Entrepreneurial Communities in Rural Oklahoma

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Abstract
This paper studies "entrepreneurial communities" using both quantitative and qualitative data from the state of Oklahoma. Household-level survey data and community-specific characteristics are used to determine what factors affect whether a rural community operates in an entrepreneurial manner. Case studies from successful rural communities provide a more qualitative viewpoint of the factors that lead to entrepreneurial activity.

Key Words: Entrepreneurship, communities, rural development
JEL Classifications: R11, O18, C1

Introduction

Rural areas throughout the United States have been facing many obstacles over the past decades. A growing number of communities are experiencing struggles to achieve sustainability and economic vitality (Innovation & Information Consultants, 2006). Rural Oklahoma faces many of these same obstacles, including a declining population, the loss of local businesses, and simply the challenge of existence in some cases. According to the Bureau of Economic Analysis, 36.8 percent of Oklahoma's total population resided in nonmetropolitan areas in 2004. This number has decreased since 1990 when 39 percent of Oklahoma's total population resided outside of the metropolitan areas.

Communities cope with these losses in a number of ways, including making strategic efforts to increase local businesses in an attempt to generate additional jobs. Some areas attract businesses to their communities by offering incentives such as tax breaks. Communities also focus on their current local businesses in hopes of retaining and expanding those that are present. Finally, communities look to create new businesses. This particular action looks toward the entrepreneurs or potential entrepreneurs within the community. Ultimately, communities choose to create, attract, retain, or expand current businesses to fulfill their economic development goals (Woods, Frye, and Ralstin 2004).

The creation of small businesses locally has some advantages over recruiting outside firms. The recruitment of large firms tends to be highly unsuccessful, and when successful, it tends to be very costly for the community (Edmiston 2007). Therefore, communities turn towards their entrepreneurs for job creation. Chatman (2004) describes

entrepreneurs as individuals that envision something that did not exist before, create something new, or provide an existing product or service in a new way. In the same manner, small businesses are believed the innovators of today's economy (Edmiston 2007).

As communities begin to focus on entrepreneurship activity, an interesting policy question is what types of programs are most beneficial to these individuals. Communities that provide various types of assistance to their entrepreneurs are thought to be entrepreneurial. An entrepreneurial community is defined as "one where there is significant economic and social entrepreneurial activity and where there is an effective system of entrepreneurship development," (W.K. Kellogg Foundation 2004). Thus, an entrepreneurial community is one that provides a haven to nurture entrepreneurs. However, an entrepreneurial community is also described as one that behaves like an entrepreneur. Entrepreneurial in this case is described as, "An approach to business that relies on innovation, ambition and growth," (Chatman, Johnson, and Rightmyre 2004). This approach captures the community working together to take risks, adopting new technology, and reinventing themselves in a similar manner as an individual entrepreneur would.

Entrepreneurial communities not only build the spirit of the community, but they also expand the economic base through increased retail sales within the community. Retail sales are very important to communities. Increasing retail sales can provide larger employment opportunities and increase the tax base for the community. Communities then utilize those tax dollars to perform necessary operations and improve the quality of life.

This research will attempt to understand and identify the characteristics that an entrepreneurial rural community in Oklahoma possesses. This analysis will aid in community planning and rural development efforts across the state of Oklahoma. It will provide vital information identifying the strengths and positive characteristics of rural entrepreneurial Oklahoma communities.

Methodology

For this research, three different methods were utilized to better understand entrepreneurial communities. First, the Oklahoma Social Indicator Survey of 2006 was conducted, and the results summarized to provide some basic descriptive statistics on the presence of entrepreneurial communities in Oklahoma. A survey was preferred to capture the opinions of rural Oklahoma small business owners. Econometric models were then constructed to gain a better understanding of which factors contributed to the various components of entrepreneurship. Finally, case studies were conducted on selected communities that displayed great attribute of entrepreneurial communities.

Oklahoma Social Indicator Survey of 2006

This survey was conducted by the Bureau for Social Research at Oklahoma State University. The survey was completed during the months of October 2006 through mid December 2006. A total of 1,210 telephone interviews were completed with an additional 23 partial interviews completed. Therefore, there were a total of 1,233 surveys completed for this research. The sample consisted of individuals who were 18 years of age and older and reside within the state of Oklahoma. Respondents were asked a screening question that inferred if they or someone in the household was an owner or part-owner of a business. A

business included farms, ranches, home-based businesses, and other small businesses. Of the 1,233 total respondents, 196 indicated they were business owners. Therefore, 15.9 percent of total respondents indicated they or someone in their household owns a business.

The respondents were then asked if their employment level has grown, declined or stayed the same. They were also asked how many jobs they have added or lost over the past five years. The survey respondents were then asked if start-up services such as a business incubator, mentors or entrepreneurship network, courses on starting a small business, local financing, and state and federal loan programs were available in their community. Next, the respondents were asked if they used each of these services in their community.

The survey respondents were asked if they have had difficulty finding workers for their business over the past five years, and if the majority of their business financing came from their community or outside the community. Respondents were also asked if a local development organization such as a Chamber of Commerce was located in their community and if he or she was an active member of that organization. Also, respondents were asked how satisfied they are with their local development organization in terms of helping their business succeed. Respondents were then asked questions about the availability and use of Internet access (including high-speed); there was also a question about overall infrastructure adequacy. Survey respondents were also asked if they do at least fifty percent of their personal and/or business shopping within the community where their business is located. Finally, the survey included two open-ended questions that ask the respondents to list the best thing their community does to help their business and also to list an area in which their community is lacking. Table 1 summarizes the responses of individuals who owned a small business.

Table 1. Survey Responses of Available Services in Community

Variable	Number	Proportion (%)
Business Incubator Available	14	8.8
Do Not Know	76	47.5
Used Business Incubator	*2*	*1.3*
Mentors Available	39	24.4
Do Not Know	53	33.1
Used Mentors	*11*	*6.9*
Courses Available	82	51.2
Do Not Know	27	16.9
Used Courses	*9*	*5.6*
Local Finance Available	106	66.2
Do Not Know	23	14.4
Used Local Finance	*46*	*28.8*
State/Federal Programs Available	95	59.4
Do Not Know	32	20.0
Used State/Federal Programs	*16*	*10.0*
Chamber of Commerce Available	143	89.4
Do Not Know	5	3.1
Member of Chamber of Commerce	*28*	*17.5*
High-Speed Internet	87	54.4
Quality Infrastructure	129	80.6
Qualified Workforce	123	76.9
Majority Personal Shopping in Community	118	73.7
Majority Business Shopping in Community	105	65.6

*Percentage of total 160 observations

Additional Data

    In addition to the data provided by the state-level survey, other data was used to provide a clearer picture of the entrepreneurial environment in Oklahoma. One common measure for this type of analysis is retail sales, which is widely used by local leadership and businesses. It helps give communities an idea of the impacts of their local retail sales. There are multiple ways to evaluate a community's retail sales. For this particular

model, trade area capture and the pull factor will be utilized. The trade area capture

divides the community's retail sales by the state retail sales. It is also adjusted for

income differences between state and communities. The pull factor divides the trade area

capture by the local population. This allows one to determine what percentage in relation

to the local population shops in the given community.

Trade area capture identifies an estimate of how many shoppers shop in a given

area (Hustedde 1984). This is calculated by:

$$\text{Calculated TAC} = \frac{RS}{\dfrac{RS_{state}}{P_{state}} \dfrac{PCI}{PCI_{state}}}$$

TAC=Trade Area Capture for region
RS=Retail Sales for region
RS_{state}=Retail Sales for state
P_{state}=Population for state
PCI=Per capita income for region
PCI_{state}=Per capita income for state

The number found is very beneficial, but it can difficult to interpret and compare.

For example, a larger community like Stillwater will have a much larger TAC than a

smaller community like Perkins. However, it is difficult to notice the actual affects of the

two different retail trade areas. It makes it difficult to compare the two areas since their

populations are quite different.

The pull factor takes in account the population of the community being evaluated

(Hustedde, 1984).

$$\text{Calculated } PF = \frac{TAC}{P}$$

P= Local Population

Once the pull factor is calculated, one can use it to compare other cities. One can now compare Stillwater to Perkins even though they have different populations. The pull factor can also be thought of as a percentage. For example, if a community has a pull factor of greater than one, they are attracting a number of shoppers that equals at least 100% of their population. If the community has a pull factor of less than one, then one can conclude that residents are shopping outside of the community.

Pull factors will be calculated from communities across the state of Oklahoma. The selected communities are the ones specified through the Oklahoma Social Indicator Survey. To account for macroeconomic and other effects, the actual pull factor used will be an average over the years 2001-2006 to even out large fluctuations in pull factors over time.

The data for calculating the trade area captures and pull factors were all publicly available. Per capita income per county and per capita income for the state of Oklahoma were obtained from Bureau of Economic Analysis. United States Bureau of the Census data was used for population information for the state and selected communities. Oklahoma Tax Commission provided the sales tax revenue for the state of Oklahoma and the selected cities

The Oklahoma Social Indicator Survey responses were then used for the remaining variables in the econometric model. The respondents remained anonymous; however, their zip codes were provided. Therefore, the zip codes were linked to the pull factors for that community. Their zip codes were also used to locate additional information provided by the United States Bureau of the Census, Bureau of Economic Analysis, and the Oklahoma Tax Commission.

Since the focus of this research is towards rural communities in Oklahoma, cities with a population of over 100,000 have been taken out of the data set. Oklahoma City,

Tulsa, and Norman have all been removed, and their responses are not reflected in the model. After this modification, there are now 160 observations included in both the ordinary least squares and logistic models.

The reviewed literature identifies many components of an entrepreneurial community.   The variables that were selected were significant in previous studies. Also, the availability of data was a large factor in determining variables. Table 2 displays the variables included in our econometric models and the source of this data.

Table 2: Variables of Interest and Data Source

Variable	Type	Description	Data Source
Independent Variables			
NE	0/1	Location in Northeast quadrant of state	Survey
NW	0/1	Location in Northwest quadrant of state	Survey
SE	0/1	Location in Southeast quadrant of state	Survey
WM	0/1	Presence of Wal-Mart in town where respondent operates	Wal-Mart.com
HSI	0/1	Presence of High-speed Internet at business	Survey
CS	0/1	Town is a county seat	OK County Data
W	Continuous	Wages	BEA
BI	0/1	Use of a Business Incubator by the business	Survey
M	0/1	Use of a Mentor or entrepreneurial network by the business	Survey
COUR	0/1	Use of Courses on owning / operating a business by a business owner	Survey
LF	0/1	1 if local financing is present	Survey
STP	0/1	1 if business used state / federal programs to support their business	Survey
IN	0/1	1 if respondent believes quality infrastructure is available in their community	Survey
CH	0/1	1 if respondent is a member of the Chamber of Commerce	Survey
QF	0/1	1 if respondent believes a qualified workforce is available	Survey
PRS	0/1	1 if respondent does >50% of personal shopping in this community	Survey
BUS	0/1	1 if respondent does >50% of business shopping in this communitu	Survey
HSE	Continuous	Percentage of individuals with high-school education	Census
BD	Continuous	Percentage of individuals with college education or higher	Census
COMC	0/1	Combination of services - LF, BI, M, IN, CH, 'HSI, QF	Survey
COMP	0/1	Combination of purchase decisions (PRS, BUS)	Survey
CSTP	0/1	Combination of State / Federal Programs and Courses (STP, COUR)	Survey
Dependent Variables			
PF	Continuous	Pull factor for each community	Calculation - various
PI	Continuous	Average Non-Farm Proprietor Income (measure of depth of entrepreneurship)	BEA
PP	Continuous	Percentage of Non-Farm Proprietors per county (measure of breadth of entrepreneu	BEA

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Econometric Models

The dependent variables in our analysis represent several different ways to measure entrepreneurial activity. One such variable is the pull factor, which (as mentioned previously) is indicative of whether a community is succeeding in attracting shoppers from outside their community. Other dependent variables of interest include average non-farm proprietor income (a "depth" measure of how well entrepreneurs are doing), and the percentage of non-farm proprietors per county (a "breadth" measure of how many entrepreneurs there are) (Low, 2004). Both ordinary least squares and logistic models will be utilized to determine the marginal effects the independent variables have on the various dependent variables. The models will be tested to determine if the model specification is acceptable.

Our econometric analysis includes four different regressions. The first equation uses ordinary least squares to determine the effects of selected variables on the pull factor, and is specified as:

(1) $PF = \alpha_1 NE + \alpha_2 NW + \alpha_3 SE + \alpha_4 WM + \alpha_5 HSI + \alpha_6 CS + \alpha_7 W + \alpha_8 BI + \alpha_9 M + \alpha_{10} COUR + \alpha_{11} LF +$
$$\alpha_{12} STP + \alpha_{13} IN + \alpha_{14} CH + \alpha_{15} QF + \alpha_{16} PRS + \alpha_{17} BUS + e$$

In this model, the dependent variable (PF) is a five year average of the pull factors for the cities included in this research. The variables included in the analysis are expected to have a positive impact on the pull factors. Therefore, it is believed that these variables aid in entrepreneurial success by helping to attract shoppers from outside communities.

Another ordinary least squares model was estimated to determine the effects of a combination of services a community can offer, state and federal programs, and the overall

purchases made within the community. The combination of services a community can offer combines the previous variables of local financing, business incubator, mentors or an entrepreneurial network, quality infrastructure, Chamber of Commerce, high speed internet, and qualified workforce. These responses have all been grouped together to represent the community services variable. State and federal programs and courses on owning a small business were combined to represent services available on the state and federal level. The community purchases variable was created by combining the personal purchases and business input purchases variables.

This model also captured the effects of education for students who received a high school diploma and those who received a bachelor's degree or higher. This data was derived from the United States Bureau of the Census. This model utilized all 160 observations from the Oklahoma Social Indicator Survey of 2006.

The equation used to determine the effects of the selected variables for this ordinary least squares model is as follows:

(2) $PF = \alpha_1 NE + \alpha_2 NW + \alpha_3 SE + \alpha_4 WM + \alpha_5 CS + \alpha_6 W + \alpha_7 HSE + \alpha_8 BD + \alpha_9 COMC + \alpha_{10} COMP +$

$$\alpha_{11} CSTP + e$$

Again, the dependent variable in this model is a 5-year average of the pull factor for a community. The variables are again expected to have a positive impact on the pull factor. Therefore, it is anticipated that the variables will better explain an entrepreneurial community.

The first logistic model uses the average non-farm proprietor income as the dependent variable. The equation used to determine the effects of the selected variables for this logistic model are as follows:

(3) $PI = \alpha_1 NE + \alpha_2 NW + \alpha_3 SE + \alpha_4 WM + \alpha_5 CS + \alpha_6 HSI + \alpha_7 BI + \alpha_8 M + \alpha_9 LF + \alpha_{10} IN + \alpha_{11} CH +$

$$\alpha_{12} QF + \alpha_{13} PRS + \alpha_{14} BUS + \alpha_{15} COUR + \alpha_{16} STP + e$$

Although the dependent variable itself (PI – average non-farm proprietor income) is a continuous variable, all observations were converted to 0 / 1 measures based on whether or not these averages were below or above the state averages. A logistic model was then used to determine whether specific factors had positive or negative influence on this variable. The listed variables are expected to have a positive effect on the average income of non-farm proprietors. Therefore, the coefficients of the variables are expected to be positive.

The second logistic model uses the dependent variable of the percentage of non-farm proprietors per county. This model also includes two variables to capture the effects of education. The equation used to determine the effects of the selected variables for this logistic model are as follows:

(4) $PP = \alpha_1 NE + \alpha_2 NW + \alpha_3 SE + \alpha_4 PF + \alpha_5 W + \alpha_6 WM + \alpha_7 CS + \alpha_8 HSE + \alpha_9 BD + \alpha_{10} HSI + \alpha_{11} BI +$

$$\alpha_{12} M + \alpha_{13} LF + \alpha_{14} IN + \alpha_{15} CH + \alpha_{16} QF + \alpha_{17} PRS + \alpha_{18} BUS + \alpha_{19} COUR + \alpha_{20} STP + e$$

Results

The previous survey results were utilized for econometric models. Four models are presented, two ordinary least squares models and two logistic models. The ordinary least squares models have been tested for goodness of fit by using Ramsey's RESET test. The ordinary least square models were also tested for heteroscedasticity by using the Breusch-Pagan Test. Table 4 below presents the results of all four models.

Table 4: Model Results

	Model											
	(1)			(2)			(3)			(4)		
	DV: Pull Factor			DV: Pull Factor			DV: Avg NF Prop Income			DV: % Prop / County		
	Parameter	S.E.	P-value	Parameter	S.E.	P-value	Parameter	S.E.	P-value	Parameter	S.E.	P-value
NE	-0.1087	0.0614	0.0789*	-0.13608	0.06058	0.0262**	1.09	0.5403	0.0437**	-1.3316	0.8486	0.1166
NW	-0.188	0.0834	0.0256**	-0.19999	0.08133	0.0151**	-2.846	1.4858	0.0554*	-1.1787	0.9739	0.2262
SE	0.2841	0.0816	0.0007**	0.25732	0.08336	0.0024**	-12.8841	231	0.9555	-0.9044	1.0294	0.3796
WM	0.5977	0.0668	<.0001**	0.68173	0.06423	<.0001**	1.0235	0.561	0.0681*	-0.5098	1.1703	0.6631
CS	0.1819	0.0631	0.0046**	0.15087	0.06519	0.022**	-2.8826	0.7809	0.0002**	-1.6867	0.8653	0.0513*
W	-0.449	0.1729	0.0104**	-0.12934	0.23181	0.5777				-18.2923	4.1524	<.0001**
HSI	0.0562	0.0508	0.2709				0.1943	0.5132	0.7049	-2.84	0.823	0.0006**
BI	-0.2293	0.2209	0.301				2.792	1.8472	0.1307	-9.4528	768.3	0.9902
M	-0.1279	0.0988	0.1976				2.4245	1.2137	0.0458**	3.5017	2.0512	0.0878*
LF	-0.0484	0.0556	0.3854				0.0763	0.5804	0.8954	-0.2635	0.7189	0.714
IN	0.1349	0.0645	0.0384**				1.0222	0.6958	0.1418	0.5063	0.8475	0.5503
CH	0.1782	0.0677	0.00095**				-0.667	0.8629	0.4395	-0.6257	0.8248	0.4481
QF	0.1172	0.0599	0.0523*				-0.0664	0.6124	0.9137	-0.4284	0.8365	0.6085
PRS	0.0503	0.0606	0.4076				0.4157	0.6192	0.502	-0.929	0.8068	0.2495
BUS	-0.0166	0.0543	0.7597				0.7793	0.5148	0.1301	0.407	0.66	0.5375
COUR	-0.1862	0.1088	0.0892*				-0.3685	1.6038	0.8183	-1.8082	1.2924	0.1618
STP	-0.1243	0.0842	0.1421				0.3277	0.8453	0.6982	1.0439	1.2323	0.3969
HSE				-0.00355	0.00791	0.654				0.6208	0.1335	<.0001**
BD				-0.01312	0.00799	0.1026				-0.6454	0.1406	<.0001**
COMC				0.04502	0.02426	0.0655*						
COMP				0.1809	0.03534	0.6096						
CSTP				-0.17362	0.06115	0.0052**						
PF										2.2512	1.0436	0.0157**
Intercept	5.0304	1.757	.0048**	2.3742	2.25096	0.2932	-3.0432	1.1313	.0073**	149.9	37.356	<.001**
R-squared	0.7254			0.6874								

* - Significant at the 90% level

** - Significant at the 95% level

The R-square values for the OLS models indicate that the models have a relatively good fit. The southeast location variable appears to have a positive impact on the pull factor in both Ordinary Least Squares models. The northeast location variable displays that the average income of non-farm proprietors is higher in the northeastern part of Oklahoma. Wal-Mart is positive and significant in 3 models, including on the pull factor in model (1) and on the income of non-farm proprietors in model (3). This is an interesting result, and suggests that the presence of a Wal-Mart is not necessarily a detriment to entrepreneurial activity. In fact, the positive relationships suggest that entrepreneurs may be catering small niches that Wal-Mart does not fill, possible even benefiting from its nearby location for inputs or complements. The county seat variable appears to be a positive impact on the pull factor in both ordinary least squares models. When looking at the logistic models, the county seat variable appears to negatively affect the percent of non-farm proprietors and the income of non-farm proprietors.

In model (1), infrastructure, Chamber of Commerce, and a qualified workforce all appear to positively impact the pull factor of communities. Model (2) essentially combines these resources into a single variable. The combination of community services, including infrastructure, Chamber of Commerce, and qualified workforce, did have a positive impact on the pull factor. The group of purchases for both personal and business uses made within the community was not significant at the ninety percent level. In model (1), courses on starting a small business or funding sources had a negative impact on the pull factor, suggesting that these programs are not overly valuable to the businesses in our sample. Model (2) experienced similar results when using a combined variable for state and federal programs and courses.

Models (3) and (4) were the two logistic models. The use of mentors within the community appears to have a positive impact on both the percent of non-farm proprietors and the average income of non-farm proprietors. The use of high speed internet also appears to have a positive impact on the percentage of non-farm proprietors.

Overall, it is important for the community to have quality infrastructure, a qualified workforce, mentors, and an active Chamber of Commerce. It is even more important to have a combination of these services and resources for entrepreneurs.

Case Study

Case studies offer insight on factors that cannot be captured in an econometric model. They also offer more information and history than the survey can provide. Therefore, the communities selected offer different views and different methods of becoming an entrepreneurial community.

In 2005, the Southern Rural Development Center sponsored and hosted along with the help of the Oklahoma Cooperative Extension Service a round table listening session (Southern Rural Development Center 2005). At this listening session, the participants discussed resources and activities for entrepreneurial communities; the participants also identified 22 entrepreneurial communities in Oklahoma (Southern Rural Development Center 2005).

Four communities were selected for case studies: Cordell (southwest), Pryor (northeast), Sulphur / Davis (southern), and Woodward (northwest). These communities were selected because they are entrepreneurial in either or both senses of the term

"entrepreneurial community." They have all had to reinvent their economy, trust their leadership, and overall work together to make their community what it is today.

Case Study Results

The four communities are located in four very different locations in Oklahoma, with equally different defining characteristics. Cordell is located in southwest Oklahoma. There is not a Wal-Mart or a McDonald's in Washita County where Cordell is located. Cordell has been able to maintain a positive increase in their population over the past few years while the trend for the region has been decreasing. Pryor is located in the northeastern region of Oklahoma. Pryor has an immense amount of natural resources with water being one the most abundant. Pryor is also home to MidAmerica Industrial Park, the largest industrial park in Oklahoma and the largest rural industrial park in the United States. Sulphur and Davis are located in the southern region of Oklahoma. They also are known for their natural resources and National Park. Sulphur and Davis are also well recognized for their ability to put aside their differences and work together. Woodward, located in northwest Oklahoma, is well recognized as the trade center for the northwestern region of Oklahoma, southeast region of Kansas, and the northeast panhandle of Texas.

Cordell has had to continue to reinvent themselves in economic terms. The leadership in Cordell has the ability to gain the support of the community members. This was evident when the Main Street Organization was introduced. Some of the leaders describe it as, "everyone seemed to be moving in the same direction at the same time and at the same pace." This happened due to strong leadership. Entrepreneurial communities

are communities that grab the attention and support of the community members. Cordell is currently in the process of reinventing themselves again. The leadership of the mayor and other key individuals in the community are working together to identify a common vision for the future of Cordell.

There are many things to learn from the community of Cordell. The leadership of the community actively plans and identifies goals for the future. They also share these goals with the community members. This gains the support and enthusiasm of community members. The community works as a single entity to accomplish the common goal. The results are then shared and evident for everyone to take pride in the accomplishment.

Pryor demonstrates many characteristics of an entrepreneurial community. The city works closely with Mid America Industrial Park and has a strong, positive relationship with them. Mid America Industrial Park is outside of the city limits of Pryor. It is actually considered a separate entity. The City of Pryor and Mid America are both aware of this separation. They both choose to work together. They have a close relationship and understanding of each other's role. Even though they are separate entities, the both work together as one. They both share goals, information, and plans together. There is a strong understanding that Mid America handles the industrial recruiting and decision making. There is also an understanding of the role the city plays. In the end, both entities support one another.

Leaders in Pryor also understand the need to be active not just in Pryor or Mayes County but active on the state level. Leaders in Pryor understand the need to advertise their tourist attractions to the state of Oklahoma. They also understand the importance of

being part of legislation to improve the opportunities for residents and business owners alike in rural Oklahoma. Pryor is part of decision made effecting rural Oklahoma.

Sulphur and Davis have transformed their view of success. Prior to 2002, success was performing better than Davis or better than Sulphur. Although competition is healthy, this was not the case between Sulphur and Davis. The Initiative for the Future of Rural Oklahoma grant has completely changed the views of community members from both Sulphur and Davis. This grant allowed community members to understand the importance of their community, and view the potential benefits from working together. In this case, the entire county acts as an entrepreneur.

There is a certain type of thinking present where, "What is good for Sulphur is good for Davis, and what is good for Davis is good for Sulphur." This allows the two communities to combine their immense amount of natural resources and greatly increase their tourist attractions.

Woodward is a very informed and innovative community. They operate as a single entity. The Main Street Organization, the City of Woodward, the Chamber of Commerce, and the Woodward Industrial Foundation all come together to work together. They have recognized the importance of working together to accomplish their common goal. Many organizations have board members that serve on more than one board or committee. The Woodward Industrial Foundation board is strategically comprised of members that represent various businesses and organizations in the community. By including such a diverse dynamic of key individuals, more issues are covered, and more community members are involved. This is evident when the community passes a park project with 81 percent approval. They also strive to help other communities in the area.

Recently, Woodward donated a fire truck to the City of Gage. The community of Woodward believes in helping others in the area since they do and will continue to shop in Woodward.

The leadership in Woodward has worked diligently to diversify the economy. The Woodward Industrial Foundation has recruited a variety of industries to Woodward despite many challenges. The Chamber of Commerce and the Main Street Organization aid small businesses, many of which are retail oriented, in making their business successful. The City of Woodward also strives to support their businesses by reinvesting tax collections into the community. There is continual work done to improve the infrastructure for businesses and residents. The city is also active in recruiting and promoting restaurant growth in Woodward.

All four of the communities selected for case studies have had to rely heavily on their local leadership in order to grow and prosper. The selected communities have emphasized the importance of quality infrastructure, local finance, and local economic development organizations. These communities are currently starting or are well on their way to diversifying their economic base in the community. Many communities in Oklahoma rely on agriculture or oil production. These markets have had success and many memorable declines in the past. The selected communities are working diligently to making certain that declines in one industry does not have a negative affect on the entire economy of the community.

These communities have also taken note and capitalized on the natural resources available in their area. Pryor has immense amounts of water that is used in energy production. Sulphur and Davis have a National Recreation Area, a lake, campground,

and other amenities that attract tourists throughout the year. Cordell and Woodward both have open spaces, and Woodward has many windmills set up for energy production. Cordell has the space to grow and attract business growth.

The communities selected have all had overcome obstacles. They have all had to reinvent themselves and reinvent their economy over time. Some communities are further in that process than others, but they have all had to complete much strategic planning and decision making. These communities most of all have had to work together as one single entity as an entrepreneur.

Conclusions

Entrepreneurial communities can provide assistance and assurance for the future to struggling communities in rural Oklahoma. However, the movement towards becoming an entrepreneurial community can be quite challenging.

This research has indicated that various communities in Oklahoma currently possess entrepreneurial characteristics. The Oklahoma Social Indicator Survey of 2006 was utilized to determine what services and resources were available and being used by entrepreneurs in Oklahoma communities. Results from the survey indicated that there are small business owners who utilize many of the services and resources available in their communities; however, other small business owners were unaware of these services.

The quantitative portion of this research disclosed several key services and resources that communities can provide for their entrepreneurs. The OLS models conducted indicated that the presence of quality infrastructure, a qualified workforce, and a Chamber of Commerce all have a positive impact on a community's pull factor. When

the resources were combined into different groups, the group representing a plethora of services such as local financing, mentors, infrastructure, Chamber of Commerce, and high-speed Internet had a positive effect on attracting shoppers to a community. The logistic models further explained that mentors are important to for both breadth (measured by percentage of non-farm proprietors) and depth (measured by non-farm proprietors income) of entrepreneurship. A high school education also had a positive impact on the percentage of non-farm proprietors, and Wal-Mart even displayed to have a positive effect on non-farm proprietors' income. This is consistent with some recent literature suggesting that Wal-Mart may have some counteracting positive and negative influences for rural economies (Sobel and Dean, 2007).

The four case studies completed further described the services and resources offered to entrepreneurs in their communities. Many of these services and resources were parallel to those found important in the econometric models. Local financing, an active Chamber of Commerce, mentors, and quality infrastructure were all well represented in all four of the case study communities. The case studies also further described the entire community's approach of behaving as an entrepreneur. All four of the communities face different struggles. They all overcome their struggles, set goals, take risks, and reinvent themselves as a single entity.

There are many opportunities for future research in this particular area. The Oklahoma Social Indicator of 2006 displayed results proving that some business owners were not aware of the services available in their community. Therefore, this provides numerous opportunities for a need to increase information and awareness of services and resources available. The variable for wages was consistently negative in the econometric

models. The variable for wages used was the average wage per job. When looking at the state of Oklahoma, there are only seven counties that are above the state average for average wage per job. Close to 50 percent of those counties are metropolitan. Therefore, a possibility for further research would be to limit the analysis to strictly rural communities. More case studies could be conducted to get a better idea of exactly what services and resources are available in the communities. This could also provide more education and a broadening of information for Oklahoma rural communities.

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