harmony's success positive experience.

Another highlight of the process was the degree to which it fostered a collective vested interest in the success of the ideas. The standard within Harmony had been that new ideas were the purview of the CEO. Their success and failure were also linked directly to him. One of the key elements of the E!WW process is that it flattened that hierarchy and spread the responsibility for creating new ideas and their stewardship across different segments of the firm.

A challenge, or shortcoming, of the process is that it ends abruptly. According to Harmony, after the report-out session they were left by themselves to pursue the ideas to development. The likelihood of stalling or losing focus during this period is particularly high and it coincides with a period of little or no interaction with the growth coaches. In Harmony's case they were able to avoid this pitfall because of the shared sense of ownership of the ideas. The CEO emphasized the degree to which there was a broad sense of buy-in among employees. Several members of the scouting teams felt personally committed not only to the investigation of the ideas, but to the implementation process as well. The support of the senior management as well as the

continuing commitment of the scouts and their teams through the implementation period were key features of Harmony's success.

Ideas Identified and Pursued through E!WW

The ideas that resulted from the Trailblazing Session were (1) to introduce photovoltaic cells as the principal source of power for Harmony balers and compactors and (2) an improved automatic binding system for tying compressed bales of material. The solar powered balers and compactors idea is being pursued, but has not been developed to date because Harmony does not have the internal expertise to develop this feature on its own. The CEO, with the help of Minnesota Technology, is in the process of establishing a collaborative partnership with the University of Minnesota to develop an appropriate solution.

The second idea, the automated tying system, has already been developed, produced, and added to Harmony's portfolio of product features. The success of this system has been immediate and contributed to the 53% growth in revenues since October 2007.

Changes and Outputs Associated with E!WW

New Capabilities or Activities

The philosophy of "fail fast, fail cheap" has been adopted by Harmony Enterprises. As a result they have redoubled their efforts to grow and expand their business using "smarter" techniques. Under this philosophy Harmony is developing practices of fast, efficient data gathering, analysis and decision making. The objective is to minimize the time, deliberation and resources required to make a decision concerning new products or directions. "If it isn't going to work, we want to know quickly and cheaply," stated the CEO. This has resulted in a formal reevaluation of the managerial staff. They are seeking managers that are comfortable with quickly gathering and processing data and making sound exploratory investments of resources to support business decisions. The E!WW process clarified that specific skill as important for managers.

Short-term Outputs

Several of the ideas generated during the Eureka! session were beneficial although not nominated for evaluation by Merwyn. For example, improving the marketing tools of the company was raised during the session and was regarded as something that had to be done. As a consequence, Harmony updated and improved their website and marketing materials.

The automated tying system idea has quickly yielded positive results and contributed to the nearly 53% growth in revenues the company is currently experiencing. The success of that idea alone was a singularly positive return on their investment in the E!WW process. While the solar powered balers have not yet been developed, a collaborative partnership with the University of Minnesota is a positive and unintended consequence of that idea. According to the CEO, the idea has the potential of exposing the company to a $100 million dollar market. The establishment of a university-industry partnership on the embryonic side of such growth portends well for innovation and development within the firm.

Long-term Outcomes and Implications

One of the significant outcomes of participating in the E!WW process has been the redistribution of idea generation. One of the implications of that reordering is that more ideas for product development and process improvements come from more places within the firm. Spreading the practice of idea generation among more people increases the degree to which individuals feel vested in the success of ideas.

The immediate success of the automated tying system also has longer term implications. It reaffirmed to employees of Harmony Enterprises that indeed they are an "innovative company" that is capable of generating, vetting and developing brand new successful products. The company's collective confidence in its ability to grow is an amorphous, but significant, long-term outcome of the E!WW process.

Parallel Activities and Alternative Explanations

Other Activities Undertaken and Ideas Pursued

Harmony Enterprises had not undertaken other formal means of developing and pursing new ideas. They had participated in formal training for improving the efficiency of their existing processes and the quality of the products that they currently develop. Those activities include Lean Manufacturing and Lean Office training as well as Stage-Gate Product Development. Those activities yielded incremental improvements and, according to the CEO, were reflected in the company's incremental growth. The process of idea generation, or ideation, was new to the firm.

Changes and Outputs from Other Activities

The attention to process and quality that resulted from the external training increased the likelihood of success of the new ideas. The company had the "structure" it needed to be able to build space into its business function for generating ideas and developing new products.

Findings and Observations

Harmony Enterprises was searching for a means of achieving 20%-30% percent growth in revenues. It is a company with a history of innovation and a demonstrated comfort in developing new ideas and following them through to development. According to the Center Director of Minnesota Technology, the CEO of Harmony is also a very forward thinking individual with considerable business contacts, not only through Minnesota Technology, but through the Minnesota Governor's council on international business and trade. His very broad view of the international business landscape was a particular asset to Harmony upon engaging in the Eureka! Winning Ways process. The personal relationship between the CEO of Harmony and the representative of Minnesota Technology who was offering the E!WW idea service helped reduce the ideological skepticism that could have made the idea of helping with ideas "a much harder sell." Beyond their impact on Harmony's direct experience with E!WW, the examples of these two individuals – the company CEO and the MN Tech growth coach – have potentially important implications for the E!WW implementation overall, namely that the people involved matter, even though the process has been designed to work

across a broad range of companies and to be conducted systematically. On the side that MEP can address – the growth coach side – the positive impact of the growth coach in this case also highlights the importance of this role for the success of the process, as well as the possibility that the full potential of the process could be undermined by variation in the growth coaches.

According to Harmony, the process was successful in part because the ideas generated were within the purview of what they as a company could do for themselves. The automated tying system was a new idea that could be accomplished with existing capacity. As a result there was a disproportionate gain in revenue relative to their investment. The success of that idea is having a positive impact on the work towards the solar powered balers, which require some collaboration. The combination of the two ideas, one relatively modest and the other more radical, is perceived by the company as good. The success of the former forestalls frustration with the process and makes employees more willing to engage in the stretching of resources and capacity necessary to take on the other. Again, according to the CEO, it is important to have both ideas that are "grounded in reality," but to have at least one that is achievable without a dramatic reorganization of thought and resources.

Chronology of Key Events

Chronology of Key Events for Harmony Enterprises	
Date (Month/Year)	Activity, Service or Other Change
June 27, 2007	· Eureka! session
July 10, 2007	· Trailblazer session and discussion of Merwyn results
August 14, 2007	· Trailblazer report-out session
September 9, 2007	· Preliminary design of new tying system
October 15, 2007	· Prototype design send to customer for testing
December 15, 2007	· Automating binding system offered to market

Sources

Interview with CEO, Harmony Enterprises, April 23, 2008

Interview with Interview with Minnesota Technology MEP center director, April 25, 2008

U.S. Census Bureau, *2006 Annual Survey of Manufactures*

Maple Landmark Woodcraft

Introduction to the Company and Its Industry

Started while the owner was in high school, Maple Landmark Woodcraft is a wood products company focused on wooden toys, games, and gifts. The company experienced ten-fold growth in the early 1990s with the introduction of Name Trains, a wooden toy train with cars representing each letter of a child's name, and had another major expansion with the 2001 acquisition of Montgomery School House, another Vermont wooden toy products company. In that year, the company reached the height of its sales[10] and, subsequently, experienced a 20% decline in sales from 2002 to 2007 (mainly because of the loss of a few major accounts that were particularly cost-/price-conscious). Today the firm employs 33 people, with additional seasonal workers (bringing the total workforce to approximately 45) typically hired each autumn to assist in filling holiday gift orders.

Maple Landmark sells approximately 84% of its products to toy stores and gift shops, with the remaining portion of sales (16%) sold directly to consumers, either via the company's website or, to a lesser extent, its Middlebury, Vermont, showroom (which is co-located with its offices and production facilities). The company typically sends a catalog – the main marketing mechanism it has used over the years – to its existing and potential customers in early January. The catalog includes some 1,000 products, though no single product brings in more than $70,000 in revenue, and some sell as little as $500. Maple Landmark also has a numerically diversified network of customers, but the typical profile of the company's customers is similar in that they are almost exclusively independent, "mom and pop" toy stores.

Maple Landmark's operations take place within NAICS 32199, all other wood product manufacturing. Although statistics for the five-digit NAICS level are not available, Maple Landmark's president/owner reports that almost all of his competitors in Vermont and nearby states have gone out of business. Data at the four-digit level, NAICS 3219, other wood product manufacturing, indicate a modest contraction of employment, with declines of 0.4% between 2005 and 2006 and 3.4% in the ten years to 2006, but an expansion of production value of over 3% from 2005 to 2006 and over 33% in the decade leading up to 2006.[11] These trends mainly reflect growth in prefabricated construction products/materials, which is a major component of NAICS 3219 and which has expanded substantially through the period for which data is available. The wood products industry is not considered to have high R&D intensity (i.e., its workforce is not characterized by substantial proportions of R&D- and technology-oriented occupations[12]).

[10] Maple Landmark Woodcraft is a privately-held company in a competitive market; thus the company does not disclose sales figures. For the purposes of these case studies, which use sales figures to illustrate company size, the owner described the company's sales as under $10 million.
[11] U.S. Census Bureau, *2006 Annual Survey of Manufactures*, http://factfinder.census.gov.
[12] National Science Foundation, *Science and Engineering Indicators 2006*, Table 8-43: High-technology NAICS Codes.

Price pressures have always keenly affected toy manufacturers, and China's emergence as a low-cost manufacturing site has presented substantial competition for U.S. toy manufacturers such as Maple Landmark. However, the massive recalls of toys made in China that took place in late summer 2007 turned the attention of American consumers and toy distributors back toward U.S. toy producers, as both end users and retailers sought toys that they could be assured were safe and non-toxic. Because of these broader industry changes, within a matter of weeks (from late August to early October 2007) Maple Landmark saw its business increase 50%, and in the eight months since Mattel initiated the recall of nine million toys made in China (i.e., mid-August 2007), the company has seen its fortunes shift from the decline of 2002 to 2007 to rapid growth that has resulted in revenues exceeding their previous peak. In short, external forces currently are exerting strong influence on Maple Landmark.

Context for Participation in E!WW

Past Technological Changes and Improvements at the Firm

In the past, the product development process at Maple Landmark depended primarily on whether or not the company's equipment could support the production of a given idea or design; idea generation rested primarily with the company president/owner. With the 2001 purchase of Montgomery Schoolhouse, Maple Landmark gained substantial resources in core woodworking, which was a good complement to the company's existing technology capabilities. In the past 10 years, Maple Landmark also has increased its graphic applications capabilities through purchase of lasers and printers, including a direct digital printer that transfers computer-generated images directly to wood. This printer has enabled mass customization of the company's wood products; the custom business now represents about 13% of sales and, indeed, has produced more demand for customization than the company can easily fulfill. According to the company president/owner, having access to this array of technology and equipment has meant that the company rarely faces constraints to what it can produce, a situation that is illustrated by the 1,000 products contained its catalog. However, as also mentioned by Maple Landmark's president/owner, the wide scope offered by production capabilities does not necessarily translate into ability to market or sell all of the products the company can create and manufacture.

Decision Process for E!WW Participation

Maple Landmark's president/owner is currently the chair of the advisory board of the Vermont Manufacturing Extension Center (VMEC) and has been involved in VMEC for over 11 of the center's 12 years of existence. As a result of this longstanding relationship with VMEC, the company president/owner is familiar with most of the center's services and programs; for example, he participated in the center's first offering of Lean 101 in order to provide feedback to VMEC, and he has accessed VMEC referrals for software support systems. When VMEC piloted E!WW in April 2007 (with Questech, another Vermont company), Maple Landmark's president/owner met Doug Hall and was introduced to the E!WW process. Further communications regarding E!WW took place individually, between the VMEC growth coach and the company president/owner, as well as in the context of the VMEC advisory board's

meetings, culminating in Maple Landmark's decision to pursue E!WW at about the same time as VMEC officially rolled out the program on July 12, 2007.

VMEC offered E!WW to Maple Landmark at a reduced rate ($9,000 instead of its standard $15,000 fee) with the agreement that VMEC could use the company's Eureka! experience and materials as an educational opportunity for VMEC growth coaches, since the company's Eureka! session would be the first that VMEC growth coaches had conducted without Eureka! Ranch. The owner thought that his company's participation would serve dual purposes – helping VMEC with the new program and the company with several ongoing concerns. The key issues that the owner wished to address were the decline and stagnation in revenues that Maple Landmark had experienced from 2002 to 2007 and recognition that in the past the company had used a fairly scattered product development process. From the owner's perspective, E!WW appeared to offer a rigorous, systematized process for deciding which products should be pursued and also brought a team approach to developing new products.

Experience of E!WW Implementation

Description of the E!WW Intervention

The lead VMEC growth coach[13] launched the E!WW process with Maple Landmark's president/owner in early October, when the two conducted the planning session by telephone. Both the small number of participants in the planning session and the fact that it did not take place in person represent variations from the standard Eureka! process; these variations were made in response to the strong demand that Maple Landmark was experiencing in light of recalls of Chinese toys as well as the ordinary time pressures faced by small companies. Following the planning session, Maple Landmark participants completed the online assessment designed to gauge the company's readiness to create new product ideas and move them to development or production. Probably reflecting the recent heightened demand caused by external circumstances, the company scores indicated low need or urgency to find choices for growth, a characteristic that is different from the average MEP participant in E!WW.

The Eureka! session took place on October 12, 2007 at a hotel conference room in Middlebury, Vermont. As is VMEC's practice, two growth coaches co-facilitated the session, with the lead growth coach circulating among and coaching the participants at their tables (as well as keeping time) and the partner growth coach presenting the Eureka! session slides. Thirteen participants were involved in the Eureka! session, including nine Maple Landmark employees, one VMEC staff member, and three manufacturing advisors recruited to add outside perspectives.

By the end of the day, participants had generated 68 ideas (i.e., yellow cards), four of which were submitted to Merwyn. The following week, the participants and VMEC growth coaches met to review the Merwyn results, with the lead growth coach

[13] VMEC uses a team approach for its implementation of E!WW. For all planning sessions, the lead growth coach conducts the planning session in person, while the partner growth coach participates by telephone and takes notes. (The use of telephone alone for Maple Landmark's planning session is unusual for VMEC and, in fact, is the only planning session that VMEC has conducted this way.) Other aspects of VMEC's team approach are described in the body of this report.

facilitating this session and the partner growth coach serving as note-taker. At the action planning meeting, participants discussed the two highest scoring ideas and decided to pursue only the top-scoring idea during the Trailblazer period. This decision was based in part on the time pressure the company was under (i.e., the fast-approaching holiday season combined with greater than anticipated product demand), with the reasoning that it would be impossible for this small company to conduct Trailblazer activities on two ideas within the 30-day period. Also contributing to the decision was the fact that the second highest scoring idea represented a complete departure from the company's current product line and market; the company determined that additional thought and discussion, during a quieter period of time than the holiday gift season, would be needed before this idea was explored.

Ultimately, Trailblazer activities for the one selected idea stretched over several months, though much of the work was completed during the initial three weeks of the Trailblazer period. During the initial three weeks of discovery, the Maple Landmark scout team:

- Identified target customers;
- Estimated the potential volume of customer demand;
- Conducted internet research on toy industry sites, other natural products models, environmental groups, and trade publications;
- Explored the definitions of green, natural, and organic;
- Examined pricing factors and gauged pricing possibilities;
- Analyzed the purchasing patterns of existing wholesale and retail customers vis-à-vis existing natural products sold by Maple Landmark;
- Investigated targeted materials and ingredients, especially glues and finishes, for durability, green/natural characteristics, and cost; and
- Tested potential product line names and logos with a select group of customers and other experts.

While the scout team conducted the activities listed above, the VMEC growth coach provided suggestions for addressing technical, marketing, customer, and pricing questions, provided a referral to an in-house VMEC expert on finishes, who contributed to the scout team's research on materials and ingredients, and conducted Lexus-Nexus searches (using the access provided by MEP in conjunction with E!WW) that complemented the scout team's own internet research.

In December, the height of the holiday gift-buying season, Maple Landmark and VMEC agreed to "pause" the Trailblazer period until early January 2008. During January, the growth and the scout conversed two more times regarding progress on the idea. At that point, however, Maple Landmark was preparing to participate in two trade shows and, as a small company, the key members of the scout team were heavily involved in this groundwork. These trade shows presented an ideal opportunity for Maple Landmark to "make it real" for their new natural line of products. The company produced samples of the new product line, printed fliers and product sheets with the name (Schoolhouse Naturals) and logo, and got immediate feedback from trade show visitors and customers. By the time of the informal Trailblazer report-out, which occurred between the growth coach and company owner in early March, it was clear that a

"yes" decision had been reached and that Maple Landmark had already moved well into the product development stage and was beginning to deliver its new product line.

Highlights, Challenges, and Key Elements of the E!WW Process

For Maple Landmark, the Trailblazer process was unquestionably the highlight of the E!WW experience. The major benefits of Trailblazer that Maple Landmark participants cited include the comprehensiveness of the approach, including the scope of questions to be addressed during discovery, the focus gained by limiting the period to 30 days (even though the company extended this timeframe), and the information and outside perspective of the growth coach to assist in fully exploring the idea's possibilities. The scout likened the weekly coaching sessions to the sense of accountability and responsibility, combined with assistance and support, provided by programs like Weight Watchers.

The Eureka! session itself was much less useful to Maple Landmark, notwithstanding participants' admiration for the skills of the growth coaches facilitating the day-long meeting. Maple Landmark staff found the E!WW slides to be repetitive, not always relevant or even thought-provoking, and too numerous, leading to the constant need to hurry through. Related to the rapidity of the session's proceedings, company participants felt that they often could not explore potentially important points that were "just below the surface" and that, with a little time, might have fully emerged and contributed to the session outcomes. Participants also thought sitting at round tables gave an illusion of working collectively, whereas in reality the majority of work was conducted individually; more interactive group work was considered preferable. At the end of the day, all company participants were tired and some were disenchanted to a degree.[14] In addition, having gained a greater understanding of the product development process and all of the elements that should or can be considered in implementing such processes, some staff (none of whom had previous experience in the initial phases of product development) came to the realization that they preferred not to become fully involved in such efforts.

Maple Landmark participants also found the E!WW jargon to be distracting and not particularly useful: they commented that naming or branding each piece of the process (including those in the Eureka! session) seems to reflect the consumer sales and marketing origins of E!WW and doesn't lend itself readily to a manufacturing or business-to-business environment. Similarly, the company president/owner found the preparation for Merwyn – i.e., clearly writing out the overt benefit, etc. – more useful than the actual score. While indicating satisfaction with the company's participation, Maple Landmark's president/owner concludes that the sum of E!WW is better than its parts.

[14] To overcome the exhaustion and "let-down" some participants feel at the end of the Eureka! session, VMEC is considering an alteration of the schedule for its next E!WW engagement. In this scenario, the Eureka! session would start at about 12:30 in the afternoon (using the afternoon to go through what are usually the morning session slides), breaking after the yellow (idea) cards have been written – when energy levels and spirits are usually high – and proceeding to a social evening in which the participants can discuss the afternoon's proceedings and ideas. The next morning, at approximately 7:30, the group would reconvene for an extended, more deliberate process of selecting four ideas. At 11 am, the entire group would work on writing the four Merwyn submissions.

Ideas Identified and Pursued through E!WW

The four ideas selected by Maple Landmark for submission to Merwyn included:

1. Natural products,
2. Custom engraving using laser technologies,
3. U.S. state puzzles, and
4. Wooden learning tools.

At 68 and 57, the first two ideas scored above average, or "Go" in Eureka! verbiage, while the other two (at 45 and 33) were in the "think" category of Eureka! parlance. None of the ideas were entirely new, but instead had been defined for Merwyn evaluation using new messages or targeting new markets. Maple Landmark had existing natural-style products, so the new idea focused on thinking more broadly about marketing the products, especially in light of emerging environmental concerns and recent fears regarding toy toxicity and safety. Similarly, Maple Landmark already did custom engraving of some products, but the idea directed the existing capabilities and technology to a new purpose and market; because this new direction was so different, the custom engraving idea was tabled, while the natural products idea proceeded to the Trailblazer period.

Changes and Outputs Associated with E!WW

New Capabilities or Activities

E!WW brought about several changes and outputs enacted shortly after the company's Eureka! session or during and after the Trailblazer phase. In January 2008, Maple Landmark bought a new laser, an investment that reflects the company's commitment to the Schoolhouse Naturals line of products, which was conceived through E!WW. Because these products are not painted, it is time-consuming to engrave details on them without a laser. Introducing a line of toys decorated entirely by laser created the demand and rationale for investment in the new laser.

E!WW also resulted in an expansion of skills within the company, particularly for the lead scout, who was introduced to, and saw great value in, the comprehensive, deep research encouraged in the Trailblazer period. Having been exposed to this process via E!WW, this Maple Landmark staff member envisions using the essence of E!WW for future new product development efforts.

Short-term Outputs

In terms of immediate outputs, the development of the Schoolhouse Naturals line is the primary change associated with Maple Landmark's participation in E!WW. The fact that the company developed and launched a line of products, rather than one or more individual products, represents a different marketing approach for the company. Prior to E!WW, Maple Landmark would routinely create new products, place them in their annual catalog, and see if customers ordered them. With Schoolhouse Naturals, Maple Landmark presented customers with a coordinated, thematic offering with defined benefits – fun, safe, durable toys made from sustainably harvested maple and with natural or no finish. In addition to encouraging the development of a defined line of natural products, the Trailblazer period also prompted Maple Landmark to explore

how to incorporate its desire to expand the number of products targeted toward the large, lucrative three-year-old-and-under audience; the result of this was a new push and pull toy that suits the developmental stage of this target audience and fits squarely within the natural products theme.

Moreover, in introducing Schoolhouse Naturals to customers – for example at the two trade shows the company attended in February 2008 – the company realized that the approach of introducing a line (even if all products weren't new, as was the case with Schoolhouse Naturals) meant that buyers paid more attention, as did trade publications. In essence, introducing a product line meant that the company had "something new to say" and a reason to attract attention to their booth and from the media. As a result, the press releases that that Maple Landmark issued for Schoolhouse Naturals had more substance than the company's previous press releases might have had, and the introduction of a product line gave the company a greater reason to use press releases as a means to seek (and receive) "free media."

Because of the severe time pressures experienced in October, November, and December 2007, Maple Landmark did not publish and mail its annual catalog in January; indeed as of late March, the catalog still had not been printed. Instead, as short-term measures, the company produced fliers and product sheets, first to be used at the trade shows but later emailed to past and prospective customers, and featured the new product line on its website. Somewhat to the company's surprise, orders and inquiries continue to come in, despite the lack of a published catalog. In sum, Maple Landmark's marketing and sales approach has expanded substantially beyond its traditional annual catalog, to the point that company staff envision a day when the company will no longer produce this previous mainstay of its sales operations.

Long-term Outcomes and Implications

It is too early to estimate the impact of Schoolhouse Naturals on Maple Landmark's sales or overall firm performance. However, seeing the initial pay-off from the comprehensive research and thinking that went into development of Schoolhouse Naturals has translated into a commitment to replicate the process of "going deep" before launching a new product or product again. Maple Landmark staff also indicated, that in the long-term, having almost 70 ideas "in the hopper" will contribute to more dedicated, systematic attention to new product development. The company owner/president would like to see Maple Landmark exploring two or three of these ideas a year and, overall, to transition at least some staff members to thinking periodically about where the company will be in 12 to 18 months, rather than the usual focus on the immediate near-term. In addition, revisiting the second-highest scoring idea – which represented a 90 degree turn for the company – remains a possibility that Maple Landmark's owner intends to consider at some future time.

Parallel Activities and Alternative Explanations

The prior sections of this case document the major activities and outputs experienced by Maple Landmark during the time period of its E!WW experience. Outside of E!WW, and more specifically during Trailblazer activities, the company president/owner

continued his conversations about and explorations of finishings and coatings, an area that is constantly changing and that he has been involved in since starting the business. For instance, Maple Landmark interacts periodically with a Vermont maker of whey-based finishes, which both the maker and Maple Landmark frequently modify and experiment with, and the two companies share the changes and results that they have made and achieved. These activities were not directly associated with the development or introduction of Schoolhouse Naturals but, as experiments with whey-based finishes continue, could easily be incorporated into the product line.

Findings and Observations

Three key points emerge from Maple Landmark's experience with E!WW. First, the company's experience illustrates the types of adjustments to the process that may occur spontaneously and/or may be needed for successful implementation with small companies. From a process perspective, Maple Landmark did not follow the standard E!WW timeframe, especially during the Trailblazer period. Nonetheless, a very tangible and rewarding short-term output – the Schoolhouse Naturals line – emerged, indicating an effective application of E!WW despite the variations. In Maple Landmark's case, the VMEC growth coach was persistent in following up with the company to check on its pursuit and achievement of the goals of the Trailblazer period, but was not doctrinaire about the company's methods or timeframe; therefore this example may be useful for other growth coaches working with small companies.

This case also reveals the importance and value of the Trailblazer period. Company participants experienced a significant difference in the thought process and preparation for new product development during this E!WW phase and emerged with a substantially expanded perspective and skills for engaging in this activity in the future. Though longer-term results and impacts cannot yet be estimated, Maple Landmark may continue to see effects if Trailblazer principles continue to be applied to the company's new product development efforts.

Another observation from this case is that the Merwyn score itself may not the sole consideration a company and growth coach use to determine which ideas move into the Trailblazer period. For Maple Landmark, the time was not right to engage in exploration of a relatively high scoring idea that would radically change the company's direction and focus; however, having received Merwyn confirmation that the idea has merit may present an opportunity on which the company can capitalize in the future. Thus, depending on the company, a growth coach may want to encourage pursuit of a lower scoring but easier to conduct idea, while in another situation, an E!WW client may need to be "pushed" to attempt a more difficult idea.

Chronology of Key Events

Chronology of Key Events for Maple Landmark Woodcraft	
Date (Month/Year)	Activity, Service or Other Change
April 2007	• Eureka! Ranch conducts a pilot offering of E!WW with a VMEC client; Maple Landmark president/owner meets with Doug Hall and learns about the E!WW process
Mid-Summer 2007	• Maple Landmark decides to participate in E!WW, with agreement that VMEC would use Maple Landmark's experience as a training/learning opportunity for new VMEC growth coaches
Mid-August 2007	• Mattel recalls nine million toys made in China, prompting widespread concern regarding the safety of all Chinese-made toys
Early October 2007	• Project planning meeting, SWOT analysis, company culture survey
October 12, 2007	• Eureka! session
October 19, 2007 (approximate date)	• Trailblazer planning session and discussion of Merwyn results
Late October/ early November	• Three consecutive weekly coaching sessions and substantial progress on one idea; decision to pause Trailblazer work until early January because of holiday season pressures
February 2008	• Maple Landmark exhibits the new Schoolhouse Naturals line at two trade show.
March 2008	• Informal Trailblazer report-out session (formal presentation prepared for internal company use)

Sources

Interviews with Maple Landmark Woodcraft scout and president/owner, April 17, 2008

Interview with VMEC growth coach, April 16, 2008

National Science Foundation, *Science and Engineering Indicators 2006*

U.S. Census Bureau, *2006 Annual Survey of Manufactures*

Sanderson Industries

Introduction to the Company and Its Industry

Sanderson Industries was launched in Chicago, Illinois, in 1965 as a metal stamping manufacturer and is currently headquartered in Atlanta, Georgia. Sanderson Industries is primarily a Tier 1 supplier for the automotive industry, operating three manufacturing facilities totaling 200,000 square feet of space devoted to stamping, welding/assembly, tooling, and metrology. The company also has an office in Warren, Michigan, and a business partner in Ontario, Canada. Sanderson's business is comprised of a mix of Tier 1 and Tier 2 customers. Customers include Mercedes, Honda, GM and Ford, and (through Tier 1 suppliers) Gestamp, Johnson Controls, Ogihara, and Kongsberg. This business mix represents a diversification from prior concentration on serving the Ford and General Motors plants in Atlanta; the Ford plant was recently closed, and the General Motors plant has been down-sized in preparation for closure in the coming months. The Sanderson shareholders own and operate this 200+ employee business on revenues of $50 million.

Sanderson's business spans two broad industries: stamping and forging industry (NAICS 3321) and motor vehicle and parts manufacturing (3363). The stamping and forging industry's employment levels have remained relatively stable from 1997 to 2006, while its value of shipments increased by almost 9 percent during this same time period and output per employee increased by 67 percent.[15] In contrast, motor vehicle and parts manufacturing lost nearly 6 percent of the employment it had in 1997 by 2006, although the value of shipments only dropped by less than 2 percent and output per employee rose by more than 50 percent.[16] The statistics for both these industries, on average, reflect significant productivity gains in the face of increasingly mature and competitive markets.

Context for Participation in E!WW

Past Technological Changes and Improvements at the Firm

Sanderson Industries has a long history of embracing technological change and improvement. A major milestone of the company was the shift to becoming a Tier 1 supplier for the automotive industry in 1976. In the early 1980s it instituted quality improvement procedures including statistical process control (SPC) and Deming applications. In 1985 it moved to Atlanta from Chicago into a new facility. Sanderson attained a Ford Q 1 rating in 1989, and in 1997 it became certified to QS9000. That same year, the company opened a new manufacturing facility. Investment in new engineering and computer aided design (CAD) operations and new equipment computerization occurred during the 1990s. The company is fully invested in information technology, including T1 and fiber connectivity for all its buildings and 13 servers.

[15] U.S. Census Bureau, *2006 Annual Survey of Manufactures*, http://factfinder.census.gov.
[16] Ibid.

Sanderson was one of the first automotive stamping suppliers to transition to and attain TS 16949 quality certification. It was also an early beta site for electronic data interchange (EDI). The company is now in its fourth year of TS certification and is also is certified to ISO 14001.

In addition to these technological adoptions, the company has embraced many contemporary business practices. Cross functional teams have been supported since the 1980s. The company has undertaken several rounds of business and strategic planning in off-site sessions. There is also a commitment to regular in-house training including a designated training room. Employees represent a range of educational backgrounds and skill levels, from hourly workers to semi-skilled positions and engineers, several of which were graduates of Georgia Tech's College of Engineering. This history of technological and business practices is a sign that the company's context is one of openness to new ideas and approaches in improvement of manufacturing processes.

Decision Process for E!WW Participation

The Georgia Manufacturing Extension Partnership (GaMEP), administered out of the Enterprise Innovation Institute at Georgia Tech, was in the process of promoting the E!WW service through giving introductory presentations around the state. One of these presentations was made by a GaMEP specialist at a Georgia Industry Association meeting in July 2007. The president/CEO of Sanderson Industries, who was also president of the association at the time, approached the specialist with an interest in the service. The GaMEP specialist obtained a grant from a publicly-funded program that is targeted to the automotive industry (following the closure of the Ford and General Motors plants in Atlanta). This grant reduced out-of-pocket costs to Sanderson Industries to participate in the E!WW service.

Experience of E!WW Implementation

Description of the E!WW Intervention

The GaMEP specialist transitioned to a growth coach role and held a planning meeting with representatives from Sanderson Industries in mid-August 2007. One of the biggest challenges was logistics: the demanding schedules of the proposed company participants precluded a week-day session, so the Eureka! session was scheduled for a Saturday. At the planning meeting, an analysis of strengths, weaknesses, opportunities, threats (SWOT) and the online Eureka! assessment were initiated. The analysis, plus early conversations, indicated that the primary interest of company management in the E!WW engagement was toward learning how a new product prototype — the "Miracle Press Cooker" — would be rated in the Merwyn evaluation. The SWOT analysis also highlighted some of the challenges of operating in the automotive industry. In addition, the online assessment (with ratings along most of the dimensions below -15) indicated that company participants had little prior experience with creating and executing new product ideas.

The Eureka! session was held on August 25, 2007 at an off-site conference center that the president/CEO suggested to the GaMEP growth coach. Thirteen company participants from across the company took part in the session. Participants included the

president/CEO, chief operating officer, and heads of engineering, accounting, quality, manufacturing, human resources, sales, tooling, and administration. Two GaMEP growth coaches alternated facilitation duties.

Overall, 61 ideas (i.e., yellow cards) were generated during the day, and the 12 most promising were eventually narrowed to four ideas. These four ideas were submitted to the Merwyn system for subsequent evaluation.

The following week, the GaMEP growth coach held a review of the results of the Merwyn evaluation with the president/CEO. At this meeting, a schedule for the Trailblazer process was established and "scout" responsibilities were assigned to the president/CEO. The process actually lasted for almost 60 days, despite being designed by Eureka! Ranch to be a 30-day process. GaMEP growth coaches contacted the president/CEO every other week to report on progress.

Highlights, Challenges, and Key Elements of the E!WW Process

One of the highlights of the process was the quality of the participants in the Eureka! session. All were industry experts who were well acquainted with one another. This quality of participation enhanced the ideation process. Similarly, the participation of the president/CEO in the scout role ensured that the process would move forward without administrative roadblocks. Company participants' familiarity with facilitative processes through its past experiences developing strategic and business plans also contributed to a productive session.

The upfront interest of company management in seeing how the process would evaluate the Miracle Press Cooker prototype represents a key element of this engagement. That is not to say the company was closed to other ideas; on the contrary, the company energetically pursued at least one other idea that emerged from the E!WW process with some success. Still this focus was an important component in the GaMEP growth coaches' efforts to engage the company in the Trailblazer process. The interest of the president/CEO in the cooker gave the process direction and follow through.

Ideas Identified and Pursued through E!WW

The E!WW engagement resulted in the identification of four ideas:

1. The Miracle Press Cooker, which provides the taste sensation of grilling with 75 percent faster wait times,
2. Partnership with another Tier 1 automotive supplier to serve a new automotive plant,
3. Becoming a service provider for quality inspections for other suppliers to leverage Sanderson Industries' capabilities in this area, and
4. Becoming a value-added provider of subassemblies for Yamaha ATV plant.

The first two ideas received positive Merwyn scores of 77 percent (or "Wow!" in Eureka! parlance) for the Miracle Press Cooker and 42 percent (or "Think") for the Tier 1 auto supplier partnership, the company decided to pursue both during Trailblazer. The second two ideas were new to the firm but, because they received average or below average scores, were put on the backburner.

The Miracle Press Cooker was in its third generation prototype by the time of the E!WW engagement. A personal friend of the Sanderson president/CEO had created the idea and worked on it for 10 years, testing it through various prototypes at family barbecues and through personal contacts. The cooker is designed to produce meats with the flavor of grilling at significantly reduced wait times. For example, 60 pieces of chicken can be cooked in four minutes. Moreover, fat levels are lower for food produced through the cooker because the grease is drained away. The primary customer for this product would be institutional food providers such as colleges, hospitals, and military installations as well as commercial establishments and high-end consumers. The positive results of the Merwyn evaluation encouraged additional attention to move beyond the third prototype towards full implementation.

The objective of the second idea was to partner with another Tier 1 automotive supplier to supply a new southeastern automotive plant which was under construction within 100 miles of the Sanderson facility. The offer involved utilization of Sanderson's excess capacity and production expertise to avoid having to make new capital investment such as building a new facility to serve this automotive plant. Although this idea had been raised previously, the E!WW process refined the idea and made it more immediately able to be implemented. Shortly after the Eureka! session, the company identified a supplier to approach about servicing this new automotive plant.

Changes and Outputs Associated with E!WW

New Capabilities or Activities

The company had existing skills in facilitative processes and follow through toward the creation and implementation of business and strategic plans. However, the E!WW engagement exposed the participants to new ideation and growth service capabilities, and resulted in significant team-building skills among top managers from different parts of the manufacturing, marketing and sales, and administrative parts of the company.

Short-term Outputs

Short-term outputs became apparent for both of the top two ideas emerging out of the E!WW process. In terms of the idea to partner with a Tier 1 automotive supplier to service an automotive plant, the company's sales manager approached a valued Tier 1 automotive supplier with the offer to leverage Sanderson's equipment and capabilities to serve the new automotive plant. This offer was not taken up, however, the company decided to redirect the idea to an existing European automotive plant with which it had never previously worked. This redirection, facilitated by a favorable exchange rate, is proving more promising.

Regarding the Miracle Press Cooker, the company moved forward with the inventor to develop a fourth generation prototype with an eye toward manufacturability. In-house investments of existing resources including raw materials and use of equipment totaled approximately $100,000. In addition, Sanderson hosted several demonstrations of the

Miracle Press Cooker, turning space in one of its plants into a temporary restaurant to showcase the cooker.

It was at this point that the GaMEP specialist brought in the director of the Georgia Statewide Minority Business Enterprise Center (MBEC) to work with the inventor. The MBEC is a sister program which is situated in same unit of Georgia Tech as is GaMEP. The GaMEP specialist invited the MBEC director to attend one of the demonstrations of the cooker in November of 2007. The inventor had a company, Bendigos, which was created to develop and market the Miracle Press Cooker, while Sanderson Industries would be the manufacturer. The director and specialist realized that the additional assistance to Bendigos in the form of a business plan for the company would be beneficial to bring the product to full fruition.

Pursuit of customers for the cooker also took place during and after the Trailblazer process. Grady Hospital in Atlanta was signed on to participate in a 30-day trial of the cooker. Grady operates in a high volume environment, providing 6,000 to 8,000 meals a day. To address the specifications of the hospital, the prototype was effectively modified to run under higher power conditions. The cooker was installed at Grady Hospital on April 18, 2008.

Long-term Outcomes and Implications

It is anticipated that long-term outcomes from potential new business with the European automotive supplier business could total approximately $3 to $5 million. In terms of long-term outcomes of the Miracle Press Cooker, after successful completion of the trial, it is anticipated that the hospital will purchase at least 10 cookers. At the same time, one of the largest food service companies in the nation expressed interest in purchasing cookers for at least 10 to 24 sites around the country in the first round.

Parallel Activities and Alternative Explanations

Other Activities Undertaken and Ideas Pursued

The cooker idea was not new to the firm. It had a momentum of its own which existed, to some extent, independent of the E!WW process. Still, the E!WW evaluation played an important confirmatory role. The company president/CEO disseminated the Merwyn evaluation to potential customers and investors to demonstrate the strong viability of the product. Along with this evaluation, potential customers and investors were also reported to have responded positively to the credibility of engaging in a Eureka! Ranch process and working with Georgia Tech. Thus, the cooker received more serious consideration then it had previously attracted. In addition, the president/CEO said that for both the new automotive business and the cooker, the E!WW process helped to refine and clarify the ideas and what would be needed to bring them to fruition.

Changes and Outputs from Other Activities

The GaMEP specialist and MBEC director met with the heads of Bendigos and Sanderson Industries in February of 2008 to formulate a proposal for pursuit of

creation of a business plan. A follow-on business planning proposal for $5,000 from the MBEC and GaMEP was submitted to Bendigos and Sanderson shortly after that meeting.

Findings and Observations

The E!WW engagement produced four ideas, three of which were relatively new to the firm and two of which were deemed to be sufficiently likely to achieve success to warrant further pursuit. The most actively pursued idea – the Miracle Press Cooker – was already in the company's pipeline and had existing momentum, albeit over a 10-year period. The E!WW engagement affected this momentum by validating the concept (through the high Merwyn evaluation score), and by refining the idea through the Trailblazer review process. The idea around the new automotive business was also reported to be more refined as a result of the E!WW engagement.

The engagement also yielded important team-building effects. It brought together highly capable managers from diverse parts of Sanderson Industries operations. These individuals had been exposed to other planning and facilitation processes, yet the E!WW engagement enhanced this prior experience by developing further capabilities among the participants to work together to produce new ideas. Because of the regular demands on these individuals, the Eureka! session had to be held on a Saturday and at an off-site location. This situation, common among small- and medium-sized manufacturers, may be applicable to future cases in which engaging experienced yet busy managers may result in schedules outside of the regular business day.

The company has made significant internal investments into the manufacturing of the cooker, e.g., setting up demonstrations and redesigning for manufacturability. It also allocated significant amounts of time, via internal marketing specialists, to explore new automotive customers. The value reported by Sanderson Industries suggests that the service was of sufficient benefit to support these internal investments.

The company was complimentary of the E!WW process. Top management reported being impressed with the quality of the forms and templates used throughout the E!WW process and how efficient and effective it was in leading to the development of new ideas. Although the company had been through other facilitative processes, the way that E!WW was structured was viewed as a positive, distinctive feature.

From the perspective of the GaMEP, the E!WW engagement resulted in a new opportunity to serve an important manufacturer to the regional economy which the program had never worked with before. This engagement enabled GaMEP to leverage connections with its sister MBEC organization to enhance its service offering to Sanderson Industries.

Chronology of Key Events

Chronology of Key Events for Sanderson Industries	
Date (Month/Year)	Activity, Service or Other Change
July 2007	▪ GaMEP specialist gives a presentation at a Georgia Industry Association meeting about growth services; meets Sanderson president/CEO.
August 14, 2007	▪ Planning meeting held.
August 25, 2007	▪ Eureka! session held on a Saturday at an off-site conference center.
Early September, 2007	▪ Trailblazer planning session and discussion of Merwyn research results held.
September – October, 2007	▪ Trailblazer process took place. Sanderson Industries CEO decides to prioritize pursuit of the Miracle Press Cooker and partnering with another Tier 1 automotive supplier.
Fourth quarter 2007	▪ Sanderson pursues alternative automotive business.
November 2007	▪ Demonstration of the Miracle Press Cooker held; GaMEP growth coach, and colleague who directs the Georgia Statewide Minority Business Enterprise Center (MBEC), attend.
December, 2007-January, 2008	▪ It is determined that a business plan is needed for the Miracle Press Cooker.
February 2008	▪ MBEC and the GaMEP submit a joint proposal to Sanderson to assist with business plan development for the cooker.
April 18, 2008	▪ Miracle Press Cooker installed at Grady Hospital.

Sources

Interview with GaMEP growth coach, March 25, 2008

Interview with Sanderson Industries president/CEO, April 3, 2008

Eureka! Winning Ways, Planning Meeting Preparation, Agenda and Worksheets, Sanderson Industries, August 2007

Trimline Medical Products Corporation

Introduction to the Company and Its Industry

Trimline Medical Products Corporation was founded in 1997. Following the acquisition of PyMaH Corporation by 3M, two former PyMAH vice presidents (and Trimline's founders/co-owners) purchased PyMaH's blood pressure line from 3M, and this line has formed the nucleus of Trimline's products. Subsequent acquisitions were made in 2005, when Trimline bought Doctor's Research Group's diagnostic stethoscope product line and Kimberly-Clark's blood pressure cuff products business.

Trimline has experienced consistent, strong growth in its decade of operations, a trend that accelerated in the three years since acquisition of the Kimberly-Clark business. Since 2005, the number of Trimline's employees has almost doubled from about 70 in 2005 to 150 in 2008; sales volume also has doubled in the past three years. Of the approximately 150 current employees, the majority (about 115) works in the company's factory; the balance of employees includes: four engineers, four materials management staff; one regulatory affairs specialist; seven quality control/assurance staff; nine sales and marketing staff or managers; five shipping workers; three accountants; and two human resources specialists.

The company's co-owner expects growth to continue at about 20% a year, though reaching and sustaining that level of growth will require new product development. Current annual revenues are under $50 million, according to the company co-owner. Over 80% of Trimline's sales are in one product group – disposable blood pressure cuffs – with the remainder of sales in stethoscopes and monitors. Hospitals are the primary customers for Trimline's products, which are mostly sold through distributors.

Trimline falls within NAICS 33911, medical equipment and supplies manufacturing. This industry sector has seen modest increases in employment and solid growth in production value in the past year and decade. Employment increased 0.62% from 2005 to 2006 and almost 2.8% from 1997 to 2006, while production value jumped 5.6% and 72% over the same one-year and ten-year periods, respectively.[17] This industry category is characterized by relatively high R&D intensity, a classification that results from having a proportion of R&D- and technology- oriented occupations that is at least double the average of all industries surveyed by the U.S. Bureau of Labor Statistics.[18] The medical equipment and supplies manufacturing sector typically conducts substantial R&D, with R&D as a percentage of sales (at 7.72%) double the average for all industries (at 3.7%).[19]

[17] U.S. Census Bureau, *2006 Annual Survey of Manufactures*, http://factfinder.census.gov.
[18] National Science Foundation, *Science and Engineering Indicators 2006*, Table 8-43: High-technology NAICS Codes.
[19] National Science Foundation, "Expenditures for U.S. Industrial R&D Continue to Increase in 2005; R&D Performance Geographically Concentrated," Tables 2 and 3, NSF 07-335, September 2007.

The key industry-wide drivers affecting medical equipment and supplies manufacturing include:

- Cost control, which is a factor for all parts of the health-care industry;
- Prevention of nosocomial infections, which is particularly important for hospitals, the major end-user of Trimline's products; and
- Increasing consciousness of waste reduction and "green" hospital operations, especially among European customers.

However, designing a response to these drivers is inherently difficult. For example, prevention of nosocomial infections necessitates a preference for single-use, disposable products, which conflicts with waste reduction and greenness goals as well as with cost control, since the principle materials of many medical products are oil- and PVC-based. Accordingly, all medical products companies, including Trimline, are grappling with the trade-offs among disposability, infection control, and cost control.

Context for Participation in E!WW

Past Technological Changes and Improvements at the Firm

Trimline has always enjoyed an abundance of new product ideas but has not had optimal success in bringing ideas to fruition. The challenges to translating ideas to products at Trimline include: (i) lack of agree-upon mechanisms to screen ideas for technical and market feasibility, which has made it difficult to identify and focus resources on the most promising ideas; and (ii) a small cadre of management, marketing, and engineering staff that, though very strong, cannot feasibly explore the large number of ideas generated within the company. As a result, new product development at Trimline has been somewhat ad-hoc and episodic.

One example of previous new product development at Trimline is an electronic sphygmomanometer. The original concept for this product, and even some initial development, began at Trimline's predecessor company, PyMaH; however, after 3M acquired PyMaH, and then sold its blood pressure business to Trimline, development of the new product stopped while Trimline focused on its core blood pressure products. In 1999 and 2000, Trimline was able to reengage and invest in developing the electronic sphygmomanometer, but progress again stalled, and it was not until approximately 2006 that the company rededicated itself to the potential new product, with one person working close to full-time on this effort. Trimline has now decided upon the sphygmomanometer's design and will soon move to manufacturing.

Decision Process for E!WW Participation

In late 2006 and early 2007, the New Jersey Manufacturing Extension Partnership (NJMEP) learned of and became interested in offering E!WW to its clients; in the same timeframe, NJMEP hired a new product development specialist who soon became an E!WW growth coach and embraced E!WW as a way to serve the product development needs of NJMEP's clients. Through his own networking and contacts, the growth coach approached Trimline to serve as NJMEP's pilot participant for E!WW; Trimline had not previously been involved with NJMEP. From Trimline's perspective,

E!WW offered a formal method for making new product development decisions, which the company lacked. The opportunity to engage staff across marketing, engineering, operations, and other functions in a systematic new product development process was viewed as a mechanism to create a shared company-wide approach to Trimline's new product development decisions and processes.

Experience of E!WW Implementation

Description of the E!WW Intervention

The E!WW planning session, which took place on May 30, 2007, at Trimline's Branchburg, New Jersey office, involved the company's president (and co-owner), executive vice president (and co-owner), director of sales, engineering manager, and the NJMEP growth coach. After the planning session, these participants plus six other company staff from accounting, marketing, sales, and materials management completed the on-line Eureka! assessment. The assessment revealed that, in Eureka! terminology, Trimline is mostly a "red" company; however, its profile differs from the typical MEP E!WW client in that it scores better than average for the degree to which creativity and innovation are rewarded, organizational leaders are respected, and company talents are used well.

Ten Trimline staff (i.e., the four who participated in the planning session plus the six who completed the on-line assessment) participated in the Eureka! session, held on June 19, 2007 in NJMEP's Morristown, New Jersey, office. To add outside perspective, two NJMEP staff members were participants in Trimline's Eureka! session, which one NJMEP growth coach facilitated. By the end of the Eureka! session, the group had created 71 ideas (yellow cards), which were down-selected to 12 ideas and later to four that were submitted to Merwyn for scoring.

The company then proceeded to the Trailblazer period, with one scout handling both of the two top-scoring ideas, a new type of blood pressure cuff and an improved wall aneroid. The motivation behind the new blood pressure cuff idea is the opportunity to provide name recognition (e.g., to a hospital), to communicate a special message to the patient, or to highlight a special service. The impetus for the improved wall aneroid is ability to significantly reduce the need for calibration of aneroids and to enable zero point adjustments in the field.

For the new blood pressure cuff, the scout: estimated the amount of investment needed to pursue the idea, the potential sales, and the projected return on investment; explored production logistics with Trimline manufacturing staff; identified options for implementing the idea that would be valuable to customers and cost effective for Trimline; and conducted internet research on printing technologies and sources. At the end of the 30-day Trailblazer period, the scout provided a "Yes, but" recommendation, highlighting three issues that needed to be addressed before the company should definitely pursue the idea.

Trailblazer activities for the improved wall aneroid were similarly comprehensive. The scout: conducted market research online, examining the features of existing products to

define the differences to be provided by the Trimline aneroid; discussed technical feasibility issues (related to adding a calibration feature) with suppliers; performed patent research regarding the calibration feature; researched regulatory matters to determine their applicability to the aneroid; explored pricing with potential suppliers; and projected the required company investment and the timeframe for and level of investment return. Following this research, the scout recommended that the company go forward with the product, a recommendation that was accepted.

Highlights, Challenges, and Key Elements of the E!WW Process

For Trimline, the weekly coaching sessions during the Trailblazer period were very beneficial, in part because of the information and suggestions conveyed by the growth coach, and in part because the periodic meetings "forced" the scout to focus on the ideas even in the midst of several other projects. The growth coach provided important guidance about how to evaluate the ideas' market potential, including, for example, urging the scout to conduct patent research for one idea, and also sent a sample spreadsheet to be used for cost analysis of the potential new products. In short, the Trailblazer process and the weekly coaching sessions pushed Trimline to expand the way it conducted exploration of new product development options and to engage in types of research that they hadn't previously pursued.

Other parts of the E!WW process, particularly the Eureka! session, were viewed as having more flaws, though the Trimline scout noted that it was clear that each component had a purpose. Trimline staff suggested that the Eureka! session might proceed more smoothly if all participants had been involved in the planning meeting, as a way to familiarize the group with E!WW and its purpose. Trimline participants commented that they found the Eureka! session to contain extraneous information[20] and to be disconnected and rushed, with the sense that movement from one topic to another was the objective rather than understanding the topic itself.[21]

In Trimline's experience, the Eureka! session does not seem to allow the growth coach or participants to pause when the group seems to be on the cusp of something important. In the rush to move from one slide to another during the Eureka! session, opportunities for reading the audience and recognizing when a topic is resonating and needs to be explored are perceived as minimal or absent. In the words of the company's co-owner, because of the speed of the Eureka! session, the Trimline participants "left things unfinished before the diamond was mined."

As a result of the rapid pace and volume of information, some of Trimline's participants had "tuned out" before getting to the idea generation part of the day. Trimline interviewees also commented that the process focuses too much on idea generation, rather than methods or criteria for idea screening. A mechanism for explicitly laying out the filters for selecting the ideas – for example, the ideas' congruence with the

[20] For example, information regarding E!WW itself, what E!WW isn't (i.e., traditional brainstorming), and the history of Merwyn seemed to Trimline participants to be more oriented to "selling" the E!WW process rather than implementing it.
[21] To eliminate information perceived as non-essential to the session and to reduce the sense of being rushed, one of NJMEP's growth coaches (not the growth coach who conducted the session with Trimline) has edited and shorted the version of the Eureka! session that he presents to E!WW participants.

company's goals and strategy – is perceived to be a needed element that is currently lacking from the Eureka! session's voting procedure.

Ideas Identified and Pursued through E!WW

The four ideas that Trimline submitted to Merywn received quite positive scores. The top-scoring idea was rated at 73, or "Wow!" in Eureka! parlance, while the 2nd and 3rd highest-scoring ideas earned 64 and 55 points, respectively, both of which translate to "Go" in Eureka! terminology. The lowest scoring idea, at 43, received a "Think" grade. The four ideas are:

1. A new type of blood pressure cuff;
2. An improved wall aneroid;
3. Pressure infuser bags; and
4. Disposable tourniquets.

None of these ideas are new to the company, but Trimline had not devoted any significant time to product development for any of the ideas. However, the company essentially had decided to pursue development of the wall aneroid prior to the Eureka! session and Merwyn rating.

Changes and Outputs Associated with E!WW

New Capabilities or Activities

Since reaching the "Yes, but" recommendation for the new blood pressure cuff, Trimline has explored several options for moving forward with the idea. One of the constraints to the idea's implementation was that Trimline would need to make a substantial investment in new equipment in order to produce the cuffs. Instead of immediately making this investment, Trimline has pursued product implementation through an existing supplier, which prototyped the cuff on behalf of Trimline. After receiving customer feedback, Trimline will evaluate demand for the product and then decide whether to invest in the equipment or to produce the cuff through the supplier.

Since reaching the "Yes" decision for the wall aneroid, Trimline has completed the product's design, demonstrated the prototype to customers, identified the molds and materials that are needed for full production, and will soon transition to manufacturing. The company anticipates that sales of the wall aneroid will begin during the summer of 2008.

Short-term Outputs

Trimline interviewees stated that, through the Trailblazer experience, the roles and functions of a new product development "scout" has been made tangible and visible for some Trimline staff. Of particular importance was the degree of ownership for a project that can or should be assumed by a scout. Observation of these two constructive "scout" experiences may lead individuals to replicate this role in future product development efforts.

Long-term Outcomes and Implications

As mentioned above, Trimline has made prototypes of both product ideas explored during the Trailblazer period. However, neither product has been launched yet, so it is too early to gauge the impacts of the products on the company's sales. To date, the E!WW process for screening and selecting ideas to move into new product exploration or development (or any other formal mechanisms for evaluating ideas before dedicating resources to them) has not been firmly adopted within the company. Accordingly, it is unclear if other potential longer-term effects on the firm's operations or culture will emerge.

Parallel Activities and Alternative Explanations

In addition to the work on the two ideas described above, Trimline is devoting some attention to the pressure infuser bag, including market research (for example, via attendance at a trade show) and limited exploration of how the product would be developed technically. At this time, no resources are being dedicated to the disposable tourniquet, which, although it would represent a diversification for the company, is not thought to be a large market.

Findings and Observations

Three central observations emerge from Trimline's experience with E!WW. First, participation in the process, especially the 30-day Trailblazer period, provided Trimline with a tangible demonstration of the rapidity with which new product exploration and development can proceed using a systematic approach. As mentioned, neither of the two ideas pursued during Trailblazer were new to the company, but no concrete work to elaborate them had been conducted prior to E!WW. Both ideas were prototyped within eight months of the Trailblazer report-out session, as compared to, for example, the stop-and-start work on the electronic sphygmomanometer over nearly ten years.

Second, the Trimline experience highlighted shortcomings of the Eureka! session that, at least for this company, hampered the session's effectiveness. Of particular concern were: (i) the session's rapidity and disconnectedness; and (ii) the method and criteria for filtering and choosing ideas. With regard to the latter, Trimline participants commented that an explicit link between the ideas and the company's strategy and goals is an important missing element of idea selection.

An important unanswered question raised by Trimline's experience of E!WW is the long-term impact of the process on the company's operations. In Trimline's case, one scout handled both ideas that proceeded to the Trailblazer period. Accordingly, the steps taken in exploring the two product ideas are not well known or extensively understood within the company. As a result, the process probably has not been absorbed beyond the individuals with whom the scout works closely and has not become embedded as the company's overall new product development system. For the E!WW program overall, this outcome raises the questions of if, or the degree to which, a company's culture or organizational structure need to be considered in order for the E!WW effort to have lasting effects.

Chronology of Key Events

Chronology of Key Events for Trimline Medical Products	
Date (Month/Year)	Activity, Service or Other Change
May 30, 2007	• Project planning meeting, SWOT analysis, company culture survey
June 19, 2007	• Eureka! session
June 26, 2007 (approximate date)	• Trailblazer planning session and discussion of Merwyn results
July 2007	• Trailblazer period and report-out session

Sources

Interviews with Trimline Medical Products' executive vice president/co-owner and engineering manager, March 26, 2008 and April 29, 2008

Interviews with NJMEP staff, March 26, 2008

National Science Foundation, *Science and Engineering Indicators 2006*

U.S. Census Bureau, *2006 Annual Survey of Manufactures*

www.trimlinemed.com

Whirltronics, Inc.

Introduction to the Company and Its Industry

Whirltronics, located in Buffalo, Minnesota, is a 30-year old private company that manufactures rotary lawnmower blades and has annual revenues of approximately $10 million. The company makes custom blades for large scale original equipment manufacturers. As a result, their growth patterns are cyclical. During the period when they are meeting new design and specification needs of clients, their revenues spike and then return to a steady state when their clients transition to producing the new blades in-house.

Whirltronics is classified as an agricultural implement manufacturing firm, NAICS 33311. Over the ten-year period between 1997 and 2006 that industrial sector has reflected general trends in manufacturing, i.e., greater production value with fewer people. During the decade leading to 2006, while there was a 15% reduction in the number of employees in agricultural implement manufacturing, there was an approximately 42% increase in the value of shipments.[22] Over the last several years, Whirltronics has maintained a relatively stable employment level with approximately 70 employees including 18 management level staff with the remaining staff being shop workers. Over the course of the last three years, the company's growth in revenues has been flat. Prior to that, they were accustomed to experiencing annual growth in revenues of 3% to 5%.

Context for Participation in E!WW

Past Technological Changes and Improvements at the Firm

Whirltronics has had a steady and consistent business function of making lawn mower blades. Their success has been due to the consistency, quality and volume of their products, not the company's innovative practices. Whirltronics is an engineering service company as opposed to a manufacturer of its own product designs. They do not make their own branded products. The nature of their business model is to collaborate with their clients to meet new design specifications. To that end, their innovative practices are not strictly "in-house" but instead are initiated or even directed by client requests.

Whirltronics has taken several steps to improve their processes and the quality of their work. In 2001 they were certified ISO 9000. In 2004, the company went through Lean Manufacturing training. While these certifications and training did not directly result in improved growth, they helped the company to streamline its production processes and reduce the number of defects, hence improving client confidence and satisfaction.

[22] U.S. Census Bureau, *2006 Annual Survey of Manufactures*, http://factfinder.census.gov.

Decision Process for E!WW Participation

Whirltronics was invited to participate in Eureka! Winning Ways by the center director of the Manufacturing Extension Partnership at Minnesota Technology (MN Tech). Whirltronics has a longstanding relationship with Minnesota Technology, and the CEO of the company is currently on the board of Minnesota Technology. Minnesota Technology was offering the E!WW process as a pilot service and therefore invited Whirltronics to participate at a considerable discount from the full cost of participation. Whirltronics was concerned about their flat revenue growth. As a result, the company was focused on developing new products. The opportunity to participate in a method for generating new ideas for new products that could facilitate new growth was welcome for the company.

Experience of E!WW Implementation

Description of the E!WW Intervention

The E!WW planning session for Whirltronics took place in mid-July 2007. Following the planning session, Whirltronics staff completed the online Eureka! assessment, the results of which indicated that their readiness to create and readiness to execute were within a range of the MEP client benchmarks that seemed to indicate that participation in E!WW would trigger the company's new idea development abilities. For example, in the readiness to create category, the company scored "Good" in two important indicators – *Agreement with NEED to discover choices for growth* and *Company's attitude toward taking action – Courage*. In several of the indicators in the readiness to execute category, Whirltronics ranked better than world class, and the company exceeded the MEP client benchmarks on all indicators in this category. For instance, the company scored nearly 20 percentage points higher than average on the level of respect for organizational senior leaders.

The Eureka! session, conducted on July 26, 2007, consisted of approximately 14 people, half of whom were Whirltronics staff, while the others were business associates and consultants that work with the firm and are familiar with the industry. The session was conducted by two members of Minnesota Technology plus two affiliated consultants, with one of the MN Tech staff members serving as the principal facilitator.

The three members of the Whirltronics staff interviewed for this case study agreed that the Eureka! session was not a positive experience. They suggested that it was "too fast paced" and "too long." More importantly, they did not understand the process by which the expected growth outcomes for various ideas were grounded in their industry's reality. "It seemed that we would just say that this idea is going to result in so much percent growth. Where does that come from?" asked one of the interviewees. Answers to Whirltronics' questions were not readily forthcoming, according to the interviewees, at least in part because it was "clear that the lead facilitator was in training and did not completely understand the process." They also stated that the length of the session exceeded the limits of their interest and enthusiasm, a situation exacerbated by perceived lack of energy or passion on the part of the principal facilitator. Overall, interviewees described their interest and confidence in the process as waning precipitously over the course of the session.

The two ideas selected to be pursued during the Trailblazer period received high scores, relative to the MEP client benchmarks, from the Merwyn success screening. The average score of Whirltronics' top two ideas were 75 versus 55 for the MEP client benchmarks. Despite the high marks of the ideas, the enthusiasm necessary to pursue them effectively and aggressively within the scouting teams was not present.

One specific result of the experience of the Eureka session was the difficulty in rallying the scouting teams around the selected ideas and the work of the Trailblazer period. The scouts found it difficult to establish a sense of shared stewardship of the selected ideas and a feeling among the scouting teams that the success or failure of their efforts was a shared responsibility. According to those interviewed, this was a direct consequence of the general attitude towards the process developed during the Eureka! session. In this case, the Eureka! session experience compounded the understandable difficulty of company size and limited resources. Members of the Whirltronics team suggested that the Trailblazer period was also difficult because each employee is so busy with the day to day work of keeping the business going. Notwithstanding these general descriptions, upon reflecting on the process, individual scouts felt that the Trailblazer "model" for thinking about new ideas and pursuing them was a good one.

Having a positive experience and developing confidence in the coaches seems to be correlated with the degree of effort put forth during the Trailblazer period. The extent to which the scouts can achieve buy-in from other members of the firm is critical: it determines the degree to which the work of discovery is distributed across the scouting team and the sense of ownership of the ideas is shared.

The Trailblazer period was marked by limited interaction with the growth coach – only one face to face meeting and sporadic phone meetings. Despite the limited interaction with the growth coach, the Whirltronics' scouts felt that the scouting methodology during the Trailblazer period was very helpful. In their words, it provided "a very good model" for thinking about how to investigate the viability of new ideas.

Highlights, Challenges, and Key Elements of the E!WW Process

As mentioned above, the client's experience during the Eureka! session had a significant impact on their enthusiasm, effort and willingness to engage in the remaining phases of the process, but in the case of Whirltronics, it was not a positive effect and, in fact, became the pivotal feature affecting the company's experience of subsequent parts of E!WW. The Eureka! session did not enamor the Whirltronics team to the process; in fact, it increased their skepticism about its validity and undermined their willingness to dedicate the time required for success in the Trailblazer period (estimated at 50%-60% of the scouts' time during Trailblazer).

The shortcomings of the Eureka! session were compounded during the Trailblazer period, in which Whirltronics felt that the growth coaches were not easily accessible. Stated one of the scouts, "the Minnesota Technology team was spread too thinly. You email them today to schedule 15 minutes in 3 weeks." (It should be noted that, despite reservations about the primary facilitator, Whirltronics participants felt that the other Minnesota Technology staff were highly effective and "clearly knowledgeable of the process.")

Whirltronics' scouts felt that during the Trailblazer period they had a particular need for more regular interaction with the growth coaches because, "we know how to do nothing else except make lawn mower blades." The ideas developed through the E!WW process were incremental steps in blade design and metallurgy that they were capable of pursuing, but nonetheless required exploring new markets and an expansion of the company identity. Members of the scouting teams needed assistance with the latter of these two challenges, and the intermittent correspondence with the growth coaches made pursuing these new areas difficult.

Ideas Identified and Pursued through E!WW

The two ideas that were identified as having high probabilities of success were both within the core competency of the company. The ideas were:

- Extended life rotary cutting blades, and
- Identification of new markets for hot form metal stamping and treatment.

At the end of the Trailblazer period the scouts determined that the first idea was too expensive and the second did not have a viable market. Neither of the two ideas was pursued further.

Changes and Outputs Associated with E!WW

New Capabilities or Activities

Whirltronics has not developed specific new capabilities or activities as a result of participating in the Eureka! Winning Ways process. They are still pursuing the traditional strategy of identifying new customers and out-bidding competitors. Nonetheless, the impact of E!WW participation on the company can be seen in a renewed emphasis on growth and an increased value placed on the specific function of developing new ideas. Members of the Whirltronics team now recognize the importance of formalized processes for idea generation.

Short-term Outputs

One of the direct and positive results of the E!WW experience has been a shift in the firm's attitude towards the development of new ideas. The development of new ideas for growth is now a formal practice within the firm. The CEO and six representatives of different functional groups are part of a "Growth Team" that meets regularly to focus on ideas for growth. While the team does not employ the "full blown" E!WW process, it is modeled after it. They are making use of the resources available at Minnesota Technology. In addition, the company has incorporated the theme from Eureka! Winning Ways of "fail fast, fail cheap." They are conscious of their limited resources of time and capital and therefore have to invest in new directions with prudence. While that concept is not new, members of the Whirltronics team suggested that the experience with E!WW reinforced its importance.

Another of the short term outcomes that is directly attributable to the E!WW process is a recognition that the firm was very narrowly identified. They currently have plans to

redesign their slate of marketing materials including their website, business cards, brochures, etc. According to the CEO, Whirltronics recognized that the creativity associated with new growth ideas were not limited to new products and processes, but in identity as well.

Long-term Outcomes and Implications

The shrinking market for rotary blades and the changing business landscape in their industry is forcing Whirltronics to evolve. One of the longer term results of participating in the E!WW process is that the company recognizes the importance of broadening its identity. They are known strictly as a company that manufactures lawn mower blades. That identity is printed on all of their publications as well as in their mindset. The creative process of Eureka! Winning Ways forced company members to realize that identity is masking some of the other significant competencies that exist within the firm. As a result, they plan to undergo an evaluation of their company identity as they try to branch into broader markets. That evaluation will include specific focus on the way in which the company markets itself.

Parallel Activities and Alternative Explanations

Whirltronics has not undertaken specific alternative practices to pursue improved growth.

Findings and Observations

Whirltronics is an interesting case in that the company appeared to have strong foundations for success in the Eureka! Winning Ways process, but ultimately it gained few tangible benefits from the experience, at least in the short-term. Among the strong predictors of success, for instance, are the company's high Eureka! assessment scores, especially on readiness to execute, which suggest that the Trailblazer period would be an experience in which Whirltronics would thrive. In addition to the positive assessment, Whirltronics' top two concepts received very high rankings for probability of success from Merwyn success screening, exceeding the MEP client average by 20 points.

The incongruity between the positive early signs that Whirltronics would benefit from E!WW and its actual E!WW experience requires careful consideration. Though no process provides certainty that good ideas will or can be transformed into successful products in any environment, Whirltronics demonstrated in the E!WW preparatory stage a positive basis for success in new idea generation and development. That the company did not fully capitalize on the E!WW experience and, after having reached two "no" recommendations at the end of the Trailblazer period, has not advanced any additional ideas leads to the following observations about the E!WW process.

1. The Eureka! session is a critical step in the process and can serve as a harbinger for the rest of the E!WW experience. Whirltronics' staff felt that the projection of growth rates and market sales based on their new ideas were specious and not grounded in reality. That experience contributed to a sense of skepticism among the staff about the merit of the Merwyn success screening and the subsequent stages of the process. It is conceivable that this progression of events could have

been averted if Eureka! session facilitators had more carefully "read" and responded to the Whirltronics team's perception of the process. Instead, the experience served to undermine participants' willingness to engage enthusiastically in the overall process which, in turn, limited the likelihood of success during the remaining components of the process.

2. Some companies – even those that, from their assessment scores, appear likely to experience success in E!WW – may need more help during the Trailblazer period than an MEP center might anticipate. This may be particularly true of companies whose major business thrust is not the delivery of a branded product, but of a service. In the case of Whirltronics, the company is accustomed to accurately and efficiently manufacturing parts that meet the specifications of their clients. As a consequence, they are not in the practice of developing and performing the due diligence on new product ideas. Under these circumstances, Whirltronics' staff believed that they did not have the in-house capacity to move much beyond this specific service function and, as a result, would have liked to have had more contact and guidance from the growth coaches during the Trailblazer period. The scouts thought that the model for investigating new ideas was good, but needed more specific help to augment their skill sets. Inability to access information from and sporadic contact with the growth coaches resulted in ineffective efforts by the scouts and decreasing confidence in the value of the process.

3. High Merwyn scores do not necessarily result in transformation of good ideas into new products: the high scores indicate a high probability – but not a guarantee – of success. Whirltronics' inability to capitalize on their ideas is explained primarily by the market research and cost analysis conducted during the Trailblazer period, implying that the Trailblazer model helped to pinpoint that the current industry landscape and the capital requirements were not favorable to the success of the specific ideas, despite the high Merwyn scores.

4. E!WW's effect can be limited if widespread enthusiasm is not generated quickly. In Whirltronics' case, the CEO fully appreciated the potential benefits of participating in E!WW. However, other Whirltronics participants may have had less knowledge about the process in particular or idea generation in general. Given the perceived shortcomings of the Eureka! session, participants' enthusiasm for idea generation and development waned fairly quickly, and they may have more easily become discouraged during subsequent phases of the process.

Despite the difficulties presented by the Whirltonics case, the company's experience does not necessarily indicate an overall weakness in the E!WW process. Instead, the case highlights that, despite being a systematic program for idea generation, the "human factor" is nonetheless paramount in idea generation and thus is present throughout E!WW. It is therefore critical that E!WW growth coaches be prepared to look for and respond to disconnects between facilitators and participants, especially in the Eureka! session. In Whirltonics' case (and perhaps others), the experience in the Eureka! session set the stage not only for their confidence in the process, but also for their rapport with and trust in the growth coaches. The importance of the Eureka! session may be amplified for E!WW clients that have limited experience with processes such as

idea generation or a limited view of the industrial landscape in which their company operates. In short, despite the systematization offered by the program, the implementation of E!WW may never be routine, since every company and its staff are different, an overarching factor of which MEP centers may need to be cognizant as they pursue E!WW implementation.

Chronology of Key Events

Chronology of Key Events for Whirltronics	
Date (Month/Year)	Activity, Service or Other Change
June 26, 2007	▪ Eureka! session
July 9, 2007	▪ Trailblazer planning session
September 6, 2007	▪ Trailblazer report-out session

Sources

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Woodbury Box

Introduction to the Company and Its Industry

Woodbury Box is a family-owned company founded in 1946 as a peach box manufacturer in Woodbury, Georgia. Today nearly two-thirds of its business is comprised of industrial mop hardware, of which Woodbury Box holds 20% of the market and is the only domestic manufacturer for this hardware. One quarter of revenues are generated from injection molded products including mop hardware. The remaining revenues come from powder coating and wire-formed products, and garden baskets and plant stands. Most of its customers are in the United States, Canada, and Puerto Rico. As of 2007, the company employed 35 workers, down from peak levels of 72 workers in 1994, on revenues of $3.2 million.

The broad industry in which this company operates – hardware manufacturing (NAICS class 3325) – has lost 40% of its employment base from 1997 to 2006.[23] In comparison, value of shipments declined only slightly (by 6%), which indicates that output per employee rose by more than 50% on average in this industry during this time period.[24] This industry is known for doing some modest levels of research and development, though at 20% of average levels for all manufacturing. In sum, these statistics suggest a broad industry that appears to reflect mature markets and increasing competition. In the case of Woodbury Box's particular customer base, the company's business has been impacted by foreign competition and funding from the Southeastern Trade Adjustment Assistance Center has been awarded to help with competitiveness challenges. This funding was eventually leveraged in the E!WW process.

Context for Participation in E!WW

Past Technological Changes and Improvements at the Firm

Woodbury Box has undergone several transformations since its early days as a peach box manufacturer. The company transitioned from wood to corrugated boxes in the 1950s, a change that mirrored the direction of the broader industry. Woodbury Box started a wire bending/processing business in 1961 and began injection molding of parts in the 1980s. After relocating to a 64,000 square foot facility in Thomaston, Georgia in 1994, the company added powder coating capability in 1999 and blow molding equipment to make bottles in 2007.

In keeping with its history of transformation, Woodbury Box has undertaken multiple technological and process improvements. These have included environmental remediation, investment in automatic wire bending equipment and robotic welding equipment (which improved flexibility and lowered work-in-process), acquisition and layout of a new and more efficient manufacturing facility, and technical training from the state's QuickStart program upon moving to Thomaston. A patent for a dust map

[23] U.S. Census Bureau, *2006 Annual Survey of Manufactures*, http://factfinder.census.gov.
[24] Ibid.

frame ornamental design was granted to Woodbury Box in October 2007.[25] Woodbury Box was named Georgia Family Business of the Year and Georgia Manufacturer of the Year in 2004.

Woodbury Box has a history of informal and formal engagements with the Georgia Manufacturing Extension Partnership (GaMEP) dating back to before Georgia Tech's Industrial Extension Program became what is now GaMEP. In the early 1990s, Georgia Tech placed two engineering co-op students in the company when it was still at its Woodbury location as part of a project to enhance scheduling, layout, work flows, and productivity at the facility. Georgia Tech specialists were also involved in the evaluation and layout of the new Thomaston manufacturing facility. Prior to the installation of the powder coating paint system, GaMEP specialists brought in colleagues from the Georgia Tech Research Institute (GTRI) to share information about these systems. The Southeastern Trade Adjustment Assistance Center, of which Woodbury Box became a client in 2002, is a sister program of GaMEP at Georgia Tech.

Decision Process for E!WW Participation

The GaMEP center director approached the CEO of Woodbury Box to serve as GaMEP's first pilot participant for the E!WW service. An active member of the GaMEP advisory board, the CEO is valued for her participation, knowledge, and ability to provide honest feedback. She is also admired for the way she has led her company through periods of intense global competition. For her part, the CEO expressed an interest in the service, suggesting that the company had a need for growth services to support continuation of their operations.

Experience of E!WW Implementation

Description of the E!WW Intervention

At the end of May 2007 the GaMEP growth coach held an E!WW planning meeting with the company CEO. The planning meeting included discussions about logistical requirements of the process; a strengths, weaknesses, opportunities, threats (SWOT) analysis; and request for participants to complete online Eureka! Assessment. Results from these preplanning activities indicated that (1) there was some urgency on the company's part for increasing revenues, (2) the company looked to greater revenues to enable the provision of medical coverage for employees, and (3) participants had more limited experience with creating and executing new ideas than the average for a world class Eureka! client. Woodbury Box management acknowledged that they had not had prior success with group brainstorming processes.

The Eureka session, held on June 7, 2007, was attended by 11 participants. Three participants were from Woodbury Box – the CEO, president, and vice president of operations. Two were from a neighboring company. The remaining participants were observers from GaMEP. Two GaMEP growth coaches alternated facilitation

[25] Fuller, D. Roberson, DL. U.S. Patent No. 553,318. Washington, D.C.: U.S. Patent and Trademark Office, October 16, 2007.

responsibilities. Sixty-two ideas (i.e., yellow cards) were generated. These were narrowed to 12 and the four most promising were submitted to the Merwyn system for evaluation.

One week later, the GaMEP growth coaches held an action planning session in-person with company participants to review the results of the Merwyn research evaluation of these four ideas. This action planning session led to the subsequent pursuit of the resulting ideas during a follow-on Trailblazer period. Although this period is typically designed to run as four weekly meetings held over a 30-day period, the 30-day timeframe was found to be too time consuming for the company. Thus, the GaMEP growth coaches agreed to expand the period and hold progress reviews with the company every other week for about two months, sometimes by telephone. The Trailblazer process also saw the growth coaches providing services beyond coaching to help the company when it got stuck at certain points in the process, even though E!WW is designed to be limited to coaching.

Highlights, Challenges, and Key Elements of the E!WW Process

From the perspective of GaMEP, one of the challenges the growth coach faced was the tendency during ideation for company participants to emphasize process-based ideas such as lean manufacturing or quality projects. In order to keep the focus on ideas that can create growth through new products, services, or marketing approaches – the overriding purpose of E!WW – an important role for the growth coaches was to steer participants away from cost-cutting or other process improvement types of ideas.

A key element of this engagement was the central role of company management as the on-site scouts. There were plusses and minuses to this involvement. Although top management was often too busy to devote large amounts of time to the E!WW process, the company scouts did have the authority, on account of their positions, to pursue ideas without having to go up the management chain to obtain approval.

Ideas Identified and Pursued through E!WW

The Eureka session resulted in four concepts for subsequent Merwyn evaluation:

1. Commercial-grade hanging baskets and planters and seasonal service,
2. A reduced cost collapsible mop handle,
3. An interchangeable mop handle for dry and wet applications (based on an existing patent), and
4. A one-stop custom shop for design and prototype manufacturing services.

The first two concepts received ratings of 75 (or "Wow!" in Merwyn parlance) for the hanging basket service and 55 (or "Go") for the collapsible mop handle, while the second two concepts received overall ratings in the mid 40s (or "Think"). The hanging basket and collapsible mop handle were formally pursued through the Trailblazer process, with the CEO serving as a company scout for the baskets and the president serving as a scout for the collapsible mop. Woodbury Box also pursued the custom shop idea.

The hanging basket itself was not a new idea as the company already had this product in its catalog. The new idea was the decision to target the commercial market and to combine the basket with a seasonal service to provide and regularly replace plants and flowers. Lining up growers for the plants and flowers was one important characteristic of implementation of this idea. However, the most time consuming component was the identification of the appropriate customer. Landscape architects and developers were considered, but ultimately property managers were determined to be the appropriate customer. A potential property management customer for the service was eventually identified.

The collapsible mop handle idea was based on the benefit of saving shipping and freight costs by collapsing the handle. The success of the idea turned on the ability to find a source to supply connectors for the mop below a certain cost threshold. The GaMEP growth coach assisted the company scout with identification of a connector and suppliers via Internet searches and other information sources. While connector suppliers at competitive prices were found, the cost threshold rose because of spikes in steel prices. The company has deferred further pursuit of the mop handle idea.

The notion of offering design and prototyping for manufacturing was put forth as a service for entrepreneurs and other small businesses that lack in-house small production run capabilities. Wire bending, welding, injection molding, and powder coating equipment plus the know-how of its employees underlies Woodbury Box's offering in this area. Woodbury Box had been approached in the past by entrepreneurs with a need to have new inventions designed and prototyped for manufacturability, but had not been able to refine this service to the point that it was profitable. The Eureka! process brought home that Woodbury Box needed to come up with a more systematic way to address the entrepreneurial market, including a relevant pricing scheme and marketing approach. The company developed a contract that, at a price affordable for entrepreneurs, asked for half the money up front and half on delivery of the prototype. In addition, Woodbury Box approached a web site designer from the Thomas Register's on-line service, thomasnet.com, to redesign the company's site and on-line brand.

Changes and Outputs Associated with E!WW

New Capabilities or Activities

Company management says that the capabilities they received from the E!WW service are not fully captured by focusing on quantitative metrics alone. Woodbury Box had been operating under tight business conditions, which negatively affected its outlook. "Eureka changed our mindset," said the CEO. The service helped to create a more hopeful feeling that new ideas could be put forward to impact positively the bottom line of the business. The president was even more emphatic about the impacts of the service: "I think [the Eureka session] is the most important day in the life of Woodbury."

Short-term Outputs

The E!WW process also gave company executives new capabilities in effective ideation practices. Management determined that group brainstorming sessions should be held on

a biannual basis. The first of these sessions took place in December 2007. All supervisors participated in the session. A key element, learned from the Eureka! session, was assigning resulting follow-on activities to participants. Thus, ideas that emerged from the December 2007 session, including the need for manufacturing representatives and ISO certification, were assigned to participants and have been pursued, the latter through a phone call to the GaMEP. This is but one indication of how the engagement influenced cultural changes within the company.

Long-term Outcomes and Implications

The hanging basket service yielded a relationship with a grower and a pending contract for a local shopping mall with a property manager and developer in the fall of 2007. However several factors forestalled finalization of this contract including the severe drought that hit the southeastern United States in 2007, the grower's representative pulling out of the relationship with Woodbury Box, the timing of the pending agreement in the middle of the cycle rather than the start, and the cooling of the economy. Although this contract did not work out as it was written in the short-term, the property management company did make a purchase for a shopping mall in Texas. Woodbury Box also generated further new sales of the service to universities in Alabama and Georgia. In addition, the company identified a reliable local horticulturist to serve as an intermediary with nearby growers. The hanging basket service yielded a $15,000 sales increase, which was more than twice the revenues of the company's prior year's hanging basket business.

The custom design and prototyping service created some concerns within Woodbury Box's management about the ability to collect upfront charges from entrepreneurs and small businesses. However, the first meeting with an entrepreneur demonstrated that the new pricing scheme was reasonable. At the same time, the Woodbury Box CEO approached another potential entrepreneur, who had years of blow-molding and bottle-making experience at a production facility that was closing, with the possibility of using Woodbury Box's full-service manufacturing capabilities. This entrepreneur has migrated into a sales role in the development of a new line of shampoo products and, as a result, Woodbury Box closed a new order for shampoo bottles. In all, design and prototyping services resulted in a further $10,000 line of new business.

Parallel Activities and Alternative Explanations

The company CEO says that since the E!WW service, company staff are now "fearless." One of the new ideas they are considering is production of medical devices for a nearby manufacturer. This is a niche that is typically associated with stronger capabilities than their current product lines, but company management feels more than up to the challenge since the E!WW engagement. This is a new area so there are no quantitative outputs as yet, but it signals a move toward new markets, enhanced employee skill levels, and quality process formalization.

The company's website offers the potential to develop a new image for Woodbury Box. The web designer approached by the company worked with management to come up with a new on-line name that omits the "box" reference, so that company would be

more appealing to entrepreneurs. Funds from the Southeastern Trade Adjustment Assistance Center will be used to underwrite the web design costs.

Findings and Observations

The experience of Woodbury Box suggests that the E!WW process was effective in turning the company's attention toward the generation of new ideas and business pursuits. Of the elements of the E!WW process, company management deemed the Eureka! session the most valuable in its ability to energize Woodbury Box to pursue new avenues. Although having so many external observers from Georgia Tech and another nearby manufacturer participating in the ideation was, to some extent, a weakness in representing the company's ideas, company management also pronounced it a strength in that having outsiders at the Eureka! session motivated the company to assume different points of view and consider new directions. Moreover, management remarked that they were impressed with the level of preparation and knowledge of the company's situation expressed by the outside observers. Although the pre-planning SWOT and on-line surveys were not observed to be as effective as the actual Eureka! session, company management attributed the preparedness of the outside participants to E!WW pre-planning and, as a result, would not have minded having even more external participants in the room. Management liked the Merwyn forms, but thought even more highly of the Trailblazer process. Knowing that regular progress reports would have to be made to the GaMEP specialist, company management made sure that they completed implementation assignments. To conclude, they estimate that monetary impacts were likely to grow over time, but their positive outlook was already fully formed.

From the point of view of the GaMEP growth coaches, the process worked well, but there were concerns about the subjectivity in the narrowing of ideas to the final four for submission into the Merwyn evaluation system. The growth coaches are exploring ways to enhance this part of the E!WW process such as through the development of broad selection criteria. Having gone through this pilot, the growth coaches also expressed fresh interest in obtaining training in financial analysis, marketing, and business and strategic planning to enhance their effectiveness in supporting ideation and implementation by the client company.

An unanswered question was whether companies in the size range of Woodbury Box were appropriate for the service. Woodbury Box had relatively fewer people to involve in the E!WW process outside of the management team and those people sometimes lacked sufficient time to fully devote to the service. As a result, the post-session Trailblazer implementation period had to be doubled and the GaMEP growth coach had to provide assistance beyond the prescribed coaching typically offered in an E!WW service. On the other hand, the family connection and involvement of upper management assured engagement of the ideas generated through the process without internal administrative barriers. GaMEP through the E!WW service has begun delivery of a two-company version for small businesses the size of Woodbury Box; the two-company version provides sufficient numbers of participants for the Eureka! session.

Chronology of Key Events

Chronology of Key Events for Woodbury Box	
Date (Month/Year)	Activity, Service or Other Change
May, 2007	▪ Request to participate as a pilot E!WW engagement
May 24, 2007	▪ Project planning meeting, SWOT analysis, company culture survey
June 7, 2007	▪ Eureka! session
June 14, 2007	▪ Trailblazer planning session and discussion of Merwyn results
June – August 2007	▪ Trailblazer process and report-out
Third and fourth quarters of 2007	▪ Hanging basket customer identification ▪ Pending contract with property developer ▪ Sales of hanging basket services to mall and universities
December 2007	▪ Self-led ideation session
First half of 2008	▪ Identification of horticultural specialist ▪ Entrepreneur prototyping service ▪ Shampoo bottle sales ▪ Web design contract ▪ ISO 9000 service request ▪ Identification of manufacturing representative

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