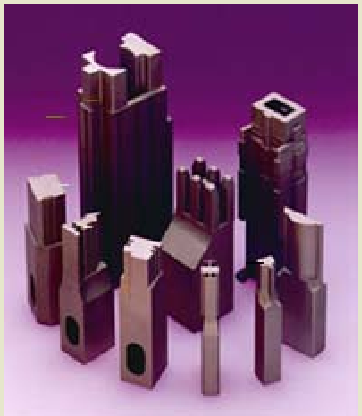

FIRM CLOSURES IN THE TOOL AND DIE INDUSTRY IN CRAWFORD COUNTY OF NORTHWEST PENNSYLVANIA

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INTRODUCTION

The Tool and Die (T&D)[1] Industry in the United States has experienced a significant decline in performance in the past four years. According to the U.S. International Trade Commission (ITC), the industry's total net sales fell from $1.7 billion in 1999 to $1.5 billion in 2001, a fall of almost 12 percent. In 2002, sales fell further by more than 20 percent. Gross profit for the industry also plummeted by 26 percent, from $369.5 million in 1999 to $274.1 million in 2001.[2] Between 2001 and 2003, one in five members of the National Tooling and Machining Association (NTMA) left the association, mainly because their businesses failed. During the same period, 35,700 jobs were lost in the tooling industry.[3] Crawford County has had its own share of the crisis, with almost 1,000 jobs lost during the past four years. However, information is still spotty on the number and characteristics of shops that closed in the county during the past few years and the reasons for their closure. Yet, preventing the closure of T&D shops in the future requires good understanding of the factors responsible for failure and success in the industry.

This report summarizes results from a survey of over 50 companies in Crawford County between 2002 and 2004. The survey was undertaken to identify the main factors responsible for the closure of T&D shops in the county. The companies surveyed were divided almost equally between those that failed and those that were deemed to be performing well.[4] The inclusion of both successful and unsuccessful companies in the sample facilitated the identification of factors responsible for failures and successes. The owners of these companies were interviewed either

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[1] This consists of producers of tools, dies, and industrial molds.

[2] Because of the poor performance of the industry, the Ways and Means Committee of the U.S. House of Representatives mandated the ITC to investigate allegations that foreign competition, particularly from China, was responsible for the industry's problems. The ITC report was released in November 2003 and can be accessed at: http://www.usitc.gov

[3] For details about the extent of the crisis in the T&D industry, see Bruce Stokes's article in the *National Journal* of November 15, 2003.

[4] For confidentiality reasons, the names of the companies are not listed in this report.

face-to-face or by telephone.[5] Most of the interviews performed in person took place at the premises of the shops, where many of the owners conducted a tour of their production facilities. This interview-cum-tour approach allowed us to directly observe differences in shop-floor practices, organizational structures, channels of communication, supervision, etc. Additional information on services available to aid local T&D shops was collected from the following five local economic development agencies: Northwest Pennsylvania Industrial Resource Center (NWIRC), Northwest Pennsylvania Development and Planning Commission (NW Commission), Meadville Area Industrial Commission (MAIC), Crawford County Development Corporation (CCDC), and Business Retention Technologies (BRT).

COMPETITIVE PRESSURES AND FIRM CLOSURES IN CRAWFORD COUNTY

Just like their national counterparts, T&D shops in Crawford County have experienced a number of competitive challenges over the past few years. The challenges frequently mentioned by shop owners include the following:

1. *Foreign Competition:* The source of foreign competitive pressures is not from imports *per se*. In fact, U.S. imports of tools, dies, and molds fell from about $2 billion in 1997 to $1.7 billion in 2001. The problem is that the customers of the local shops (such as Delphi and Tyco) now find it cheaper to source their tooling needs from abroad, especially China and Mexico. They do this by moving some of their production facilities to these countries. Foreign competition has been more intense in molding and less so in precision machining and spare tooling. It is no secret in the industry that the Chinese can build a mold for just one-third of the cost of a mold built in the United States. According to a *Wall Street Journal* report of August 25, 2003, p. A2, "some imported automotive parts are being sold for less than the cost of raw materials needed to make them." Some of the reasons for the cost disadvantage of the local tool and die shops include high premiums for health insurance and high wage bills.

[5] Most of the interviews lasted for about two hours.

2. *Escalating Costs of Health Insurance:* Nearly all the shops interviewed referred to escalating health-care costs as a major source of competitive disadvantage. The health insurance premium for a toolmaker with a family costs about $600 per month; a shop with 50 workers would have to pay over $300,000 per annum in premiums. Contrariwise, the Chinese and Canadian tooling companies are not required to provide medical care for their workers; medical care is available free-of-charge under the single-payer system. For details about the impact of foreign competition on the T&D industry in the United States, see the ITC report.

3. *Lack of a "Level Playing Field":* Most of the shop owners interviewed complained about the lack of a "level playing field" between them and their Chinese competitors. They claim that the Chinese government subsidizes Chinese firms in ways that undermine the competitiveness of U.S firms. For instance, the Chinese government is said to be in the habit of deliberately undervaluing the Chinese currency, the result of which is that exports from China are cheaper and imports more expensive. Chinese companies are also not required to conform to environmental regulations, saving them from those costs that are typically incurred by American manufacturers. As noted earlier on, Chinese companies do not provide medical care for their workers. Asked whether the U.S. government should impose high tariffs on molds and tools from Chinese to "level the playing field," the shop owners differ in their views. While many support higher tariffs, others suggest that the Chinese government should be forced to remove the subsidies that it provides for Chinese manufacturers.

4. *Pressures from Tool & Die Customers:* Another competitive pressure encountered by the tool and die shops is the increasing exercise of market power by the customers of the industry.[6] These higher-tier companies are imposing conditions that affect the profit margins of the tool and die shops. For instance, they are extending the usual payment

[6] Two customers – Tyco and Delphi – account for over 80 percent of the demand for tooling in Northwest Pennsylvania.

period for goods supplied from 60 to 90 days, resulting in cash-flow problems for the shops. Cashing in on the desperation of the local shops, the higher-tier companies are also demanding that the shops cut their prices. Shops that fail to cut their prices lose customers to other shops in this very fragmented industry. Lastly, the tool and die shops are being asked by their major customers to be “ISO certified” – an elaborate and costly quality control program that is often beyond the capabilities of the very small shops. Non-ISO certified shops are being told by their customers that they will not get jobs in the future.

5. *Technological Change:* The tool and die industry has witnessed rapid technological change in recent times. The ability to use new technologies such as Wire and Ram EDM machines, Auto Card, etc. is increasingly becoming important for competitive advantage in the industry. However, these machines are very expensive and often beyond the reach of very small shops. Some of these shops do not get jobs because they lack new technologies, but, ironically, they cannot purchase these machines because they do not have enough jobs! The competitive advantage of the local shops also seems to be eroding due to rapid technological change. In the past, American toolmakers used to take pride in their skills and dexterity. However, technological change has resulted in automation and deskilling in the industry. Thus, the Chinese, who now have access to the new technologies, are able to achieve the same level of productivity as American toolmakers. Combined with their low wage and overhead costs, the Chinese are now able to gain competitive advantage over U.S. manufacturers.

RESILIENCE OF TOOL & DIE COMPANIES IN CRAWFORD COUNTY

Despite unprecedented competitive pressures, T&D shops in the county fared better than expected. According to the Business Calling Database and information from the NWIRC, about 25 (out of nearly 157) shops went out of business in Crawford County during the past three years.[7] This represents a closure rate of 15.9 percent – about half the national rate. According to the National Tooling and Machining Association (NTMA), about 4,000 out of the roughly 14,000 T&D shops in the country liquidated during the past few years, amounting to a closure rate of 28.6 percent. The closed shops in Crawford County employed a total of 115 workers, which represents the number of jobs lost permanently by the county in the T&D industry. In other words, the county has permanently lost about 3 percent of the workforce in the T&D industry. However, the county lost fewer jobs in the T&D industry compared to the national average. Whereas an average of 10 jobs were lost per tooling shop nationally, the county lost only 6 jobs per shop.

All of the closed shops in the county were very small companies, both in terms of employment and sales. About half of them employed two persons or less, while none of the twenty-five shops employed 10 or more workers. Annual sales for the majority of the closed shops were less than $250,000. Surprisingly, most of the shops were established several years ago, and their owners had considerable experience in the industry. Only six of the companies were established less than 10 years ago, suggesting that length of operation and experience have little to do with performance in the tooling industry. As Appendix 2 shows, over half of the closed shops were in molding ---a segment of the industry that has been more susceptible to outsourcing and competition from China.

The lower closure rate for the county may be attributed to the following factors:

1. *Low Overhead Cost*: Tool and Die shops in the county enjoy a relatively low overhead cost, compared with their counterparts in other regions. Many shops are located on the personal property of the shop owners, and family labor is frequently used in running the business.
2. *Strong Bonds between Owners and Employees*: Owners and employees regard themselves as members of the same family. In good times, they share the windfall gains from business. In turbulent economic times, the workers are also willing to make sacrifices to

[7] See Appendix 2 for a summary of the closed shops.

ensure the survival of the shops. Workers have been willing to take a pay cut, work shorter hours, and accept fewer benefits.

3. *Attachment to the Community*: Most shop owners and toolmakers were born and raised in the community. They attended area high schools, went on to the Crawford County Vo-Tech, and then ended up as apprentices in area tooling shops. In other words, their entire lives have been spent in the county, and they are reluctant to move away this late in their lives. Thus, they make any sacrifice that would ensure that they remain in the community.
4. *Interdependence Among Area Shops*: Tooling shops in the county are reputed for the high level of cooperation that exists between them. It is not uncommon for shops with large orders to "farm" out jobs to less fortunate shops. In fact, some small shops depend solely on other shops for jobs and survival.
5. *Support From the Local Economic Development Agencies*: The impact of competitive pressures on the T&D industry appears to have been cushioned by support from the local economic development agencies. The agencies include the Northwest Pennsylvania Development and Planning Commission (NW Commission), the Northwest Pennsylvania Industrial Resource Center (NWIRC), the Meadville Area Industrial Commission (MAIC), and the Crawford County Development Corporation (CCDC). The various services provided by these agencies are summarized in Appendix 3.[8]

WHY TOOL AND DIE COMPANIES WENT OUT OF BUSINESS

A number of factors were responsible for the failure and closure of T&D companies in the county, but the "trigger" appears to be the lack of working capital. Most shops depend on two types of loans for running their businesses: Equipment Purchase and Working Capital Loans. These loans require collateral, which, in the T&D industry, includes a lien on the debtor

[8] The NWIRC, for instance, recently helped a major tooling company in the area to avoid closure. Through the management and consulting assistance provided by the NWIRC, the company filed for bankruptcy and is in the process of emerging from Chapter 11.

company's equipment and real estate. However, when sales are declining, companies can't meet their debt obligations. Many require new lines of credit to augment their dwindling working capital, but they can't get these new lines because their assets have already been pledged against existing debts.[9] The problem is compounded when new creditors insist on having a lien position senior to the existing lien holders---a requirement often resisted by the current lien holders. The result is the inability of the shops to obtain new lines of credit to help them survive a transitory decline in sales. The "death sentence" is finally passed when the current creditors, fearing an imminent collapse of the shop, call-in their loans and threaten to liquidate the company's assets.

The tendency for creditors to call-in their loans before maturity stems from the nature of the T&D industry. The assets of T&D companies tend to dissipate faster, compared to other industries. For instance, used equipment has very little monetary value – if ever the company can find buyers. The low value of used equipment in the industry is due to the fact that fewer new shops are being established since the year 2000, resulting in low demand for equipment. By contrast, equipment value was relatively high in the 1990s, and as time goes by, the value of the equipment drops closer and closer to zero. For instance, machines that were bought for $1million in 2001 would be worth about $200,000 in 2004. Thus, creditors tend to demand very high monthly payments in order to recoup their money in a timely fashion before the machines become worthless. Creditors also find it expedient to call-in their loans quickly before the company gets to the stage of liquation –at which time the assets would be almost valueless. One reason for the low asset value in the T&D industry is the lack of a market for the acquisition of T&D companies. New tooling shops are often started from the scratch, rather than through the acquisition of existing shops.

Although shortage of working capital was the immediate shop-specific cause of closures, the remote causes include the following:

[9] Desperate owners have had to pledge their homes and other personal assets in order to secure new credit lines. Some of those who went out of business now face foreclosures on their homes.

1. *Poor Managerial Skills*: Many shop owners do not know how to read a balance sheet, resulting in the inability to track costs and revenue in a systematic way. Most of them rely on outside accountants, who have little or no knowledge about the intricacies of tool making. Some shop owners even lack information on basic items such as overhead costs, number of machine and labor hours available, machine and labor time required for a given job, and how much it costs to make individual products. Many tend to lump their costs together, without separating them into the various products. In the words of one experienced toolmaker with knowledge of the local shops: “Toolmakers don’t know where their costs are. They don’t know how to determine wins and losses, and they cut too much into their profits in order to get a job.” Very few shops undertake “machine analysis” to determine whether to use labor-intensive or more automated equipment for a given job. Consequently, shop owners tend to “under quote” their products, resulting in losses for many shops. The tendency to under quote has also been worsened by the stiff competition in the industry –both from local and foreign competitors.
2. *Lack of Core Competencies:* Every shop owner should ask this question: “Why do my customers keep coming back to me?” Shops that have answers to this question tend to do better than those without an answer. The ability to distinguish oneself from other shops appears to be a very important determinant of success. Some shops have distinguished themselves by focusing on niche markets such as precision grinding, precision machining for high-tech industries (such as aerospace and medical equipment), Research & Development (R&D), specialty tooling, etc. Successful T&D companies have also distinguished themselves through quick delivery, quality and reliable products, effective after-sales service, and by offering “full service” to their customers.
3. *Lack of Strategic Planning:* Most of the closed shops had neither a business plan, nor a strategy for dealing with economic crisis and competitive pressures. The ability to forecast the future trends of the industry is key to the survival of T&D shops. Shops that projected a rough business climate a few years ago were able to make the necessary

adjustments needed to weather the storm. Adjustments have included diversification (adding production to mold-making, for instance), lean manufacturing, investment in R&D, pulling-out of declining areas to niche markets such as precision machining and specialty products. One former shop owner said he foresaw the looming crisis in the T&D industry in 1998 and decided to sell his company. Another owner who envisaged an impending decline in the industry moved into the production of high-pressure cooling equipment.

4. *Inability to Adapt or Diversify:* The ability to respond to changes in the business environment is an important determinant of success in the T&D industry. The companies that went out of business, or struggled to survive, were those that continued to do business the old way. These companies typically depend on one or two customers (such as Tyco and Delphi); they produce the same products that they have been producing for the past 20 years or so; and often do not utilize the various resources provided by the local economic development agencies. These resources include management training, consulting services, market research, information technology support, environmental services, succession planning and strategic planning. Successful shops, on the other hand, tend to think "outside the box," often adding new product lines and aggressively seeking new customers both in the United States and abroad. Some successful shops have even teamed up with Chinese tooling companies to take advantage of their low production costs. While the Chinese provide cheap labor, the local shops provide expertise that the Chinese are lacking. This way, the local shops are able to retain their American customers (such as Tyco and Delphi) by offering them high-quality product at low costs. One local shop owner spent $12,000 for a recent trip to China in search of partners. Successful shops have also used their excess capacity to diversify into production and R&D.

5. *Too Small to Survive:* Anecdotal evidence suggests that firm size plays a role in whether a shop in Crawford County survives an economic downturn; larger firms tend to do

better. Nearly all the closed shops employed less than 10 employees and had annual sales of between $250,000 and $1million. No firm employing more than 10 employees closed in the county, though most of them had to cut back jobs and reduced employee benefits. The preponderance of small shops in the closure list is attributable to a number of factors. First, many of the small shops depend on the large tooling companies for "overflow" jobs. Thus, when the large companies experience declines in sales, the first casualties are usually the small firms who no longer get overflow jobs. Second, the smaller shops are more susceptible to working capital problems than the larger companies. The latter are able to provide better collateral than the smaller shops. Third, large firms have the resources to hire management staff in critical areas such as finance/accounting, marketing, human resources, design, and engineering. Lastly, large firms are able to reap the benefits of economies of scale and scope, as well as withstand a drastic cut in costs that is required for survival during a period of declining sales.[10]

SAVING THE TOOL AND DIE INDUSTRY – SOME SUGGESTED MEASURES

In order to save and preserve the Tool and Die Industry of Crawford County, certain issues must be addressed and the following steps need to be taken:

1. *Facilitate Easy Access to Working Capital*: A crucial challenge for a tool shop is how to obtain cash to survive a transitory decline in sales. Most T&D shops return to profitability after an economic downturn. The challenge, therefore, is how to provide easy access to working capital during a period of declining sales. Banks are often reluctant to provide lines of credit to T&D shops that are experiencing financial difficulties. The local economic development agencies also set loan approval criteria that are too stringent for embattled shops to meet. For instance, in addition to providing collateral, loan applicants are also required to demonstrate that they will create new jobs

[10] Economies of scale enable large firms to enjoy a lower cost per unit of output and thus allow to quote lower prices. On the other hand, economies of scope makes it easier and cost-effective for large firms to diversify into related products.

as a result of the loan. For every $25,000 in borrowed funds, the Northwest Commission requires the loan recipient to create one new full-time job.[11]

2. *Review the Composition of Loan Committees*: The Loan Committees of the economic development agencies should consist of people who understand manufacturing very well. They should not be composed chiefly of a preponderance of bankers and non-manufacturers.

3. *Focus More on Micro-Enterprises*: Either by omission or commission, micro-enterprises (employing less than 10 workers) do not seem to benefit significantly from the resources provided by the economic development agencies. This may be due to the fact that only the large enterprises are able to satisfy the criteria for loans and other forms of assistance. There is need for these agencies to create special programs for assisting the most vulnerable shops, as opposed to focusing on companies that are already doing well. The latter companies almost always survive, regardless of whether they are receiving assistance.

4. *Bridge the Communication Gap between Tooling Shops and Economic Development Agencies*: The economic development agencies complain that shop owners don't seem to be interested in taking advantage of their services. On the other hand, shop owners are ignorant of the array of services provided by the agencies. The agencies should be more proactive and aggressive in drawing the attention of the tooling shops to the services and support available in the community.[12]

5. *Create a Development Agency that Caters Solely to Tool & Die*: Since T&D is the dominant segment of the county's manufacturing sector, it deserves a separate development agency that focuses on its special needs. Lumping T&D with other business enterprises makes it difficult for the existing development agencies to identify and

[11] The Commission recognizes the need for flexibility, and has recently shifted focus from job creation to job retention.

[12] To foster a stronger link between shop owners and the agencies, the latter now organize an annual "Business Resource Day," during which shop owners get to meet face-to-face with the various agencies. However, only a few shops do attend this event, and there is need for a more effective strategy that will attract a larger audience.

address the specific problems of this important segment of manufacturing. When established, the new agency should work closely with the Northwest Pennsylvania branch of the National Tooling and Machining Association (NTMA).

6. *Incentives for Managerial Training*: Shop owners should be encouraged to acquire managerial skills through short management courses offered by the economic development agencies and area institutions.[13] Rather than focusing on textbook-style management problems, these courses should be tailored to reflect the day-to-day managerial problems specific to the T&D industry. To encourage participation in management training, shop owners should be paid a stipend for attending a course. The amount of the stipend, which could be financed by a special "Management Training Fund," should be prorated to reflect the number of hours spent attending the course. Courses could focus on the Principles of Management, Basic Accounting, Human Resource Management, Basic Principles of Marketing, Lean Manufacturing, etc. Course organizers should poll shop owners to identify the areas of management in which training is important.

7. *Create a Market for the Acquisition of Tooling Shops*: The incidence of closures of T&D shops would be less if a market existed for buying and selling tooling shops. Some shop owners want to get out of the business, but they can't find buyers. Quite often, their children are unwilling to take over the shop, and they thus have no choice other than closure.[14] One local shop was fortunate enough to find an out-of-town buyer who moved the company to another state, with job losses for the local community. The economic development agencies should consider creating a funding program that provides low-interest loans specifically for the purchase of T&D shops. The emergence of a market for

[13] These agencies offer several management courses, but shop owners are not interested in taking them. Perhaps, the opportunity cost of being away from their business is too high, and hence the need for monetary incentives to encourage them.

[14] This problem is compounded by the fact that most of the owners interviewed have no succession plans or exit strategies. The industry faces a long-term problem of massive closures due to the fact that the current generation of children of shop owners is unlikely to inherit their parents' businesses. The rate of closures due to retirement will then exceed the rate of new establishments, resulting in a significant drop in the number of T&D shops in Crawford County.

buying and selling tooling shops may also encourage the consolidation of existing shops – a process that would result in the creation of larger and more efficient shops.

8. *Establish Equipment Sharing and Leasing Program*: The problem of access to new technologies can be eased if a program for sharing or leasing equipment were established. Under this program, a number of small shops could purchase equipment jointly and share the use of the equipment in a mutually beneficial way. The NTMA, the PMI or one of the economic development agencies should coordinate such a program Alternatively, new equipment could be provided on a regular basis at a central location in the county, and tooling shops could lease time on those equipment in order to perform certain production tasks for which they do not have in-house equipment.[15]

[15] The PMI has a similar program, but it needs to be expanded.

APPENDIX 1: BRIEF HISTORY OF THE TOOL AND DIE INDUSTRY IN CRAWFORD COUNTY

Often touted as the “Tool and Die Source for the World,” Crawford County in northwest Pennsylvania has a large concentration of tool and die companies, manufacturing products such as molds (for electronics, computer, plastics, and medical equipment), spare parts for the automotive industry, and precision tools and parts for the aerospace industry. There is controversy about how the area became a hub for toolmakers, but the Talon Zipper Company, established in the 1930s, played a major role in the evolution and growth of the industry. Talon, the pioneer of zippers, trained several apprentices from the county, who subsequently established their own tooling companies. Those companies have been passed on through a couple of generations. Most of the existing companies are still owned by the same families that established them several decades ago.

Although they account for over a fifth of the regional economy, tool and die companies are typically small and family-owned, and most of the owners are fiercely independent and socially conservative. They also tend to be wary of government intervention in, and regulation of, business. The tooling industry is generally regarded as the economic pillar of Crawford County. There are about 157 tooling companies in the county, each employing an average of 12 employees. About 4,000 people are employed directly in the industry in the county. Most family members in the county have at least one member of the family employed in the tooling industry. The companies supply virtually all of their products to customers outside the state of Pennsylvania, but the majority of their skilled workers come from the county. Most of the business owners are also from the county or surrounding areas.

APPENDIX 2: SUMMARY OF CLOSED SHOPS

	Crawford County	
TYPE OF SHOP	**NUMBER CLOSED**	**TOTAL EMPLOYED**
Molds	12	38+
Precision Machining	2	6+
Grinding	1	1
Carbide	1	1
EDM Wiring Cutting	1	1
Parts Tooling / Components	2	4+
Distribution	1	
Other	5	64+
Total	25	115+
	Erie County	
TYPE OF SHOP	**NUMBER CLOSED**	**TOTAL EMPLOYED**
Molds	1	25
Precision Machining	1	8
Dies	1	4
After Coolers / Compressors	1	18
Other	5	20
Total	9	75
	Elk County	
TYPE OF SHOP	**NUMBER CLOSED**	**TOTAL EMPLOYED**
Spare Tooling	1	33
Total	1	33
	Butler County	
TYPE OF SHOP	**NUMBER CLOSED**	**TOTAL EMPLOYED**
Precision Machining	1	1
Total	1	1
	Warren County	
TYPE OF SHOP	**NUMBER CLOSED**	**TOTAL EMPLOYED**
Heating Elements / Lathes	1	25
Total	1	25
	Jefferson County	
TYPE OF SHOP	**NUMBER CLOSED**	**TOTAL EMPLOYED**
Band Mills / Edgers	1	5
Metal Compacting Presses	1	10
Total	2	15

APPENDIX 3: LIST OF LOCAL AGENCIES AND BRIEF DESCRIPTION OF SERVICES THAT THEY PROVIDE

There are a number of agencies within Crawford County that exist for the sole purpose of providing assistance to businesses. These organizations have become a wealth of resources for the Tool and Die Industry. The agencies include the following:

1. CRAWFORD COUNTY DEVELOPMENT CORPORATION (CCDC) *http://www.ccdcia.com/:* The CCDC is centrally located at the Crawford County Industrial Park and provides a means to access financial support and points companies in the right direction for the kind of assistance they need and will be able to get. The typical client to walk through the doors of the CCDC is small business oriented, shortsighted, conservative, and has a pattern of a backwards thought process. As CCDC's functions overlap with other development agencies in the area, they feel residual pressure to ensure that clients make payments while trying to point them towards more a successful business environment.

2. NORTHWEST PA INDUSTRIAL RESOURCE CENTER (IRC) *http://www.wcjp.org/consortium/21_nwirc.htm*: The IRC provides many services for the Tool and Die Industry. They do a training-needs assessment where they will evaluate skills from supervisory down to the very basics. This assessment also includes a list of training places where employees can be sent to get the skills that are required of them. The IRC also goes through various venues to provide help in identifying training subsidies. The IRC offers a Professional Business Advisor (PBA) Program that, for $65.00 an hour, provides a coach to assist business owners and operators.

3. NORTHWEST PENNSYLVANIA REGIONAL PLANNING AND DEVELOPMENT COMMISSION (NW COMMISSION) *http://www.nwcommission.org/:* The NW Commission is a "local development district serving an eight-county region of Northwest Pennsylvania". Free of charge and offering consulting services, the Commission aids with technical assistance and oversees representative connections. Providing a source of grants and loans to various businesses in need of financing, the Commission generally caters to mid-sized and relatively established companies. At the helm of the Commission is a governing board, comprised of 5-6 bankers and at least 3 members if the Board of Directors. This board is known as the Loan Committee, and it has the final say in which companies are financed and which are not.

4. PRECISION MANUFACTURING INSTITUE (PMI) *http://www.pmi.to/mainframe.htm*: Located at the Crawford County Industrial Park, PMI provides training on the latest equipment and software. Companies can lease time on PMI's machines and access assistance from expert engineers. Classes and further training are also offered to toolmakers. According to PMI's website, their goal is to "identify, develop, and implement a high quality, post secondary education course/program that reflects the needs of the student and the workplace."

5. BUSINESS RETENTION TECHNOLOIES, INC. (BRT) *http://www.brt-inc.org/:* BRT provides an outreach training program for private sector sales programs, team building training that focuses on having a common goal in order to achieve success, and a management consultation program that doesn't quit until a program becomes self-sustainable. BRT provides and upkeeps the Executive Pulse Database, which, since launched in 1995, has become a very effective economic development tool.

6. NORTHWEST PENNSYLVANIA NATIONAL TOOLING AND MACHINING ASSOCIATION (NTMA) *http://www.ntma.org/:* NTMA provides a plethora of benefits and services for the Tool and Die Industry. They offer OSHA consultation and assistance and environment/hazardous material handling advice to companies who need help getting their shops to meet regulations. NTMA also provides three different users' report on machines and software. They assist in loss control and offer a second tax opinion as well as providing an employee selection testing service.