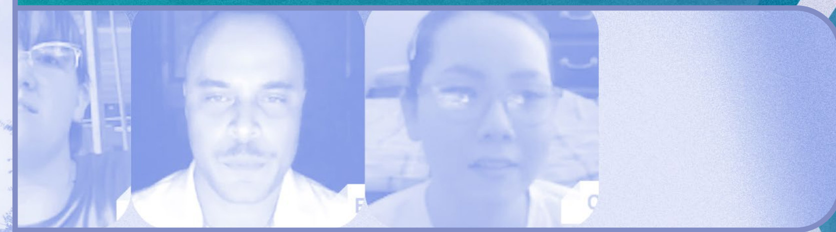
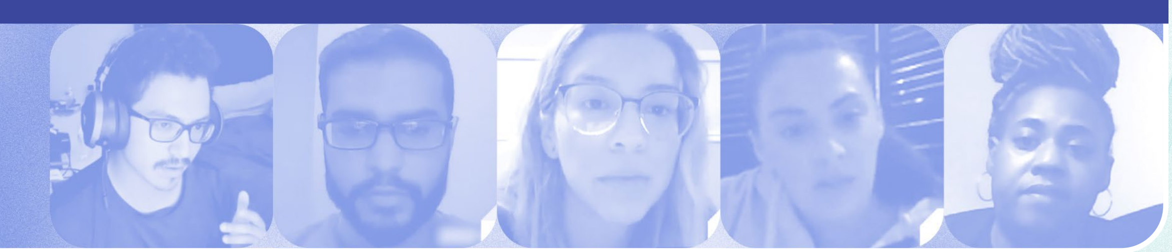


"RESOURCE RICH AND CONNECTION POOR"

THE HOUSTON MAKER SURVEY



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WEST HOUSTON INSTITUTE

Outreach Strategists
Research, Media, & Public Affairs

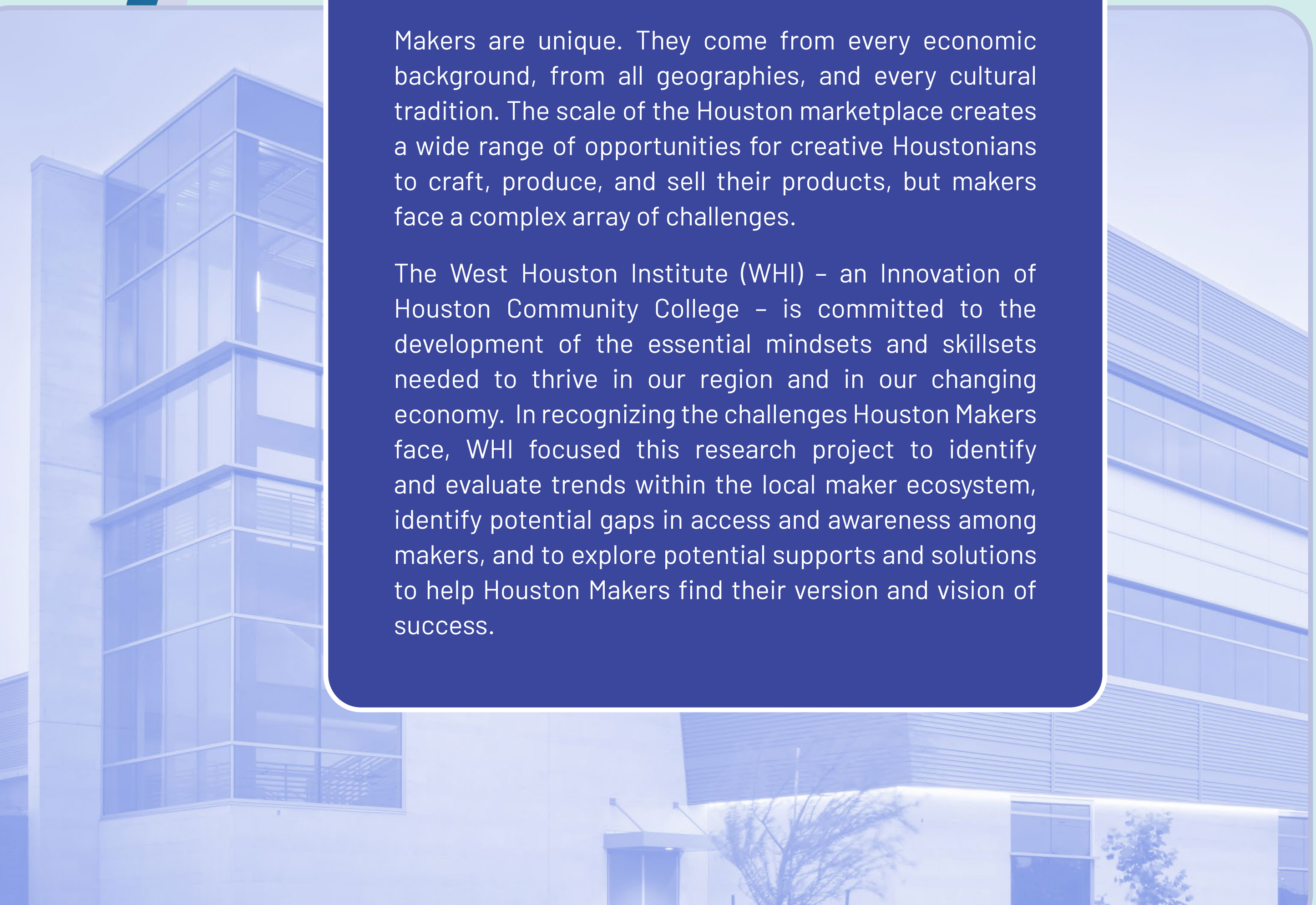
EXECUTIVE SUMMARY

As the fourth-largest city in the United States by population, and the largest by area, Houston is a city of opportunity.

By many measures, Houston is a place where entrepreneurs and creatives can thrive - if they can connect with effective supports and to markets and potential customers.

Makers are unique. They come from every economic background, from all geographies, and every cultural tradition. The scale of the Houston marketplace creates a wide range of opportunities for creative Houstonians to craft, produce, and sell their products, but makers face a complex array of challenges.

The West Houston Institute (WHI) – an Innovation of Houston Community College – is committed to the development of the essential mindsets and skillsets needed to thrive in our region and in our changing economy. In recognizing the challenges Houston Makers face, WHI focused this research project to identify and evaluate trends within the local maker ecosystem, identify potential gaps in access and awareness among makers, and to explore potential supports and solutions to help Houston Makers find their version and vision of success.



The research project consisted of three phases:

A Landscape Analysis and Literature Review – to understand the best practices discovered and cultivated by supportive systems and makers in different markets around the country.

In-Depth Interviews - with partners and stakeholders in the Houston area maker ecosystem – to learn their perceptions and perspectives about the unique opportunities available in Houston.

A Regional Maker Survey – to measure the reactions of local makers to a series of inquiries into who makers are, what they make, how they make it, how they sell it, how they learn and improve, how they collaborate, where they go for support, and what they need.

Together, these research phases yield a series of insights and recommendations for those who want to support and catalyze Houston’s maker ecosystem into a stronger and resilient economic driver – focused on innovation, inclusion, and opportunity.

What Houston Makers Believe

Houston Is Great – Makers believe Houston is a great city for creatives and makers. With access to materials, a broad base of customers, and a dynamic economy; makers believe they can turn their ideas into an actual product and get it to market.

Success is a Spectrum – There is no set definition for success. Some makers focus on the bottom line, others on customer satisfaction, and others on the pursuit of creativity and quality. Makers want to know they are doing a good job, delivering something their customers want, and care about their reputation and investments.

How Makers Start – The starting gate and finish line are as different as makers and their products. Some makers have started right after finishing their education, others started once their children needed their support for athletics or other school or group programs, others as a side-hustle which has become a business, others as a hobby, and for others as a mid-career pivot. How Houston makers start and proceed across their personal journeys will impact how they perceive or utilize supports or resources.

Time is Money (and Everything Else) – The most precious resource for makers is time. Many of their decisions are driven by how much time a task will take, how quickly they can produce their product, research new ideas, find new customers, and manage their businesses. Supports which help them learn how to master time are essential to helping them achieve.

Competition and Collaboration – Makers encounter both supportive and competitive environments as they enter the ecosystem and start their creative or entrepreneurial journeys. All are eager to learn as they start, but do not always find resources or individuals to help them maximize their opportunities. Inclusive and relevant supports are essential, and would be welcomed by Houston Makers, especially if calibrated as their needs change throughout the life cycle of their creative ventures.

Access to Resources – The Houston region is energetic, diverse, and enormous. Regional sprawl is an added challenge for makers, who may not be able to access resources if they have to drive across the county or city to reach those resources, or if those resources are not accessible via public transportation. While resolving the issues of sprawl and space requires broader governmental and institutional interventions, it still means whatever supports are designed for makers have to be distributed across the region if they are to actually provide what makers need.

Improving Awareness – "Houston is resource-rich, but connection poor." The lack of access or connectivity to existing resources impedes awareness and potentially stifles growth or creativity. Collaboration or convening will enable makers to share experiences, learn from peers, and explore new skills or techniques. The desire for a clearing house and effective support is broad and deep among Houston makers.

Inclusion – Access to resources is more than a question of location, it's also about cost, language, and fit. Makers are as diverse as Houston, and resources have to be customized and relevant to their needs – be it in the context of gender, age, race, or ability.

Effective mentorship – Many makers struggle to identify and connect with makers who understand their needs and provide effective guidance – be it creative, organizational, or resource oriented.

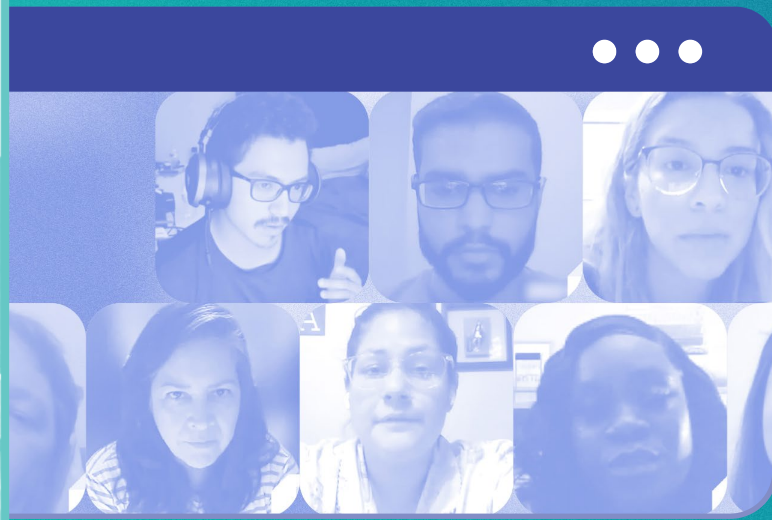
Contextualizing Technology – While many maker supports and spaces are centered on digital or other fabrication tools and innovations, there are many other makers who use different techniques and skills to create their art or products. One size will never fit all in Houston, and providing a broader set of substantive supports will help Houston makers thrive.

Business 101 (and Beyond) – Many Houston makers (and even those seeking to support them) struggle with the basics. Whether it is forming a business, registering with the state, paying their taxes, accounting, marketing their products, managing inventory, identifying customers or employees, or finding a place to work; there is a strong demand for information and professional resources.

The Ubiquity of YouTube – Makers won't wait to learn. Across the research phases, there is a demonstrable interest in self-improvement and education, and most Houston makers rely on virtual learning or other online resources to find answers and insights.

Houston as a Brand – Houston makers appreciate Houston and believe there is a market for products made in Houston. Houston makers support the concept of a Local Brand Initiative for Houston, and want it to be accessible (location, cost, and language), inclusive (as diverse as Houston), and educational (provide training and skills development).

Taken together, these responses share the story of what Houston makers think they can create – vibrant, entrepreneurial economic activity which can lift the region. Makers need supports relevant to where they are in their journey, close to where they live and work, and connected to their experiences or product lines. The West Houston Institute and its partners and collaborators are well-positioned to continue to provide these supports, and will find an audience hungry for knowledge, itching to get to work and ready to grow.



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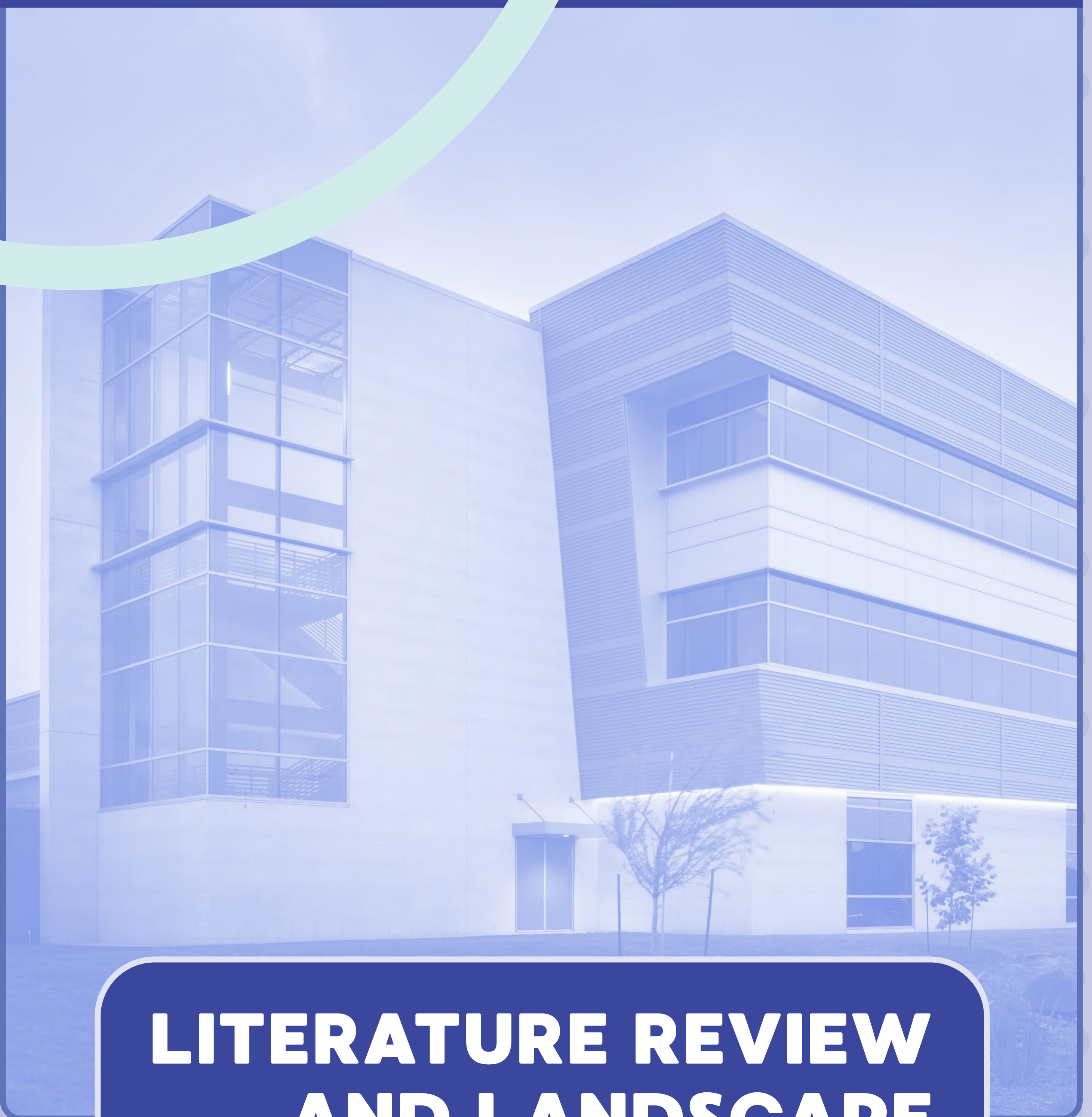


LITERATURE REVIEW AND LANDSCAPE ANALYSIS

This literature review and landscape analysis were undertaken to better understand factors associated with successful maker movements in different markets within the United States. It examined common challenges, best practices, and new opportunities across the maker economy and ecosystem. The research evaluates how others have studied and thought about maker movements, and identifies opportunities, trends, and consistent practices to assess the potential for supporting greater maker success within the Houston market.

To find approaches relevant to Houston, the research examined a range of geographies – those with similarities in geographic size, population, diverse ethnic backgrounds, and industrial history. After initial reviews, this included evaluating efforts in Baltimore, MD, Nashville, TN, Portland, OR, New York, NY, and San Francisco, CA.

The West Houston Institute (WHI) provided many documents as a starting point for the review, which was expanded to include academic studies, journal articles, and organizational resources offered to makers, policy makers, and partners. In addition to public search engines, other databases - such as Elsevier, JSTOR, and Nexis - were used to identify resources for review.

The review also included studies of best practices for promoting maker economies primarily sourced from Smart Growth America (SGA), Maker City, the Urban Manufacturing Alliance, and the National League of Cities (NLC).

Identifying Gaps

Makers are a difficult population to research as noted by several authorities, including The Maker Movement and Urban Economic Development, The Makerspace Phenomenon: A Bibliometric Review of Literature, and The State of Makerspace Research: A review of the Literature.

Much of this stems from the lack of definition or precision for what constitutes a "maker." For example, Mersand (2021), identified three different terms for the same concept including makerspace, fablab, and hackerspace. Similarly, most studies tend to adopt taxonomy for common terms such as makers, makerspaces, maker movements, etc., depending on which aspect of the ecosystem they are studying.

Authorities note this is potentially due to the relative novelty of the maker movement, and acknowledge this lack of standardization can complicate research design, and thereby pose obstacles in drafting and designing comprehensive policies to support makers.

Additionally, social movements and identities are especially difficult to study, and could be explored through a range of research approaches. Sharma (2021) highlights how different social theories could be used to study maker movements such as: social movement theory, artisanal entrepreneurship theory, economics, etc.

Finally, all research can be impacted by challenges in methodology and data collection, including response bias, difficulties in sampling, and the choices of language and literacy when approaching a diverse population. The challenges in attaining gender and ethnic/racial representation are noted across the board –in both academic and industry–sponsored research.

The existing research did yield several useful insights towards better understanding successful maker movements and how to study them, including how to bridge the inclusion gap identified at the outset of this project.

Research Design

Makers are busy —and for most, their most precious resource is time. They are constantly making choices about how to invest their time– and participating in research studies may not be a priority. Makers can also be anyone, anywhere. While some can be found online or in maker spaces or incubators, there are many more who are broadly dispersed across geography and the economy.

The initial stages of the landscape analysis and literature review identified the challenges researchers face in reaching makers and their support networks. To reach a better understanding of how maker economies are studied and how to reach makers required reviewing the methodology of previous research endeavors.

Some studies employed complex and layered methods to identify and select individuals through existing organization membership databases, public market surveys, social media and website monitoring, Maker Faire registrations, and drawing from other related projects in the area.

Understanding the difficulty makers may have in participating in research, in the State of Urban Manufacturing Report (2019) the Urban Manufacturing Alliance emphasized the need for persistence - they urged continuous follow-up with makers to collect sufficient and representative responses.

Many researchers also leveraged relationships with maker-enabling organizations or services to reach makers. Membership logs for maker-enabling organizations and makerspaces were a consistent component of these designs (Wolf-Powers et al. 2017; Nest 2020; Doussard et al. 2018; Kumar et al. 2016), even when the design was based largely on an extended case study design (Lowe and Vinodrai 2020). This allowed researchers to reach makers who were already a part of an established maker network or maker ecosystem.

For studies with surveys as part of their design, the instruments were translated into languages found in each city and were disseminated through a variety of platforms (Google Forms, community organizations, etc.). These surveys worked to identify the key themes of study to craft their questions – including entrepreneurship, inclusion, challenges, etc. (Sharma 2021).

The design was equally as complex to understand each maker ecosystem within which the makers were operating by drawing on independent research and interviewing city or government officials as well as maker-enabling Institutions like incubators, business accelerators, coworking spaces, public libraries, etc.

One study (Melo 2020) also promoted the use of "journey maps" to enrich spatial analysis. Journey maps work in a similar way to sentiment analysis and to help understand the ways makers engage with their available Resources.

These journey maps highlight the "socio-political beliefs, assumptions, and values" within which makers and makerspaces operate.

Challenges

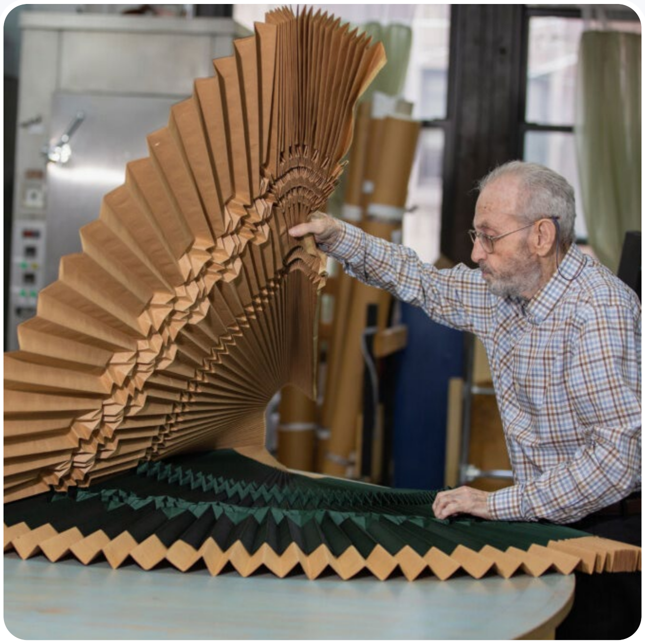
Several key challenges to small-scale entrepreneurship identified by the Urban Manufacturing Alliance (UMA), Nest's Makers United Project (Nest), and the Technology & Social Change Group at the University of Washington (TASCHA).

Notable challenges on the business-end included workforce issues, capital access, market access, adequate workspaces, and collaboration.

Larger-scale issues included institutional problems such as transportation and connectivity, business support, and socioeconomic factors such as gender, race, and class.

Access to funding and financial support is the largest challenge identified in this literature review.

Makers also note being frustrated with the top-down approaches of public policy, and their lack of a voice or representation in the policy sphere.



The Impact of Density and Community

The most robust maker ecosystems typically start out organically - without organization or structure - and only benefit from supportive initiatives later on in their establishment. Research published by the Ewing Marion (Schrock et al. 2016) identified a set of factors which help facilitate successful maker economies.

While the maker movement can take root in any region, successful maker ecosystems tend to thrive in more densely populated environments. Despite the higher cost of commercial and industrial spaces, taxes, and business services, "those high costs are offset by institutional thickness and by the presence of early adopters, consumers with disposable income, and socially conscious consumers striving to support local wealth accumulation and environmental stewardship".

This cuts to the core of entrepreneurship – the ability to sell products to an interested market.

Cities offer a concentration of opportunity – specialized and skilled labor, the density of ideas, and access to goods. However, every maker ecosystem needs a hub or set of focal points to anchor related clouds of activity, and frequently cities lack such focal points.

The research shows finding ways to increase the success of the maker economy, innovation districts, and public transportation can help increase the success of maker economy (Vinodrai, Nader, and Zavarella 2021; Villegas 2020; Manufacturing Alliance of Communities 2014).

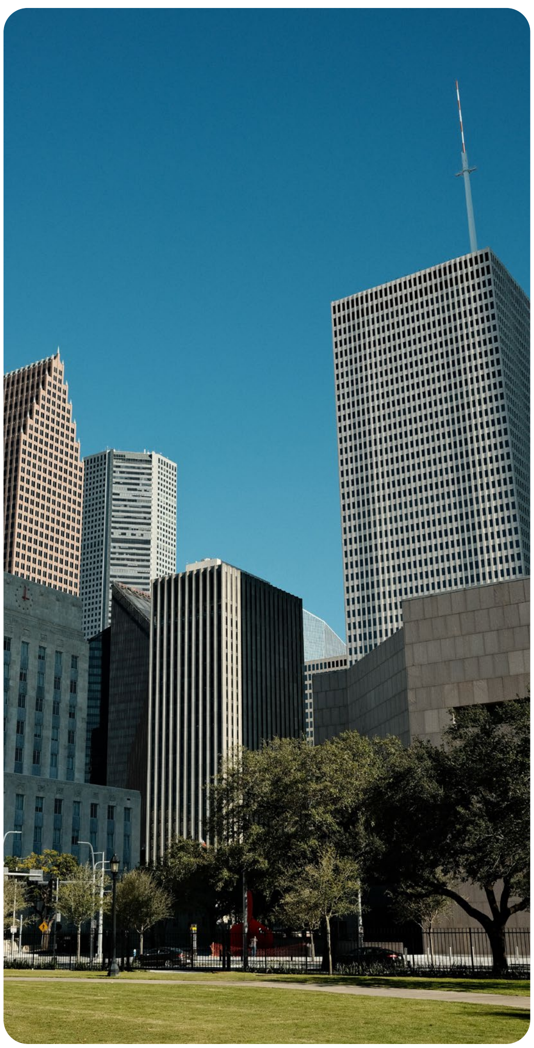
These findings present significant implications for Houston. Like many other areas of the economy and life, Houston has multiple neighborhoods and spaces where ideas can take hold and activity can flourish – rather than a single point or place of convergence. Houston is a large, but relatively dispersed city, with few areas of sufficient density to foster the focal or anchor points needed to support a singular maker ecosystem. Rather, there needs to be multiple places across the region to support makers in their entrepreneurial journeys. Houston will need effective partnerships and coalitions to meet the diverse needs of Houston makers.

The Role of Maker-Enabling Institutions

Makers need a place to make.

Across the sweep of human development and history, the sharing of lessons and experiences leads to the creation of standards and best practices which serve as the springboard for creative variation. The opportunity to share these insights can be a major benefit for those seeking to try a new hobby, craft, or business – by limiting the necessity to reinvent the metaphorical wheel.

Maker movements surface the talents and abilities of the local community, and part of their success is through intentionally fostering ties within the maker community.



Success is a spectrum – defined by individuals based on their own perceptions and experiences. At different points along their path, makers acquire information and knowledge needed to help them complete actions connected to their craft, to regulatory processes, or to bringing their products to market. This information is not always available, but when and where it can be shared quickly, it can provide stimulus to a local economy.

Studies into the challenges faced by makers, such as Nest's landscape study in Detroit, maintain makers "struggle with finding the support, guidance, and community they need to [...] grow, scale, and expand" (Nest 2020, 21). This is where maker-enabling institutions such as co-working spaces, independent business incubators, nonprofits, and informal networks can offer critical support.

There are concerns the opennes of these institutions could be excessive and create unproductive feelings of competition and animosity among makers (McAdam and Marlow 2007). The majority of the literature finds resource sharing is mutually beneficial—especially within more thematically focused makerspaces, which help to break down socioeconomic barriers or educational differences.

A study by Maric (2018) emphasizes co-working spaces as a way to "democratize technologies previously reserved for heavy industries and provide pathways to achieve social and environmental sustainability goals."

Mersand (2021) and O'Brien et al. (2019) also emphasize the importance of universities, libraries, research institutions, and K-12 schools as part of enabling a thriving maker community. These institutions foster communities by opening up lines of communication, consolidate resources, furnish necessary equipment, and provide the emotional support needed to overcome obstacles. They also connect makers to intermediaries (or act as the intermediaries) to help makers build bridges from concept, process, production, and consumers.

Mersand (2020) found several links between maker spaces and the state of the maker ecosystem. The spaces influence the composition of goods and services provided, the collaboration between makers, and even the social/political landscape within which they exist.

The Role of Public Institutions

Public universities, libraries, and research institutions all offer critical resources to a growing maker ecosystem. Recognized for their knowledge and facilities, these local and regional institutions provide a maker ecosystem with focal points for networking, exchanging ideas, vocational training, and accessing industry partnerships.

O'Brien et al. (2019) assert universities are well positioned to help foster and support the maker movement, especially for underrepresented demographics. This is due to the wide variety of knowledge and resources available on a university campus, the integration between universities and the communities surrounding them, and "their position as a link between top-down government and industry policies and practices with bottom-up civil society and grassroots initiatives and priorities".

In recognition of this vital role, in 2016, the California Council on Science and Technology recommended the state create a network of maker spaces connected to community colleges as a tool for preparing students for the innovation economy.

Public universities offer makers a meaningful connection to resources - ranging from mentorship opportunities, access to facilities, skills and business training, and identifying resources available in the private and public sectors.

Local Government Involvement

Some of the challenges makers face are systemic – rising to the level where changes to government policy can impact success. Technical red-tape and localized regulatory and tax policies can create obstacles, while communities which provide small business services can be meaningful partners in cultivating maker ecosystems.

Research asserts the investment in and support of building local skills and vibrant, self-sufficient local economies benefits a city's economic development. The National League of Cities (2016), asserts "forward-looking cities might seek to incorporate the maker movement into their long-term municipal plans, recognizing that the local economy could benefit from the creative and freethinking approach that is often limited in large-scale manufacturing".

Existing research finds makers typically draw on private resources. However, the public and nonprofit sectors are essential in areas where markets and private entities do not provide the depth or breadth of resources emerging makers require.

Not all government involvement works for everyone. A common critique of public sector involvement in the maker movement is how the emphasis on a top-down approach in allocating and distributing funds and resources actually undermines a majority of the bottom-up maker movements, which tend to be more community-driven. This misalignment can stunt the growth of the maker movement as a localized community initiative (Ferretti and Van Lente 2022).

To date, the main avenues proposed to achieve these goals seem to be different forms of public-private partnerships, policy incentives, and infrastructure support. In addition, local governments can "upgrade economic and business development programs, incentives and services to provide support to manufacturing entrepreneurs and small businesses" (Manufacturing Alliance of Communities 2014).

Research shows state and local governments achieve the strongest and most consistent growth when they adopt measures supportive of smaller businesses. By reserving business tax incentives for smaller businesses and independent makers rather than larger factories and corporations, local governments can encourage a vibrant maker economy; and reduce red tape for accessing small business aid (Urban Manufacturing Alliance 2018).

Private Sector Partnerships

Partnerships with the private sector can help smaller makers address challenges they face along their entrepreneurial journey. Larger businesses can help promote the goods and work of these makers on the market side, and can help to connect them with more resources and better scaled manufacturing processes.

The private sector provides resources for maker communities in marketing, efficiency, and scale. According to the Urban Manufacturing Alliance's National Report, creative partnerships succeeded in connecting more people to available jobs (Foggin 2019).

Many private organizations are already providing resources to makers. For example, Chevron has pledged significant funding to create Fab Lab maker spaces to support STEM education in regions where it operates.

FirstBuild, General Electric's microfactory in Louisville, Kentucky, has helped bolster the local maker network and supported the Louisville-Lexington region's Bluegrass Economic Advancement Movement (BEAM), a public-private initiative focused on improving the competitiveness of the region's advanced manufacturing sector.

The private sector also provides a deep bank of knowledge and resources which help makers reach customers, learn better practices, and leverage production capacity.

Designing Inclusive Supports for Makers

A vibrant maker economy is based on inclusion — "a makerspace is intended to be community-centered and diverse: a social place for people with different skills and common interests to collaborate and learn from each other" (Blaser, Cakmak, Steele 2018). As such, it is important for each member of the community to be able to participate, regardless of background.

Urban centers, which tend to be the homes of maker economies, also tend to be extremely diverse, but this does not always manifest in meaningful supports for small businesses or individual makers. While makerspaces and the maker movement tout inclusion and equity as their core tenets, they "tend to ignore social inequalities that impede access and participation, where privilege, oppression, and domination over some groups of people are not acknowledged" (Britton 2015).

As stated in an article from TASCHA, "[...] for the Maker movement to live up to its rhetoric of 'every child a maker' and create inclusive opportunities for all—regardless of race, gender, or class—there needs to be more than just a shift in the maker community" (Britton 2015). This also means accessibility for those with disabilities.

Despite the existence of the Americans with Disabilities Act; makerspaces, markets, and support systems can still be inaccessible. This can hinder innovation and participation (Miele and Steele et al.). Spaces should implement human-centered design processes to engage stakeholders in designing processes and policies to promote maker ecosystems.

Women also face obstacles to full participation in the maker ecosystem. Female engagement in the maker community can be limited - they tend to engage in "indie crafting" which is less-discussed in maker discourse (Britton 2015). Men tend to take more advantage of available resources and tend to constitute the majority of the membership of co-working spaces (Maric 2018). This manifests not only in the general maker population, but in the administration of co-working spaces and the leadership of maker-enabling institutions.

Leaders in gender equity and the maker movement have called for more representation, more intentional messaging and programming, as well as more targeted research and engagement to overcome these issues. Melo (2020) reasserts the need for intentional design processes.

In addition, some makers will face additional obstacles in accessing available resources due to systemic inequities manifesting in a lack of access to transportation, education, and collaboration opportunities. UMA highlights the need for targeted strategies to promote financial independence and opportunities (Foggin 2019; Foggin and Magdaleno 2020).

This is very important for Houston, one of the most diverse places in the United States. With more than 140 languages spoken, and a very young population, designing inclusive solutions capable of meeting the multiple and diverse needs of the makers and markets is as important for the future creative economy.

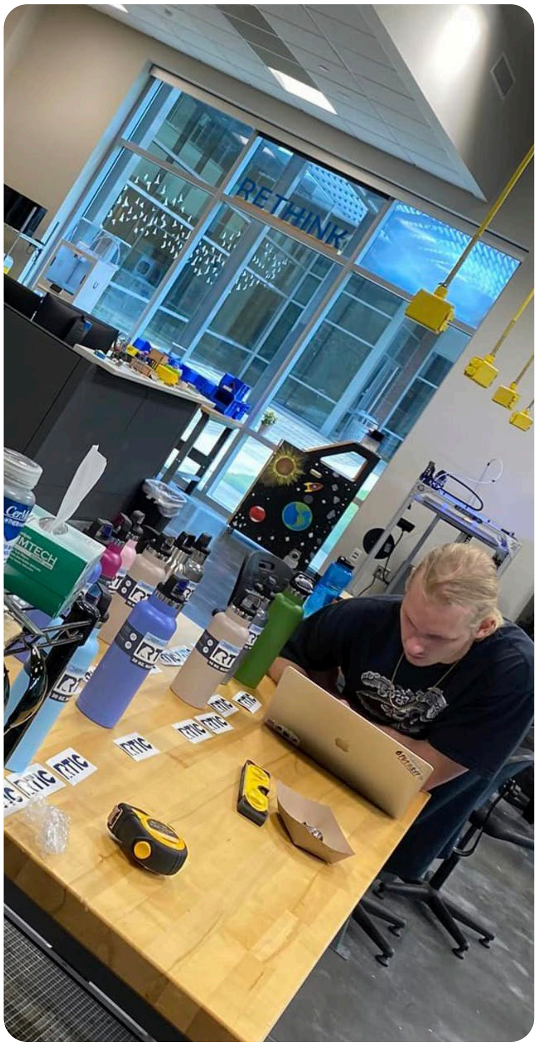
In addition, Houston is the largest independent city in the United States with more than 637 square miles. The challenges of locating services where they are needed – across the city and region are significant, and will likely require multiple partnerships to meet the needs a multi-lingual, multi-generational population.

Landscape Insights

This literature review identifies a number of challenges faced by the maker movement, including: a lack of common understanding regarding the composition of maker movement and a linked lack of research; issues of space, density, and connectivity, especially in larger metro areas; inconsistent or ineffective interactions with the public and private sectors; and inaccessibility for underrepresented communities.

The authorities suggest a variety of key components for a healthy maker ecosystem and important concepts to keep in mind when working to empower a local maker movement.

Community and place seem to be common threads in how to solve the problems associated with maker economies and maker spaces. Houston needs to create places for makers to better access resources, knowledge, materials, and customers. Policy makers should focus on incentivizing community collaboration, facilitating institutional involvement and support, and creating plans for providing services and access with equity at the forefront.



IN-DEPTH INTERVIEWS

IN-DEPTH INTERVIEWS

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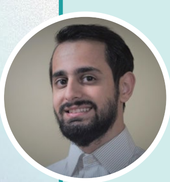
Fresh Arts

Action Jackson
FOUNDER
Black Business Lab

Ahshia Berry
DIRECTOR OF COMMUNICATIONS-PR
Magpies & Peacocks

Ashley Young
AREA LEADER
Women Council of Entrepreneurs



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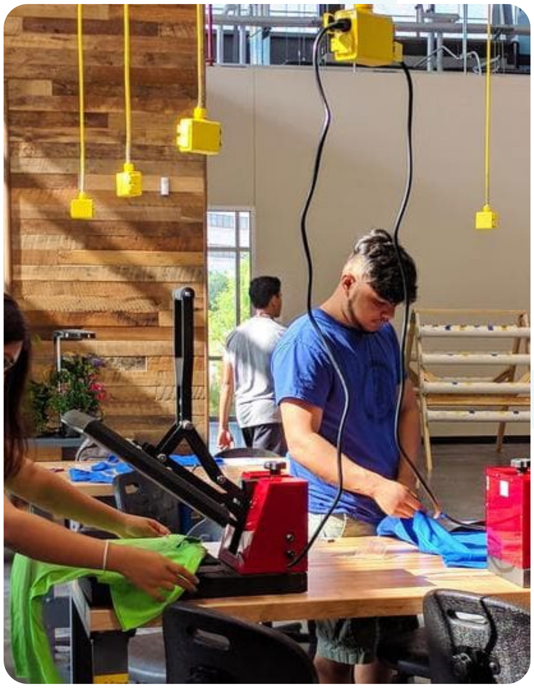
Methodology



In-depth interviews were organized with a range of stakeholders to identify trends and practices in the Houston maker ecosystem. Stakeholder groups included service providers, community organizations, educational institutions, government agencies, maker spaces, market owners, retailers, and real estate developers. New and experienced makers and manufacturers were also interviewed.

The interviews were conducted from June 1 through June 20, 2022, and were used to map current resources and provide insights on future opportunities to foster collaborations and serve Houston's everchanging maker ecosystem.

Houston is . . .

According to experts, Houston's maker economy is rapidly growing. Houston's size, demographics, and industrial diversity make it an area rich in resources and opportunities to start a new venture.

> *"I feel Houston is great for business. [...] we're used to seeing people from all different backgrounds were used of embracing everyone's culture."*
> **– Ahshia, Magpies & Peacocks**

> *"In Houston, [...] the people are ingrained with this entrepreneurial spirit."* – **Natasha, UpCDC**

In addition to its demographic diversity, Houston is also diverse in industry and workforce talent.

> *"Houston is a terrifically diverse environment, you should be able to find any kind of employee that is going to be the right fit for your organization in this city."*
> **– Tim, SBA Houston**

> *"We have a lot of the best talent in the world in terms of engineering and healthcare, and you know in space and all of that too."*
> **– Grace, Impact Hub Houston**

The lack of city structure propels its residents to reach for more and do it themselves.

> *"Houston has this thing where we are decentralized and we are all over the place."*
> **– Action, Black Business Lab**

Despite its size, the city maintains a small-town feel, creating an environment for fusion and collaboration.

> *"Even though we're a major city, I like to call it the big city little town"*
> **– Action, Black Business Lab**

However, as many opportunities exist in Houston, there are several challenges making it more difficult for Houston makers to achieve their visions of success. As a unique city, overcoming these challenges will require customized solutions. Experts recommend a tailored approach to overcome the challenges the city presents.

> *"Houston does not need to model itself on any other city because we're not any other city".*
> **- Action, Black Business Lab**

Challenges

'Maker' Term is Broad

Uncovering the challenges of Houston makers began with identifying whether there is consensus for defining the term "maker". The interviews revealed a difference in opinion and preference on how makers are identified.

> *"A maker is different from an entrepreneur, they're not mutually exclusive."*
> **– Grace, Impact Hub Houston**

> *"Maker is not the term that everybody likes or wants to identify with. A lot of times we hear fabricators, producers, creatives, [...] entrepreneurs even. And some people then just call themselves what they do."* – **Lauren, Projects-Matter**

> *"My personal opinion would be a maker is just a very small, maybe even nascent manufacturer."* – **Tim, SBA Houston**

Without clear definitions, makers can miss out on valuable resources and opportunities.

"A maker is literally just a person who is creating a physical thing, generally, and that physical thing can be defined in many different ways".

– Charlotte, re:3D

A Bias Towards Technology

In some instances, the term "maker" is associated with hobbyists and tinkerers who use technology.

In interviews, makers and stakeholders felt a resource bias towards tech-related businesses rather than those who work with their hands or use non-electronic tools and organic materials.

> *"I feel like even to this day, a lot of information available for small business or business, in general, is only related to tech."*
> **– Marshall, Raum**

> *"Tech specifically is taking over business ecosystems"*
> **– Action, Black Business Lab**

Despite the broad definition of the term "maker," certain interviewees felt a majority of resources are tailored to a narrow subset.

"A lot of people [...] thought makers were just tinkerers doing stuff on the side [...] people were thinking of it like science-fair kind of stuff versus advanced manufacturing. [...] I think the term maker has evolved into people who are responsible for their own production of their own goods."

- Grace, Impact Hub Houston

"Artists feel there's a lack of opportunities for them to be able to generate revenue and that's also inclusive of grant opportunities for artists of different disciplines."

- Angela, Fresh Arts

"Houston is resource-rich and connection poor, that's just what we are".

- Kameco, Maker Central Harris County Libraries

"As far as small businesses are concerned, I haven't been exposed to a lot that the city has going on, not to say that it's not there, I just really haven't seen it".

- Faith, Shop Local Market

Connections or Competition?

The interviews reviewed how perceptions of resource limitation are due, in part, to a lack of awareness or connection to resources.

Currently, Houston's maker economy is decentralized, taking place throughout the city.

> *"The thing that's challenging is [...] the sprawl."*
> **— Grace, Impact Hub Houston**

The spread and scale of the city is a meaningful obstacle for makers – it functionally separates makers from resources and hinders collaboration. Additionally, ineffective promotion of available resources hinders awareness and access.

> *"A lot more resources are there than people realize but it's very difficult to access them"*
> **—Merin, Maker, KIT Made**

The feeling of scarcity goes beyond makers and impacts stakeholders, as well.

Oftentimes, the organizations supportive of makers compete for limited grant funding, consequently hurting makers and further restricting access to essential resources.

> *"Even in nonprofits it almost becomes this dog-eat-dog thing where, 'I'm going to serve more than you and get more funding"*
> **– Kameco, Maker Central Harris County Libraries**

> *"In order to get more funding... Each organization is incentivized to do the same thing as everybody else ...it's a competitive funding process. [...] A lot of the leadership has been having to fight against other organizations for the same type of dollars."*
> **– Grace, Impact Hub Houston**

The perceived lack of resources strains both makers and stakeholders by creating competition where there should be collaboration.

Market Saturation

The coronavirus pandemic unleashed a tidal wave of entrepreneurial activity resulting in more makers entering the ecosystem.

> *"Businesses have popped up post-Covid and there's so many"* **– Faith, Shop Local Market**

This has increased competitive sentiment as more makers feel there is less space and opportunity for them.

> *"There's like 30 markets every weekend [...] it's become extremely saturated"* – **Faith, Shop Local Market**

As a result, Houston is seeing an influx of people seeking access to basic information on how to grow and scale their operations or ventures.

"In this small business community, not very many people are willing to tell you the step by step on how to get started [...] it's a very competitive world out there in this business".

- Melanie, Remarkable Embrace Boutique

"How to get a DPA, how to get an LLC, how to open a bank account depending on what type of business, what kind of permits do you need to run your business, what kind of information do you need to have on your product, its [the] fundamentals."

- Faith, Shop Local Market

Learning Business Basics

The most critical moment in a maker's venture is when they start. This is when most makers seek and require assistance. Having time, access to capital, and tapping the knowledge of others all play roles in how successful a maker is at growing their venture.

> *"Makers are head down making stuff. Every time they look up to attend a meeting or sit on a call, that's one less widget that they've made and one less widget that they can sell. So for them to go and spend time researching all the [...] different loan documents that you have to do, there goes like 15 widgets that you could have been making."*
> **– Lauren, Projects-Matter**

> *"The biggest one was financial just being able to purchase the right type of inventory and knowing what type of inventory to buy"*
> **– Melanie, Remarkable Embrace Boutique**

> *"Small businesses that are just getting started, can barely buy inventory and can't afford to take these classes. Some of these classes I've done have free trials but [afterwards], I'm more confused than when I started."*
> **– Melanie, Remarkable Embrace Boutique**

However, most makers do not have business experience and do not know what elements go into starting their venture.

> *"I'm a person who works in the creative industry, where people have zero business sense."*
> **– Merin, KIT Made**

> *"My last job [...] I learned a lot [...] about how to be a savvy business person [...] so I had a leg-up, I will never deny that but I still didn't know how to get started"* **– Marshall, Raum**

> *"The challenge that they face is that they all have incredible craft skill that is indigenous to their culture and they don't know how to pivot that to a wider culture"* **– Lauren, Projects-Matter**

Thus, they require a crash course in business to get their venture off the ground. This can be as simple as filling out registration forms and as complicated as filing taxes and developing a business strategy.

> *"It would be great to have some resources for paperwork and things like that, even simple accounting. Because everyone's trying to take your money and no ones really trying to help you."* **– Marshall, Raum**

Knowledge and experience compound over time and pay dividends when makers seek future funding or growth.

"I remember when I first started [...] and I wanted to figure [...] the first step I need to take. [...] I started watching every live stream from anybody that was selling anything, and I just got bold and started asking people 'How did you get started?"

- Melanie, Remarkable Embrace Boutique

"SBA is known for guaranteeing lots of bank loans for small businesses [...] what's the secret to getting one of those SBA loans? Don't go to the bank. The secret is [to] organize your business ideas [...] so that when you go in front of a lender it's already in bank-speak".

- Tim, SBA Houston

Recommendations

Among Houston makers, there is limited understanding of the resources available and how to access them. There is no "on-ramp" for talented Houstonians to quickly access supports to start a business, find customers, or promote their creations. Houston's maker economy and supports are decentralized and often compete with one another, making it difficult for makers to identify and connect with the resources they need.

Moving forward, local stakeholders must work collaboratively to build a center of networking, ideas, and industry partnerships for makers across Houston. This collaboration could help facilitate a connection between local stakeholders, makers, and manufacturers and uplift Houston's overall economy.

Any initiative must be responsive to the current needs of Houston makers. The complex diversity of the region will require relevant solutions – distributed across the geography to ensure access for all.

This creates an opportunity for institutions of higher education. As makers seek resources and knowledge on how to start and grow a business, regional institutions already known for their education and training can provide invaluable support as the first point of contact and help build connections to other resources.

With a collaborative and intentional effort, Houston can uplift its local communities and build a future in manufacturing, business, and innovation.

"We have a lot of talent, but [...] they're not necessarily becoming entrepreneurs in droves. But if there was a ramp for them to be able to do that [...] that would be really interesting to see how that could change the entrepreneurial culture at least here. [...] There are so many opportunities that aren't being presented in a cohesive way and I think that's part of the problem."

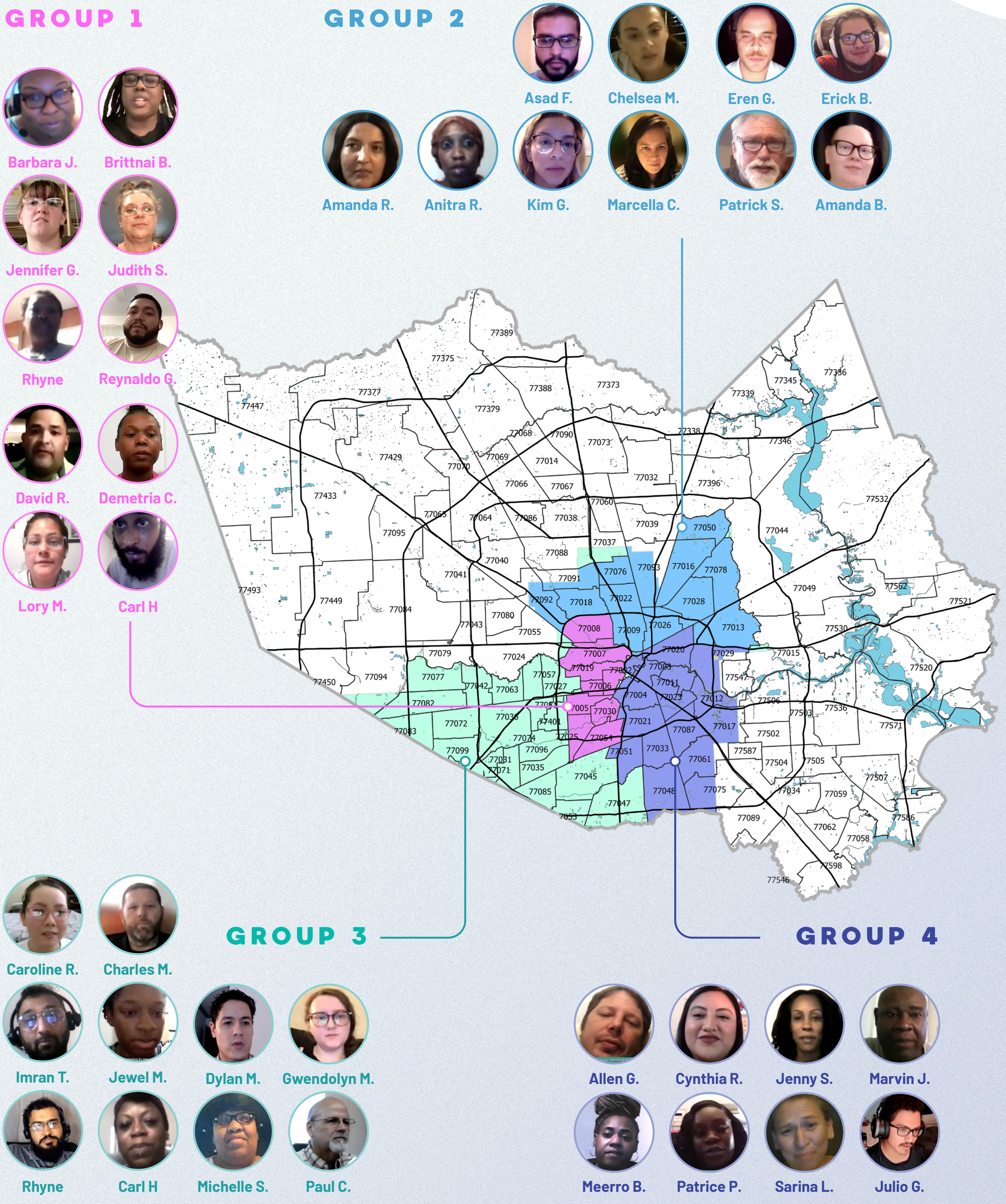
– Grace, Impact Hub Houston

"There has to be not only a hub but this safe place where all of these connections could come in. [...] There are 28 organizations doing the same things and they aren't even an hour away from each other".

– Kameco, Central Harris County Libraries

MAKER FOCUS GROUPS

MAP OF PARTICIPANTS



Methodology

There is no one mold for a maker, and in a city as diverse as Houston, makers come from all walks of life, regions, and backgrounds..

To understand Houston's diverse and decentralized maker ecosystem, four focus groups were convened, comprised of 38 Houston "makers." The focus groups were recruited from select ZIP codes in four different regions within the Houston Community College district, and held over two nights in a virtual setting.

Focus groups were designed to understand individual maker experiences and attitudes towards growing their venture and obtaining resources and support in Houston. Discussion guides and collateral were based on findings from the literature review and the in-depth interviews with community experts and stakeholders.

Getting Started

From the generalists who sold and produced several items to the specialists who developed more customized pieces, focus group participants produce goods across a range of creative disciplines and price points.

Participants reported making candles, doll accessories, baked goods, surgical scrub caps, custom car parts, wearable art, calligraphy, embroidery, cosmetics, LED signage, jewelry, antique radios, box cars, and barbeque pits.

"I [make] t-shirts, banners, posters, you name it I can do it"

- Demetria

"I make dioramas for Barbie scenes." **- Reynaldo**

"In the last 6 months I started making surgical scrub caps." **- Jennifer**

"What I actually sell is model railroad products [...] mostly buildings. Specifically, customized buildings for people." **- Paul**

While a few makers saw themselves as small business owners or entrepreneurs with aspirations of making their venture full-time, a majority spoke of their work as a hobby, side gig, or an opportunity to make extra cash.

"I'm in-between, like a hobby to side-hustle. Learning how to monetize as a creator." **– Chelsea**

"It's kind of like a hobby that's turning into a side hustle." **– Barbara**

The primary limiting factor in being full-time is the lack of time to pursue their craft.

"My schedule doesn't give me enough time to do it fully." **- Patrice**

"It's kind of time-consuming and it takes a while." **- Jenny**

"As soon as my job tells me I can retire." **- Charles**

"I might [continue making] for my family but it's just a lot of time." **- Sarina**

Participants were also asked to explain what it is they do. When asked what they called their venture, participants mainly spoke about the product –I make candles, tutus, jewelry, etc.– or the skillset involved in making the items - artist, carpenter, welder, baker, etc. Very few referred to themselves as a maker or creator.

> *"I say that I'm in restoration… if you make a list of job titles, restoration is never going to be one of them."*
>
> **- Patrick**

> *"Lip gloss maker"* - **Anitra**

> *"Handcrafter, leather worker"* - **Kim**

> *"I do painting and design."* - **Eren**

This perspective seemed to have little to do with the length of time participants have spent on their venture, which ranged from six months to more than fifteen years, and more to do with how they first approached their work and the amount of time they had to dedicate to it.

> *"The main reason why I got into it was mainly money."* - **Erick**

> *"My goal, in the end, was just a way to double, triple my money with such a low cost and in the fastest amount of time."* - **Reynaldo**

> *"Mine started out of being frugal I guess… It was more-so 'I think I can do this myself' versus wanting to pay that high cost."*
>
> **- Jeny**

While some makers set out to start a business or got inspired to try a new venture, a majority of makers started purely by accident.

> *"I never really thought that someone was going to pay me to make their stuff. I was just a mom that was making stuff because I didn't want to have to pay one more thing for my kids."* - **Lory**

Oftentimes, participants would end up making something for themselves and audiences for their products.

> *"It was just something that I was doing for myself. [...] After that people started asking [...] 'would you mind making me one."* - **Jennifer**

These participants often made items because of the joy they got making them for themselves and others; or wanting or needing something they couldn't easily find or afford.

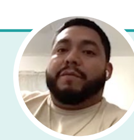
Several maker participants started out making items for their children's extracurricular activities due to the cost of the item and found other parents and community members had a similar interest in their product.

> *"My goals were to not have my [kid's] cheer fees increase, so if I could play a part in keeping those fees as low as possible then I was ready to do it."* – **Lory**

> *"I started doing it because my kids play sports and I kind of got tired of paying like $20 per shirt or whatever so I just started doing it myself"* - **Demetria**

Because of the unique spark of their journey, very few participants who started accidentally had a goal or vision of success outside of saving money or occupying time.

Those with more entrepreneurial starting aspirations ultimately desired to gain financial freedom or independence.



> *"This could buy me my time. [...] I don't have to sell my time for money anymore."*
>
> **- Reynaldo**

Getting to Growth

Growth for makers came in stages with numerous hurdles encountered along the way.

When first starting, makers recalled undergoing a trial-and-error phase – having difficulty developing their product, knowing where and what to source, and in marketing themselves to the appropriate audiences.

> *"I ended up having a lot of trial and error and wasted material [...] that is not cheap."* – **Kim**

> *"Not knowing how to find [the resources available]. It takes a lot of digging to find the current things that are going on."*
>
> **- Jenny**

> *"At first it was learning the fonts, I thought I had to stay with the fonts that were already installed on the Cricut... and there's more techniques to lay it."* – **Brittnai**

> *"When starting off, it was rather difficult to properly market myself in a way to make money, [...] [but] the main challenge I had was the price of everything."* – **Erick**

This period required testing and tinkering to find the right combination of materials, techniques, promotion, and audience for their product - on top of the constant limitations on time and money.

> *"I had financial issues - I was broke at the time - so coming up with the money to get a restoration project."* - **Patrick**

Finding Support

During the initial phase, many maker participants turned to resources online and in their community for guidance.

> *"Automotive circles [...] they all usually share knowledge. [...] Getting into them is something that became very useful."* - **Erick B.**

> *"I'm on Facebook groups and creative groups on Instagram."* - **Jenny S.**

While some sought insight from friends and family, community clubs, or social chatrooms, a majority of makers used YouTube as a resource for information specific to making their products.

> *"I go to YouTube and the antique radio club here in town."* - **Patrick**

> *"YouTube has been the biggest resource."*
>
> **- Rameez**

For some, finding the right combination requires pivoting their approach or adjusting their product.

> *"I've done some craft level classes [...] but mainly I think YouTube"* - **Lory**

Of the 38 participants, only a handful reported having access to a mentor.

> *"For me, I have this candle maker in Houston that has inspired me and I've taken her classes"* - **Rhyne**

> *"I learned the value of mentorships."* - **Asad**

> *"I had a mentorship program through my school – that really helped me."*
>
> **- Gwendolyn**

Houston Is for Makers

Living in Houston has many benefits for makers – with many feeling the size and diversity of the city makes it a great place to start a business venture.

> *"I think Houston is the place to be to start a small business"* – **Rhyne**

When it comes to sourcing, finding an audience, and interest in specific product, no matter how small or specific, Houston has something for everyone.

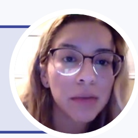
> *"We have access to everything under the sun [...] machines, inventory, makerspaces, that you're not going to find in a small town"* - **Lory**

> *"It's an international city, so many different cultures and things going on here. [...] It's a great community here."* - **Allen**

Some makers felt being connected to Houston and to their local communities helps them sell.

> *"Houston is really big on Houston."* - **Sarina**

> *"That 'Howdee-culture' here."* **- Kim**



On top of this, the entrepreneurial and independent spirit of the city creates more opportunities for growth and connection.

> *"There's always opportunities for vendors, there's always somewhere you can go and set up".*
>
> **- Meerro**

However, an impediment to accessing Houston's many opportunities is the city's sprawl, which makes it more difficult to connect to resources and people.

> *"There is a maker space, it's just not convenient for me."* - **Charles**

Competitive or Collaborative

Participants were asked whether they felt the maker ecosystem is more collaborative or competitive. While all creative ecosystems can be competitive, with more people entering the maker ecosystem during the pandemic, and as more people are 'trying to make it,' competition has increased.

> *"Houston has a lot of entrepreneurs around here that are trying to get their products discovered"* - **Michelle**

> *"I think it's gotten more competitive over the years."* - **Sarina**

While some makers reported not feeling a sense of competition, a majority who were trying to grow their venture felt its presence. Depending on the industry or spaces a maker occupies, there can be a very high level of competitive sentiment.

> *"I think it depends on the industry. For example, in graphic design, it's really competitive. I even hesitate to ask for advice from my buddies that we went to school together. [...] But then ecoprinting I think is really collaborative."* - **Marcella**

> *"If you're in the wrong group you're going to get some pretty catty people that are just not supportive."* - **Lory**

> *"I would say that it's probably more competitive, at least in the spaces that I'm in."* - **Erick**

Some makers are therefore less likely to seek support from peers or even put their ideas or products out there. This is partially out of fear of their idea being taken by someone who is able to price their product lower or has a larger audience.

"There's a lot of places that do [...] drop shipping, where everything gets imported from China only costs a handful of dollars, and they drive down the prices aggressively here."

- Erick

"Sometimes I'm a little scared to put out ideas or designs out there because somebody that already has a larger following can just take that and claim it as theirs." – **Cynthia**

This competitive atmosphere has stifled a sense of collaboration and perhaps limited awareness of valuable resources.

Accessing or Using Fabrication Technology

Sometimes, the barriers to growth can result from the lack of access to technology or maker spaces.

Many participants reported not being able to afford the tools to grow their business as they got started, and some still were unfamiliar with available spaces and services.

"One of the main challenges was making things as cheap as possible and the quickest way to do that with woodworking was doing everything by hand." - **Erick**

"I haven't [been to a makerspace]. [...] [Because], unfortunately, some do charge so I need to save a little in order to go to those places and learn some more." - **Cynthia**

More established makers owned and utilized technology to assist in the the production or marketing of their products. This included: CNC machines, 3D printers, scanners, Cricuts, embroidery machines, heat presses, clay curers, laser engravers, cutters, and soldering irons.

"I use CNC machining and an embroidery machine... I have access to one from my real job" - **Eren**

"I have multiple silhouettes, heat presses, a sewing machine, I'm looking at getting an embroidery machine"

- Lory

"I have a laser engraver, I have a woodworking CNC, I have my welders plasma cutter" - **Charles**

Across the groups, there was a measurable gender divide in the use of digital fabrication tools and other supportive technologies. A majority of male participants own or use these techniques and technologies, while many of the female participants make their products by hand.

Lessons From the Journey

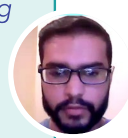
Maker participants were asked to share the major lessons they had learned. Some felt they should have been less afraid to fail, and been more willing to experiment.

> *"I should've taken the time to fail early on instead of holding onto my leather because I was too scared to waste it. Had I failed earlier on, I would've progressed this whole time."* - **Kim**

Some participants learned it was better to ask for help rather than go it alone.

> *"For me, it was initially, I wasn't asking for help or going to anyone [...] which takes time and money. I was just doing it blind."* - **Patrick**

> *"At first, I wasn't asking for help, I was just trying to be a lone wolf, then I realized it's way better to be a team player. [...] It was a big learning lesson [...] to be part of a community."*
>
> **- Asad**



Others wished they had more confidence in their product and themselves and had been willing to put themselves out there and fail faster.

> *"I'm afraid of failing."* - **Patrice**

> *"I'm a shy person, but now I'm able to approach people from doing it."* - **Anitra**

This lack of confidence in themselves or in their products often led makers to undersell themselves. Not knowing their worth or seeing their time and work as valuable was one of the biggest lessons learned.

> *I would say just don't be scared when you're trying to price your own work."* – **Eren**

How to Price Products

Even though time and money are consistent limiting factors when it comes to growth and achieving scale, many participants do not consider the value of their own time when charging for what they make.

> *"I kind of feel weird about charging too much or pricing my product."* - **Jenny**

> *"I might need to charge a bit more."* - **Julio**

> *"I mostly do it for people I know [...] so I really don't charge a lot. I know I probably should but I don't."* - **Sarina**

Participants recognize they need to price their time and materials. However, for those who are just starting out or who sell to close friends and family, they undervalue their time.

Some makers have learned from experience to request a deposit before taking on a new project for a client.

> *"If it's over a certain amount [...] you have to pay me half up front and then you have to pay me the other half when you are ready to pick them up"* - **Patrice**

Some makers find setting prices or requiring deposits difficult when they see similar products being priced lower than what it would cost for them to make. This keeps makers from charging for their actual worth.

> *"Sometimes I'm scared to put out designs that I know they're going to copy and sell for one dollar."* - **Cynthia**

> *"If I'm charging too much then they can find it cheaper somewhere else. So for me I think it's more of me being scared to step out."* **– Meerro**

Defining Success

Every maker is unique, and based on their experiences and goals, there is no set definition or perception of success.

For some, success comes from the joy of making and learning. For others, it can be from the appreciation of a paying customer and growing the scope of their business.

> *"I think success is going to be your all-around happiness"* - **Jennifer**

> *"Success is doing what I love to do, I love to make candles [...] just making it, I know it's a quality product so that's success for me." - Rhyne*

> *"Anything that makes you happy"* - **Imran**

> *"Having people come back. Whenever you put your heart and soul into something, it's nice to have people say they appreciate it."* - **Paul**

> *"When your customers [are] constantly returning for more products... a returning customer"* - **Michelle**

> *"I would say success is word of mouth. Especially when you've made something for one person and they let somebody else know, so it shows that you're growing in your gift or your craft"* –**Meerro**

Success can be monetary - seeing revenue growth. But it can also be emotional - seeing the joy and appreciation of their customers.

> *"Ultimately making money. I like to make money off whatever I sell."* - **Allen**

> *"In the end it's about do you have more money compared to last period."* - **Rameez**

> *"I feel like success is making your customers and your clients happy, so they keep coming back."* - **Carl**

For some success is not one or the other, but the combination of passion and profession.

> *"Being able to do what you love to do. Being able to align passion with profession, that's what success is"*
>
> **- Asad**

Ultimately, success if defined by each individual. Across the groups, maker participants hope to gain financial freedom, personal satisfaction, recognition, or self-employment.

Finding Success Through Supportive Resources

Depending on their product and vision of success, support looks different for each maker.

While some makers felt established and content in their product and journey, others felt they could benefit from support. Despite a broad diversity of the groups, several resources continually surfaced as important to success. Maker participants need support in tools, mentorship, marketing, business basics, and finance.

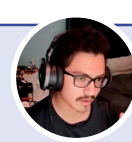
> *"I always feel like I need another class because I don't know enough."* - **Marcella**

> *"It's the marketing and being able to promote the product that I was trying to get out".* **– Anitra**

> *"How to get your LLC."* **- Cynthia**

> *"Marketing and bookkeeping, stuff like that."* **- Patrice**

> *"How to make a profit and pay yourself."* - **Jenny**



> *"How to invoice."*
>
> **- Julio**

Support For a Local Brand Initiative

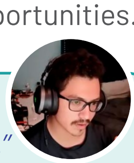
After the maker participants discussed what would help them succeed, they were shown a video of an existing Local Branding Initiative, Made in New York. They were then asked if they would be interested in being part of a similar effort in Houston.

Overwhelmingly, maker participants were interested in a Houston-based local branding initiative. They were interested in many aspects – the opportunity for participating in workshops, sponsored markets, collaborative spaces, and access to services which would benefit makers.

> *"I think the workshops would be really beneficial as well because a lot of the events in the community you have to already be well established. I think the workshops would help those that are not already established"* - **Gwendolyn**

> *"This is like an alternative to a Facebook group but it's kind of more formal and more organized and managed. [...] You will be able to get more inspiration and connect to people and maybe join together."*
>
> **- Rameez**

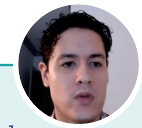
Perhaps the largest value of such an initiative is its ability to connect makers with opportunities and supportive resources. As many makers reported, they have to dig to find opportunities.



> *"[Opportunities are] not really advertised as much."*
>
> **- Julio**

> *"Kind of just knowing about it [...] enough of us don't find out until the deadline has passed that there was even an opportunity."* - **Jenny**

Because of the poor connection to resources, for a "Made in Houston" type initiative to work, participants felt it should be broadly promoted and made available throughout the city.



> *"I do think the key to success with something like that in Houston [...] it would have to be bouncing around, just cause of how spread out we are"*
>
> **- Dylan**

> *"I think I would be very interested, but in Houston, the problem is, it depends on the location of where this thing is going to be. If it's 50 minutes away, I'm not gonna go"* - **Rameez**

One concern with such an initiative would be the price. Participants were concerned about the cost of participation.

> *"I think just the money mostly is a factor for that."* - **Sherr**

Participants were also concerned over what constituted "Made in Houston." Makers had already addressed the difficulty in competing with sellers who drop ship and relabel items made overseas. Makers wanted to ensure they did not end up in the same competitive space while still being inclusive of anyone who makes a product in the city.

A local branding initiative in Houston would give the city and its makers the opportunity to build and share resources and collaborate to ultimately define what being Made in Houston is all about.

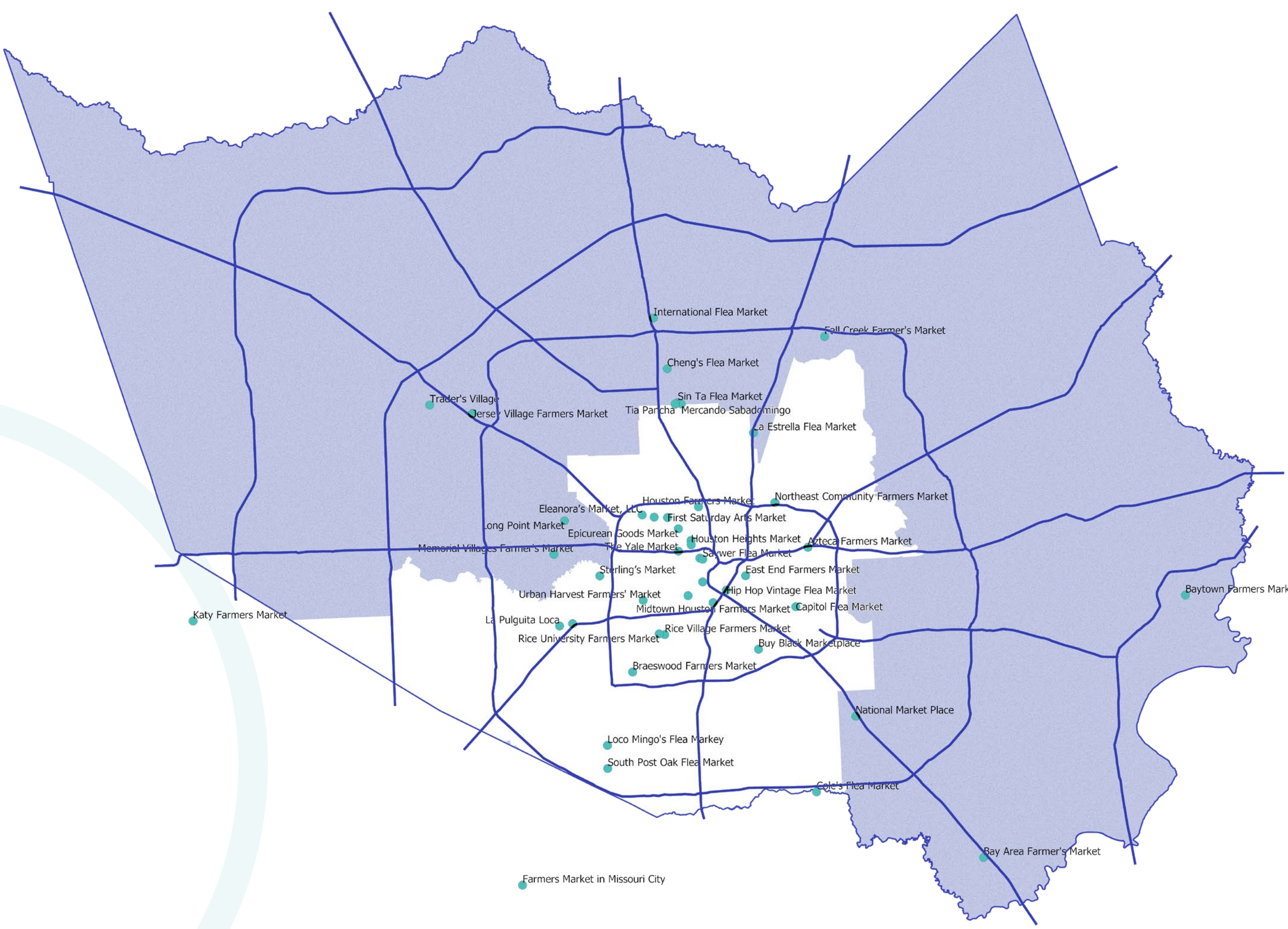
REGIONAL MAKER SURVEY

About the Sample

In a market as diverse as Houston, collecting representative survey responses is always a challenge. Given the constraints of this study, the acquisition of 116 responses limits the applicability of the findings to the broader maker ecosystems. These limitations require careful design and ongoing efforts to ensure the collection of an inclusive dataset.

As indicated in the literature review – this is a difficult population to study. Makers are not easy to reach, and tend to be very busy. With time being a precious commodity, makers have to choose whether to make their products or participate in a random study.

This survey was distributed through a range of tactics - starting with partnership lists, emailed invitations to Houston residents, and the distribution of flyers at markets across the region. The map below demonstrates the distribution of the 50-plus markets reached.

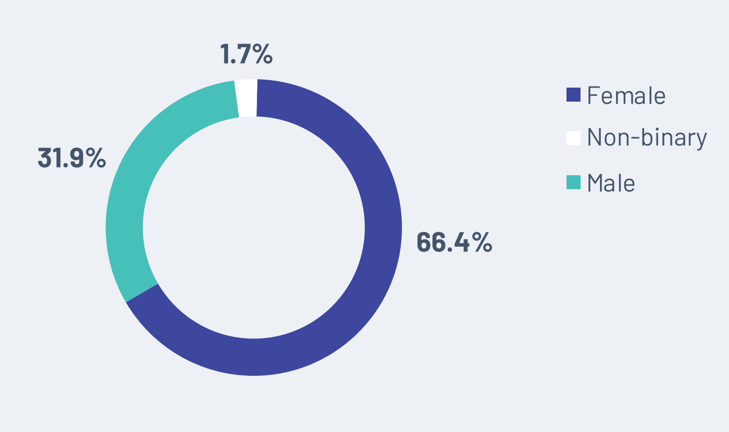


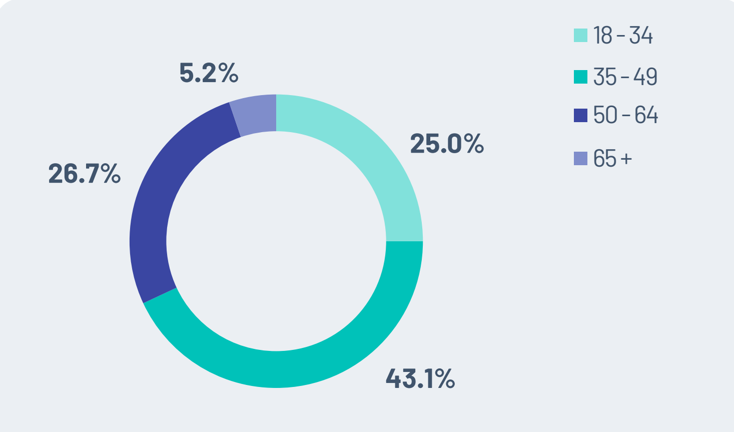
All data collection was conducted online, with outreach and collection conducted in English and Spanish. The reliance on digital data collection potentially further limits representation and participation.

With these caveats, the surveyed population follows.

Gender

Nearly two-thirds of respondents are female. Overall, 77 identified themselves as female, 37 as male, and 2 as non-binary. This syncs with responses from the focus groups and in-depth interviews, as well as some of the literature, which indicate maker populations tend to be more female than male.



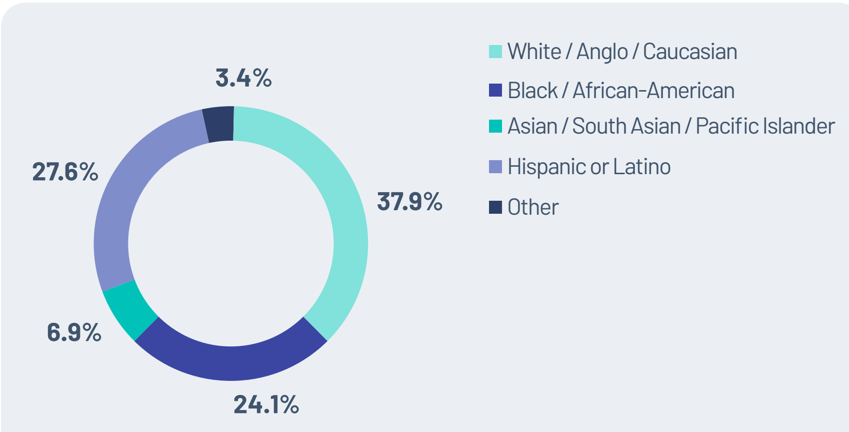


Age

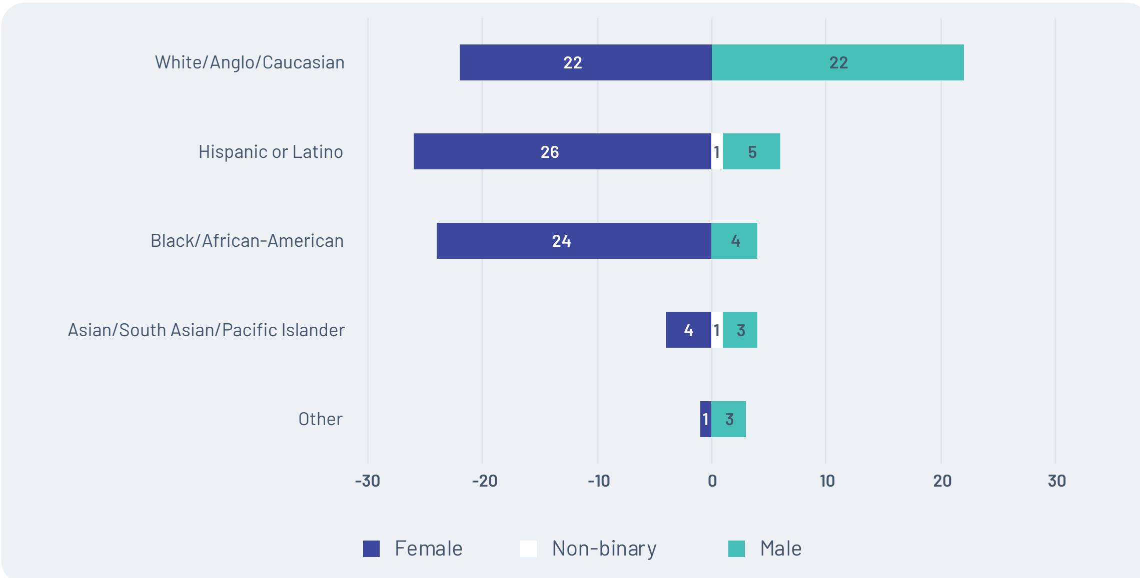
More than two-thirds of respondents are under 50 years old, with a plurality (50) ages 35-49.

Race/Ethnicity

A plurality of respondents are White (37.9 percent), followed by Hispanics (27.6 percent), African Americans (24.1 percent), and Asian Americans (6.9 percent). 3.4 percent of respondents identified as Other.



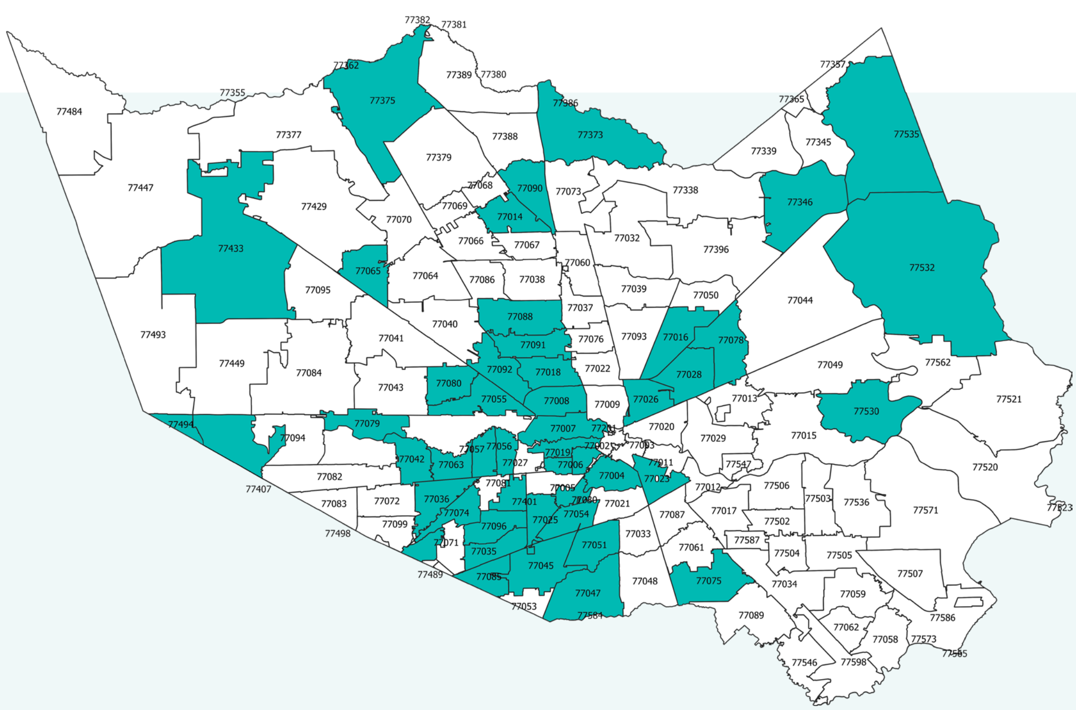
When exploring the intersection of race and gender, there are significant differences which appear between White and non-White survey respondents. White respondents are split evenly by gender, while Hispanic and Black respondents are overwhelmingly female.



While the small sample size of this study prevents definitive conclusions, this does sync with observations from other phases of the research project. Anecdote and this data would indicate women of color are far more likely to participate in the maker ecosystem. If true, these observations could inform more effective design of the supports women and women of color need to thrive as entrepreneurs and creatives.

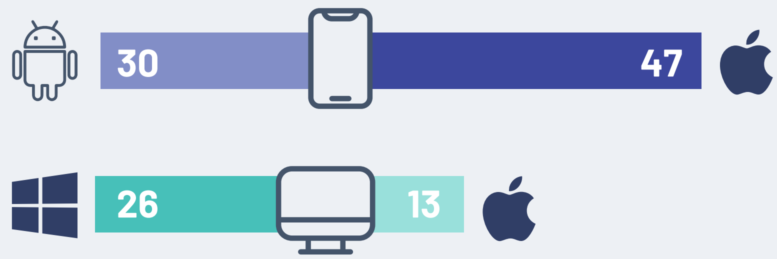
Geography

The 102 survey respondents who shared their ZIP code hailed from 55 different ZIP codes from across the region. Again, 116 responses cannot be viewed as representative of a population as large and diverse as Houston and Harris County, but efforts were made to ensure broad distribution and collection, and they appear to have succeeded.



Technology

Metadata from the survey platform helps identify the types of technology used by respondents to complete the study. Nearly two thirds of respondents used a smart phone to complete the survey, with 30 completing the survey with an Android phone, and 47 completing the survey with iPhone. On computer platforms, 26 completed the survey using a Windows-based computer, and 13 used an Apple Macintosh.



The use of technology changes by age. While respondents older than 50 are evenly split among computer and smart phone survey completion, respondents younger than 50 were nearly three times as likely to use a smart phone to complete the survey.

Age	Computer	Smartphone	Total
18-34	8	21	29
35-49	13	37	50
50-64	15	16	31
65+	3	3	6
Total	39	77	116

This is a further example of how outreach, engagement, and solutions need to be mobile friendly to effectively reach an increasingly mobile-first culture and population.

A Note on Educational Attainment

Of the 108 respondents who gave an answer to share their last level of their education, 63.9 percent indicated they had a college or graduate degree, and additional 23.1 percent had at least attended some college, 10.2 percent have a high school diploma or GED, and 2.8 percent said they had some high school.

This compares to Census data where 40.9 percent of Houston-area residents have a college of graduate degree, 20.3 percent have attended some college, 23.5 percent have a high school diploma or GED, and 15.4 percent have some high school education.

	Responses	Share	Census
Some HS	3	2.8%	15.4%
HS or GED	11	10.2%	23.5%
Some College	25	23.1%	20.3%
College Degree	46	42.6%	28.8%
Graduate Degree	23	21.3%	12.1%
Total	108	100.0%	100.0%

This means the sample skews towards a higher level of education. There is likely a more dispersed range of educational attainment across the maker ecosystem, and planners should consider – perhaps with the benefit of further research – whether the supports currently in place are geared towards a more educated set of makers than may exist within this market.

Regardless – even among this more educated sample, there are several gaps in their awareness, access to resources, and business skills which would help them be more successful in their work.

Accessibility and Makers with Disabilities

In an effort to evalute whether members of the maker ecosystems may need some level of accommodation, respondents were asked how they describe your ability/disability status, regardless of whether they typically request accommodations. 105 respondents answered this question, and 91 of them indicated they do not identify with a disability.

Among the 14 respondents who identify with a disability, five indicated they have a learning disability like ADHD or dyslexia, three indicated they have a mobility disability, three indicated they have a long-term medical illness, and one respondent each indicated they have a sensory impairment, a temporary impairment due to illness or injury, or another category of impairment not listed in the survey.

About the Venture or Business

Tenure

Respondents were asked to share how long ago they started venture or business. A majority (57.7 percent) indicated it has been less than three years, an additional 20.7 percent indicated it has been three to ten years, and 21.6 percent reported working for ten years or longer.

Tenure	Count	Share	
Less than one year	20	17.2%	57.7%
One to three years	47	40.5%	
Three to five years	13	11.2%	
Five to ten years	11	9.5%	
Ten or more years	25	21.6%	

Status/State

When asked to describe the state of their venture or business, 17.2 percent shared they are in the idea an exploration phase, 18.1 percent indicated they in the startup phase, and 23.3 percent indicated they have experienced constant struggles to keep going. These "startup to struggle" phases account for 58.6 percent of responses.

31.9 percent indicated they are in a growth phase with the potential to expand. Only 9.5 percent indicated they feel their venture is business is stable and they are good with its status. These "growth to stability" phases account for 41.4 percent of responses.

	Count	Share	
I am in the idea and exploration phase	20	17.2%	58.6%
I am just starting up	21	18.1%	
It's a constant struggle to keep going	27	23.3%	
It's growing and has the potential to expand more	37	31.9%	41.4%
It's stable and I'm good with where it's at	11	9.5%	

The combination of tenure and status yields a few observations – with the caveat there are no hard conclusions which can be drawn from small samples, even as they correlate with prior research or other phases of this research project.

Tenure	Exploration	Startup	Struggle	Growing	Stable	Grand Total
Less than one year	7	8		3	2	20
One to three years	9	11	9	16	2	47
Three to five years		2	4	6	1	13
Five to ten years	1		6	4		11
Ten or more years	3		8	8	6	25
Grand Total	20	21	27	37	11	116

Most of those in the exploration and startup phases have been at it for three years or less. Those who are struggling are spread across the tenure spectrum – but there is little insight into whether these struggles are connected to the pandemic or current economic landscape. Those who are growing and see the potential to expand are more likely to have been working at it for three years or less, and among those who have been working for five or more years, there are near-even splits between those who are struggling and those who are growing and see potential.

Lastly, only 11 respondents (9.5 percent) see their venture or business as stable and are good with where it is – but this is a very small sample – so it is difficult to lend meaningful reliance on how six of those 11 respondents have been working for ten years or more.

What the survey does show is there are a range of outcomes across time, and there are not meaningful correlations between the time someone has been working on their venture or business, and how they perceive the state of their efforts.

Income Status

Respondents were asked to describe the scale of their business or venture relative to their income. 18.1 percent indicated it was their hobby and does not need to generate income. 48.3 percent indicated it is a side venture, and not their primary source of income. 13.8 percent indicated it is their primary, but not only source of income; and 19.8 percent of respondents indicated it is their sole source of income.

It's my hobby or passion and does not need to generate income	21	18.1%
It's a side venture - and not my primary source income	56	48.3%
It's my primary, but not only source of income	16	13.8%
It's my sole source of income	23	19.8%

A Note on Gender

Female respondents were more likely to report their venture as their primary or sole source of income (39.0 percent) than male respondents (21.6 percent), while a majority of male respondents indicated their venture was on the side, and not their primary source of income.

	Female	Male	Non-binary	Total
It's my hobby or passion and does not need to generate income	16.9%	21.6%	0.0%	18.1%
It's a side venture - and not my primary source income	44.2%	56.8%	50.0%	48.3%
It's my primary, but not only source of income	15.6%	10.8%	0.0%	13.8%
It's my sole source of income	23.4%	10.8%	50.0%	19.8%

Business Registration Status

Respondents were nearly evenly split between those who are registered or in the process of completing their registration with the state of Texas. 49.1 percent are registered or in the process, while 50.9 percent are not registered, or do not know their status.

Yes	52	44.8%	49.1%
My registration is in process	5	4.3%	
No	54	46.6%	50.9%
I don't know.	5	4.3%	

Registration status is similar across the tenure of the venture or business. There are a surprising number of respondents who have been at it for more than three years who have not registered (27) compared to those who are registered (22).

	Yes/In Process	No/Don't Know	Grand Total
Less than one year	9	11	20
One to three years	26	21	47
Three to five years	4	9	13
Five to ten years	7	4	11
Ten or more years	11	14	25

Size of the Creative Entity

Respondents were asked to share the size of their business or venture (including themselves). A majority of respondents (78 of 116, or 67.2 percent) indicated they are the only person involved, and another 15 (12.9 percent) indicated they have one other employee or partner in their venture.

Workers	Responses	Share
1	78	67.2%
2	15	12.9%
3	8	6.9%
4	7	6.0%
5	3	2.6%
6	1	0.9%
7	1	0.9%
8	1	0.9%
9	1	0.9%
10+	1	0.9%

These responses indicate many makers are solopreneurs or sole proprietors in their venture. The relatively low number of makers with multiple employees makes it challenging to identify what factors may lead to growth.

Location

Respondents were asked to share where they worked from in their creative ventures - before and during the pandemic, and at present. While a supermajority of respondents reported working from home before the pandemic, there was a measurable shift from shared workspaces to the home during the pandemic, with little change in the present context.

	Pre-Pandemic	Pandemic	Present
At a private office or studio	16	11	10
At a shared workplace	10	2	7
At home	86	98	97

The small sample size of the survey prevents effective measurement of trends but within these responses, there has been a net shift from private offices and shared workspaces to working from home. This change in workplace may be temporary or permanent depending on other macro factors, which means investments and supports for makers may need adaptable and agile models, rather than trying to build for static circumstances.

Do Makers Make to Sell?

Since makers do not uniformly produce, manage, market, or sell at the same pace or phase of their business, respondents were asked if they currently sell the products they make.

If there were a spectrum – from those who craft and make for family and friends and do not produce to make money to those who do sell their products and are comfortable with the level of sales they have a the moment – most respondents fall between these poles – and are more likely to want to start selling their products or to increase their sales.

95 of the 116 maker respondents want to sell more of their product, while 9 do not produce with the intention of selling, and 12 are comfortable with the level of sales they have reached.

No. I love crafting and making things for friends and family, and I do not make them for sale.	9
No. I don't sell my products, but I would like to.	22
Yes, and I would like to increase my sales.	73
Yes, and I am comfortable with the sales I have right now.	12

This desire for improving sales demonstrates the need makers will have for assistance in learning about marketing, production, and reaching customers.

Customers and Markets

During the earlier phases of research, participants shared their experiences selling to a range of customer types. Focus group participants related their struggles to identify and participate in effective marketing and markets for their products. Survey respondents were asked to identify how they currently sell most of what they make.

A plurality of 54 respondents reported they sell mostly to friends and family. 26 reported they sell online, and additional 18 through social media, for a total of 44 respondents who sell most of their products through an electronic commerce solution. Only 11 currently sell most of their products through in-person markets, pop-ups, festivals, or trunk shows, and 7 respondents used other unitemized methods or resources.

Friends and family	54
Online (personal or shared store, or through email)	26
Social media (advertising, DMs, and events)	18
Local markets (Cultural Events, Festivals, Pop-Ups and Trunk Shows)	11
Other	7

Types of Payment

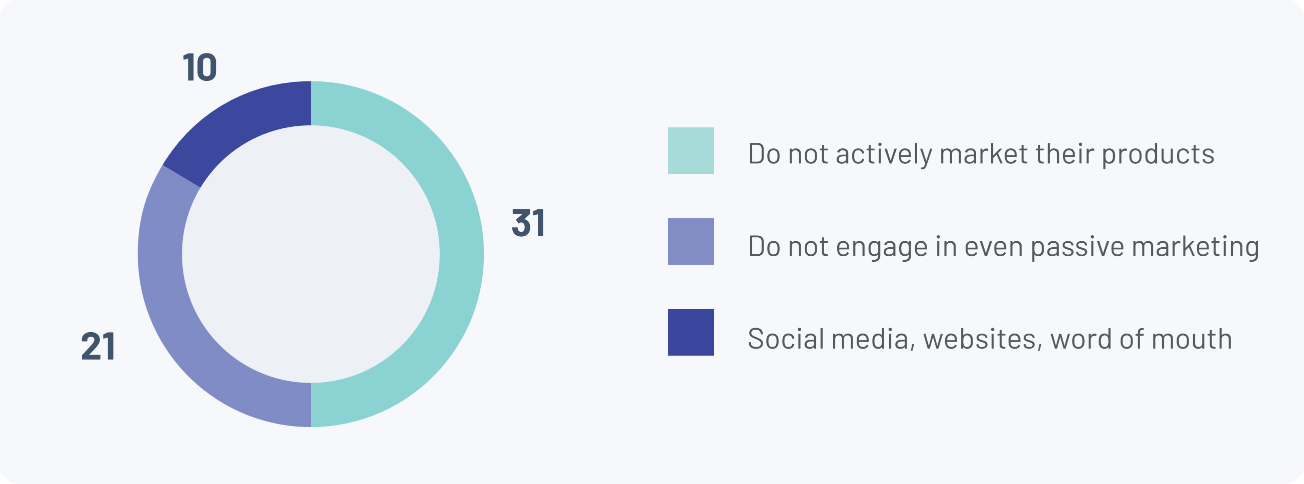
Houston makers also accept a range of payment options. Respondents were asked which methods of payment they accept for their – with the ability to select more than one option. Overall, the 116 respondents accept 237 different methods of payment, with 84 using digital payment apps, 73 accepting cash, 53 accepting credit cards, 11 using barter or trade for their products, and 16 using other forms of payment.

	Cash	Credit Cards	Digital Payment Apps	Barter/Trade	Other
Cash	1	47	43	7	7
Credit Cards	47	6	6		
Digital Payment Apps			35	4	
Barter/Trade	19				
Other	6				9
Total	73	53	84	11	16

The broad use of multiple payment methods indicates the flexibility Houston makers use in their transactions, and how relatively few makers rely on single methods of payment to manage their sales.

Marketing Approaches

Among the 116 respondents, 31 reported they do not actively market their products. Among these, 21 do not engage in even passive marketing – while 10 reported relying on social media posts, websites, or word of mouth.



Among those who do market to any degree, there is a strong reliance on unpaid approaches. 75 rely on word of mouth, 63 on social media posts, and 42 on a website to promote their products.

I don't actively market my products	31
Word of Mouth	75
Social Media Posts	63
Website	42
Paid digital advertising via Instagram/Facebook	22
Other	15
Print Advertising	9
Earned media coverage	6
Paid digital advertising via Google	5
Direct mail	5
Traditional print media	3
Traditional broadcast advertising	2

Most makers face challenges in promoting their products and businesses, and perhaps lack the skills or capital to invest in broader advertising efforts. Helping makers improve and optimize their marketing is a needed resource to help them surface their product and extend reach, improve awareness, and increase sales.

How to Price a Product

Savvy consumers are looking for a deal – and while there are a range of factors which go into a purchasing decision, price looms large for both buyer and seller. Respondents were asked how they decide to price your product, and make decisions based on a series of observations and inputs.

43 respondents set their pricing using a formula based on time and materials. 34 are still figuring it out. 21 look at what the competition charges and price their products based on those comparisons, and 18 know what their customers are willing to pay, and charge accordingly.

Friends and family	54
Online (personal or shared store, or through email)	26
Social media (advertising, DMs, and events)	18
Local markets (Cultural Events, Festivals, Pop-Ups and Trunk Shows)	11
Other	7

There are, undoubtedly, other factors which makers need to consider and which they use to make their pricing and other business decisions, but a meaningful percentage – the 34 respondents who are still figuring it out – could use help and direction in trying to find a pricing model effective and relevant for their product and effort.

I have a formula based on time and materials.	43
I am still figuring it out.	34
I look at what other sellers charge and price my products to the competition.	21
I know what my customers are willing to pay, and charge accordingly.	18

Defining Success

Across the research, it's become apparent there is not a singular or consistent definition for success. There are a range of considerations for Houston makers, all related to classic constraints of time, people, money, production, customer satisfaction, and the like.

Respondents were asked to share how they measure success for their business or venture. Interestingly, only two of the respondents identified the scale of production or the size of their workforce as important factors, but there was a broader distribution among remaining options.

Customer Satisfaction	27
Knowing I am doing Quality Work	22
Profitability	21
Personal Satisfaction	18
My work-life balance	13
Being My Own Boss	12
Number of Employees	1
The scale of production	1

Overall, there is an important aggregation of personal factors – 22 respondents identified knowing they do quality work, 18 identified personal satisfaction, 13 identified their work-life balance, and 12 identified being their own boss. Together, this is 65 responses. An additional 27 respondents identified customer satisfaction, which taken with these other more personal definitions of success, relates to the pride and confidence which comes from reactions to their products.

Only 21 respondents identified profitability as their measure of success – which does not mean it is not a consideration for makers – but it is less important than these other fulfilling definitions.

With the repeated caveat of small sample sizes inhibiting definitive conclusions – it seems Houston makers are looking for validation and appreciation. Providing them with the supports they need to overcome technical hurdles can smooth their entrepreneurial journey, and make it easier for them to identify and achieve their definition of success.

Competition/Competitiveness

Maker ecosystems are a mixture of competitive and collaborative – no different than other economic sectors or systems – but with lower barriers to entry (and exit).

Respondents were asked to relate how they found the marketplace as they started out, and how they have found it along the way.

When starting out, 15 respondents found it to be neither welcoming nor competitive. Among the remaining 101 respondents, 24 found it to be more welcoming, 46 found it to be both welcoming and competitive, and 31 found it to be more competitive.

More Welcoming	24
Both Welcoming and Competitive	46
More Competitive	31
Neither Welcoming or Competitive	15

Respondents were then asked to share whether they have felt more support or more competitiveness from fellow creatives as they have worked on their craft and business. Here, there is a more definitive reflection of support. 51 respondents felt more support – three times as many as the 17 respondents who reported feeling more competition. 23 respondents said they felt both support and competition, while 25 said they felt neither support nor competition.

More Support	51
Both Support and Competition	23
More Competitive	17
Neither Support nor Competition	25

Where Makers go For Help

Makers need a range of supports, and will proactively seek help with a particular challenge. Respondents were asked an open-ended question to identify specific locations, resources, or organizations they have found to be helpful or which they visit the most.

Consistent with other phases of the research, YouTube was the most-specifically mentioned resource – with 13 mentions, and part of 48 responses which mentioned online resources including websites, social media groups, and influencers they follow.

13 responses mentioned stores they visited, and another 10 mentioned maker spaces or libraries. Nine responses mentioned associations or groups they have joined for support, and seven mentioned markets or farmers markets they visit.

How Makers Keep Up

Respondents were then asked how they stay relevant and up-to-date with their craft or skill; and within their industry. Here, YouTube led the way – with 46 mentions, out of 109 total mentions from 84 respondents - which invoked an online platform or resource – from websites, different social media platforms, or online groups.

40 respondents mentioned more personal and off-line resources, like in-person meetings, groups, lectures, workshops and conventions. Nine specifically mentioned mentors, and three mentioned relying on their own creative processes and flows to find their way. Four respondents mentioned learning from their customers.

What Stops Makers from Seeking Support

Makers were asked to identify reasons which may have prevented them from reaching out for support. There were 200 total mentions out of 114 total responses, with Cost (52 mentions) and Time (44 mentions) leading the way.

This was followed by a Lack of Awareness of what may be available at 38 mentions, and a lack of confidence with 25 mentions.

Overall it is the practical considerations of cost and time which limit engagement – which can be resolved through focusing on providing accessible and affordable solutions to provide support to Houston makers when they need it.

Factor	Responses	Share
Cost	52	45.6%
Time	44	38.6%
Lack of awareness	38	33.3%
Confidence	25	21.9%
How welcoming they are (or are not)	15	13.2%
Other	13	11.4%
Childcare	7	6.1%
Transportation	4	3.5%
Language	2	1.8%

The Resources Makers Need

Makers were asked to share what resources or supports would be most helpful in growing their businesses. 51 mentioned access to financing or investment, and 27 mentioned access to professional service expertise. These combined responses go to direct status of the business.

Resource or Support	Responses	Share
Access to financing or investment	51	45.9%
Reaching Customers	49	44.1%
Creating brand awareness for my product	44	39.6%
Standing out online and growing my sales	40	36.0%
Access to markets to sell my products	31	27.9%
Access to professional service expertise (accounting, marketing, legal, manufacturing, etc.)	27	24.3%
Access to raw materials	21	18.9%
Access to talented or skilled workers	18	16.2%
Access to ready-to-use production space	16	14.4%
Creating demand for my product	13	11.7%
Other	12	10.8%
Support for non-tech businesses	11	9.9%
Certifications or permits	10	9.0%

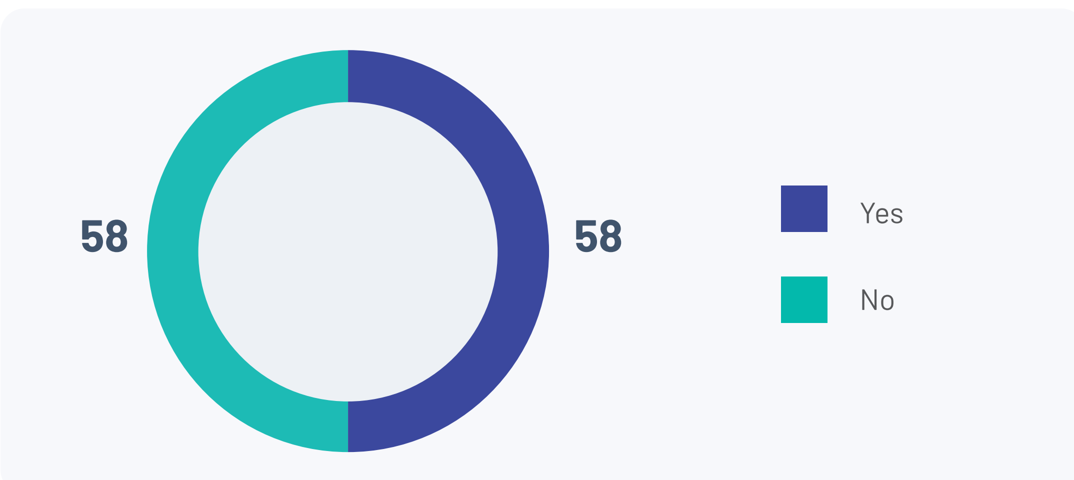
Separately, a combined 164 responses invoked ways to improve sales and commerce. This included reaching their customers (49 responses), creating brand awareness (44 responses), standing out online and growing their sales (40 responses), access to markets to sell their products (31 responses), and creating demand for their product.

This was followed by 76 total responses connected to production and other supports – 21 responses mentioned access to raw materials (21), talented or skilled workers (18), ready-to-use production space (16), support for non-tech businesses, or certifications or permits (10).

Houston Makers need help. While most business ventures need access to capital – and as they grow – to professional services, these respondents seem to prefer accessing resources which help them grow their business and sales.

Helping Others

Lastly, respondents were asked whether anyone ever approached them for advice about how to make or sell a product. Respondents were evenly split 58-58 yes/no. There were no meaningful differences among race, gender, age, or tenure of their business or venture.



Houston and the Marketplace

Respondents were presented with seven randomized statements and asked to share whether they agreed or disagreed with each. The statements explored perceptions of Houston as a place to do business, proximity to customers and works, and whether there were sufficient supports for makers.

Each set of responses reflect aspects of Houston – those which are positive and those which present opportunities for those seeking to support Houston makers.

	The Houston region is a great place to start a creative business.	My target customers are local to where I live.	My workers and teammates live close to where we work.	I feel there are a lot of resources available to me in my community	I have people I can go to when I need advice with my business.	I feel connected to a creative community here in the Houston region.	I am closely connected to the people and resources I need to be successful.
Strongly Agree	49	36	27	18	17	20	14
Somewhat Agree	29	30	21	33	33	25	30
Neither Agree or Disagree	30	30	53	36	30	35	42
Somewhat Disagree	3	10	7	16	23	23	18
Strongly Disagree	5	10	8	13	13	13	12
Total Agree	78	66	48	51	50	45	44
Total Disagree	8	20	15	29	36	36	30
Net Agreement	70	46	33	22	14	9	14
Agree Percentage	67.2%	56.9%	41.4%	44.0%	43.1%	38.8%	37.9%

There are two statements which generate majority agreement. First, respondents broadly confirm the perception Houston is a great place to start a creative business. Second, most makers sell to customers near them – which given the geographic sprawl of Houston surfaces the need to provide support across the region. Makers make and sell locally – and will not necessarily have the ability to travel across the region to access customers or resources.

One statement has a plurality where respondents were neutral (Neither Agree nor Disagree). In response to the proximity of workers or teammates there were 53 neutral responses – which makes sense. Earlier in the survey, 78 respondents indicated they were sole proprietors or solopreneurs in their creative efforts. 46 of these – who do not have employees or partners indicated they neither agree nor disagree with the statement their workers live close to where they work.

The other responses do not generate majority agreement. Only 44.0 percent of respondents agree there are resources available in the community, 43.1 percent agree they have access to someone they can go to for advice, 38.8 percent believe they are connected to a creative community in Houston, and 37.9 percent agree they are closely connected to the people and resources they need to be successful.

These reactions surface some of the support makers need – like access to local support and mentorship – and the lack of connections – either to the creative community or to people or resources in general. The survey results are consistent with what was observed during in-depth interviews and the focus groups – the need for local resources and supports across the region.

A Note on Gender

While the small sample size for the overall survey, and among women and men are too small to draw definitive conclusions, there are measurable differences in a few of the responses.

	The Houston region is a great place to start a creative business.	My target customers are local to where I live.	My workers and teammates live close to where we work.	I feel there are a lot of resources available to me in my community	I have people I can go to when I need advice with my business.	I feel connected to a creative community here in the Houston region.	I am closely connected to the people and resources I need to be successful.
Female	72.7%	61.0%	36.4%	44.2%	36.4%	37.7%	32.5%
Male	59.5%	51.4%	51.4%	45.9%	56.8%	40.5%	48.6%
Total	67.2%	56.9%	41.4%	44.0%	43.1%	38.8%	37.9%
Gender Gap	-13.3%	-9.7%	**15.0%**	1.8%	**20.4%**	2.9%	**16.2%**

While men and women were generally aligned on access to resources and their relatively low agreement on connections to the local creative community, males were less likely to think Houston is a great place to start a creative business; but were much more likely to agree they have access to a mentor, have connections to resources, and to have workers and teammates who live close to where they work.

Again, the limitations of sample size inhibit reaching definitive conclusions, but were these responses to be replicated through additional research, it could indicate how existing resources are tailored more towards males, and present opportunities for designing, developing, and promoting more inclusive supports.

Support for a Local Brand Initiative

Respondents were presented with a series of nine randomized statements to evaluate their potential support for a Local Brand Initiative (LBI). Respondents were asked to signal their agreement or disagreement with each statement.

	The program should represent the diversity of the city of Houston itself.	I would consider joining the collaborative or local initiative to promote my products as made in Houston.	It would be important for such a program to provide education on digital fabrication tools to help businesses scale.	I would be interested in my products being marketed as made in Houston.	Any business in the Greater Houston area should be considered made in Houston.	I would prefer to buy products from people who make their product here in Houston.	To qualify as made in Houston, the business or venture should have at least one full-time employee (including the founder).	There should be limitations to what should be considered made in Houston based on the sourcing of materials.	The program should only cover physical products, not virtual or digital assets.
Strongly Agree	68	62	50	56	41	39	43	15	21
Somewhat Agree	22	26	38	25	32	30	24	31	12
Neither Agree or Disagree	20	15	23	30	33	40	30	40	36
Somewhat Disagree	5	11	4	3	7	5	12	17	25
Strongly Disagree	1	2	1	2	3	2	7	13	22
Total Agree	90	88	88	81	73	69	67	46	33
Total Disagree	6	13	5	5	10	7	19	30	47
Net Agreement	84	75	83	76	63	62	48	16	-14
Agree Percentage	77.6%	75.9%	75.9%	69.8%	62.9%	59.5%	57.8%	39.7%	28.4%

The results fall into three bands. Four statements receive supermajority levels of agreement from respondents. Three other statements receive majority agreement, and two other statements have low levels of agreement.

Supermajority Agreement

77.6 percent agree the LBI should represent the diversity of Houston. 75.9 percent would consider joining a local initiative to promote their products. 75.9 percent also agree the LBI should provide education on digital fabrication tools to help businesses scale. While both of these responses reach 75.9 percent agreement, the statement about joining a collaborative to promote their products received a higher level of strong agreement.

69.8 percent of respondents agreed they would be interested in promoting their products as made in Houston. This statement was presented to evaluate the difference between promotion and joining the collaborative. While the sample size is small, there are more respondents who are neutral towards promotion as Houston made (30) than joining the collaborative (15), signaling less agreement with the need to market as made in Houston.

Majority Agreement

There three statements which registered majority agreement. 62.9 percent of respondents agree the definition of made in Houston should apply to any business in Greater Houston. It is possible respondents do not appreciate the size or area of what constitutes "Greater Houston," so this may require further inquiry.

59.5 percent agreed they would prefer to buy products from local sources, which potentially indicates support from Houston area consumers for locally owned and produced products – and thereby, support for Houston makers.

57.8 percent agree for a business to qualify as made in Houston the business or venture must have at least one full-time employee. The levels of support varied across how long respondents indicated they had been in business, with those who working for less than a year or more than ten years having higher rates of agreement than those in-between.

Further, in terms of life cycle, those who are in the idea and exploration phases were more strongly in agreement than those in the startup and growth phases.

Less than one year	60.0%
One to three years	55.3%
Three to five years	46.2%
Five to ten years	45.5%
Ten or more years	72.0%

Lower Levels of Agreement

Only 39.7 percent of respondents agreed with limitations based on source materials. During the focus groups, there was discussion of "drop-shipping," where pre-made goods are shipped from overseas and re-sold as local. While most makers seemed to disfavor the practice in the focus groups, they also expressed concerns about supply chain and other challenges. Overall, they seemed to think if the work occurs in Houston, then it is Houston made, and not every component or materials element needs to come from Houston.

I am in the idea and exploration phase	75.0%
I am just starting up	47.6%
It's a constant struggle to keep going	55.6%
It's growing and has the potential to expand more	51.4%
It's stable and I'm good with where it's at	72.7%

There was net-negative agreement about whether the program should only cover physical products, and not virtual or digital creations. Only 28.4 percent of respondents agreed, 31.0 percent were neutral, and 40.5 percent disagreed. With so much commerce, education, and volume of products being created or transacted online or through electronic means, this indicates the need for a broader base of supports than if the definition of maker only applied to tangible creations or tactile actions or activities.

Overall, respondents support the concepts around a local brand initiative for Houston. There are opportunities to decide how an inclusive and relevant initiative can be designed – ideally in ways which reach across the communities and geographies of Houston. These findings provide an initial set of considerations to design standards intended to incubate and promote Houston makers to find their own versions of success through collaboration and supportive resources.

Survey

Thank you for your interest in taking our survey! The HCC West Houston Institute (WHI) is interested in growing and supporting Houston’s creative potential. We believe in investing in our city and local creatives. This survey is a jumping-off point to help us better understand resources and supports which can help you grow your venture and find your version of success.

This survey should take about 12 minutes to complete - please use the arrows at the bottom of the screen to navigate through the survey.

If you have any questions about WHI, visit us at: https://www.hccs.edu/programs/west-houston-institute/

→

How long ago did you start your venture or business?

- Less than one year
- One to three years
- Three to five years
- Five to ten years
- Ten or more years

How would you describe the state of your business or venture?

- I am in the idea and exploration phase
- I am just starting up
- It's a constant struggle to keep going
- It's growing and has the potential to expand more
- It's a stable and good with where it's at

How would you describe the scale of your business or venture relative to your income?

- It's my sole source of income
- It's my primary, but not only source of income
- It's a side venture - and not my primary source income
- It's my hobby or passion and does not need to generate income

→

Is your venture or business registered with the state of Texas?

- Yes
- No
- My registration is in process.
- I don't know.

How many people - including yourself - work for your venture or business? (enter the number)

→

Please tell us about the primary location for your work - before and during the pandemic, and where you currently work:

	At home	At a private office or studio	At a shared workplace
Before the pandemic	○	○	○
During the pandemic shutdown	○	○	○
Current Location	○	○	○

When speaking with other people, how do you describe the things you create or make? (Example - "I design and make widgets.")

What skills or techniques are used in your crafting or making?

How would you categorize the majority of the products you create or sell?

- Food and Beverage
- Home and Interiors
- Fashion
- Jewelry
- Print and Media
- Machinery and Metals
- Construction
- Babies and Children
- Digital or Virtual Art or Assets
- Other Cool Stuff

→

Do you use digital fabrication tools (ex: cutters, CNC machines, 3-D printers, embroidery machines, etc.) to make your products or for other reasons to support your work?

No

Yes

→

What types of tools or machines do you use?

Where do you use them?

I have my own machines

I go to the public library

I borrow time from friends to use their machines

I use them a co-working spaces

I rent them as I need them

Other

→

Do you currently sell the products you make?

No. I love crafting and making things for friends and family, and I do not make them for sale.

No. I don't sell my products, but I would like to.

Yes, and I would like to increase my sales.

Yes, and I am comfortable with the sales I have right now.

→

How do you market your products? (select any which may apply)

- I don't actively market my products
- Paid digital advertising via Google
- Paid digital advertising via Instagram/Facebook
- Social media posts
- Print Advertising
- Earned media coverage
- Direct mail
- Traditional print media
- Traditional broadcast advertising
- Website
- Word of mouth
- Other

How do you decide how to price your product?

- I have a formula based on time and materials.
- I know what my customers are willing to pay, and charge accordingly.
- I look at what other sellers charge and price my products to the competition.
- I am still figuring it out.

→

How do you measure success for your business or venture?

- Profitability
- Number of employees
- Being My Own Boss
- Customer Satisfaction
- Knowing I am doing Quality Work
- The scale of production
- Personal Satisfaction
- My work-life balance

When starting out, did you feel starting a business or selling your products was the marketplace welcoming or was it very competitive?

- More Welcoming
- More Competitive
- Neither Welcoming or Competitive
- Both Welcoming and Competitive

As you have worked on your craft and business, have you felt more support or more competitiveness from fellow creatives?

- More Support
- More Competitive
- Neither Support nor Competition
- Both Support and Competition

→

Can you name the specific locations, resources, or organizations you found to be helpful or you visit the most?

How do you stay relevant and up-to-date with your craft/skill or within your industry? (Online courses, in-person workshops, YouTube, mentors, community online or in-person groups, etc.)

When you've wanted to reach out for support, what has stopped you? (select any which may apply)

- Cost
- Confidence
- Lack of awareness
- Time
- Transportation
- How welcoming they are (or are not)
- Language
- Childcare
- Other

What resources would be most helpful to you in growing your business?

- Access to financing or investment
- Creating brand awareness for my product
- Reaching Customers
- Creating demand for my product
- Standing out online and growing my sales
- Access to talented or skilled workers
- Access to raw materials
- Access to markets to sell my products
- Competition making it harder to sell my products
- Access to ready-to-use production space

Access to professional service expertise (accounting, marketing, legal, manufacturing, etc.)

Support for non-tech businesses

Transportation as a barrier for employees or customers

Costs of childcare as a barrier for employees

Certifications or permits

Other

→

For the following - please tell us how much you agree or disagree with the following statements

	1 - Strongly Agree	2 - Somewhat Agree	3 - Neither Agree or Disagree	4 - Somewhat Disagree	5 - Strongly Disagree
I feel connected to a creative community here in the Houston region.	○	○	○	○	○
I have people I can go to when I need advice with my business.	○	○	○	○	○
The Houston region is a great place to start a creative business.	○	○	○	○	○
My target customers are local to where I live.	○	○	○	○	○
I am closely connected to the people and resources I need to be successful.	○	○	○	○	○
I feel there are a lot of resources available to me in my community	○	○	○	○	○
My workers and teammates live close to where we work.	○	○	○	○	○

Cities across the nation have begun to develop entrepreneurial hubs (or Local Branding Initiatives) designed to connect local makers and manufacturers with the resources needed to scale up their businesses. This can look like peer networking, financing, coaching, technical assistance, marketing campaigns, access to digital fabrication tools, etc.

The makers and businesses connected with these local entrepreneurial hubs are part of a directory and can gain access to various forms of support. This is done with the ultimate goal of nurturing Houston's neighborhoods and economy by connecting and inspiring people to buy, produce and invest locally.

Having heard this, please tell us how much you agree or disagree with the following statements?

limitations to what should be considered made in Houston based on the sourcing of materials.	○	○	○	○	○
I would prefer to buy products from people who make their product here in Houston.	○	○	○	○	○
I would be interested in my products being marketed as made in Houston.	○	○	○	○	○
To qualify as made in Houston, the business or venture should have at least one full-time employee (including the founder).	○	○	○	○	○
It would be important for such a program to provide education on digital fabrication tools to help businesses scale.	○	○	○	○	○
Any business in the Greater Houston area should be considered made in Houston.	○	○	○	○	○
I would consider joining the collaborative or local initiative to promote my products as made in Houston.	○	○	○	○	○

To make sure we have people from all over Houston, please share your ZIP Code.

Now we'd like to ask some questions to make sure we have a representative group of responses. First, please tell us your gender:

- Female
- Male
- Nonbinary

What is your age?

- 18-34
- 35-49
- 50-64
- 65+

Which of the following describe you - please select all which may apply.

- White/Anglo/Caucasian
- Black/African-American
- Asian/South Asian/Pacific Islander
- Hispanic or Latino
- Native or Indigenous American
- Other

Including yourself, how many people live in your household (enter a number).

Please share your marital status.

Single, Never Married

Separated or Divorced

Married or Living with a Partner

Widowed/Surviving Spouse

Please share the last level of your education

Some High School

High School Diploma or GED

Trade/Technical Degree or Certificate

Some College

College Degree

Post-Graduate Courses or Degree

We're trying to understand whether people within your field may need some level of accommodation. How do you describe your ability/disability status, regardless of whether you typically request accommodations?

I do not identify with a disability or impairment

A sensory impairment (vision or hearing)

A learning disability (e.g., ADHD, dyslexia)

A long-term medical illness (e.g., epilepsy, cystic fibrosis)

A mobility impairment

A mental health disorder

A temporary impairment due to illness or injury

A disability or impairment not listed above

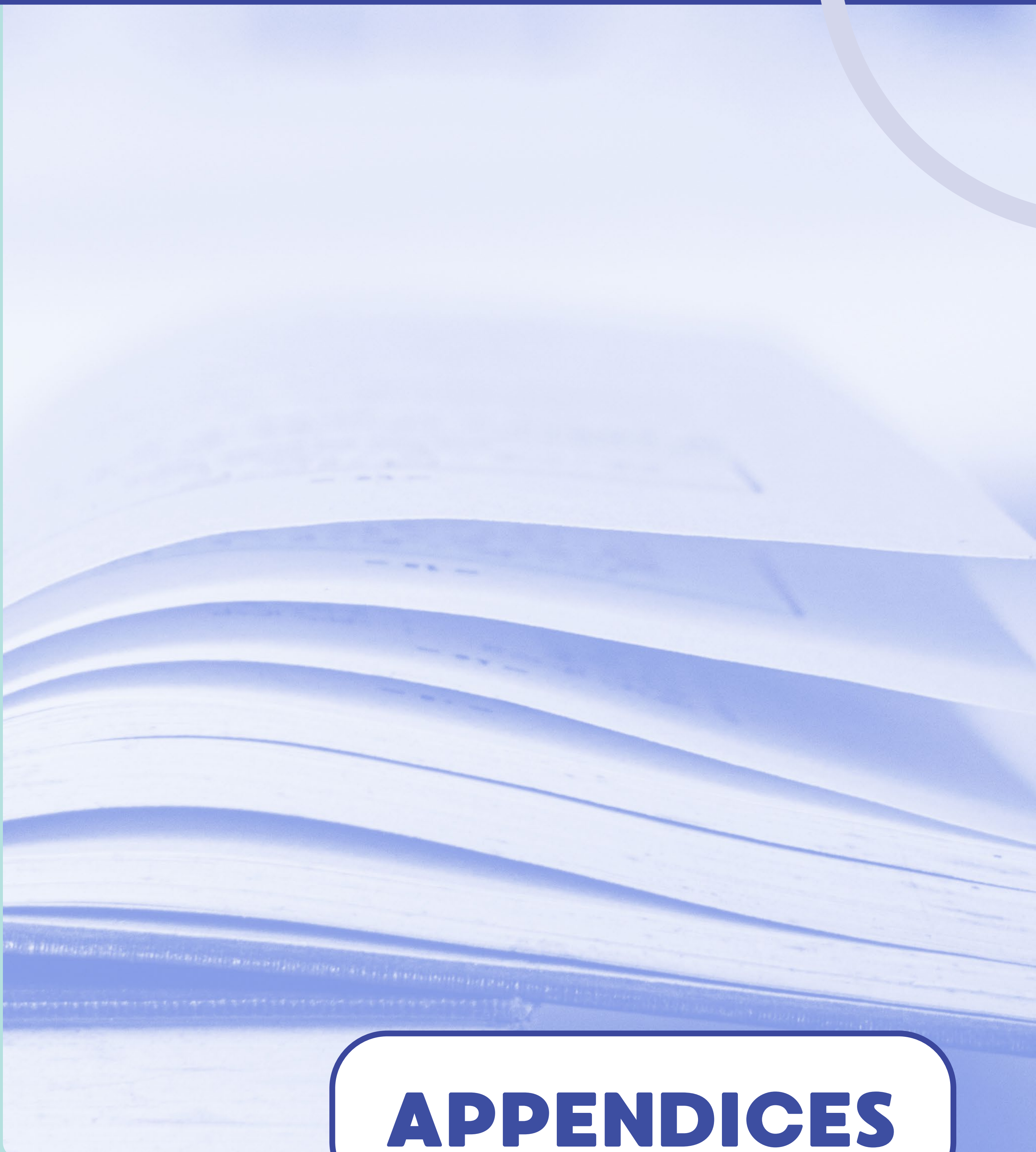
If you are interested in receiving an invitation to participate in further research, please enter your name and contact information below.

First Name, Last Initial

Contact Phone

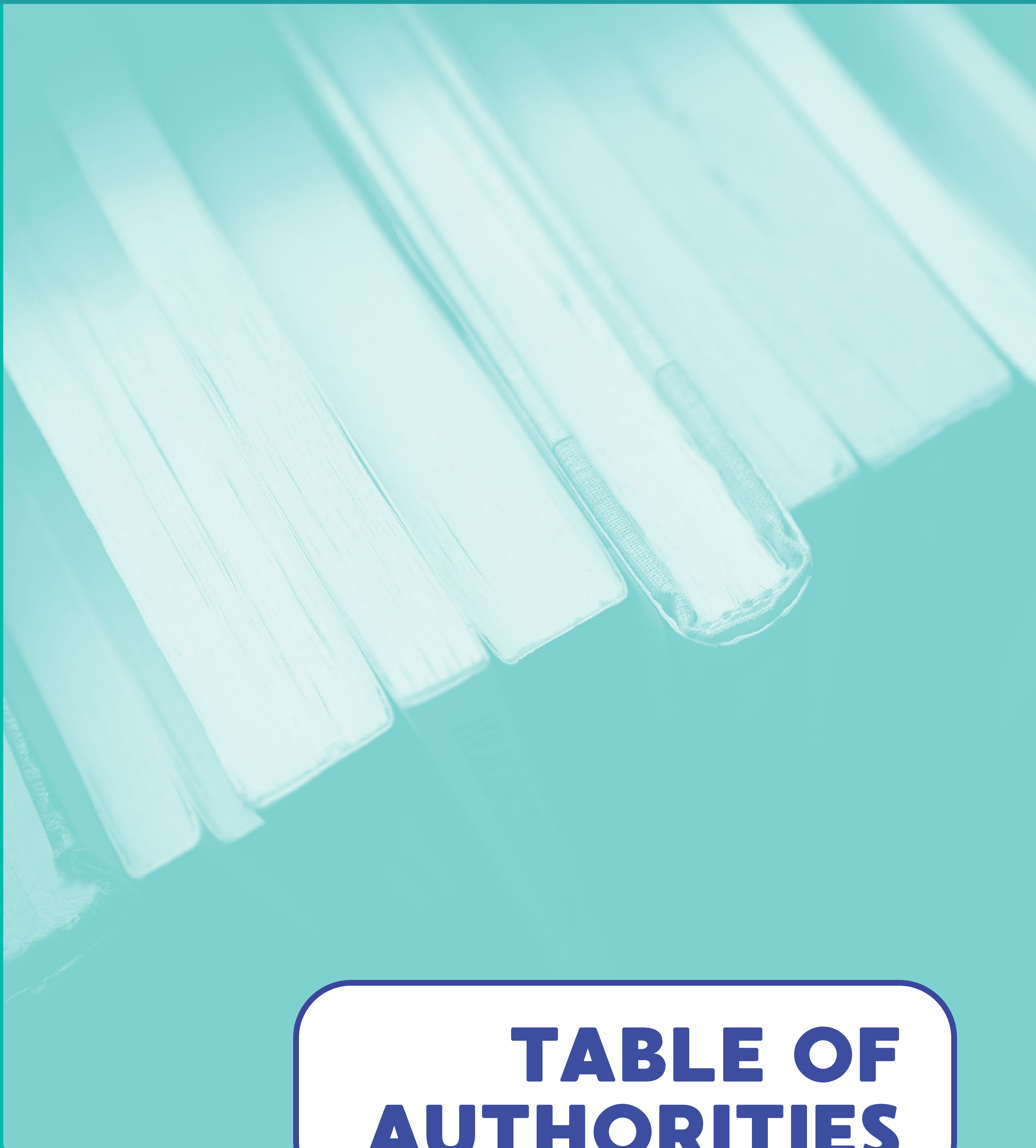
Contact email

→



APPENDICES

Survey Flyer



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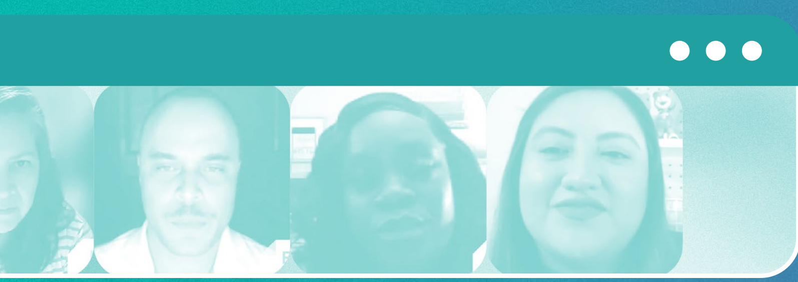

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