MAPPING NORTHWEST ARKANSAS

A Network Analysis of the Entrepreneurship Community

A REPORT BY:

endeavor

WITH SUPPORT FROM:

WALTON FAMILY
FOUNDATION

ABOUT ENDEAVOR INSIGHT

Endeavor Insight is the research division of Endeavor that provides data-driven analysis and visualizations showing what makes entrepreneurial ecosystems thrive. Our research team of economists, data scientists, and policy analysts specializes in understanding the needs of high-impact entrepreneurs and evaluating the networks that enable them to scale up and pay it forward to the next generation of entrepreneurs.

ENDEAVOR INSIGHT STAFF

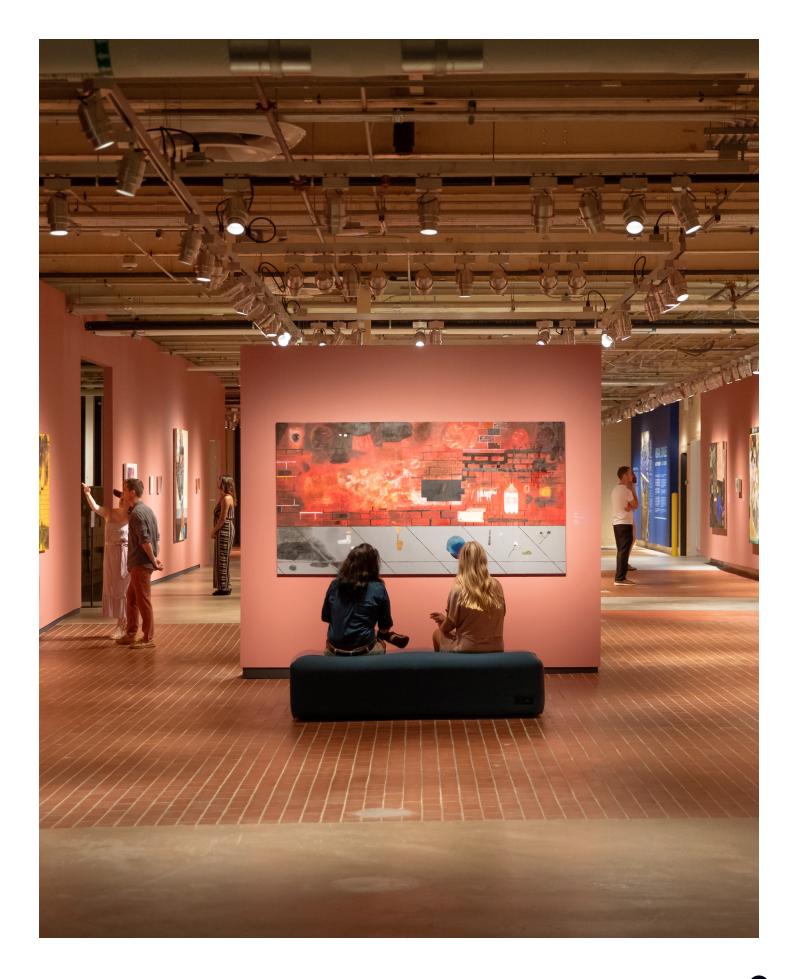
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We are a family-led foundation that tackles tough social and environmental problems with urgency and a long-term approach to create access to opportunity for people and communities.



I. Context and Opportunity

Endeavor Insight partnered with Endeavor Northwest Arkansas, serving the heartland of the United States, to study the local entrepreneurship ecosystem for tech-enabled companies. The purpose of the study is to provide insights into the sector's current state, evaluate its challenges, and highlight opportunities to better understand and support local tech entrepreneurship.

ABOUT THE DATA

The findings are based on more than 100 interviews with local tech entrepreneurs and participants in the ecosystem, including investors, mentors, support organizations, university officials, and service providers, and data collected on more than 120 companies. The interviews were conducted between March 2022 and August 2022.

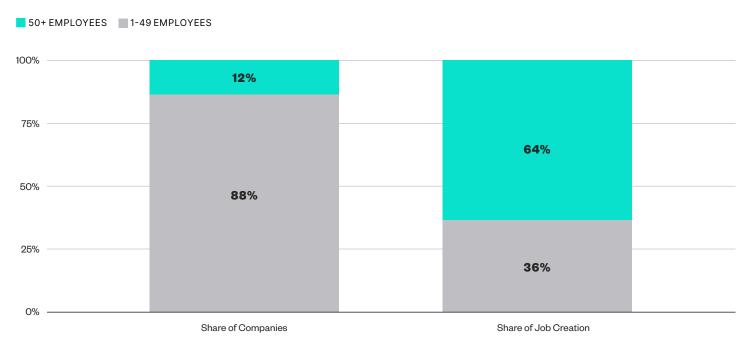
Northwest Arkansas (NWA) is one of the fastest growing metropolitan areas in the West South Central region of the country, with its population having risen by 24 percent between 2010 and 2020.1 This growth was accompanied by an increase in diversity, with the region's racially and ethnically diverse populations growing from less than 5 percent of the total in 1990 to over 29 percent in 2021.2 There is an opportunity to attract new talent to the region by leveraging the low cost of living and high quality of life, which are boosted by a thriving arts and culture scene, as well as abundant outdoor activities. Since the COVID-19 pandemic, NWA has become a destination for young professionals who are looking to have a better life balance by taking advantage of remote job opportunities.

Home to three of the most important Fortune 500 companies, Walmart, Tyson Foods, and J.B. Hunt, the region has bred a solid pool of talent in the corporate and consultation industries. Over the past two decades, entrepreneurial activity has increased substantially, heralding a rise in entrepreneurship support initiatives

focused on capital, talent, and support systems in the nascent ecosystem. However, Northwest Arkansas has lacked new entrepreneurial companies that have potential to scale. The pandemic further contributed to this slowdown, dampening the region's job creation and threatening the sustainability of small businesses.³

Positively, Northwest Arkansas' proximity to peer metropolitan areas like Tulsa and Kansas City can help the region become an entrepreneurial hub where founders could build a strong inter-city community, collaborate without competing for local resources, and replicate each other's successes.* Recently, Tulsa and Northwest Arkansas have increased community collaboration. This partnership is highlighted by the launch of 412 Angels (referencing the highway that connects the areas), which is promoted as "an opportunity to bridge our communities and advance our corridor together,"4 and in the decision by Canoo, an electronic automaker, to move its headquarters to Bentonville and build a software development center in Tulsa.⁵

JOB CREATION BY COMPANY SIZE CLASS IN NORTHWEST ARKANSAS



Note: Based on data from 76 active companies, where data was available.
Sources: Founder interviews by Endeavor Northwest Arkansas, Endeavor Insight analysis, LinkedIn, Crunchbase, company websites.

Focusing on the businesses that grow rapidly to 50 or more employees will do the most for the economy.

For Northwest Arkansas to become a hub and contributive regional partner, decision makers should seize the opportunity to better support its most promising companies. Focusing on companies that scale is important because they offer several benefits, including higher average wages and improved economic stability. Companies that scale to 50 or more employees account for less than 15 percent of local tech-enabled businesses in this study, but more than 60 percent of the jobs in the community, as the chart above illustrates.

While companies with fewer than 50 employees make up most of the ecosystem, it is the businesses that grow larger that can provide the most benefit. Previous studies from Endeavor Insight have shown how scaled companies pay higher average wages, are likely to keep growing once they surpass 50 employees, and can be more resilient during economic downturns.⁷

If more companies reach scale, it would not only add more higher-paying jobs and fast career development, but it could also contribute to attracting coastal capital and talent.

Founders interviewed in this study shared that one of the major obstacles they face is related to talent acquisition, saying that those with a tech background are the most difficult to recruit. As one founder said, "NWA should benefit from the remote movement, leaning into low cost of living and a pretty place to live. If we can build a high density of engineers, sales people, and other needed skills, more companies would be born here or even come here."

Founders claimed that other types of talent, like those with mid-level and managerial experience, do exist locally, but attracting them into the entrepreneurial ecosystem is still a challenge. Founders still lack the resources to be able to offer the salaries and benefits packages that would incentivize mid-level professionals to make a career shift from the corporate world, which seems less risky and more lucrative.

COMPANY HIGHLIGHT: ACUMEN BRANDS



In 2009, serial entrepreneurs John James and Terry Turpin founded Acumen Holdings, later rebranded as **Acumen Brands**. It was, for the region, one of the first large-scale automated warehouses, supporting more

than 10 online retailers in multiple verticals and soon became what they called the "e-commerce empire in Fayetteville." Acumen grew to become one of the region's largest employers, growing their company from five to more than 200 employees in five years.¹⁰

The success of Country Outfitter, one of several online stores under Acumen that specialized in southern lifestyle, gained them enough traction to attract institutional investors. By 2012, they secured \$10 million in investments from the leading venture capital firm in the Southeast, Noro-Morseley, and the national retailer Dillard's.

In an interview in 2018, James explained that they owed their success mainly to the entrepreneurial mindset they embedded in the company culture that aimed to empower their employees to start their own businesses. One of Acumen's successful spinout companies is **Acorn: The Influence Company**, a digital influencer marketing agency that uses data-driven insight to drive high return relationships. One of the largest

investment funds in the state, NewRoad Capital Partners, launched the business in 2014 in a 50-50 venture with Stephanie Funk, who previously managed Content and Social Media Marketing at Acumen. In 2022, Acorn announced a merger with New Engen, which in late 2021 had a significant equity investment by Insignia Capital Group.¹¹

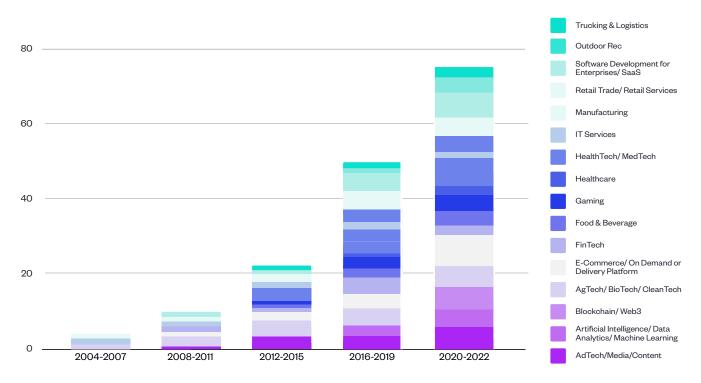
After Acumen Brands' second investment series, they secured an \$83 million investment from one of the leading international private equity firms, General Atlantic, to build a hyper-efficient fulfillment center. The ability of Acumen Brands to raise large rounds of capital from institutional investors at a time when founders considered this impossible set a precedent for future founders in NWA to dream bigger.

Acumen sold Country Outfitter in 2017 and closed shortly thereafter, but its founders have stayed active in the community. After Acumen, James started **Hayseed Ventures**, which invested in more than a

dozen startups including **DataRank** and **Menguin**, the latter moving to Northwest Arkansas after receiving the investment. Both companies were later acquired and those founders are still involved in the region today.¹²



CUMULATIVE GROWTH OF ENTREPRENEURIAL COMPANIES IN NORTHWEST ARKANSAS BY SUBSECTOR



Notes: Based on 76 active companies, where data was available. Sources: Endeavor Insight analysis, LinkedIn, Crunchbase, company websites.

The fastest growing sub-sectors are those with technology at the core of their business. Early in the ecosystem's development, the industries that dominated the region's growth belonged to more traditional industries like manufacturing and retail. These types of traditional industries, while valuable, tend to have lower projected growth and impact on economic outcomes compared to tech-enabled industries.¹³

After the 2008-2009 Global Financial Crisis, companies from other industries started to emerge, mainly those incorporating technology-based business models within those traditional industries, such as **Field**

Agent, a global B2B retail solutions company founded in 2010, which in 2022, acquired a mobile-first, distributed-workforce management company based in France.¹⁴ Another success story, Collective Bias, was founded in 2009 by Amy Callahan and John Andrews, and was one of the first shopper-focused digital and influencer marketing companies in the area. 15 Forbes named Collective Bias as one of the 25 Most Promising Companies in the United States and it was part of the Inc. 5000. The company was acquired in 2016 by **Inmar**, a commerce intermediary that leverages data analytics and technology to enable shopper engagement.16



Tech-enabled or purely technological companies are on the rise in Northwest Arkansas. Several SaaS and AI-focused businesses were founded between 2016 and 2019. Even though the pandemic affected the growth of such companies, these types of tech-enabled businesses experienced fewer setbacks than those in other industries. These include SupplyPike, a SaaS company founded in 2018 and focused on providing datasupported solutions and tools to retailers, Stonehenge Technology Labs, founded in 2019 with the mission to provide AI-based insights to CPG companies across their storefronts, warehouses and fulfillment centers, and **Ox**, founded in 2019 to utilize software enabled automation to improve supply chain operator efficiency.¹⁷ All three have raised millions of dollars in venture funding, but relied on capital from outside the region to lead and fill their rounds.

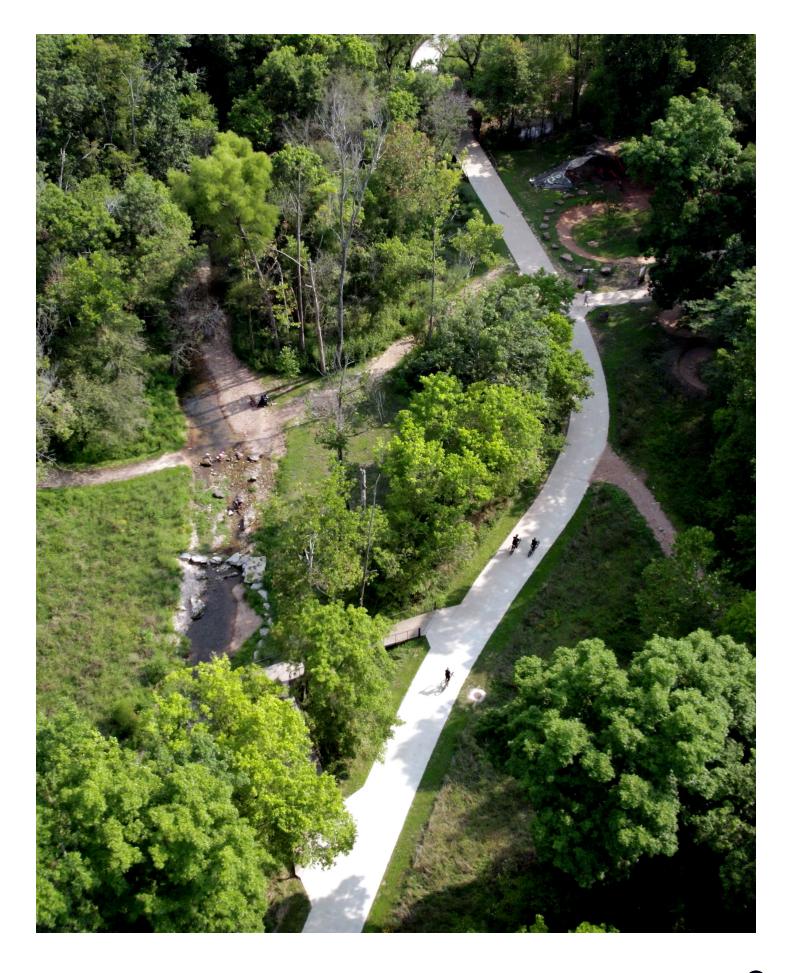
Other sectors that are not aligned to retail and supply chains are also leveraging Walmart's initiatives, particularly healthcare. 18

Companies like **NOWDiagnostics**, **Soda Health** and **Namida Lab** indicate the growing importance of the local healthtech sector.

Deep tech companies are also gaining prominence, particularly in Web3 services.

Deep tech companies founded since 2020 include **Byzantion** and **Mycelium Networks**.

A key step in ensuring the future of both established and nascent sectors is understanding the relationships that enable founders to scale and the potential challenges to growth. The future of Northwest Arkansas' relevance as a hub in the region depends on its ability to support these founders and retain the value that they create.



Network Analysis

Networks are important vehicles to transmit resources and information in a community. Network analysis helps trace the flow of people, capital, and information among entrepreneurs, their co-founders, employees, mentors, investors, and other stakeholders. To get a snapshot of the Northwest Arkansas entrepreneurship network development since 2004, Endeavor's local office interviewed more than 100 local founders, and Endeavor Insight analyzed the data of the connections among them.

The methodology looks at three types of relationships among founders and companies that illustrate how local founders take knowledge and other resources acquired from founding one firm and use it to help launch or grow another.

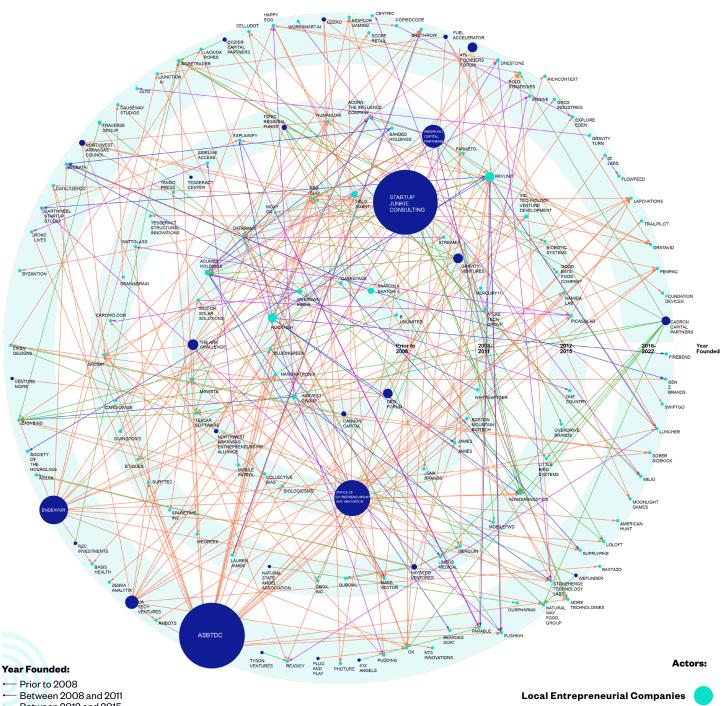
These are:

- 1. Former employment;
- 2. Serial Entrepreneurship;
- 3. Mentorship; and
- 4. Investment.

The network map on the following page shows entrepreneurial companies and support organizations and how they are connected to one another through former employment, mentorship, and investment. The size of the bubble is a function of the number of first-, second-, third-, etc. degree connections that the company and its entrepreneurs have to others in the network. Founders who have started multiple companies are represented by their most prominent company or organization.



NETWORK MAP OF THE ENTREPRENEURSHIP COMMUNITY IN NORTHWEST ARKANSAS



→ Between 2012 and 2015

← Between 2016 and 2022







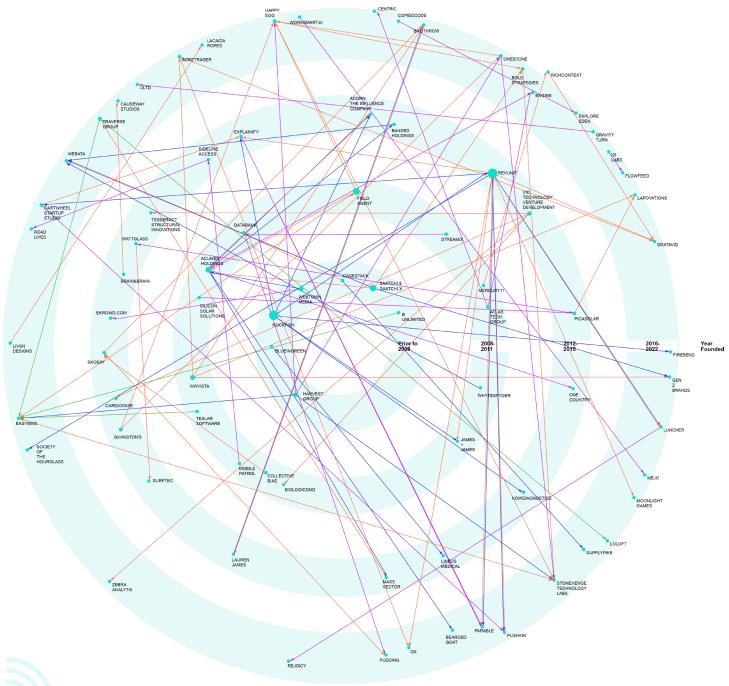
Connections:

- **→** FORMER EMPLOYMENT
- ► MENTORSHIP
- **→** ANGEL INVESTMENT
 - SERIAL ENTREPRENEURSHIP

Sources: Founder interviews by Endeavor Northwest Arkansas, Endeavor Insight analysis, LinkedIn, Crunchbase, company websites.

Note: The size of a circle is a function of the number of first-, second-, third-, etc. degree connections originating from the founders of a company. Founders are represented by their most prominent company or organization. Select organizations founded in years prior to the sampling frame were included if they had a significant influence on the network and they appear on the rings according to the year of a recent organizational event, e.g., funding or leadership change.

NETWORK MAP OF THE ENTREPRENEURSHIP COMMUNITY IN NORTHWEST ARKANSAS WITHOUT SUPPORT ORGANIZATIONS AND INSTITUTIONAL INVESTORS



Year Founded:

- ─ Prior to 2008
- Between 2008 and 2011
- Between 2012 and 2015
- Between 2016 and 2022

Local Entrepreneurial Companies



Actors:

Connections:

- **→** FORMER EMPLOYMENT
- **→** MENTORSHIP
- → ANGEL INVESTMENT
- SERIAL ENTREPRENEURSHIP

Sources: Founder interviews by Endeavor Northwest Arkansas, Endeavor Insight analysis, LinkedIn, Crunchbase, company websites.

Note: The size of a circle is based on the methodology in the full map on page 11. This is a modified network map to demonstrate what the network would look like without the contribution of support organizations and institutional investors. Entrepreneurial companies that appear on the full map, but are not connected to other entrepreneurs, have been removed. Select organizations founded in years prior to the sampling frame were included if they had a significant influence on the network and they appear on the rings according to the year of a recent organizational event, e.g., funding or leadership change.

Two important takeaways have emerged from the connections between entrepreneurs and organizations.

1. Entrepreneurship support organizations and investors are driving connectivity in Northwest Arkansas.

Connectivity in the ecosystem has grown quickly since 2008. However, this growth has primarily been driven by institutional actors, not entrepreneurs. Support organizations and institutional investors are providing more than two-thirds of all network connections. Among the top five largest bubbles that appear on the network map on page 11, only one is an active entrepreneurial company. The network map on page 12 demonstrates what the network would look like if this support system were to disappear.

One of the most influential organizations in the entrepreneurial ecosystem is Startup Junkie Consulting, which for this report also represents Startup Junkie Foundation, a non-profit consulting organization founded in 2008 by Jeff Amerine to support entrepreneurs through no-cost, one-onone consultations, events, workshops, and programs.¹⁹ Amerine is an active angel investor and a faculty member of the University of Arkansas, where he has taught entrepreneurship since 2009.20 Another is the University of Arkansas office of the Arkansas Small Business and Technology Development Center (ASBTDC), an industry-agnostic economic development program. In response to the pandemic, ASBTDC has since 2020 strengthened its team five-fold to focus on assisting entrepreneurs with business development and operational challenges. This was made possible with an increase in funding from the Walton Family Foundation and in partnership with the Northwest Arkansas Council.21

2. Founder-to-founder connectivity exists in NWA but could improve to further boost the ecosystem.

Previous research by Endeavor Insight has shown that entrepreneurs who have built large companies are among the most valuable economic resources in a community and that when entrepreneurs are more connected to other founders, especially those that have already scaled their own business, entrepreneurship communities grow and are more productive.²²

Strong local networks create the opportunity for knowledge exchange between entrepreneurs. Through the work of other successful investors, mentors, and former employers, upcoming founders gain access to knowledge, more connections, and resources that can help their businesses scale. Past Endeavor Insight research has demonstrated that founders who have strong networks — particularly mentors and investors who can help expand businesses — are more likely to scale their companies.²³

Support organizations can focus their efforts on building the infrastructure for these networks by promoting more founder-to-founder interactions, formal and informal mentorship programs, and connecting entrepreneurs to future investors. Likewise, those working to develop local networks could ensure that founders from underrepresented groups are included and elevated to leverage the growing diversity in the region's population. Great entrepreneurial talent can come from anywhere, and communities are stronger when they are more inclusive.

COMPANY HIGHLIGHT: REVUNIT



RevUnit is a successful example of how well-connected founders promote innovation and success. Founded in 2012 by Joe Saumweber and Michael Paladino, RevUnit is a technology studio dedicated to helping its clients improve

supply chain efficiency by leveraging data solutions. The company's success stems both from securing an important strategic partnership with Walmart as an early client and from expanding this success to work with several other Fortune 500 companies. ²⁴ In 2019, the company received a significant investment from Mountaingate Capital, a leading PE firm from Colorado. ²⁵

RevUnit is itself a spinout of the scaled company **Rockfish**, which was founded in 2005 by Kenny Tomlin and acquired by WPP Digital in 2011. According to Tomlin, "Rockfish was a great model of building and growing a business in NWA that inspired others to believe it was possible." At least five former employees of RevUnit have

founded tech companies of their own in the past three years.

One such company is **Cartwheel Startup Studio**, founded in 2021 by Josh Stanley, previously RevUnit's President. Cartwheel is creating B2B SaaS companies like **Pushkin**. In 2022, Pushkin raised a pre-seed round led by Tulsa-based Atento Capital, which also marked the first investment for 412 Angels.²⁶

In addition to producing spinouts, in 2020 RevUnit hosted the inaugural cohort of the Fuel Accelerator, an accelerator that brings startups from around the globe to the region and helps them become enterprise ready. 27 When asked about RevUnit's impact on the region, Paladino explained that his "hope is that RevUnit's growth supports the idea that Northwest Arkansas is a serious technology hub. We've proven the ability to scale a tech company and raise funds (both venture and private equity) while creating a great work environment for our team. This alone should give founders confidence that they can accomplish a lot in this region."



Breeding a new generation of "BEST" companies and more success stories will promote further ecosystem development and economic growth.

Previous research from Endeavor Insight highlights the characteristics of companies that make the largest contributions to local job creation and productivity growth. Businesses with the four traits outlined below benefit local economies in important ways.*

Big: Companies that grow to have 50 or more employees create the majority of new jobs and pay workers higher salaries on average.

Entrepreneurial: Businesses led by local entrepreneurs reinvest more in their communities and help other local companies to grow.

Super-Productive: Businesses in industries like advanced manufacturing, specialty research and consulting, and software generate more productivity per employee.

Tech-Enabled: Companies with more technology workers are projected to grow faster in future years.

"BEST" companies also serve as success stories that will set precedents in terms of attracting talent and feeding the supply of available capital locally so that more of the value created is retained in the region.



COMPANY HIGHLIGHT: ACRETRADER



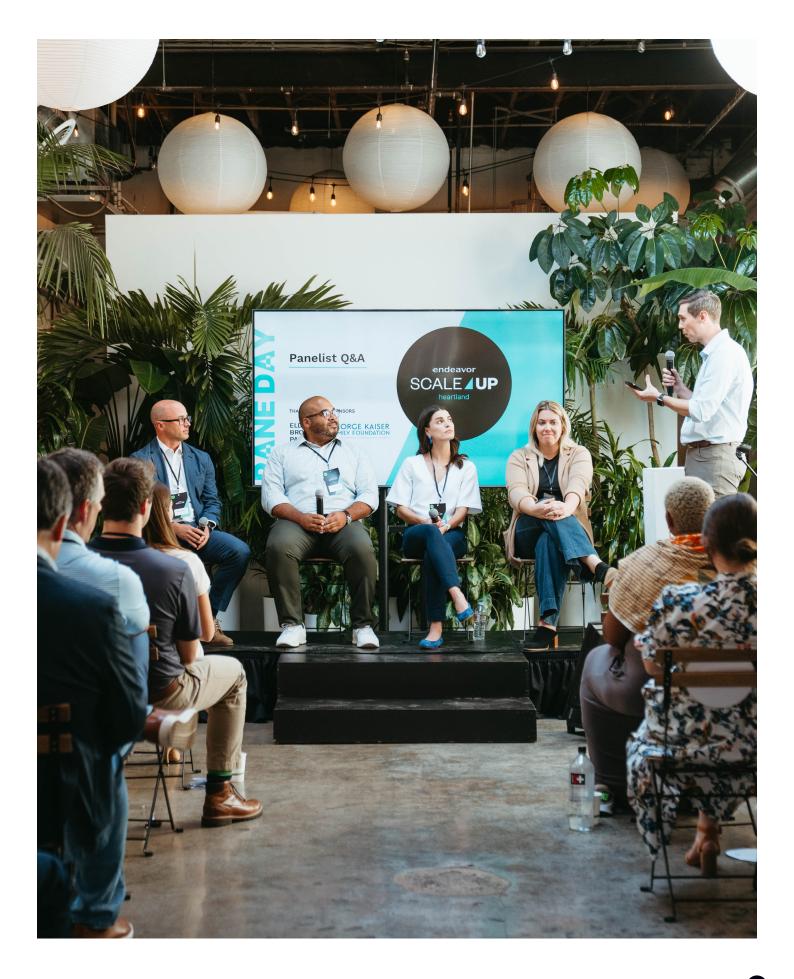
AcreTrader, founded by Carter Malloy, is a recent example of what "BEST" companies can do for the economy in NWA. Founded in 2018, AcreTrader is building an online investment platform to buy and sell land. The company has "increased its employee headcount by ten times, assembling a team of

experts at the intersection of finance, technology, and agriculture."²⁸ Such a heavy acquisition of talent, backed by its leadership's decision to provide in-person employment, cannot currently be supported by the local talent pool. AcreTrader is now recruiting high-quality talent into the region. Such an influx of talent would increase the potential to generate employee spinout companies whose founders decide to permanently relocate.

Overcoming a lack of capital in the region, AcreTrader has raised approximately \$80 million in venture capital, mostly from outside the region, from investors including Drive Capital and Anthemis Group. These large scale events draw the attention of other investors who may have previously been unfamiliar with the region. As one founder stated, "when AcreTrader is successful (raising an oversubscribed Series B), I receive calls from investors looking to get into my company's round."

As the company continues to grow, it has the potential to have a significant impact on the region through employee spinout companies, mentorship, and capital to other founders in the ecosystem.





Recommendations

Northwest Arkansas has the opportunity to support its most promising entrepreneurs and coordinate regionally to become more competitive. As this analysis shows, the local entrepreneurship community already benefits from a strong, interconnected network supported by local accelerators, associations, and institutional networks. As the network continues to expand, it is crucial to focus on the fastest-growing companies with the most potential to benefit from supporting the local economy. Companies that scale to the size of 50 or more employees and those operating in high-value sectors can best contribute to establishing Northwest Arkansas as

a regional hub, leveraging experience from more established industries and corporations and its high quality of life.

The recommendations in this section aim to provide a guide for everyone who believes in the importance of entrepreneurship and the potential of Northwest Arkansas to develop the next generation of "BEST" businesses and succeed as a regional hub.





Take action to help more businesses reach scale and continue to grow.

Decision makers and support organizations should channel resources to support scaleups or companies with the most potential to scale. While support systems already exist, resource providers should act quickly to address key barriers that prevent later stage companies from growing. Rather than focusing solely on a large number of startups in a city, decision makers should focus on the growth of high-value companies in this small segment that represents the community's strongest entrepreneurial potential. This strategy is supported by a local investor and advisor, who told Endeavor Insight that "We need to filter resources to the big bets." Companies like JB Hunt, Tyson, and Walmart are testaments to the impact

"BEST" companies have on transforming a region, but for ecosystems to continue to expand, there needs to be a continuous stream of new "BEST" companies in upcoming high-value industries.

In interviews, founders expressed their belief that more exits will attract resources needed for businesses seeking to scale. Founders noted that success stories will help attract the attention of more institutional investors to the region. As one founder stated, "We need just a couple of exits, one or two that will inspire people to take the leap."



Promote a "give-back" mentality to strengthen the ecosystem and accelerate its development and growth.

Entrepreneurial networks develop when companies scale up, and founders pay it forward. Decision makers should encourage more successful founders to share their knowledge and give back through mentorship and angel investment. As one founder noted, "We need access to entrepreneurs who have been successful." Endeavor Insight validates this by finding that companies are two to three times more likely to scale if they are connected to other experienced entrepreneurs through mentorship, investment, or prior employment.²⁹

Decision makers and support organizations could also invite successful founders to participate in other capacities, such as contributing to support organization

program design, sitting on advisory boards, making investment decisions, or advising on legislation.* This is important because those founders have firsthand entrepreneurial experience and understand the challenges that new founders face.

One warning with this recommendation is that due to the relative infancy of Northwest Arkansas' entrepreneurial community, the call to give back can fall to a limited number of experienced founders. This risks burnout and disengagement from the very individuals who can have the most impact on the region. Therefore decision makers should collaborate to avoid any one founder from feeling overloaded with opportunities to participate and founders must be willing to say no to invites that are not proper fits.

^{*} Endeavor Insight's guide on "Self-Propelling Ecosystem Development" has more information on these activities. Go to endeavor.org/self-propelling-ecosystems for more information.



Accelerators, incubators, and networks should continue to help founders address barriers to scale by listening to their specific needs.

The way to most effectively address the needs of the ecosystem is to listen to the founders' specific needs and challenges. Founders interviewed in this study shared challenges around access to capital, talent, and founder-to-founder networks. Entrepreneurial support organizations should focus their efforts and resources in this direction.

When asked about the specific types of support available and efforts lacking in the ecosystem, founders mentioned that support organizations could help by providing more opportunities for founders to connect with more experienced entrepreneurs in the area. Founders also reported a specific need for more formal mentorship programs.

Support organizations can also take coordinated action towards showcasing successes across the region. Too often stories of successful entrepreneurial activity go unnoticed or untold and key participants in the ecosystem could support communicating these stories to a wider range of audiences. This could include further coordination among support organizations, trade associations, and major media outlets to identify and disseminate content, as well as engagement activities with potential outside investors and international networks.



Coordinate regionally to access resources from other nearby cities.

Decision makers work with their counterparts in nearby cities to build up complementary resources and lower barriers that affect entrepreneurs throughout the region. Support organizations should work to foster connections between the "BEST" entrepreneurs across multiple cities to take advantage of the region's capacity for local mentorship and investment.³⁰

Though relationships are being developed between Tulsa and Northwest Arkansas, there are opportunities to further expand regional collaboration. Kansas City, for example, is roughly 200 miles from Bentonville and is ranked as the 11th best startup city in the Midwest based on factors such as number of local investors, size of raises and exits, and quality of talent.³¹ There are 72 active venture-backed companies with over \$175 million raised from KC-based investors in 2022.³²

Identifying opportunities to collaborate with Kansas City would unlock further resources for local founders, including capital and experienced entrepreneurs, increasing the likelihood of scaling successfully.



Connect women and minority founders to strong networks and high-quality mentors.

Founders interviewed in this study were predominately men and white with only 13 percent and 12 percent being a woman or a minority founder, respectively. Helping more women and founders of color to scale their companies is critical for addressing the lack of diversity in entrepreneurship.

As one founder noted, too often in Northwest Arkansas entrepreneurs can feel "over-mentored, and underfunded." While there is no single solution to the different types of challenges these founders face, having a strong network made up of groups of expert supporters can increase the resources and expertise that founders can use to overcome their obstacles, specifically around capital.³³



Implement new programs that introduce corporate professionals to the entrepreneurial ecosystem.

Almost half of the entrepreneurial companies included on the network map had one or more founders who had previously worked at Walmart, JB Hunt, or Tyson, or at a vendor or service provider supporting one of those companies. These established companies act as a recruitment vehicle to bring new talent into the region, creating an opportunity to build a network with a diverse set of skills and backgrounds to leverage in the future, and providing experience for needed startup skills, like how to manage financial statements or a team.

In interviews, founders discussed the advantage of having multiple established companies in the region and the need to further expose professionals there to the

entrepreneurial ecosystem. According to one founder, "We need to create a path for professionals, who are mid-career, to leave corporates and enter the startup ecosystem. It's a slow climb if we only have 20-year-olds starting businesses."

Introducing programs or opportunities to engage mid-career professionals in the ecosystem through education, mentorship, advisory, or investment, will increase the likelihood of those individuals making the jump to found their own company or work for a new venture. As one founder noted, "Talent is better here than in other regions because our corporations hire employees who would be great startup employees, but those individuals haven't been approached with the possibility."

Methodology

Sampling Frame:

Companies were considered "targets" and included in the sampling frame if they met the following criteria:

1. The company is local.

Companies were included if they were: a) founded in Northwest Arkansas, or b) currently headquartered in Northwest Arkansas after they were founded elsewhere. This report specifically included companies founded or headquartered at one of four cities within Northwest Arkansas: Fayetteville, Springdale, Rogers, and Bentonville. Target companies also included businesses that have closed after being founded or headquartered in the region, or those that have been acquired after being founded or headquartered in Northwest Arkansas. In select cases, exceptions were made when the official headquarters of the company was outside the country for legal and other reasons, but the majority of operations were based out of Northwest Arkansas and their founders made contributions to the local ecosystem.

2. The company fits the definition of a technology company.

Technology companies are defined as forprofit businesses whose primary activity could be described as either:

- Software development for enterprises (e.g., CRM and logistics systems, security software, outsourced software and app development that had a minimum of 30 employees), or consumers (e.g., mobile apps, digital gaming), or
- E-commerce: Internet-based or mobile-based retail or services (e.g., e-commerce, delivery platforms, content platforms, online lenders), or
- Electronic hardware design and manufacturing (e.g., data storage components, IoT devices, etc.), or
- Other tech-enabled businesses, considered on a case-by-case basis where substantial operations relate to technology (e.g., retail or manufacturing that utilizes tech-enabled business models for reaching/serving customers).

This definition excludes firms for whom software development is a secondary activity, such as consulting firms, graphic design firms, BPOs, etc., as well as

businesses in which internet and mobile-based platforms are secondary platforms, such as print newspapers and brick-and-mortar retail stores, and companies for whom the creation of electronic hardware is a secondary activity, such as car manufacturers.

3. The company is entrepreneurial.

Entrepreneurial companies are for-profit companies started by individuals. They exclude businesses that began as either government entities or local divisions of corporations based in other cities.

4. The company was founded within the sampling time frame.

Companies were included if they were founded between 2004 and 2022. Select support organizations were also included if they had major influence on the region and had a significant event, such as major funding or leadership change, during the study's timeframe.

Data Collection:

The data collected for this project comes primarily from surveys and interviews conducted by Endeavor Northwest Arkansas with local entrepreneurs and stakeholders.

This study began by identifying "VIP entrepreneurs" and other stakeholders who had an in-depth perspective on the sector. VIP entrepreneurs selected for interviews were identified based on:

- A) Scale i.e., the current largest companies in the sector, or
- B) Influence i.e., companies that have made large exits, received large investments, or were otherwise noteworthy or influential.

The responses helped characterize the relationships between founders and establish a list of the sector's most "influential organizations," i.e., organizations with outsized influence. They also provided critical data on the challenges, network characteristics, and subsector dynamics that helped inform later analysis.

The resulting primary company list formed a basis for the study, along with additional companies identified through other sources including databases such as Crunchbase and PitchBook, as well as the portfolio companies of investors and entrepreneurship support organizations operating in the city. Only target companies moved forward for further investigation, i.e., those fitting the aforementioned criteria. Entrepreneurs from the target list received invitations to set up an interview via video conference. This mass outreach campaign used standard questions, but the interviews were adapted as needed to be more conversational.

In order to ensure that the company list was comprehensive, a secondary list of companies was compiled from those mentioned in the interviews and surveys that were not already on the primary list. The secondary list included additional companies sourced from the portfolio companies of those associated with the new mentions, and new companies found on LinkedIn while collecting data on entrepreneurs and companies. These secondary targets then received invitations to complete interviews. Additional data was included on investments and support organization portfolios.

Network Analysis:

Previous research by Endeavor Insight has found that there are four main connection types among entrepreneurs that drive the growth of an industry. These are:

- 1. Former employment;
- 2. Mentorship and other types of support;
- 3. Investment; and
- 4. Serial entrepreneurship.

The edge list of connection data informed all subsequent network analysis and created the network map visualizations.

For all network analysis, each founder was assigned to only one company or organization. Where an entrepreneur had founded multiple companies, his or her most prominent company represents his or her influence in the analysis and on the map. This was based on an index of founding date, number of employees, total investment, and exit sizes. Where an entrepreneur had

founded an investment firm or support organization, it was the company entity that took precedence (if they founded one), followed by the founder's investment firm, followed by the accelerator or support organization.

The size of an organization's influence in the network was based on directed closeness centrality for unconnected graphs. In other words, the size of an organization was a function of the number of first-, second-, third-, etc. degree connections that the organization and its entrepreneurs had to others in the network. All connections on the map were weighted equally. Financials and employee counts did not factor into an organization's centrality.

Companies were only included in the analysis if it was possible to identify their founding year. Companies that were no longer operating were included in the analysis if it was possible to find enough data to target them. For companies that were acquired, the number of employees at the time of acquisition was used.

Limitations:

Omitted variables may have played a role in sampling, creating bias that would otherwise expose gaps in the research process. The study's interview process, verification, and analysis procedures were meant to offset any adverse effects. If gaps in or misinterpretations of the data were revealed during the analysis, the map and results were corrected. While efforts were made to be as complete as possible in data collection by using a mixed methodology for data gathering and a detailed respondent verification process, the observed data used in this study is only a highly developed representation of the entrepreneurship network in each community and may omit certain data or attributes.

Confidentiality:

Endeavor maintains confidentiality, and collected data is accessible only to Endeavor and its research partners.

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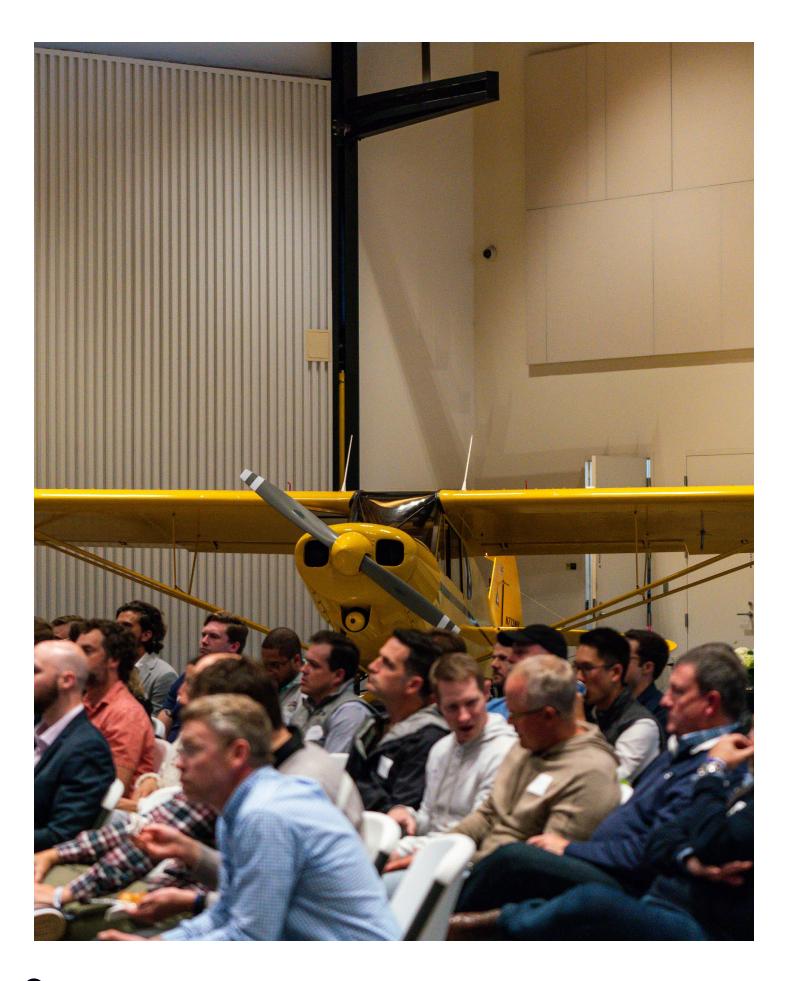


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