

SCALING UP SHIPPING AND LOGISTICS ENTREPRENEURSHIP IN SOUTHEAST MICHIGAN

**An Evaluation of the Region's Shipping and
Logistics Entrepreneurship Community**

A REPORT BY:

endeavor
INSIGHT

**PART OF A SERIES ON SOUTHEAST MICHIGAN'S
COMPETITIVE ADVANTAGES IN ENTREPRENEURSHIP**

ABOUT ENDEAVOR INSIGHT

Endeavor Insight is the research and policy division of Endeavor, a nonprofit organization with a 20-year history of supporting high-impact entrepreneurs around the world. Our team of economists, data scientists, and policy analysts provide data-backed insights on entrepreneurship and its contribution to economic development. We specialize in understanding how entrepreneurship networks can drive job creation and inclusive growth. We partner with organizations that support entrepreneurs, including foundations, multilateral agencies, and corporations.

The methodology utilized in this study builds on previous Endeavor Insight research supported by the Omidyar Network, the Kauffman Foundation, and the Heron Foundation. The findings summarized in this report are drawn from interviews with more than 20 shipping and logistics founders operating in Southeast Michigan, as well as secondary data on over 100 shipping and logistics businesses. In addition, the team analyzed secondary data on more than 35 founders in the sector.

ENDEAVOR INSIGHT STAFF

Leah D. Barto
Ana Paula Gil
Marine Fujisawa
Alejandro Noguez-Ibarra

Martin Pickering
Hamza Shad
Divya Titus

ADDITIONAL CONTRIBUTORS

Maha AbdelAzim
Penmai Chongtouna
Jin Woo Chung
Rhett Morris
Lili Török

CONTACT

For more information about Endeavor Insight, contact Leah D. Barto at leah.barto@endeavor.org.

SPECIAL THANKS

The authors of this report would like to thank their colleagues at Endeavor including Diana Callaghan, Maria DeLorenzo, Luisa Fajardo, Adrián García-Aranyos, Antonio Lück, Dustin Poh, and Linda Rottenberg, as well as team members at the William Davidson Foundation who provided valuable feedback, especially Lisa Baragar Katz and Darin McKeever. A number of research analysts were also critical to the project's success, including Maria Jose Fernandez-Concha and Mariam Khan.

THIS RESEARCH WAS MADE POSSIBLE BY FUNDING FROM THE WILLIAM DAVIDSON FOUNDATION.

The William Davidson Foundation is a private, family foundation established to honor its founder and continue his lifelong commitment to charitable giving, advancing for future generations the economic, cultural and civic vitality of Southeast Michigan, the State of Israel, and the Jewish community.

Executive Summary

In early 2019, Endeavor Insight completed a study with support from the William Davidson Foundation that identified six sectors that make up Southeast Michigan's competitive advantages in entrepreneurship.* Shipping and logistics was one of the sectors identified as a local strength.† This report revisits that research to identify strategies for furthering the growth of these businesses. Data collection was conducted before the COVID-19 crisis, but the findings have been presented so that they are especially relevant to ongoing economic recovery efforts.

Southeast Michigan needs to diversify its economy and leverage the region's competitive advantages in entrepreneurship.

The COVID-19 crisis had an immediate impact on shipping and logistics across the globe and in Southeast Michigan. Despite challenges presented by the crisis, entrepreneurial shipping and logistics companies played an important role in relief efforts and remain important to the local economy. This report provides information on how decision makers can support the continued growth of those types of local companies and shares three major findings:

1. The shipping and logistics sector is closely tied to the region's strength as an automotive manufacturing hub, but this puts the local economy at further risk.

The shipping and logistics sector grew from Southeast Michigan's regional assets. As the region has evolved as a center of automotive manufacturing, the availability of skilled talent and the exchange of knowledge with the "Big Three" car companies benefited the development of the sector. The region's geographic position as an international trade hub has also contributed to its growth. Although the COVID-19 crisis exposed Southeast Michigan's continued dependency on the automotive industry, local entrepreneurial shipping and logistics companies are not entirely tied to the same fate.

2. Helping more shipping and logistics companies grow would lead to several economic benefits.

The industry is made up of a range of companies with distinctive traits that can offer different economic benefits. Traditional transportation and warehousing companies create jobs for greater proportions of the population, while high-value and tech-enabled companies increase local productivity and offer higher wages. Companies that scale are key to

ongoing job creation. Those that continue to grow by serving new customers can help to reduce Southeast Michigan's reliance on the automotive industry.

3. Shipping and logistics founders face significant barriers in growing their companies.

Endeavor Insight asked local founders about the challenges they face. Access to capital was the primary obstacle that entrepreneurs noted when scaling their shipping and logistics businesses. Access to talent was also frequently cited, particularly for technical talent in specialty areas. Another challenge that Endeavor Insight identified is the low level of technology adoption among older companies.

An analysis of the relationships among founders showed that mentorship was much lower than what is typically seen in productive entrepreneurship communities, and only a few founders had previously worked at a local shipping and logistics company before starting their own. Instead, many gained experience and built important relationships at related automotive and manufacturing companies. While this underscores the importance of the automotive industry as a training ground and its influence on the network, it limits options for entrepreneurs who do not have those contacts.

There are several strategies that decision makers can follow to leverage shipping and logistics as one of the region's competitive advantages.

The following four recommendations were developed as a practical guide for policymakers, investors, and entrepreneurship support organizations.

Recommendation 1: Support local companies as they navigate near-term challenges.

The most resilient shipping and logistics companies will be those that are flexible, efficient, and responsive. Decision makers can offer support

* The analysis for Southeast Michigan in this report are based on the following seven counties: Livingston; Macomb; Monroe; Oakland; St. Clair; Washtenaw; and Wayne. Where county-level information was unavailable, data for the Detroit-Warren-Dearborn and Ann Arbor metropolitan statistical areas was used, which includes Lapeer County and excludes Monroe County. Endeavor Insight's research on the region's competitive advantages in entrepreneurship identified six groups of larger, high-value, entrepreneurial companies operating in a similar industry and given geographic area. These are consulting firms, software companies, lending-based businesses and financial services firms, shipping and logistics businesses, marketing and branding agencies, and specialty food and beverage manufacturers. For more information, please see the report titled "Southeast Michigan's Competitive Advantages in Entrepreneurship" available at endeavor.org/semi-cae.

† Shipping and logistics businesses are companies that offer transportation of passengers and cargo, as well as warehousing and logistics management. For the purposes of its research, Endeavor Insight measures entrepreneurial productivity by comparing the number of employees at each company. This metric was selected from the set of correlated measures of entrepreneurship productivity because it was both widely applicable (e.g., not all shipping and logistics businesses require outside capital) and was the metric that founders were most willing to share during interviews.

to help local companies stay competitive as they reconfigure processes to meet new demands.

Recommendation 2: Focus on founders who wish to adopt new innovations and those already creating new technologies.

This includes helping legacy businesses automate their processes, and offering financial and other support to entrepreneurial companies that are developing new technologies, especially those that can benefit the local sector.

Recommendation 3: Create opportunities for knowledge exchange between entrepreneurs and within networks of other influential organizations.

Decision makers should leverage the existing platforms offered by prominent universities for their alumni and the existing groups of former employees at local corporations to help connect successful entrepreneurs and up-and-coming founders from the same circles.

Recommendation 4: Facilitate global connections for accessing additional resources.

Entrepreneurs who build stronger networks outside their immediate local area can expand the reach of their services, gain diversity of thought to address their challenges, and identify potential talent to fill more specialized roles.





INTRODUCTION:

Southeast Michigan Needs to Diversify Its Economy and Leverage the Region's Competitive Advantages in Entrepreneurship.

In 2019, with support from the William Davidson Foundation, Endeavor Insight scanned the Southeast Michigan region to identify its competitive advantages in entrepreneurship.¹ That exercise examined certain types of companies that are closely linked to important outcomes in cities, such as job creation and higher productivity. The process involved identifying groups of businesses that employ 50 or more people and operate in high-value industries.

This research revealed six sectors that are more prevalent in Southeast Michigan than in the rest of the United States on average, giving the region a competitive edge.* These sectors are shipping and logistics, software, specialty food and beverage manufacturing, lending and financial services, consulting, and marketing and branding. The results suggested that decision makers can leverage high-growth companies in these sectors to diversify the local economy. The report called for additional support for these businesses, since they have the greatest capacity to create large numbers of local jobs. There is also evidence from the aftermath of the 2008 Financial Crisis that companies like these tend to be more resilient in times of crisis because they shed fewer employees.²

The shipping and logistics sector is one of Southeast Michigan's competitive advantages in entrepreneurship.

Endeavor Insight researched the local shipping and logistics sector to identify the specific benefits that companies within this sector offer the economy and to provide guidance to decision makers on supporting the continued growth of the sector.

Shipping and logistics companies, for the purposes of this report, are businesses that offer transportation of cargo, as well as warehousing and logistics management. This includes subsectors such as third-party logistics companies and supply chain management platforms that leverage advances in machine learning and artificial intelligence (AI) technologies.[†]

In 2019, there were over 100 shipping and logistics companies founded or headquartered in Southeast Michigan. Together, these firms have employed over 11,000 people. Nearly 40 percent of the local companies have scaled to employ 50 or more people. This puts Southeast Michigan above the national average in terms of the proportion of shipping and logistics companies that have scaled.³

Endeavor Insight interviewed more than 20 local shipping and logistics founders about how they built and scaled their companies and what challenges they faced along the way. Researchers also analyzed the educational and work histories of over 35 founders and evaluated the network to identify opportunities to better support entrepreneurs.

The COVID-19 crisis had an immediate impact on shipping and logistics across the globe.

Shipping and logistics companies were deeply affected by the COVID-19 crisis. Across the globe, these businesses were forced to reduce their operations, especially as large export-driven economies such as China enacted travel restrictions. This curtailed manufacturing and disrupted supply chains. Other nations followed, instituting varying national and regional lockdowns, which hindered trade flows. At the onset of the crisis in March 2020, ocean freight and air freight fell by an annualized 10 percent and 19 percent, respectively.⁴

Most governments were quick to introduce policies to support the sector, including measures to declare shipping, logistics, and ports essential services. Although the industry continues to recover, many businesses remain vulnerable.⁵ Small- to medium-sized firms have been hit hardest, because they do not always have the resources or staff to follow health guidelines, such as disinfecting all deliveries and shipment containers.⁶ Larger companies, such as DHL and CEVA, have been able to continue functioning, but many declared force majeure in spring 2020, which

* For more information, see the Endeavor Insight report titled "How Cities Can Identify the BEST Businesses for Local Economic Growth" available at endeavor.org/best-businesses.

† Supply chain management companies offer full-service packaging and labeling, quality inspections, and may even assemble and rework different products for manufacturers. As for machine learning and artificial intelligence, these are related technologies that rely on computers learning from their own experience to inform future decisions and tasks. Machine learning comprises the specific programs and algorithms computers use to develop and learn from these experiences, while AI is a broader concept of computers developing an "intelligence" from these experiences that simulate human thinking.

freed them of contractual obligations.* Third-party logistics companies found new areas of demand, especially when they were able to adapt to new safety protocols and leverage alternative modes of transportation such as repurposed passenger planes.⁷

Within the United States, most airports were kept open to cargo companies despite widespread restrictions on passenger flights. Many state and city governments

also partnered with third-party logistics companies in their response to the virus.⁸ In Detroit, the Michigan Department of Transportation and Logistics waived weight restrictions for trucks supporting COVID-19 relief efforts.⁹

Prominent shipping and logistics companies have played an important role in COVID-19 relief efforts in Southeast Michigan.

As demand surged for shipping and logistics around COVID-19 relief and the delivery of essential goods, several local companies stepped up to help. **LLamasoft**, an AI-based supply chain analytics software company based in Ann Arbor, introduced a dedicated COVID-19 response service center to help customers restore operations after virus-related delays.¹⁰

Another company involved in COVID-19 relief efforts is Novi-based **Lineage Logistics**, one of the world's largest cold storage warehousing and logistics firms. The company is focused on frozen food distribution chains and has continued to expand its operations throughout the pandemic.¹¹ It committed \$5 million to delivering 100 million meals in response to COVID-19.¹² In the second half of 2020, Lineage Logistics started to focus on "ultra-cold chain" logistics for pharmaceuticals, with an eye on supporting the COVID-19 vaccine efforts.¹³

Despite challenges presented by the COVID-19 crisis, entrepreneurial shipping and logistics companies remain important to the local economy.

Although this research was conducted before the onset of the COVID-19 pandemic, the depth of the crisis makes the findings more relevant as decision makers look for ways to strengthen Southeast Michigan's economy. The pandemic's full impact on the shipping and logistics industry remains uncertain, but by March 2021, larger, tech-enabled companies in the industry appeared more resilient and indispensable to the recovery efforts. A

January 2021 report forecast that global freight would grow steadily by 4 percent through 2026¹⁴, and that North America's logistics market would grow by 2.8 percent through 2024.¹⁵

With this outlook in mind, entrepreneurial shipping and logistics companies will continue to play a critical role in Southeast Michigan's economy well after the pandemic. The following pages share major findings that identify opportunities to better support entrepreneurs in this sector.

* Force majeure clauses are contractual clauses which alter parties' obligations and/or liabilities under a contract when an extraordinary event or circumstance beyond their control prevents one or all of them from fulfilling those obligations.

CONTEXT:

The Shipping and Logistics Sector Is Closely Tied to the Region's Strength as an Automotive Manufacturing Hub, but This Puts the Local Economy at Further Risk.

Shipping and logistics grew from Southeast Michigan's regional assets.

Southeast Michigan has long been a center of the automotive industry as well as an international trade hub, which enabled the growth of the shipping and logistics industry. However, the region's continued dependence on the automotive sector presents a risk to the local economy, as has been apparent in periodic cycles of decline in that sector.

Southeast Michigan's position at the center of the NAFTA trade pathway between the United States and Canada has enabled Detroit to become the 8th largest freight hub in the United States, and Port Huron the 11th.¹⁶ The region also has access to Canadian seaports and is within a 500 mile radius of nearly half of all U.S. and Canadian markets.¹⁷

Shipping and logistics in Southeast Michigan has developed into a large industry with multiple subsectors, each with its own role in bolstering the region's economy. These can be defined as:

- 1. Transportation Services.** Companies such as airlines, trucking, and shipping operations that transport goods across large distances.
- 2. Supply Chain Services.** Firms that offer full-service packaging, labeling, and quality inspections, and may also assemble and rework different products for manufacturers.
- 3. Warehousing and Fulfillment Services.** Companies that primarily store, receive, repack, and catalog material from suppliers or customers.
- 4. Logistics Services.** Businesses that distribute client-owned inventory, supplying a full range of solutions for the business-to-business (B2B) marketplace.
- 5. Other Innovative Technology Services.** Companies that are developing new technologies for transportation or shipping and logistics solutions. Such technologies include autonomous vehicle sensors, machine-learning algorithms, and artificial intelligence to make supply chain and logistics management more efficient.

Southeast Michigan's history as a center for automotive manufacturing benefited shipping and logistics.

In Southeast Michigan, the shipping and logistics industry emerged from the region's automotive manufacturing sector, and its proximity to the area's flagship industry remains a considerable asset for shipping and logistics founders.¹⁸ In 1903, Henry Ford founded Ford Motors in Detroit. General Motors (GM) followed five years later, and by 1925 the "Big Three" automotive companies — Ford, GM and Chrysler — were all headquartered in Southeast Michigan. By 1950, Detroit had more than 296,000 manufacturing jobs.¹⁹

As the automotive industry grew and delivered more complex products, the companies had to create more efficient business processes. Because of this need, automotive manufacturers were the first to adopt automation and create efficient supply chains.²⁰ The introduction of these new business practices and technologies spilled over into other surrounding industries, one of which was shipping and logistics.

As these industries evolved, so did the availability of skilled talent in the area. Michigan has the highest concentration of industrial and mechanical engineers in the United States.²¹ Two of the top five U.S. universities known for supply chain and logistics programs are now located in Southeast Michigan. U.S. News & World Report ranked Michigan State University's supply chain and logistics program first in the nation and the University of Michigan's program fifth in 2019.²² In addition to feeding talent into the region's automotive manufacturing industry, many of these programs are also now producing the technical talent demanded by companies in supply chain management and other innovative services.

Shipping and logistics founders have benefited from exchanging knowledge with the automotive industry.

The exchange of industry knowledge has helped to strengthen the capabilities of shipping and logistics companies. This is particularly the case with developments in supply chain optimization coming from the Big Three automotive companies. The concentration of overlapping industries in Southeast

Michigan is an advantage that many local shipping and logistics founders cited when interviewed. The proximity to the automotive industry enables them to gain firsthand knowledge of optimal supply chain and logistics practices that they can transfer to their own businesses.²³ As one founder said, “Best practices have been learned from the automotive supply chain, which has been super helpful in understanding its application in our own company.”²⁴ This pattern is reflected in other studies on innovation, where former employees of big automotive manufacturers often create their own businesses that adapt and improve upon patented innovative technologies and business practices.²⁵

David Salazar Yanez is one such founder. Yanez first moved to the region to work for GM, where he learned about automotive manufacturing and supply chains in Southeast Michigan, claiming that, “the sector leaders are geniuses in what they do.”²⁶ After leaving GM, Yanez founded **PTI QCS**, an upstream automotive company that specializes in engineered powertrain coatings and supply chain solutions, and has since scaled to more than 2,000 employees.*

Developments in the Internet of Things (IoT) led by the Big Three automotive manufacturers have provided further avenues for knowledge exchange.[†] As shipping and logistics companies have streamlined production, increased sales, and improved customer user experience using internet-enabled devices, they have also taken advantage of the rising number of IoT products and services in the region to improve their services. **May Mobility**, an autonomous shuttle service headquartered in Ann Arbor, uses IoT to help its vehicles communicate with each other in order to drive their customers more safely. The emergence of IoT as a local strength will be explored in a forthcoming Endeavor Insight report.²⁷

The COVID-19 crisis exposed Southeast Michigan's continued dependency on the automotive industry.

Despite the benefits of having the automotive manufacturing industry in Southeast Michigan, the fallout from the pandemic has highlighted the region's overreliance on one industry for its local economy. Southeast Michigan remains a hub of automotive

production, with 72 percent of North American automotive research and development taking place in Michigan. There are over 2,200 automotive research, engineering, and design facilities and 27 automotive assembly plants operating in the region.²⁸

However, the importance of the automotive sector leaves the regional economy exposed to fluctuations in demand for vehicles. This was apparent before the pandemic, but the slump in demand in 2020 further highlighted this risk. Since the late 1960s, Detroit-based car manufacturers have been slowly losing market share to foreign rivals, resulting in car factories closing and repercussions for the broader regional economy.²⁹ More recently, the rise of electric vehicles and declining rates of car ownership among millennials have further dampened demand.³⁰ With the pandemic continuing to disrupt economic activity, Southeast Michigan's main industry has been especially hard hit, with car sales down by over 15 percent in 2020, one of the biggest annual falls since 1980.³¹

As a result of the automotive manufacturing industry's setbacks, local businesses which rely on the industry have also taken a hit. Tier two and tier three suppliers of large automotive companies struggled as they attempted to restart operations after their factories and supply chains were shut down or disrupted.³² The decline of these companies had a ripple effect as other businesses which rely on the automotive industry lost revenue, impacting the broader local economy.

Many local shipping and logistics companies have customers in the automotive sector and are at increased risk unless they further diversify their customer bases. Fortunately, the local industry is not entirely reliant on the fate of automotive manufacturers, and decision makers now have the opportunity to support entrepreneurial shipping and logistics companies as they navigate the near-term challenges and position themselves for growth.

* Upstream companies work at the initial stages of the supply chain where raw materials are extracted and distributed so that they may be processed by others. The companies that end up processing these materials into goods and delivering them to a wider range of customers and businesses are known as downstream companies.

† Internet of Things (IoT) describes systems by which physical devices connect to the internet to share data and communicate with a network without involving human interaction.

OPPORTUNITY:

Helping More Shipping and Logistics Companies Grow Would Lead to Several Economic Benefits.

The industry is made up of a range of companies with distinctive traits that can offer different economic benefits; from job creation for broader portions of the population to increased productivity and higher wages.

Traditional transportation and warehousing companies create jobs for greater proportions of the population.

Within the six industrial sectors that comprise Southeast Michigan's competitive advantages, shipping and logistics — particularly the traditional transportation and warehousing subsector — is the most inclusive of people with lower levels of educational attainment.³³ More than 80 percent of the jobs in the sector do not require a bachelor's degree.³⁴ In addition, many such companies are family-owned businesses that often employ the same people for decades.³⁵ This speaks to the longevity of job opportunities that these types of businesses bring to the local community, and suggests that if more traditional transportation and warehousing companies are able to scale, a substantial number of jobs could be made available for a broad swathe of the population.

An example of a traditional transportation and warehousing company that has contributed to local job creation is **Reliable Carriers**, Based in Canton, in Wayne County, the company has operated as a family-owned business for more than 50 years and has grown to employ hundreds of people³⁶, and operate with over 400 trucks. The company specializes in the transportation of vehicles in the 48 contiguous United States and Canada.³⁷

High-value and tech-enabled companies contribute more to the local economy.

High-value companies, defined as those that generate greater productivity in terms of gross domestic product (GDP) per employee, are well placed to drive productivity. These companies also tend to draw in more revenues from outside their cities and regions.³⁸ They tend to offer better paying jobs, with average wages in excess of \$76,500, which is much greater than the average personal income of Southeast Michigan residents.³⁹ Examples include specialized transportation companies, such as **Construction Helicopters** and **Nicholson Terminal & Dock Company**.



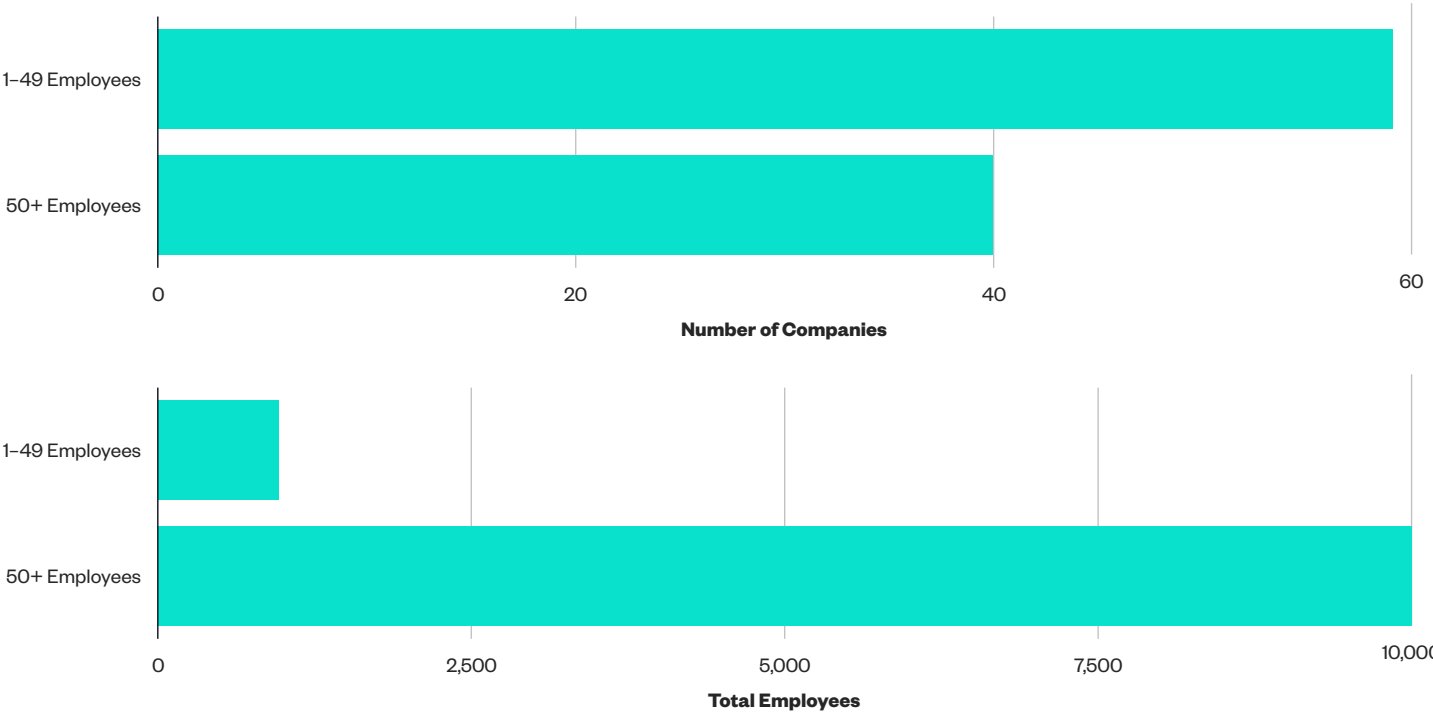
Companies that are focused on harnessing technological advancements and innovations are also able to generate greater productivity into the future. Endeavor Insight research suggests that companies operating in high-value industries that also employ a higher proportion of science, technology, engineering, and math (STEM) workers are projected to grow over time.⁴⁰ Companies such as **Airspace Link** use innovative technologies, including drones and cloud computing, to make air cargo deliveries more efficient and safe. Others, such as **May Mobility**, incorporate IoT and automated self-driving technology to deliver better transportation for their customers. Venture capitalists tend to be more eager to invest in technology-driven companies than traditional shipping and logistics firms, which also gives these companies an advantage when it comes to scaling.

Companies that scale are key to job creation.

Previous Endeavor Insight research on industries around the world has shown that a small number of companies reaching scale generate the bulk of jobs.⁴¹ This pattern holds true in the local shipping and logistics sector.

As the charts below illustrate, only 40 of the shipping and logistics businesses in this study have 50 or more employees. However, these businesses account for a significant number of jobs within the industry. Companies that reach scale are not only important because of the jobs they create, but they are also likely to be more resilient in an economic recession.⁴²

NUMBER OF COMPANIES AND JOBS CREATED BY SHIPPING AND LOGISTICS COMPANIES IN SOUTHEAST MICHIGAN
According to Size Class



Source: Endeavor Insight analysis.
Note: Based on 99 shipping and logistics companies in Southeast Michigan identified for this study and where data was available.

Companies that serve other industries reduce the economy's reliance on the automotive industry.

Companies that continue to grow by serving new customers can help to reduce Southeast Michigan's reliance on the automotive industry. **Freightroll**, for example, is a company that specializes in reducing wasteful paper-based processes and increasing transparency in the transportation market by providing a digital paperless platform for trade documents.

There is an opportunity for shipping and logistics companies to leverage the other developments and strengths of the region. Companies with expertise in fulfillment services will be able to take advantage of traditional brick and mortar retailers pivoting to e-commerce business models. Shipping companies that can provide services to other local industries will also be poised for growth. One such industry is the specialty food and beverage sector, which Endeavor Insight also identified as having a local competitive advantage.

ANALYSIS:

Shipping and Logistics Founders Face Significant Barriers in Growing Their Companies.

Even though the shipping and logistics sector is an asset to the local community, founders in the industry have long faced significant challenges in growing their companies. More than 25 of the 103 companies studied were founded in the past decade, yet only six of those have been able to grow beyond 50 employees.⁴³

Endeavor Insight evaluated the challenges that local founders face in order to identify how decision makers might better support them. Endeavor Insight asked founders about some of their most common challenges, and whether or not they considered these elements to be serious or very serious challenges to operating their business. During the interview process, several obstacles particular to this industry also arose, including difficulties in harnessing technological advances and regulatory changes. The findings below are based on the responses of more than 20 entrepreneurs who participated in the survey.

ACCESS TO CAPITAL

Access to capital was the primary challenge that local founders reported when scaling their shipping and logistics businesses.

The founders who participated in this study noted that although there is a large amount of private capital in Southeast Michigan, the investment culture is averse to the long financial timelines that shipping and logistics companies often need. Many explained that there are higher upfront capital costs for these businesses, with capital returns expected to come five to sometimes seven years after the initial investment is made. Many founders also noted that investors are still primarily focused on other sectors, namely biotech and healthcare.

Despite the influence that the automotive sector has on shipping and logistics businesses, large incumbent companies rarely make investments in younger entrepreneurial firms. Instead, the Big Three automotive companies often invest in internal research and development. Therefore, shipping and logistics founders frequently have to look outside of the region for both early and mid-stage funding for their businesses.⁴⁴

The sector benefits from government programs such as the **PlanetM** grant, which provides funding for testing and operating innovative transportation, shipping and logistics businesses.⁴⁵ However, founders noted that the funding these programs provide can be restrictive in nature, and indicated that they need additional forms of capital other than government grants.

Companies that have overcome the challenges of raising capital include **May Mobility**, an autonomous shuttle service headquartered in Ann Arbor. In December 2019, the company raised \$50 million in a Series B round led by the Toyota Motor Corporation. By March 2021, the company had raised \$83.6 million in funding.⁴⁶ May Mobility has deployed over 260,000 shuttles, each of which is equipped with a suite of redundant sensor technologies, combining LiDAR, radar, and cameras, accentuating the strengths of each to create a robust 360-degree view of the world. The shuttle has a “multi-policy decision-making” system, which functions as an “eye” to receive inputs from the environment to make active decisions.

Another example is **Algo**, a supply chain management company based in Troy, which raised \$15 million in February 2020 having gained investors’ attention through its innovative use of AI.⁴⁷ The success of May Mobility and Algo in raising capital shows that new companies which adopt innovative technologies are more successful in attracting investors.

ACCESS TO TALENT

Access to talent was frequently cited in interviews as a regional asset, given the availability of established companies in related sectors and robust academic training programs. However, founders repeatedly mentioned difficulties in finding technical talent, particularly related to engineering and robotics. Although they would try to recruit individuals with such skills, they cited government regulation on visas as a major barrier to keeping such workers. As a consequence, the lack of technical talent made it more difficult for companies to adopt technological innovation and expand their customer base.

TECHNOLOGY ADOPTION

Another challenge that Endeavor Insight identified is the low level of technology adoption among older companies. Even though the companies founded more than 10 years ago have contributed to local job creation at higher rates than their younger peers, they need to keep growing for the industry to sustain its contribution to the economy. Although there are notable stories of tech-enabled shipping and logistics businesses achieving success, there are very few of these companies currently operating in Southeast Michigan.⁴⁸

Technology adoption is relatively slow among shipping and logistics companies. Regional shipping and logistics businesses were described by founders as having an “old-school” mentality in how they operate, but the COVID-19 crisis has accelerated the need to invest in automation.⁴⁹ Several local software companies have stepped up to provide new solutions to their peers in shipping and manufacturing, including **LLamasoft**. Further details on that company can be found on page 14.

ACCESS TO NETWORKS

Endeavor Insight examined shipping and logistics companies in Southeast Michigan by analyzing the relationships among founders. Studying these connections allows for a deeper understanding of the state of the entrepreneurship community in the region. Previous research by Endeavor Insight found that when entrepreneurs of companies that scale in a local sector offer support such as **mentorship and employment** to other founders, those up-and-coming companies are more likely to scale.⁵⁰ These types of connections in particular are the strongest indicator of a robust and effective entrepreneurship network.

However, network analysis of the shipping and logistics community in Southeast Michigan suggests that there is minimal connectivity among local founders, support organizations, and incumbent companies in the area.⁵¹ Only a few founders had previously worked at a local shipping and logistics company before starting their own. Instead, the founders who were connected to one another built their relationships in other ways.

Mentorship was the most common way that entrepreneurs were connected to one another, yet the percentage of founders who have given or received this type of support was much lower than what is typically seen in productive entrepreneurship communities. Although more than two-thirds of local founders

interviewed were open to connecting people within their network, less than one-third of the founders interviewed believed that it was easy to get a meeting with successful entrepreneurs in the network.

When interviewed, few shipping and logistics founders that had scaled to 50 or more employees could identify mentors who had helped them scale their businesses. The overall low rate of founder-to-founder mentorship — specifically where more experienced founders mentor founders of younger companies — is a constraint on the growth of the local sector.⁵²

Given the relative influence that the automotive manufacturing industry has on the local network, accessing knowledgeable mentors is a particular constraint for founders who do not have previous work experience within the automotive industry. Only one-quarter of the entrepreneurs reviewed in this study worked at related automotive or manufacturing companies where they had opportunities to build important contacts. Those that do have such experience have an advantage. Several of the founders who have scaled their companies had previous experience at the Big Three automotive manufacturers. Examples include David Salazar Yanez of **PTI QCS**, Don Hicks of **LLamasoft**, and Greg Lehmkuhl of **Lineage Logistics**.⁵³

Founders related problems in getting past industry “gate keepers” who could potentially serve as mentors or help provide access to knowledgeable people in the network. This was especially true for automotive manufacturing companies. Unable to break into these local groups, new entrepreneurs look beyond the local region to connect with other more experienced entrepreneurs. Having to connect with people outside the local region increases the difficulty of finding a mentor.

The instances of mentorship that founders did mention demonstrated some promise for the industry. The identified mentors have considerable experience within the shipping and logistics industry, and many had the experience of founding a company themselves. Additionally, almost half of all mentors had professional backgrounds at a company that had grown to 50 or more employees, which gives them valuable knowledge to pass on.

CASE STUDY: LLamasoft

LLamasoft founders Donald Hicks and Toby Brzoznowski met in Ann Arbor in the early 2000s. Hicks had been developing the foundation of a supply chain simulation application while Toby was honing his skills in enterprise software sales and marketing.

Perceiving a gap in current supply chain technologies, Hicks and Brzoznowski started LLamasoft in 2003, a first-of-its-kind product enabling companies to test “what if” scenarios and improve decision-making through supply chain optimization and simulation. The founders placed great emphasis on customer experience as they developed their product. AI and analytics also enabled them to develop sophisticated predictive models to help companies adapt to evolving industry trends and changing market conditions, and to minimize risk.

The founders were both highly experienced in sales at operations, and they wanted to create something that they could sell to clients from day one. They grew the company steadily throughout a recession; with every new client, they added an employee. Building an operations research and product development team was made simpler by the great engineering and supply chain programs in the area.

However, recruiting for senior technology, management, and leadership roles was harder, especially in cases where national visa regulation made it hard to recruit international talent.

By 2012, the company had 40 employees, and the founders were ready to raise funding to invest more in the company’s growth. Invest Detroit, MK Capital, and Nike made a Series A investment of \$6 million in 2012⁵⁴, followed by Goldman Sachs in 2015 with an additional \$50 million in a Series B.⁵⁵ In 2017, TPG Capital acquired a majority stake in the company at a valuation of over \$350 million.⁵⁶ This allowed Invest Detroit, another Series A investor, to support another 10 Southeast Michigan companies with the returns.⁵⁷

General Motors, Ford, and Chrysler became LLamasoft customers. So did Honda and Toyota, as well as Walmart, Kroger, Nordstrom, Procter & Gamble, and nearly half the Fortune 500.⁵⁸ By 2020, LLamasoft employed more than 700 people, worked with over 750 global customers, and recorded over \$100 million in revenue.

In March 2020, LLamasoft CEO Razat Gaurav urged companies to evaluate their supply chain planning and capacity decisions in light of the COVID-19 pandemic, and announced the launch of a COVID-19 Response Center with a collection of services to help companies restore operations, adapt to fast-changing circumstances, and build resilience in the pandemic. To help companies restore operations, LLamasoft later launched a COVID-19 Recovery Index, combining several data sources to calculate country-level recovery status in terms of a country’s infrastructure, mobility, and COVID-19 infection data. In November 2020 Coupa Software Inc. acquired LLamasoft for \$1.5 billion, a price in line with revenue multiples in the SaaS sector.⁵⁹

“Attracting talent to senior positions is a challenge.”

LLamasoft founder Toby Brzoznowski





RECOMMENDATIONS:

There Are Several Strategies That Decision Makers Can Follow to Leverage Shipping and Logistics as One of the Region's Competitive Advantages.

The COVID-19 crisis is a reminder that Southeast Michigan needs to diversify its economy and become less dependent on the automotive industry. Decision makers should look to the entrepreneurial assets already present in the community as the region navigates the resulting economic shocks. Shipping and logistics companies represent one of the region's competitive advantages in entrepreneurship, and they are emerging as a major pillar of local economic recovery.

To support the industry and fortify the local economy, decision makers need to help shipping and logistics companies scale. The industry is made up of a range of subsectors that can offer different

economic benefits. Some provide employment opportunities for people with lower levels of education, others offer more high-paying jobs, and some are better positioned to attract investment.

One of the most effective ways that Southeast Michigan can boost the local sector is to focus on identifying and supporting smaller companies with the most potential to scale, as well as large companies as they continue to grow. There are several strategies that decision makers in the public and private sectors — such as policymakers, investors, and entrepreneurship support organization leaders — can follow to help shipping and logistics companies scale. Local leaders can use the following four practical recommendations as a guide.



1

Support local companies as they navigate near-term challenges.

Many of the local companies in this sector will continue to struggle with the effects of the COVID-19 pandemic, and some of the companies originally identified for this study in 2019 have since closed their doors.* Decision makers should prioritize support for companies that have demonstrated resilience.

Shipping and logistics companies serve businesses that have faced supply shortages, fluctuating demand, and various disruptions since early 2020. As these companies recover and rebuild, they are reviewing their entire supply chain and distribution network to identify risks.⁶⁰ Before the pandemic, businesses often relied on only a single supplier or distributor. Now these business owners are expected to diversify their operations across different logistics providers based on location and capacity.⁶¹ This could create new opportunities for Southeast Michigan's entrepreneurs, but may also shift existing market share away from them.

The most resilient shipping and logistics companies will be those that are flexible,

efficient, and responsive. Decision makers can offer support to help local companies stay competitive:

- **Flexibility:** Provide capital and connect founders with experts on reconfiguring processes so that they can respond to new customer needs, quickly switch between products, or increase capacity for customers who need to store “safety stock”—supplies that protect against shortages.
- **Efficiency:** Facilitate the exchange of knowledge and services between founders who have solutions for supply chain efficiency and the other subsectors in the industry. Companies will need ways to maintain margins as the costs of doing business rise.
- **Responsiveness:** Help shipping and third-party logistics firms increase capacities to serve e-commerce, as consumer demand for home delivery is expected to remain strong.⁶²

* These include Rush Trucking, founded by Andra Rush, which featured in the preceding Endeavor Insight report “Southeast Michigan's Competitive Advantages in Entrepreneurship.”

2

Focus on founders who wish to adopt new innovations and those already creating new technologies.

Automation and other technological innovations are radically changing supply chains and are expected to accelerate the productivity of the global economy.⁶³ In order for Southeast Michigan to maintain shipping and logistics as a competitive advantage in entrepreneurship, decision makers should consider two strategies:

1) Help legacy businesses automate their processes. Many of the traditional companies were established decades ago and are family-owned operations. These companies may benefit from technical assistance to become familiar with opportunities to automate processes. Technical assistance can range from payments and customer service to tracking systems and facilities updates, or loan programs that can provide capital for support in those areas.

2) Support entrepreneurial companies that are developing new technologies, especially those that can benefit the local sector. Founding teams who are conducting their own research and development can go on to grow some of the most valuable companies in a local economy. This includes local companies that are developing solutions to reduce costs and develop more environmentally sustainable processes. While it may take several years to develop new technologies, decision makers should offer patient and blended capital to ensure the future of the sector, while also holding up R&D and innovative adaptations as an industry goal. Additionally, existing business and innovation competitions could include prizes geared toward technological solutions for the sector.

3

Create opportunities for knowledge exchange between entrepreneurs and within networks of other influential organizations.

This study shows that it is common for founders to have attended local universities and worked for prominent corporations prior to launching their companies, yet current founder-to-founder connections are rare. Decision makers should tap into university alumni and former employee networks and leverage the existing platforms to facilitate more exchanges among founders. They should also ensure that there is more region-wide support for addressing challenges in the industry.

Specifically, support organizations can facilitate mentorship between successful and up-and-coming founders from the same circles. Experienced founders could also help advise university programs in developing academic curricula for supply chain management that better prepare their graduates to work for local companies that are scaling.

4

Facilitate global connections for accessing additional resources.

Support for shipping and logistics businesses in Southeast Michigan requires a global mindset. Endeavor's model exemplifies how connecting founders to resources from around the world can have a profound impact on a company's ability to scale. In an industry where the most successful companies have operations that span multiple continents, and even the localized companies can feel the effects of far away shocks, a global approach is even more important.

Entrepreneurs who build stronger networks outside their immediate local area can expand the reach of their services, gain diversity of thought to address their challenges, and identify potential talent to fill more specialized roles. As COVID-19 has made it more routine to meet investors or mentors from afar, virtual connections will continue to play a significant role in

securing the resources and information necessary to scale a company.⁶⁴

Support organizations that are helping to connect founders in Southeast Michigan with knowledgeable entrepreneurs elsewhere in the world are playing an important role in the community. The opportunity is especially ripe now that investors are paying more attention to high-growth entrepreneurship in geographic areas outside of major tech hubs.⁶⁵ Investors are also showing more interest in industries that have tech-enabled solutions to problems exposed by the pandemic, including companies that use resilient supply chain analysis and management solutions.⁶⁶ Decision makers should help increase the capacity of organizations already providing these types of global connections and encourage others to do the same.

Methodology

Competitive Advantages in Entrepreneurship:

Endeavor Insight identified Southeast Michigan's competitive advantages in entrepreneurship in a 2019 study by scanning the region for industries with a high concentration of larger, high-value, entrepreneurial companies.

The methodology and results of the study were developed in partnership with the William Davidson Foundation. Additional details can be found in the report titled "Southeast Michigan's Competitive Advantages in Entrepreneurship," available at endeavor.org/semi-cae.

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 Southeast Michigan, or
- b) currently headquartered in Southeast Michigan after they were founded elsewhere.

Target companies also included businesses that have closed after being founded or headquartered in the area, or those that have been acquired after being founded or headquartered in the area.

For the purposes of this research, Southeast Michigan was defined as the following seven counties: Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne. These counties include the cities of Detroit and Ann Arbor.

2. The company's industry falls within the sector.

Shipping and logistics companies are defined here as businesses that offer transportation of cargo, as well as warehousing and logistics management. This includes subsectors such as third-party logistics companies and supply chain management platforms that leverage advances in machine learning and artificial intelligence (AI) technologies.

3. The company is entrepreneurial.

Entrepreneurial companies are those started by individuals. This excludes businesses that began as either:

- a) Government entities, or
- b) Local divisions of corporations based in other cities.

Data Collection:

The data collected for this project comes primarily from surveys and interviews with local entrepreneurs and stakeholders.

This study began by compiling a primary company list from multiple sources, including Pitchbook, D&B Hoovers, and Crunchbase, as well as the portfolio companies of investors and entrepreneurship support organizations operating in Southeast Michigan.

Only those that were target companies moved forward for further investigation, i.e., those founded or headquartered in Southeast Michigan, entrepreneurially founded, and in the selected industry.

Entrepreneurs from the target list received invitations to fill out an online survey or set up an interview (either in person or over the phone). This mass outreach campaign used standard questions, but the interviews were adapted to be more conversational.

The survey was designed to take no more than approximately 15 minutes for entrepreneurs to fill out. Endeavor Insight has used this same instrument for other studies over the past few years, with only minor updates to reflect city-specific factors and to address areas where entrepreneurs have been most reticent about sharing data. Endeavor maintains confidentiality, and collected data is accessible only to Endeavor and its research partners.

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 also included additional companies sourced from the portfolio companies of those associated with the new mentions. The secondary list also included new companies found on

LinkedIn while collecting data on entrepreneurs and companies. These secondary targets then received invitations to complete surveys and interviews.

Sector Analysis:

The analysis process relies on two types of data: primary interviews with local entrepreneurs; and secondary data on a founder's employment and fundraising history from LinkedIn, Crunchbase, and other publicly available sources.

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: investment, mentorship, serial entrepreneurship, and former employee spinoffs.

To learn about these connections within entrepreneurship communities, the surveys and interviews discussed above focused on four core questions:

1. Who invested in your company? (This includes both angel and institutional investors.)
2. Who was your mentor during the growth and development of your company?
3. Have you founded other shipping and logistics companies in Southeast Michigan?
4. Which of your former employees have gone on to found shipping and logistics companies in Southeast Michigan?

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

Omitted variables may have played a role in sampling, creating bias that would otherwise expose gaps in the research process. The study's double interview, 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 results were corrected.

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