

# MAPP Worksheet 2 - ENVIRONMENTAL SCAN (Example)

## HISTORY AND PRESENT SITUATION

### 1) Briefly review your organization's history.

*Bob and Karen Maxwell purchased ABC Precision, Inc. in 1976. ABC Precision had a stamping operation and assembled both chain and macramé hangers for plants. Not wanting to lose the goodwill that William Bentley had built for the company, the new company was named ABC Precision, Inc. The company had 2 employees and operated out of a leased facility in Arlington Heights the first year of business.*

*In its second year of operation, Dick Maxwell moved the business to a building he purchased in Elk Grove Village. For the next seven years, the business operated out of a 5000 square foot facility with eight to ten employees. Much more stamping equipment was added, most of it used equipment purchased at auctions. The customer base grew with sales of stamped products. Dick Maxwell ran the operational side of the business in addition to bringing in new business. Karen Maxwell worked on a part time basis for the first five years of operations and then began full time in 1981.*

*The business had outgrown its current facility and Dick Maxwell purchased a 25,000 square foot facility in Elk Grove Village in 1984. Later that year Dick and Karen's son, Bill, graduated from Miliken University with a degree in industrial engineering and joined the business. It was with Bill's direction that additional equipment was purchased for the larger facility. The first Amada Pega was purchased in addition to various Amada Brake equipment. With this investment in additional equipment ABC Precision began manufacturing light fixtures.*

*The following year, Dick and Karen's daughter, Mary, joined the business on a part time basis as she started her own business of selling display and storage shelving to video rental stores and libraries. Mary brought to the company financial expertise, with a degree in Accounting from the University of Illinois and an MBA from the University of Illinois at Chicago. Mary is also a CPA. Mary computerized the operation and changed banking and insurance relationships. It was decided in 1988 that Mary should remain with ABC Precision full time.*

*From 1984 through 2000, ABC Precision went from an eight person stamping operation with \$1 million sales annually to a 60 employee fabrication and stamping operation with \$6 million in sales. The company diversified its sales base, but was still relying heavily on its lighting customers. The facility was expanded to 33,000 square feet. The name of the company was changed to ABC Precision, Inc. Dick and Karen Maxwell retired in 1999 and Bill and Mary are running the company.*

### 2) List any historical events or milestones which have occurred in your organization's history, e.g. growth, expansion, people, cash flow, etc.

- 1976 Purchased ABC Precision from William Carson.
- 1977 Moved operation to 6005 22nd Street in Elk Grove.
- 1984 Purchased current facility at 3212 N. Edgewood in Elk Grove Village.
- 1984 Bill Maxwell joined business.
- 1984 Purchased first Amada Turret Press and Press Brakes.
- 1985 Mary Baxter joined the business.
- 1986 Banking relationships formed with LaSalle National Bank.
- 1987 Computerized systems for billing and added CAM Software.
- 1988 Purchased InFiSy software, initially installing the estimating, job costing and scheduling modules.

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- 1988 *Added additional office space: President's office and engineering room.*
- 1989 *First Company sales brochure was produced.*
- 1989 *Purchased additional property including a back building and added to shipping and receiving area.*
- 1994 *Purchased an Amada Vipros Cell with Six Shelf Loader and Unloader.*
- 1996 *Changed name of the company to ABC Precision.*
- 1996 *Produced second Company brochure.*
- 1996 *Purchased an Amada Pulsar Laser with Auto Loader.*
- 1997 *Launched Processing Equipment Division.*
- 1999 *Retirement of ABC owners.*
- 1999 *Dissolution of the Processing Equipment Division.*
- 1999 *Hired middle management layers in office with Assistant Controller and Operations Manager.*
- 1999 *Produced third Company brochure.*
- 1999 *Exhibited at the Job Shop Technology Show.*
- 2000 *Hired a General Manager.*
- 2000 *Organization of first union attempt with the Sheet Metal Local 221. The attempt was unsuccessful and ABC remains a union free shop.*

### **3) Briefly describe your organization's current situation.**

*Current ownership of the business is looking forward to expanding the business and has spent the past two years searching for a facility twice the square footage of the current location. Although there is room for expansion in the current facility, the ceiling height prevents utilization of cranes for material handling. With the move to a larger facility, Mary and Bill planned to grow the business to \$15 million.*

*With the recent threat of union organizing and the increase in interest rates, the current mindset is to remain in our current location. We will need to manage the sales and profitability that we are able to generate from the existing facility. We are considering the possibility of expanding the existing facility.*

*We are continually looking for ways to remain on the cutting edge of technology. ABC would like to invest in a Laser that has the capabilities of cutting heavier material. We need to upgrade our brake department and may invest in a shear conveyor system.*

*ABC is always faced with the issue of diversification. We have an expertise in the lighting industry. One customer represents 42% of our sales and is willing to provide us with significant increases. We are faced with pressures on pricing and short lead times. Quality remains high on our agenda also. Internet auctions have begun to affect our operations as well as the globalization of our marketplace.*

*Mary and Bill have begun to build a middle management layer at ABC. Cross training and procedure and quality documentation are priorities. Mary has taken on the Sales function in an effort to retain a close tie to the customers and to guide ABC toward a stronger, more diverse customer base.*

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- 4) Name each category you compete within and briefly describe the offering(s), [i.e. specific product or service you market] in each category. For example, a competitive category in a tooling and manufacturing business might be “metal stamping” - the specific “service” might be “prototyping”.

<u>Competitive Category</u>	<u>Product/Service (Offering)</u>
<i>Fabrication Services</i>	<i>Stampings</i> <i>Components</i> <i>Spot-welded Assemblies</i> <i>Welded Assemblies</i> <i>Labor Only</i>

- 5) List the market segments and geographic areas (territories) you target for each offering.

<u>Market Segment</u>		<u>Geographic Area (Territory)</u>
1. <i>Stampings</i>	<i>Lighting</i> <i>Service Center</i> <i>Computer</i> <i>OEM</i> <i>Miscellaneous</i>	<i>National</i> <i>National</i> <i>National</i> <i>National</i> <i>National</i>
2. <i>Components</i>	<i>Lighting</i> <i>Service Center</i> <i>Computer</i> <i>OEM</i> <i>Miscellaneous</i>	<i>National</i> <i>National</i> <i>National</i> <i>National</i> <i>National</i>
3. <i>Spot-welded Assm.</i>	<i>Lighting</i> <i>Service Center</i> <i>Computer</i> <i>OEM</i> <i>Miscellaneous</i>	<i>National</i> <i>National</i> <i>National</i> <i>National</i> <i>National</i>
4. <i>Welded Assm.</i>	<i>Lighting</i> <i>Service Center</i> <i>Computer</i> <i>OEM</i> <i>Miscellaneous</i>	<i>National</i> <i>National</i> <i>National</i> <i>National</i> <i>National</i>
5. <i>Labor Only</i>	<i>Lighting</i> <i>Service Center</i> <i>Computer</i> <i>OEM</i> <i>Miscellaneous</i>	<i>National</i> <i>National</i> <i>National</i> <i>National</i> <i>National</i>

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- 6) For each offering note the number of units sold, unit price, sales level, gross margin percentage and gross margin for the past three years.

<u>Offering</u>	<u>Year</u>	<u>Revenue \$</u>	<u>% Total</u>	<u>Gross Margin %</u>	<u>Gross Margin \$</u>	<u>% Total</u>
Stampings	2000 (Partial)	1,242,574	24.0%	27.8%	345,501	23.9%
	1999	246,080	4.8%	35.1%	86,399	7.1%
	1998	183,394	3.3%	33.1%	60,622	4.1%
Components	2000 (Partial)	2,595,987	50.1%	28.6%	741,512	51.4%
	1999	3,464,451	68.1%	21.3%	738,985	60.8%
	1998	2,965,837	53.6%	27.5%	815,291	54.9%
Spot-welded Assm	2000 (Partial)	295,621	5.7%	19.4%	57,275	4.0%
	1999	99,747	2.0%	19.1%	19,016	1.6%
	1998	359,391	6.5%	26.4%	94,928	6.4%
Welded Assm	2000 (Partial)	454,739	8.8%	22.8%	103,710	7.2%
	1999	286,536	5.6%	21.0%	60,159	4.9%
	1998	164,544	3.0%	15.5%	25,548	1.7%
Labor Only	2000 (Partial)	546,835	10.5%	30.4%	166,211	11.5%
	1999	919,135	18.1%	30.6%	280,799	23.1%
	1998	1,055,528	19.1%	31.9%	336,497	22.6%
All Others	2000 (Partial)	50,797	1.0%	57.9%	29,389	2.0%
	1999	68,026	1.3%	44.5%	30,292	2.5%
	1998	799,555	14.5%	19.2%	153,117	10.3%
Totals	2000 (Partial)	5,186,553	100.0%	27.8%	1,443,598	100.0%
	1999	5,083,975	100.0%	23.9%	1,215,650	100.0%
	1998	5,528,249	100.0%	26.9%	1,486,003	100.0%

*Product line groupings were revised in 2000. Attempts were made to make prior years as comparable as possible. Work Center Rate determination was changed in 2000 so gross margin percentages are not comparable in prior years.*

*All other category includes Processing Equipment sales of equipment and spare parts in addition to prototypes and samples.*

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7) **Summarize the environmental influences that impact YOUR organization.** Identify whether there are any opportunities or threats created for your organization?

Economic impact on organization - the Economic Cycles and Conditions

The factors which have an impact on business in general such as interest rates; tax laws; unemployment; consumer spending; special abatements, taxes, etc..

*Higher interest rates negatively impact expansion. This provides opportunities for contract manufacturers to provide fabrication services to any number of industries. Companies may wait for interest rates to drop before investing in additional plants and/or machinery. (Opportunity)*

*Higher interest rates mean ABC's investment in plant and machinery costs more and must be passed on to customers. (Threat)*

*Low unemployment is a benefit because potential customers may have difficulty in hiring skilled laborers. Outsourcing may be a very viable alternative to getting products manufactured in house. (Opportunity)*

*Low unemployment means ABC has less skilled laborers to employ. (Threat)*

*If the economy contracts, companies will tend to pull the work in-house for manufacturing.*

Political/Regulatory Influences

Federal and state; Regulation vs. deregulation; environmental concerns; new federal programs or climate.

*Federal and state programs and expansion regarding prisons and detention centers increases opportunities in the security and high abuse lighting industry.*

*Federal Prison activity negatively impacts expansion in the furniture industry.*

*Industries are under increasing pressure from political leaders and civic organizations to protect the environment. Pollution control equipment may be mandated for all business. This provides ABC a growth opportunity.*

*To bid on government work, a company needs to have a product. Being a contract manufacturer, ABC does not have any unique product it manufacturers under its own label. This would be a detriment to conducting business with the Federal or State government.*

*Regulatory pressures may prevent ABC from installing its own paint line to become one-stop shopping for customers.*

Socio-Cultural Forces

Demographic changes, the way people live, work and think. New attitudes require organization to change as well.

*The economy is becoming global in nature. This increases the opportunities for companies to import metal products from countries with relatively low labor costs.*

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*Having employees with multiple languages (Spanish, Polish, Lithuanian, etc.) is a barrier to communicating with our employees.*

*Employees want to live close to where they work. Plant location is critical to retaining valuable employees.*

*More people desire to work out of their homes. This prevents a problem for manufacturers who require employees to come to a central location to utilize equipment.*

*Team building is replacing hierarchies in organization layouts.*

### Technological impact

Emerging trends and how they will impact your approach to the market - faster, cheaper, or better? How is it happening? Through production, distribution, selling, marketing, information generation and dissemination? How does this impact the products as well as the way products are marketed and distributed.

*New products are developed and brought to market in less than a year. This means that companies must be flexible in their manufacturing strategies to succeed. Outsourcing the manufacturing may be an attractive option to companies that want to concentrate on developing new products and bringing them to market.*

*The internet will continue to transform the way companies transact business and share information.*

*ERP systems will allow smaller sized manufacturers to effectively serve major customers and gain a competitive advantage.*

*Quality products require quality processes in manufacturing companies. CAD, CAM, JIT and the use of manufacturing cells have contributed to an increase in productivity and assisted companies by improving quality and on-time deliveries at lower costs.*

*A shortage of skilled labor presents problems.*

*Rapid changes occur continuously in the telecommunications industry and the drive is to lower the costs to achieve wide application of products. This is a global market that requires a great deal of time devoted to being available for the telecommunication customer.*

*Employee workspace is being redesigned for ergonomics. Lighting and furniture will be a major factor in this redesign.*

*Commercial lighting is a growing area because of the new design goals and the replacement of old, inefficient systems for energy and ergonomic reasons. This market should remain strong for the next 8-12 years.*

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- 8) **Summarize the state of the industry and your organization's position relative to other competitors and those who influence the industry.** State of the industry - Is it growing or contracting? Is the industry fractionated or concentrated? Is it currently undergoing transformation?

*Nine of ABC's top 10 customers have their own manufacturing capabilities. When these customers are growing and unable to keep up with their demand, ABC benefits from outsourcing decisions. ABC's unique offering of equipment allows us to be the vendor of choice over internal manufacturing options. When our customers business does slow down, however, they do pull the work inside whether or not it costs more to do so. Our customers will always attempt to keep their own workforce employed before outsourcing.*

*The sheet metal fabrication industry is highly fractionated. It is comprised of companies that are very large to small stamping companies operating out of garages. There are probably over 500 sheet metal fabricators in the Chicago area. It is difficult to compare to a select few competitors because we run across different companies in the various industries we serve.*

*ABC is non-union with relatively lower labor costs over union operations. The industry is becoming global in scope and it is becoming increasingly difficult to compete with low labor rates of China, Taiwan, Korea, Mexico, etc.*

- 9) **List the key stakeholders who are impacted or influenced by your organization,** e.g. vendors, suppliers, strategic partners, competitors, associations, etc. Are there any opportunities or threats created for your organization?

- *Customers*
- *Service Centers that provide material as well as opportunity for increasing sales.*
- *Vendors of other raw material and supplies.*
- *Vendors of Outside Services (painters, platers, assemblers, etc.)*
- *Town of Cicero*
- *Capital equipment vendors.*
- *Federal government.*
- *Employees' Family*
- *Financial Services (banks, insurance companies, accountants, etc.)*
- *Competitors*
- *Investors*

- 10) **List any pending issues that will require your attention as you plan for the future,** e.g. internal communication problems, customer service, etc.

*ABC had its first union vote in August, 2000. Communication and employee buy-in of ABC's management programs is critical to the success of the organization. The language barrier presents its own set of issues as we attempt to communicate with Spanish and Polish speaking machine operators that represent 67% of the work force.*

*ABC does not have a well-defined and followed quality program. Quality needs to be of utmost importance to all employees.*

*The current plant has significant building restraints (space, ceiling height, material movement,*

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*environmental, etc.). Management is reluctant to invest in a move to a larger facility because of the recent employee organizing attempts and the increases in interest rates. Therefore accommodation and expansion needs to be done to the current facility to handle the growth we forecast and to remain competitive.*

**11) List the major processes operating within your organization, e.g. customer service, billing, new product development, etc.**

- *Sales*
- *Estimating*
- *Order Generation*
- *Engineering*
- *Scheduling*
- *Production*
- *Purchasing*
- *Inspection*
- *Shipping*
- *Billing*
- *Financial*

**12) Briefly describe your organization's distinctive or "core" competencies and competitive advantages.**

- *Core competencies:*
- *Light gauge sheet metal manufacturer*
- *Reliable*
- *Quick Delivery*
- *Quality Products*
- *Competitive Pricing*
- *Responsive*
- *Flexible*
- *Specializing in medium volume runs of around 1000 pieces.*

**13) List the primary opportunities and threats facing your organization overall and by business unit (where applicable) .**

Note: Photocopy this worksheet and complete for the entire organization and by business unit.

Check the appropriate box:

Overall Organization

Strategic Business Unit; specify \_\_\_\_\_

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### EXTERNAL ANALYSIS

#### OPPORTUNITIES

<i>1 Appliance</i>	<i>Develop high end painted appliance components</i>
<i>2 Appliance</i>	<i>Alliance with stamping house for high volume stampings</i>
<i>3 Appliance</i>	<i>Develop overseas stamping partner</i>
<i>4 Appliance</i>	<i>Develop, buy or align with a painter</i>
<i>5 Appliance</i>	<i>Develop import business for commodity parts</i>
<i>6 Telecommunications</i>	<i>Develop equipment hardware components for OEM's</i>
<i>7 Telecommunications</i>	<i>Alliance with stamping house for high volume stampings</i>
<i>8 Telecommunications</i>	<i>Develop virtual private networking hardware market</i>
<i>9 Telecommunications</i>	<i>Develop wireless communication hardware market</i>
<i>10 Telecommunications</i>	<i>Alliance with electronic hardware vendors</i>
<i>11 Telecommunications</i>	<i>Develop, buy or align with a painter</i>
<i>12 Telecommunications</i>	<i>Develop, buy or align with a assembler</i>
<i>13 Telecommunications</i>	<i>Develop import business for commodity parts</i>
<i>14 Service Centers</i>	<i>Expand Current Customer Business</i>
<i>15 Service Centers</i>	<i>Align with Service Centers that want to get involved in fabrication services</i>
<i>16 Service Centers</i>	<i>Offer Heavy Laser Cutting Services</i>
<i>17 Service Centers</i>	<i>Offer Timesaving Services</i>
<i>18 Service Centers</i>	<i>Offer Perforating Services</i>
<i>19 Furniture</i>	<i>Alliance with stamping house for high volume stampings</i>
<i>20 Furniture</i>	<i>Develop, buy or align with a painter</i>
<i>21 Furniture</i>	<i>Develop import business for commodity parts</i>
<i>22 Furniture</i>	<i>Develop Government work for organizers &amp; other niche markets</i>
<i>23 Furniture</i>	<i>Develop modular office furniture</i>
<i>24 Furniture</i>	<i>Develop home office furniture</i>
<i>25 Lighting</i>	<i>Expand Current Customer Business</i>
<i>26 Lighting</i>	<i>Provide dedicated cell for manufacturing</i>
<i>27 Lighting</i>	<i>Increase blanket orders (HFR)</i>
<i>28 Lighting</i>	<i>Develop import business for commodity parts</i>
<i>29 Lighting</i>	<i>Develop Clean Room Lighting</i>
<i>30 Lighting</i>	<i>Develop Outdoor lighting</i>
<i>31 Lighting</i>	<i>Develop switch cabinets</i>
<i>32 Lighting</i>	<i>Develop High Abuse lighting</i>
<i>33 OEM</i>	<i>Develop, buy or align with a painter</i>
<i>34 OEM</i>	<i>Develop, buy or align with a assembler</i>
<i>35 OEM</i>	<i>Increase blanket orders (HFR)</i>
<i>36 OEM</i>	<i>Offer Heavy Laser Cutting Services</i>
<i>37 OEM</i>	<i>Develop games &amp; vending equipment business</i>
<i>38 OEM</i>	<i>Develop Blower business</i>
<i>39 OEM</i>	<i>Develop HVAC Business</i>

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### THREATS

<i>1 Appliance</i>	<i>Consolidated Vendor</i>
<i>2 Appliance</i>	<i>Asian market growing</i>
<i>3 Appliance</i>	<i>High product changes</i>
<i>4 Appliance</i>	<i>Tied to economy</i>
<i>5 Telecommunications</i>	<i>Highly competitive</i>
<i>6 Telecommunications</i>	<i>Margins dropping</i>
<i>7 Telecommunications</i>	<i>High maintenance</i>
<i>8 Service Centers</i>	<i>Third man information</i>
<i>9 Service Centers</i>	<i>No control with customer</i>
<i>10 Service Centers</i>	<i>Time intensive quoting</i>
<i>11 Service Centers</i>	<i>Competition pool</i>
<i>12 Furniture</i>	<i>Highly competitive</i>
<i>13 Furniture</i>	<i>In-house manufacturing</i>
<i>14 Furniture</i>	<i>Michigan based</i>
<i>15 Furniture</i>	<i>Many global providers</i>
<i>16 Furniture</i>	<i>Government prison manufacturing</i>
<i>17 Furniture</i>	<i>Government buying in a controlled environment</i>
<i>18 Lighting</i>	<i>Current customer could develop captive shop</i>
<i>19 Lighting</i>	<i>Current customer does not have scheduling system</i>
<i>20 Lighting</i>	<i>Not diversified</i>
<i>21 Lighting</i>	<i>Customer is expanding their vendor base</i>
<i>22 Lighting</i>	<i>Security lighting is low margin</i>
<i>23 Lighting</i>	<i>Highly competitive</i>
<i>24 OEM</i>	<i>Highly competitive</i>
<i>25 OEM</i>	<i>Current customer purchaser is retiring</i>
<i>26 OEM</i>	<i>Long courtship</i>

### STRENGTHS

- 1 State of the art equipment*
- 2 Loyal employees*
- 3 Experienced employees*
- 4 Long term employees*
- 5 Experienced in manufacturing lighting*
- 6 Controls on external rework (RMA's)*
- 7 Diversified equipment*
- 8 Location close to customers*
- 9 Long standing customers*
- 10 Responsive to Customers*
- 11 Financially stable*
- 12 Good on repetitive jobs*
- 13 Room to expand*
- 14 Good engineering staff*
- 15 Location close to vendors*

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- 16 *In business 24 years*
- 17 *Good reputation*
- 18 *Growing business*
- 19 *Labor management committee in place*
- 20 *Communication improved with e-mail*
- 21 *Good banking relationships*
- 22 *Good cash position*
- 23 *High speed internet connection*
- 24 *Own building*
- 25 *Long term management*
- 26 *Available capacity*
- 27 *Flexibility of Manufacturing*
- 28 *Timesaver*
- 29 *Clean organized shop that shows well*
- 30 *CNC Department*
- 31 *Good drawing documentation in engineering*

### **WEAKNESSES**

- 1 *ERP System*
- 2 *Cicero location*
- 3 *Building restraints*
- 4 *Labor force skills*
- 5 *Language barrier*
- 6 *Lack of employee trust*
- 7 *Laser capabilities restricted to light gauge*
- 8 *Problems with new product development*
- 9 *No Tool & Die Maker*
- 10 *Training*
- 11 *Cross training*
- 12 *Employee empowerment*
- 13 *Quality program*
- 14 *Documentation in general*
- 15 *Layout of shop*
- 16 *Lack of welding expertise*
- 17 *Capacity planning*
- 18 *Lack of diversification*
- 19 *Office layout*
- 20 *Logistics of Outside Services*
- 21 *Internal rework not tracked*
- 22 *Shop measurements*
- 23 *Defined customer service*
- 24 *High raw material inventory*
- 25 *Manufacturing processes*
- 26 *External maintenance program*
- 27 *Internal maintenance program*
- 28 *Accurate piece counts*
- 29 *Employee morale*
- 30 *Lack of team concept*
- 31 *Health & safety program*

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*32 Workers Compensation Injuries*

*33 No paint line*

*34 No full time Project Manager*

*35 No Computer Industry manufacturing expertise*