

Market Research, People and Money: Needs of Technology- Related Companies



Economic Development Administration
University Center Grant
University of Missouri Extension
Business Development Program

Prepared by:
Cassy Dierking Venters, Ed.D.

July 2006



The University Center is supported by the Economic Development Administration, U.S. Department of Commerce, through its University Centers Program.

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BRIDG

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Background

The research project of the Economic Development Administration's University Center Grant to the University of Missouri Extension Business Development Program in 2004 has been conducted in two phases, to date. During the first year of the grant (2004-2005), research was conducted to: 1) identify the technology-related firms in Missouri, with an emphasis on the Columbia and Rolla corridors and distressed communities and 2) to seek out experts, service providers and owners of technology-related firms to ground our research in the applied, everyday world of conducting business in, and with, these specific types of companies in Missouri.

The research attempted to promote greater understanding of ways to define and categorize technology businesses, barriers to conducting business, and the general categories of needs of technology businesses. The first phase of the grant focused primarily on obtaining a broad range of information from owners of small technology companies regarding their current stage of business development and innovation, exporting, the use of research resources, number of years in business, number of employees and areas of special needs. The 2004-2005 report is available from the University of Missouri Extension Business Development Program.

Time is extremely valuable to business owners, and BRIDG recognized it would be difficult to obtain enough of the owner's time to obtain both breadth and depth of information related to business needs. Accordingly, during the second year (2005-2006), BRIDG conducted research to obtain greater depth of information related to technology business needs. More in-depth information was sought from owners of small technology companies

regarding future expansion and growth possibilities, motivations to export or not to export, factors and resources that drive innovation, networking, the pursuit of capital, areas of special needs, and the rationale for using external resources for research.

Methodology

Companies that participated in the first phase (2004-2005) of the research project were asked if they could be contacted again for additional interviews. All of the companies indicated they would participate in interviews during the next year.

Interview Protocol

An interview script was developed that explained the purpose of the study to respondents and assured them of complete confidentiality. The protocol included specific notes for the interviewer regarding skip patterns and question probes.

Responses from the 2005 telephone survey were used to "personalize" most of the interview protocols. This "personalization" allowed the interviewer to avoid duplication of questions and responses from the 2005 telephone survey, which allowed for more time to obtain in-depth responses from business owners. This "personalization" also reminded small business owners how they previously responded and gave them an opportunity to update their responses before moving on to in-depth questions. However, not all interviews could be personalized due to missing data from the 2005 telephone survey. A total of 73 (out of 101) in-depth interviews were personalized for this study. Seventeen of the 24 respondents participated in the personalized interviews. The personalized and non-personalized

interview protocols are provided in the Appendix starting on page 21.

Respondents

Participants for the second phase of research were identified and selected from the 101 respondents of the 2005 telephone survey. These respondents indicated they would be interested in participating in this study in the future and gave MU permission to contact them during the second phase. At least three attempts were made to contact owners of small technology companies with either 24 or 48 hours in between each attempted contact.

Table 1: Completed Interviews

	N	Percent
Potential respondents	101	100
Interview scheduled but respondent cancelled	2	1.9
Business is closing down	2	1.9
Phone number disconnected	2	1.9
Company moved out of Missouri	1	0.96
Three contact attempts were made, no answer or left message	61	62.5
Refused to participate	8	7.7
Completed interviews	24	23.7

Data Collection Method and Analysis

All in-depth telephone interviews were recorded and transcribed. Using the transcribed interviews, each interview was analyzed for content, commonalities, differences and unique ideas in the responses. After the analysis was completed, all audio recordings were erased. This report details the findings from this analysis.

Highlights of Findings

Technology Companies are Still Growing

- Almost all respondents who participated in a personalized interview indicated their companies were still growing or had moved into the growing stage compared to last year.

Technology Companies are Expanding Products and Services

- Most technology company owners interviewed indicated they were developing and/or expanding the services they offer their customers. Companies are growing in the areas of developing and/or supporting new and existing software tools, improving wireless Internet and mobile services and products, improving cyber security, and data networking.

Market Research, People and Money

- Technology company owners identified a need for market research, people and money in order to grow their businesses in the ways they envision over the next few years.

Expected Growth In Revenue and Employees

- Almost half of in-depth interview respondents indicated they expected to increase their revenue and/or numbers of employees over the next couple of years.

Missouri Helps in Terms of Location and Customers

- Owners of technology companies appreciated being either centrally located in the United States or centrally located in the state of Missouri. They also indicated they were located in Missouri because their customers are in Missouri.

Missouri is “Conservative” and “Slow to React”

- In-depth interview respondents said that the major hindrance to their business is a “conservative” attitude. This “conservative” attitude has different meanings among respondents. In some cases, it means that Missourians (businesses and individuals) are slow to react to new technologies, while in other cases, it applies to the belief that Midwesterners have a particular mindset that is difficult to change.

No Immediate Motivation to Export, but Market Changes Would Motivate

- The lack of interest among technology business owners to export is primarily due to the belief that they have no reason to export out of the United States because “*there is plenty of work here,*” and some said that they only provide services and services cannot be exported.
- Market availability was the primary factor among respondents who do export and was the primary influencing factor among respondents who do not currently export.

Innovation is Market Driven

- Technology business owners indicated that if they saw a need emerge in the mar-

ketplace they would develop technologies to try to fill that need.

In Order to Innovate, Technology Companies Need Labor

- Besides time and money, owners of technology companies need labor and talent/expertise.

Capital: Plan to Pursue, but Need Guidance

- Most respondents indicated that they could use external assistance to pursue capital, and they would prefer an individual or company with experience and expertise in pursuing capital to guide them through the process, or actually go out and acquire capital for them.

Preference for Informal Networking

- Owners of small technology companies find informal networking much more beneficial because informal networking relationships are usually based on trust, are with established contacts and are more relaxed.

Some Use Research Resources, Some Don't

- About half of respondents indicated they used research resources from public agencies, private companies, or universities. Trade associations and vendors were identified as research resources. Technical or business expertise, a prior working relationship and location were factors that influenced their decision to work with these research resources.

- Technology company owners who did not use research resources indicated they were self-sufficient and could find answers on their own.

Some Have Questions, Some Don't

- The self-sufficient nature of some small business owners is the primary reason why they don't have any unanswered questions. They can do it all on their own, and they know where to find the answers.
- Owners who did have questions had specific technical questions, and questions on expertise and basic business functions.

Special Needs: Labor, Marketing and Finance Expertise

- Technology company owners need quality people with expertise, marketing and market research expertise and financial expertise to help them acquire financing.

Findings

Technology Companies are Expanding Products and Services

Since a majority of technology company owners interviewed indicated their technology companies are growing, it is not surprising that they also indicated that they are developing new products for the marketplace and are expanding the services they offer their clients. Most small business owners interviewed indicated they were developing and/or supporting new and existing software tools, improving wireless internet and mobile services and products, improving cyber security and data networking. In some cases, business owners indicated this expansion would open up a new market for them.

In response to the question *"Looking out over the next couple of years, in what area of your business do you see possibilities for expanding your products, services or markets?"* owners of small technology companies said the following:

"...products in terms of software tools. Software that people can use, companies can use to help them better do their work... I am in the middle of developing a product now that helps companies ... design tests for their software applications so that they can produce better quality software and do it more efficiently."

"We have opened a new networking department this past year, so we are trying to expand into some of that. We also have a new software product, and we are trying to market that to car dealerships, and that would be new."

"We are going to be expanding greatly our wireless Internet services... It is a product that I have been working on basically for the last five years. I kind of started in the pioneer stage of it. In the meantime, this year [we have] identified that we have had a market segment we didn't know existed. I found it, and now it's like, OK, to reach them we need to grow out what our offerings are."

"Well, it is a project I am working on. I see a lot of potential. ... Your phone is actually going to be as powerful as your desktop computer in the next couple of years."

"We have a communications distribution box for the military. We are going through the process of having it approved now. With the military, we have to have it approved for usage within the organization and right now the United States Marines [have] committed what they call an urgency of needs statement to get it approved."

Market Research, People and Money

When owners of small technology companies were asked what steps they needed to take in order to expand their products and services and what external resources they needed to grow their businesses in the ways they envisioned, the most prevalent responses centered on the need for market research, hiring and training more people. Identifying funding sources also was mentioned by respondents, but to a lesser extent.

“Researching the markets in those areas: trying to determine [if] what we have available would be needed. Like some research tools of checking into how the industry is growing in those areas and the direction, and what is the basis for their expansion.”

“The biggest weakness I have found so far is trying to find the Census data. I can find it, but trying to make it useful... basically what I need to do is sit down in an area and say what [are] the economics of these people? If I am in a township, are they going to be this kind of cash break? Do we have the economic base in here?”

“Lots of research. Keeping up with the technology and the market and social trends. Some of these things, [such as] the use of the phone to watch TV while you are waiting in line at the grocery store. Not everybody is going to do that. I am older and don't think that it is right for me, but in the more progressive younger demographics, it is going to be huge.”

“Marketing capabilities. I am the only person in my company right now...I am doing the technical work, and at the same time I am trying to get work as much as possible. ...it would be nice to have somebody who is in marketing and going out and finding customers.”

“We are still ... looking for employees to handle outside service work. We have also been actively looking for a salesperson.”

“It is always difficult to find good, skilled technicians.”

“Training people and finding people to train that are trainable.”

“We are trying to hire some more people.”

“What we are doing right now, is we made contact [and are in the process] of associating with a large investment group [to find out] what kind of capital is available.”

“Funding from banks.”

“Money.”

Expected Growth in Revenue and Employees

During the in-depth interviews, owners of small technology companies also were asked about growth possibilities in terms of numbers of employees, revenues and profits. Considering that owners of small technology companies indicated their businesses were growing, it is not surprising that almost half said they expected to increase their revenues and/or number of employees over the next couple of years.

While some respondents simply said they expected to increase revenue or the number of employees, others identified a specific proportional increase or an actual dollar amount. Increases in revenues cited might be considered substantial (see list below). Of those interview respondents who expected to increase their numbers of employees, one indicated a 15 percent to 20 percent increase and another indicated an increase of 10 percent. Some respondents indicated actual numbers of employees and these are listed below.

<u>Revenue Increases</u>	<u>New Employees</u>
25%	13
15% to 20%	6
32%	5
\$1 million	2
\$500,000	6
20% to 25%	15% to 20%
10%	5 to 10
\$400,000	10%
Double	14 to 15
\$2.5 to \$3 million	20% to 30%

**Missouri - Help or Hindrance?
Help - Location And Customers**

When business owners were asked how being located in Missouri helped their business, the overarching themes that emerged were geographic location and customer base. Business owners appreciated being either centrally located in the United States or centrally located in the state of Missouri. In addition, business owners indicated the reason why they were located in Missouri was because their customer base also was located in Missouri. (Note: In the 2004-2005 research, 53% of respondents indicated their primary motive for locating their business was that they wanted to locate their companies in the cities in which they lived.)

“This is where we have our franchise for a lot of our software sales that we do. The other help is that we have about 600 customers in Missouri, and the word of mouth helps us.”

“One thing that is nice [is that] we are kind of centrally located. So the physical location is good.”

“I think being centrally located is good. A lot of military organizations, a lot of contractors for the military are centered around here. So I think it is good to be here and [I] can easily travel to other places.”

“One benefit is, [we are] centrally located so you can reach a lot of markets quicker.”

“[Being located in Missouri] made travel from the Midwest to the East Coast much more effective. ... Growth here has been good. There are some little businesses around that help manufacture electronics that allow a smaller company to build a company without having to go overseas and have large inventories where you end up buying 10,000 pieces of something. That’s been a good thing.”

“It is really a good time to be a life science company in Missouri, I think, because of everything that is going on.”

Hindrance - Missouri Is “Conservative” and “Slow to React”

Owners of small technology companies in Missouri said that the major hindrance to their businesses is a “conservative” attitude. This “conservative” attitude has different meanings among interview respondents. In some cases, it means that Missourians are slow to react to new technologies, while in

other cases, it applies to the belief that Midwesterners have particular mindset that is difficult to change.

“Missouri is still in the throwaway mentality because of the availability of landfill space. That is how we’re hindered. We are looking to educate the public in recycling initiatives.”

“I suppose it will hinder the growth potential in that Missouri, in particular the St. Louis area, is more conservative so it is not as quick to adapt in technologies”

“Because of the cultural changes, innovation in the Midwest is a little behind, but it is not as distinct and separable as it may have been in the past.”

“If I were going at this really competitively, we would have located in another area. It is just that the general tone of operations is fairly conservative and ... if you want to grow with cutting edge [technologies], then we would move somewhere where that is really going. I know that East Coast, West Coast, either one, has a lot more potential for growth in any type of service area.”

“There is a lot of growth potential in the Midwest, but the trends I have noticed... is that the Midwest tends to be a little bit on the penny-pinching side. They don’t pay as much for technology as East and West Coast [customers] and it is not as big a deal for people around this area.”

No Immediate Motivation to Export, but Market Changes Would Motivate

A majority of technology business owners who were interviewed indicated they did

not export their products or services out of the country and most of them were not interested, nor motivated to pursue exporting at this time. This lack of interest and motivation among owners is primarily due to the belief that they have no reason to export (“*there is plenty of work here,*” “*my customers are here*”) and some said since they only provide services they don’t have a viable “product” to export. However, when asked what would motivate them to pursue exporting, a majority responded that if a market for their product or service developed they would certainly consider exporting. Market availability also was a motivating factor among companies who currently export.

Examples of responses regarding motivation to export among those who **do not** export are:

“... there is plenty of work here, and there is plenty of quality work that we don’t have that we like to get that is right here. It just takes more time and expense. So there is just a number of opportunities for us to try to seize here in the United States right now.”

“We have no reason to [export]. Our software sales are limited to our territory. [I would be interested in exporting if] somebody from another country wanted me to come do work for them. So, I mean, I’m not against it.”

“We are more of a service-oriented company so our product isn’t really something that I feel like we could export.”

“The real growing economy of India and China aren’t embracing the technology; they are not far enough along on the life cycle to really embrace it, so I am kind of stuck in the middle. But there is plenty of

potential market here in the United States to do what I think will happen. I'm kind of old-fashioned and have my roots planted pretty deep here in the Midwest."

"Our services are really like professional services, like a lawyer or an accountant. And so ... we are providing a hands-on service to them. Our big value is face-to-face relationships, providing on-line services."

"We don't really make a good product that's exportable. It is not a product that you can put on a shelf and buy."

"It is not a commodity, so you are not producing a resalable product that I can make five million of these and ship them to China. It is not a bundled package ... it would be a hard marketing job ... because once you get into this kind of technology, you start doing international and all this and that, to make it really profitable. I just don't see that it would be a good use of time and energy."

"We are a service business. There are no products involved. Where a client is located would be the only outside contact we would have."

"The biggest growth areas are in the Orient, and that is where a lot of our things are actually being manufactured in the first place, so I really don't see it as a potential market. [In response to what would motivate them] A profitable margin and understanding how to do it."

"We would never get into the export business. We don't have anything to export anyway."

"It is not really an option. There is so much good engineering skills at lower rates in other countries that it is not feasible anymore to export. Now, if I develop my own product ... it is just not something that I really talk about because ... it is so hard to do."

Examples of responses regarding motivations to export among those who **do** export are:

"To realize the full market potential, we need to be playing in all world areas."

"Market availability. We have a product on the market right now that was just introduced in early January, and [we] have had some inquiries from Canada, and we have also had inquiries from Europe."

"... it's all based on relationships. An example is, we were subcontracted to a major company that provided service to a particular market area. We became the subcontractor. So we value that type of relationship."

Innovation is Market Driven

In order to determine the factors that influence owners of small technology companies to innovate, in-depth interview respondents were asked a series of questions designed to obtain information regarding their current stage of innovation; factors which

would, or do, influence them to innovate, and what external resources they would need to acquire to move into the next stage of innovation or start a new innovation cycle.

A majority of technology business owners indicated they were in at least one stage of innovation, with most respondents indicating they were either in the *product development* or the *production and marketing* stage of innovation. Some owners of technology companies indicated they had several products or ideas in all stages of innovation.

Technology company owners who had products or ideas in the first four stages of innovation (basic research, proving the concept, early stage development and product development) were asked what would propel them into the final stage of innovation - production and marketing. While responses varied, the most frequent responses focused around marketing/sales, responding to a need, and cash. Other less prominent factors were partnerships (knowing the right people), talent and a favorable result/finding from a previous stage of innovation. In addition, a few small business owners indicated that innovation really does not apply to their companies since they provide client-based services.

"We just started marketing our car scheduler software into the various states, so I guess once we get a few sales, we will be more into the next stage."

"It would probably be in response to a need for what we are actually doing at this point. It would require a change in the market."

"If our sales crew saw something was an open market and that the need wasn't being filled by some software that you could buy already, we would probably push to develop something."

"We are sort of market driven. If we see a market, we can write the software for it. We are software developers, and true developers write whatever somebody wants."

"We are trying to develop a product ... [and] prove the concept at the same time. Once we do that, then I think that innovation will be at the state where we can go into full scale development and market the product."

"If you don't innovate in the software business ... you don't make it to the next step. You have to innovate everyday. You have to incorporate the ideas everyday. In software, if you don't continually improve your software, you fall behind the curve, and then you become irrelevant. So we are marketing our product."

"If I see the market is there, and I can raise money quickly, I will do it."

"Cash. Plain and simple."

"We are a technology-based company that is based on innovation and generating ... new intellectual property that we can leverage out into the market. So our major constraints are actually ... the resources to be able to do that. ... The primary resource is money"

"As a technology company we probably do not have a lot of innovation. Our inno-

vation is more around marketing and just really providing good things that are already out there in a different way.”

“I don’t think that applies to us. We provide services.”

[Regarding innovation] “Well most of that doesn’t pertain to us because we don’t build or manufacture any of the products. We are an integrator, systems integrator.”

In Order to Innovate, Technology Companies Need Labor

When asked what external resources, besides time and money, owners of small technology companies needed in order to innovate, responses varied greatly, but respondents mentioned labor and talent repeatedly. Other responses ranged from “luck” to “affordable marketing” to “motivation of the market.”

“The right man to walk in the door. Talent. That’s really what would make it happen.”

“Maybe a couple more good minds. But they are hard to buy. They are hard to find, but there are some good ones around.”

“I mentioned technical talent and the actual maturation of the market. It is so early, you don’t know if it is going to proof or wither on the vine.”

“Engineers.”

“We need business expertise. [In terms of] you are about to go into this stage

and here are the problems you are going to see. [Someone] to look at what you are doing, and somebody can say, OK, I have been there. Here is what you are going to see when you are starting to go this way. These are the kind of growth problems you are going to see and make it go.”

“We have added people into that lab over the last year. We are up to, I think four full-time equivalents in that unit. But, again, that is bounded by what ... our incoming revenue screen is. We have to be able to pay for the people to develop the product. [We are looking for] technical people. They are a combination of professional chemists and technicians to do the kind of work we are doing.”

“I guess to have the technical expertise at hand. I mean if I am bringing something to the market, I got to know what it is.”

“A little bit of luck and somebody to buy it.”

“... fresh, clean information such as new ideas, new ways of doing things. But that is really what drives software guys.”

“Customers. Developing the product is not as difficult as actually, I guess, marketing the organization ... who could use the product.”

“Let’s assume that we complete this phase successfully. Then we are going to need resources to start doing marketing, market students [to help us] and products introduction, product strategy plans...”

Capital - Plans to Pursue, but Need Guidance

During the in-depth interviews, owners of small technology companies also were asked several questions pertaining to the pursuit of capital. Almost 60 percent (N = 14) indicated they were not currently seeking capital, but 36 percent of the 60 percent (N = 5) had plans to seek capital within the next few years. One-third (N = 8) of respondents indicated they were currently seeking capital and the types of capital they were seeking varied, with some respondents seeking more than one type of capital. The table below shows the types of capital these technology company owners are currently, or planning, to seek in the next few years.

<u>Type of Capital</u>	<u>N</u>
Line of Credit/Loans	5
Private Sources/ Investors	3
Grants	3
Partnerships	1
Debt	1
Equity	1

Most respondents indicated they could use external assistance to pursue capital, and they would prefer an individual or company with experience and expertise in pursuing capital to guide them through the process, or actually go out and acquire capital for them.

"I can use any help I can get. I am not one of those people that have to do it on my own. [I need] somebody with expertise. ... [with] research grants and who has some idea on a direction to pursue as opposed to generalized, and someone who would have experience hopefully,

possibly in the procedures that we would need to do."

"I can do business with banks and stuff. Identifying venture capital resources would certainly be a positive. I don't even know where to look for that other than talk to the doctors and lawyers that I am acquainted with and see if they have any extra mad money funds that they might want to invest."

"Someone who absolutely knows how to write a grant and can help us solicit those funds that are supposed to be available. I am constantly looking for a source there."

"Somebody to point me in the right direction."

"I know that I can get a small business loan, so I don't need help doing that. So, I would actually prefer somebody to invest, as a kind of venture capitalist ... somebody who wants to invest in the company."

"I need someone that can point and say, 'Here is what it is,' and identify a source ... I am not good at grant writing. Where are the grant writing sources? I can give you the plan... now tell me how to massage this into a grant that goes through the tracks."

"When I get to that point, and I have thought about this, I would try to find somebody to be more of a mentor. Somebody who has been through it."

"Somebody to go out and find some financing for me."

"Someone that really knows how to rate capital. It is very sophisticated."

Preference for Informal Networking

A majority of in-depth interview respondents indicated they do not belong to any formal networking organizations, but do quite a bit of informal networking. When asked why they don't belong to any formal networking groups, responses included "lack of interest," "nothing substantial is offered," and "too busy." However, owners of small technology companies find informal networking much more beneficial because these types of relationships are usually based on trust, are with established contacts and are more relaxed than formal networking situations.

Respondents summed up the informal networking experience as this:

"I could be talking to a national distributor [and] they say, 'Hey why don't you talk to this guy in Springfield', or 'Here's a guy in California.' It is kind of like they are sources. ... We tend to be more relaxed in those kind of discussions."

"If I have to make a decision, and I have somebody to call that I can trust, [who has] already made that decision once before [and] that's not going to lead me astray."

"Usually when we go to trade shows I have a couple of people I talk with that are also in the industry. We compare notes to see how the market is going, what trends we see, how their sales are, how my sales are. So we try to see if all of us are tracking roughly the same."

"I would love to [network]. It would be interesting to get a different perspective. The thing is, the racing industry is kind

of peculiar ... If I started networking with [people outside my industry] more on a local basis, it wouldn't go across very well."

Of the respondents who did indicate that they belonged to formal networking groups, many belonged to networks associated with their particular technological industry (see list below). Regardless of whether networking was formal or informal, technology companies owners do find it valuable. When asked to rate how valuable networking is to them on a scale from one to seven, (rating of one meaning "not at all valuable" and a seven meaning "extremely valuable"), ratings ranged from 4.0 to a 7.0 with an average rating of 5.0.

Formal Networking Organizations

American Institute of Electrical and Electronics Engineers, Inc.
Chamber of Commerce
Engineers Club
Kansas City Burglar and Fire Alarm Association
Local Technology Group
Mid-Range Users Group
Missouri Biotechnology Association
National Association of Imaging
National Government Contractors Association
National Machine Tools Association
National Defense Industrial Association
Professional Systems Network, Incorporated
Project Management Institute
St. Louis Minority Business Council

Some Use Research Resources, Some Don't

During the interview, respondents were asked whether they use private companies, public agencies or university research resources to develop their new products or services. Interview findings reveal that just about half of technology company owners do use research resources from these organizations and a list of these organizations is provided on the next page. Interestingly, some owners of small technology companies not only get research assistance from private companies, public agencies and universities, but also from trade associations and vendors. These respondents also were asked what influenced them to work with these associations and organizations. Responses included themes in the areas of technical or business expertise, a previous working relationship with the organization and location.

"I think the fact that we are comfortable, that we are working with someone who is familiar with the products from the process. I know of no other agencies other than the people that actually do it. And those are the people I go to for consultation."

"After testing them out and finding out they are there and finding they are a good, reliable, friendly source."

"Primary capability and access. We use folks from Central Methodist University as interns. They have very talented chemistry ... students there ... We needed some expertise in some very difficult mathematical calculations, and these guys were teaching it everyday so we hired them."

"I just have my contacts over at [Kansas University]."

"[Kansas University] was recommended by an individual."

"Having the products and services that we need in the first place that we are looking for. Being able to solve our particular problem."

"The McCarthy Group ... was a very large firm. They have a lot of innovative projects coming up. They probably do a billion dollars worth of work a year. So, we figured that with them being successful in the business that they were doing, that they had all types of expertise as far as IT, marketing, accountants, intersystem tools, etc. I mean it was just an exciting group to work with."

"Because they are local. I don't have any contacts up at MU."

"Basically it's a spillover from the corporate experience. We had subscriptions through there ... and they do a nice job of covering the ... chemical industry."

"I identified with some individuals from a university as [people we] would have a good relationship with just because we have similar philosophies on what is important and how to do business."

"Anything [that] I have done, I have had a relationship with [someone] who I talked to about how they had benefited from it, before I investigated things."

Technology company owners who indicated they do not use research resources from private organizations, private companies, or universities were asked what prevented them from doing so. Responses centered around the belief that technology company

owners are self-sufficient, and they can find things out on their own using the Internet as their primary source for research assistance.

"I try to be self-sufficient. It is what I like to do myself."

"Straight to the Internet."

"The Internet is a huge resource now for us. ... We are probably using it almost exclusively now."

Research Resources

Association of General Contractors
Central Methodist University
Japanese Ministry of Agriculture
McCarthy Brothers
National Composite Center
Society of Auto Engineers
St. Louis Economic Council
Stanford Research Institute
University of Kansas
University of Missouri
USDA
Washington University

Some Have Questions, Some Don't

In-depth interview respondents were asked whether they had any questions regarding ideas, concepts, products or services they would like to address but have not because they do not know where to go for assistance. Half of the respondents indicated they did not have any such questions. This parallels the findings regarding the use of research resources in that there is a belief among some owners of small technology companies that they can do it all on

their own, and if they had particular questions they know where to go for answers.

"I pretty much know how to find answers. I have always loved [the] researching aspect of anything."

"At one time... I may not have known where to turn, but we are finding that the Internet is a really good place to get information."

"I can't think of one time where we have been stumped."

"We are pretty aware of what is available to us. I don't know if everybody would answer that question the same way. Whatever it is, we usually try to answer it ourselves."

Respondents who indicated they did have questions, but were not sure where to find assistance primarily had technical questions, expertise concerns and questions on basic business functions (finance and marketing).

"They are more on a technical nature and often times when you have an idea for a product or a modification for a product or a strategy on a product, you convince yourself that you are on the right track probably because there is no one to challenge you - no one to bounce the idea off of."

"When it comes to a particular kind of technology that we know of, but we don't know exactly how to do - just finding out exactly how to accomplish that particular goal [is important]."

"[I need help] getting my name out, getting the product out to whoever might be able to utilize it so that I can start identifying new sources of business revenue. Advertising and marketing."

"If I ever have a product to develop and market myself ... I would need to talk to people about the marketing phase of it, and that is not really a technology thing either. It is just the basic marketing skill that I don't have."

"Finding that expertise... can be expensive. It basically boils down to what we need is a clearance center, which basically says, here is that particular expertise. The reality is that now there are a lot of organizations that will help you write a business plan."

"I have always been told there is all kinds of funding through the government, to get grants and stuff like this, but [I do not know] where to go to pursue that or have the time to pursue it, because there are so many, you can get off track so quickly."

"I should say reasonably priced marketing skills - marketing expertise."

"It is actually simple fundamental things [that] I think by the end of the day does most businesses in. It is having the mechanisms in place where you are effectively tracking what the needs of the business are, being [sure] that you have proper resources aligned and following up on those resources to be sure that those commitments get accomplished."

Special Needs: Labor, Marketing and Finance Expertise

As on the survey conducted in 2004-2005, owners of small technology companies were asked to identify the areas where their companies have special needs. The survey revealed almost half of technology company owners indicated special needs in the areas of marketing and labor, and 40 percent had special needs in the areas of partnerships and finance. Results from the in-depth interviews mirror the findings from the 2004-2005 survey responses where labor, marketing and finance were mentioned most frequently by respondents. Responses provide additional detail about how the business owners defined the terms labor, marketing and finance.

Labor: Hiring Quality People With Expertise

"We are trying to hire more people."

"Going from 4 to 10 to 10 to 12 employees."

"We have to go out and test concrete. Sometimes trying to find the right personnel becomes an issue."

"Our people don't turn over... but the quality of people that we need is quite high and the bar is set very high."

"Finding people that [are] really knowledgeable, and that work well within our very small company [is difficult]. ...we have specific areas that we would need them to know or to be able to pick up fairly quickly."

“I will need to come up with a good training program. The hiring will challenge me because I am going to need to identify people with specific types of skills.”

Marketing: Expertise Needed

“We are in the process of developing a business development team, and they are talking to some outside people from the tech group to get a better handle on how we can be more efficient at selling.”

It has been difficult for me because I am the only person in my company right now. It would be nice to have somebody who is in marketing and going out and finding customers and having ideas [on] how to utilize the products by other people in other ways because that is not what I want to focus my effort on. It would sure be nice if I could hire somebody to help me do that.”

“I continue to think that I can find ... areas to market easier than I can find people to fit those areas.”

“You have certain fundamentals of marketing that don’t change, but there are constantly evolving changes as different marketing avenues become available, different approaches as customers change, as people change, the most effective way to reach people and convey a message [change].”

“We might have some need in that area to understand the market and the market dynamics.”

Financial Expertise Needed

“Financing is always a need.”

“[I need] somebody to go out and find financing for me.”

“Basically [I need someone] going after government grants in that area.”

“There are grants available in the industry that I am involved with that tell me that I don’t have to go and spend \$250,000 on this equipment, [and] that they can assist us. I am looking for additional funding to purchase more equipment so I can move more products.”

“It would be more related to getting good accounting advice, making sure I have got all my taxes and all my registrations correct.”

Discussion

This study is part of a multi-year research agenda with a purpose to: 1) identify technology-related companies in Missouri; 2) inform our understanding of how to define and categorize technology companies and 3) identify the needs of technology companies that are potential clients of the EDA University Center at the University of Missouri. The first two purposes are reported on in *Identify and Define: Locating, Describing and Categorizing Missouri Technology Companies*, the 2004-05 EDA University Center report from the University of Missouri. That report also provided data on a broad range of needs identified by technology companies. The 2005-06 study, *Market Research, People and Money: Needs of Technology-Related Companies*, used the results of the 2004-05 study and focused on obtaining data that would provide more in-depth understanding of the needs of technology companies.

The needs identified by the 101 companies interviewed for the 2004-05 study are listed in Table 1. All companies participating in the 2005-06 study participated in the 2004-05 study.

Table 1.
2004 - 2005 Special Needs Identified

Special Need	N	% of Respondents
Marketing	19	54%
Partnerships	16	46%
Labor	14	40%
Finance	11	31%
Regulatory		
Compliance	11	31%
Management	8	23%
Intellectual		
Property	8	23%

Facilities	7	20%
Infrastructure	6	17%
Tech Transfer	4	11%

Companies participating in the 2005-06 study indicated they are growing, expanding their products and services and adding employees. Almost half said they expected to increase revenues and/or number of employees over the next couple of years. Business owners estimated these increases either by a percentage or a number that reflected a dollar amount or number of employees. Revenue increases ranged from 15 percent to 30 percent and up to \$3 million dollars. The number of new employees ranged from 2 percent to 15 percent and 10 percent to 20 percent.

Market Research, People and Money

While the topics of marketing, partnerships and labor were the highest priority needs in the 2004-05 study, the themes that emerged throughout the interviews in the 2005-06 study focused largely around market research, people and money.

Market Research

“Marketing” is often cited as a major need in studies of business needs. But business service providers often experience difficulty operationalizing the general concept of marketing to specific actions that are helpful to the businesses. Responses from the interviews reveal that the business owners interviewed define “marketing” as:

- Locating markets for the products or services the company provides
- Understanding industry growth and direction
- Developing a plan for expansion
- Understanding how census data can identify potential markets

- Determining market potential in specific geographic areas
- Identifying technology, market and style trends
- Developing a product or service to respond to an identified need in the market
- Becoming more efficient at selling
- Finding customers
- Understanding how customers change
- New ideas about how to utilize products
- Knowing the most effective way to reach people and convey a message

People

“Labor” was the most frequently cited resource (besides time and money) that owners identified that they needed in order to innovate. Labor is generally interpreted by these business owners to mean the availability of *skilled employees* who are *high quality* people that can *operate successfully in a small company with limited training resources*. The type of personnel owners need included sales personnel, technicians, engineers, chemists and service personnel. Technicians were mentioned more often than any other type of personnel and in some cases the skills technicians needed were industry-specific. In one case, the owner said the company needed business expertise that would help the owner anticipate the problems he or she will encounter in the next growth stage and plan for solutions to the problems.

Money

“Money” means *obtaining capital*. And, occasionally, listing “money” as a need links back to labor and marketing as business owners indicated they would use the money to obtain marketing assistance, market their products or services or hire employees. While almost 60 percent of the interviewees indicated they were not currently seeking capital, 36 percent of that group said they

had plans to seek capital within the next few years. The respondents indicated they would use external assistance to pursue capital, and they would prefer an individual or company with experience and expertise in pursuing capital to guide them through the process, or actually go out and acquire capital for them. While a line of credit or loan was the most frequently sought type of capital, owners said they needed help in obtaining venture capital and grant writing.

Are Location, Networks and Research Resources Linked to Market Research, People and Money?

This study obtained data on location, networks and research resources in an attempt to deepen understanding about how relationships with technology-related companies can be developed and maintained by EDA University Center staff. Since the top three needs of technology-related companies were identified, the next question of importance is whether company location, networks and research resources can connect to the major needs.

Location

Business owners thought their location in Missouri was both a help and a hindrance. Many said the benefit was provided by being close to their customers and convenient travel. However, a prevailing “conservative” attitude was noted in Missouri that led to slowness to adapt to new technologies and willingness to pay for them. Business owners did not provide any evidence that the location of their businesses is providing them access to their greatest needs of market research, people and money. (Note: the 2004-05 study showed that the primary motivation for business location was that business owners wanted to locate their companies in the cities in which they lived. Nearly 89 percent of the respondents in the first study indicated the local infrastructure was adequate for their needs.

Networks

Informal networking is preferred by interview respondents. Reasons for not belonging to formal networking groups were “*lack of interest,*” “*nothing substantial is offered,*” and “*too busy.*” Informal networks were considered more relaxed and generated relationships that were based on trust. Formal networks that were cited tended to be industry-specific. Overall, company owners indicated the networks in which they participated were valuable, giving them an average rating of 5.0 on a scale from one to seven (rating of one meaning “not at all valuable” and a seven meaning “extremely valuable”). There was no stated indication that the networks provided assistance that would help business owners meet their needs for market research, people or money. It is possible that the “trusted relationships” of the informal networks could provide assistance in these major areas of need as could formal, industry-specific networks.

Research Resources

The 2004-05 study showed that 37 percent of the companies interviewed used private companies as research resources, 33 percent used colleges or universities and 21 percent used public agencies. Respondents to the 2005-06 study also indicated they used trade associations and vendors. Generally, these respondents indicated that they used a resource because of its technical or business expertise, a previous working relationship with the organization, and the physical location/proximity of the resource. Again, there was no stated indication that the research resources provided assistance in the areas of market research, people or money.

Faculty and staff from University Centers wanting to facilitate the use of their faculty and students as research resources to technology-related companies should note the

reasons that business owners said they used the various resources:

- Comfortable relationships; friendly
- Familiarity with the company’s products and processes
- Good, reliable
- Close proximity to business
- Technical expertise
- Located through networks
- One-stop shops with all types of expertise: IT, marketing, accountants, etc.
- Industry-specific

University Center faculty and staff should assess their abilities in these areas and, when possible, develop or publicize the presence of these characteristics in the University Center.

A barrier that University Centers will need to recognize is the belief system of some entrepreneurs that they do not need external assistance or that they can find the assistance they need on the Internet. Adapting service delivery to the Internet may be an important strategy for University Centers.

Half of the respondents indicated that they do not use private, university or public research resources. When interview respondents were asked if they had questions regarding ideas, concepts, products or services that they would like to address if they knew where to go for assistance, half indicated that they did not have any questions. When these two responses are viewed together, the difficulty of forging relationships with technology-related companies is apparent.

The key to effective relationships with technology-related companies appears to be:

- Assisting with market research and obtaining capital;

- Developing or participating in networks that help employers locate and train personnel;
- Developing and promoting industry-specific, technical skills among University Center staff;
- Promoting successful case studies of work with technology-related businesses so the one-half that do not use external research resources and do not have questions may see the value and potential of working with an EDA University Center.

Appendix

EDA In-depth Personalized Interviews

Proposed questions

When we spoke with you last year you indicated your company was a *startup*. Would you currently place your company in this stage?

Yes (Continue to Question 1)

No

If No, In which stage would you currently place your company? (Let respondent answer, the GO TO Question 1)

Startup

Growing

Mature

Declining

The first area of inquiry concerns expansion of your business into new markets or new products or services.

1. Looking out to the next couple of years, in what area of your business do you see possibilities for expanding your products, services or markets?

PROBE: for new products, new services, mergers, acquisitions, new technology, better delivery systems, new markets. New markets might also include new customers, new geographic locations, or different businesses.

1.1 What steps will you need to take in the next year to ensure you are on track with future expansion possibilities?

1.2 What external resources will you need to acquire?

LISTEN FOR ANY BARRIERS THAT EMERGE HERE.

Next, I would like to talk about growth possibilities and potentials. By growth, I specifically mean growing your existing business – in numbers of employees, revenues, profits.

2. Again looking toward the couple of years, what growth possibilities do you see for your company?
 - 2.1 How will being located in Missouri help or hinder this growth potential?
 - 2.2 What resources will you need to grow your company in the ways you envision in the next few years?

In our original study, we found that most companies did not currently and did not plan to export their products or services.

At that time you indicated you *do export*. Is this still the case?

Yes

INTERVIEWER NOTE: If past and current exporter GO TO Question 3.1a.

INTERVIEWER NOTE: If non-exporter GO TO Question 3.1c

No

INTERVIEWER NOTE: If No and past exporter GO TO Question 3.1b

INTERVIEWER NOTE: If No and current exporter GO TO Question 3.1a

I want to ask you a few more questions so that we can better understand this situation.

- 3.1a Could you talk a little bit about your decision to export your products or services?
- 3.1b Could you talk a little bit about your decision to stop exporting your products or services?
- 3.1c What would motivate you to pursue exporting?

The next area I would like to get your opinions on concerns innovation. Here we are specifically defining innovation as bringing into reality a new idea, concept, or strategy for your business.

4. There are five different stages of innovation and these can describe an entire company or a product/service within a company. The stages begin with basic research on the idea or concept; then to testing the viability of the idea or concept; followed by creating a structure to develop it; then into developing the product or service; and last, actual production and marketing.

When we first interviewed you, you placed your company in the *Product Development* stage of innovation.

Is your company still in this stage of innovation?

Yes

INTERVIEWER NOTE: If Basic Research, Proving the Concept, Early Stage Development, or Product Development: GO TO Question 4.1

INTERVIEWER NOTE: If Production and Marketing GO TO Question 4.3.

No (GO TO Question 4a)

4a. Of these stages, where is your company at this time?

- Basic research
- Proving the concept
- Early stage development
- Product development
- Production and marketing

INTERVIEWER NOTE: If in Basic Research, Proving the Concept, Early Stage Development, or Product Development ask Question 4.1 and 4.2 then GO TO Question 5.

INTERVIEWER NOTE: If in Production and Marketing ask Question 4.3 and 4.4 then GO TO Question 5.

IF IN First Four Stages

4.1 What will propel your company to the next stage of innovation?

4.2 What resources, besides time and money, will you need in order to move forward?

IF IN Production & Marketing

4.3 What will influence you to develop new products or services and begin a new stage of innovation within your company?

4.4 What resources, besides times and money, will you need?

We know that a very important piece of successful business ventures is getting adequate capital to operate and to grow. The next few questions are specifically about capital.

5. Are you currently seeking additional capital for your company?

Yes (GO TO 5.1)

No (GO TO 5.5)

5.1 What type of capital?

Debt

Equity

Partnership

Grant

5.2 From what source?

5.3 Are you aware of resources that can provide capital for your business?

5.4 Could you use external assistance in pursuing capital? (Answer then GO TO Question 6)

IF NO:

5.5 Do you think you will be seeking capital in the next few years?

Yes (GO TO Question 5.6)

No (GO TO Question 5.7)

5.6 What type of capital?

- Debt
- Equity
- Partnership
- Grant

5.7 Could you use external assistance in pursuing capital?

- Yes (GO TO Question 5.7a)
- No (GO TO Question 5.7b)

5.7a What type of external assistance would you prefer?

5.7b Could you talk a little bit about why you do not want to use external assistance?

Next, I would like to ask you about networking. We know that in addition to capital, networking is very important to many entrepreneurs.

6. Do you belong to any formal business organizations or groups where you share information about your business, opportunities and/or challenges and seek advice from colleagues/peers?

- Yes (GO TO 6.1)
- No (GO TO 6.4)

6.1 What organization or group? SPECIFIC NAME

6.2 How often do you meet?
IF BELONG BUT DO NOT ATTEND, ASK WHAT PREVENTS
THEM FROM ATTENDING THE MEETINGS

6.3 Using a scale from one to seven with 1 representing “not at all” and 7 representing “extremely” how valuable has this networking been to you?

1 2 3 4 5 6 7

GO TO Question 7

6.4 Would you be interested in participating in a group of business owners like yourself?

6.5 What type of venue would you prefer?

PROBE: FACE-TO-FACE, VIRTUAL, BOTH, OTHER

We are nearly finished, and I sincerely appreciate your time and great responses so far. This next area concerns research resources or specific technical assistance that is sometimes necessary as a new idea or concept gets underway.

7. Some business owners get research assistance to develop their new products and services – either from private companies, public agencies, or universities.

7.1. Have you worked with someone external before for research assistance?

Yes (GO TO Question 7.2 and ask for each agency)

No (GO TO 7.4)

7.2 What organization or agency? SPECIFIC NAME

7.3 What influenced you to work with this particular company or agency?

7.4 Are there questions regarding ideas, concepts, products or services you would like to address but have not because you are not sure where to go for assistance?

7.5 In general, what questions would you like to address the near future?

PROBE: Try to get specific knowledge/expertise answers, such as “need an engineer to test the heat maximum of a new metal” or “we have an idea for a new vacuum system and could use some expert advice on whether it really is a new idea or something that has been tried before and failed...”

Our last few questions concern business resources.

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8. In the original interview you mentioned that you have special needs in the area(s) of

Management

Infrastructure

Intellectual Propert

Partnerships

Regulatory Compliance

Are there other areas you would identify now?

- Finance
- Labor
- Management
- Tech Transfer
- Marketing
- Infrastructure
- Facilities
- Intellectual Property
- Partnerships
- Regulatory Compliance

8.1 What specifically do you wish help in doing? BY AREA

8.2 What resources do you think you will need to adequately address these needs?

EDA In-depth Non-Personalized Interviews

Proposed questions

The first area of inquiry concerns expansion of your business into new markets or new products or services.

1. Looking out to the next couple of years, in what area of your business do you see possibilities for expanding your products, services or markets?

PROBE: for new products, new services, mergers, acquisitions, new technology, better delivery systems, new markets. New markets might also include new customers, new geographic locations, or different businesses.

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2. Again looking toward the couple of years, what growth possibilities do you see for your company?

2.1 How will being located in Missouri help or hinder this growth potential?

2.2 What resources will you need to grow your company in the ways you envision in the next few years?

In our original study, we found that most companies did not currently and did not plan to export their products or services.

Do you currently export products or services?

Yes

GO TO Question 3.1a

No

GO TO Question 3.1b

I want to ask you a few more questions so that we can better understand this situation.

3.1a Could you talk a little bit about your decision to export your products or services?

3.1b Could you talk a little bit about your decision not to export your products or services?

3.1c What would motivate you to pursue exporting?

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4a. Of these stages, where is your company at this time?

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- Proving the concept
- Early stage development
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- Production and marketing

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4.2 What resources, besides time and money, will you need in order to move forward?

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- Yes (GO TO 5.1)
- No (GO TO 5.4)

5.1 What type of capital?

- Debt
- Equity
- Partnership
- Grant

5.2 From what source?

5.3 Are you aware of resources that can provide capital for your business?

5.4 Could you use external assistance in pursuing capital? (Answer then GO TO Question 6)

ASK 5.5 THROUGH 5.7B ONLY IF “NO” ON QUESTION 5

5.5 Do you think you will be seeking capital in the next few years?

Yes (GO TO Question 5.6)

No (GO TO Question 5.7)

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Partnership

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6.5 What type of venue would you prefer?

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Our last few questions concern business resources.

8. In the first interview we asked you about several areas where your business might have special needs. I would like to read you the list of areas again and if you could tell me whether these areas are a concern for you.

- Finance
- Labor
- Management
- Tech Transfer
- Marketing
- Infrastructure
- Facilities
- Intellectual Property
- Partnerships
- Regulatory Compliance

8.1 What specifically do you wish help in doing? BY AREA

8.2 What resources do you think you will need to adequately address these needs?

END INTERVIEW AS APPROPRIATE.

About Us

BRIDG focuses solely on researching small business and entrepreneurship. Its research lays the foundation for the creation and delivery of quality programming, products, services, and organizational processes specifically developed for small business owners and entrepreneurs to start, operate and grow their businesses.

BRIDG is supported by University of Missouri Extension.

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