Assessment of the Innovation and Sustainability Ecosystems in Miami-Dade County, FL

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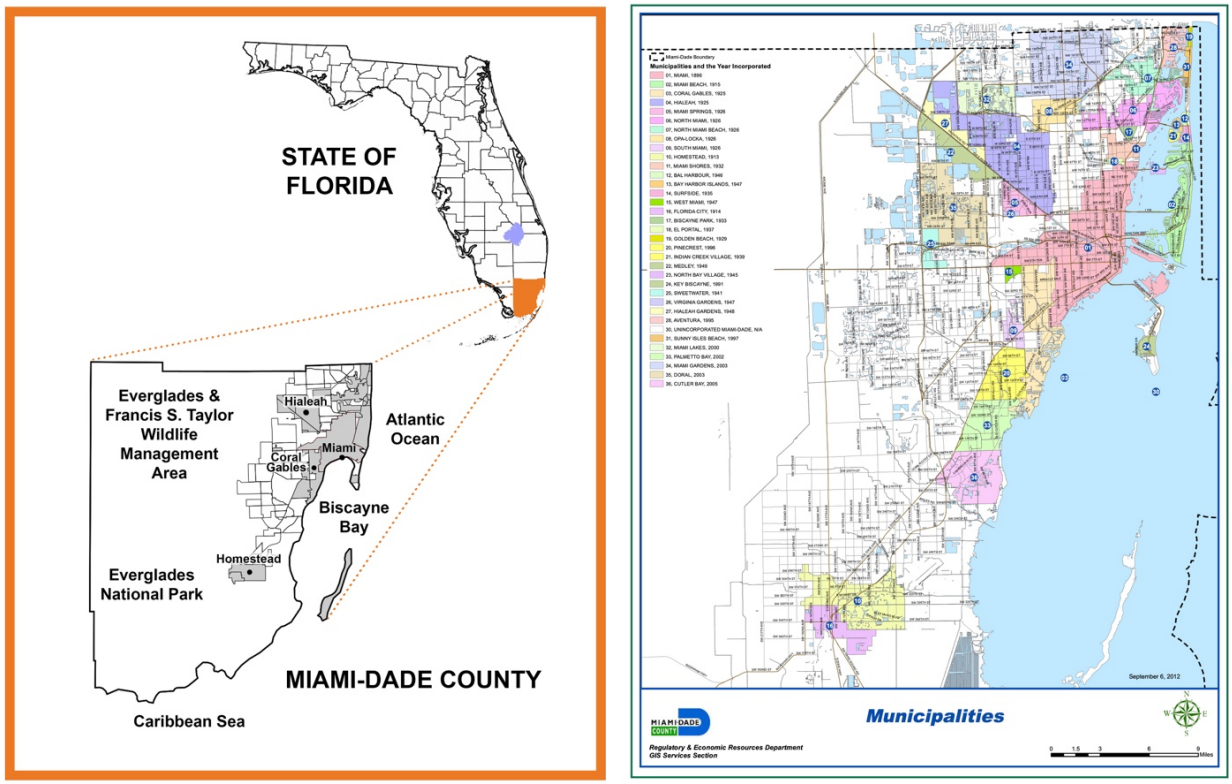
Research Area

The target area for this assessment is Miami-Dade County, a county situated at the southeastern tip of Florida, which is the southernmost state in the continental United States of America. Miami-Dade County is strategically positioned, both geographically and demographically, as a bridge between the United States, Latin America, and the Caribbean (Florida & Pedigo, 2019). The county encompasses a land area of approximately 2,000 square miles, of which nearly 500 square miles have been urbanized across 34 municipalities and a vast unincorporated municipal service area governed directly by the County (Miami-Dade County, n.d.-a, n.d.-b). Miami-Dade is bordered to the west by the Everglades National Park, a 1.5 million-acre UNESCO World Heritage Site that harbors the world's only subtropical wetland ecosystem of its kind; to the south by the Florida Keys and the Caribbean Sea; and to the east by the Biscayne Bay and the Atlantic Ocean, the latter of which is home to the Florida Coral Reef, the only barrier reef in North America and the fifth-largest on the planet (NPS, 2025; Miami-Dade County, n.d.-a; Heath, 2024). Figure 1 shows a map Miami-Dade County and its location in the State of Florida, as well as a map of incorporated municipalities and unincorporated areas in Miami-Dade County.

Figure 1

Maps of Miami-Dade County, FL



Note. Left image adapted by author from multiple sources (Wikimedia Commons, 2007; clipartmax.com, n.d.). Right image from *Municipalities Map,* by Miami-Dade County Regulatory and Economic Resources Department (n.d.).

Miami-Dade County produces a GDP of approximately $219 billion USD through its significant economic activity, which includes sectors such as international trade, finance, real estate, and tourism (Miami-Dade Beacon Council, n.d.-a). The Port of Miami and Miami International Airport cumulatively support the transit of more than 33.4 million passengers and 2.89 million tons of cargo every year (Miami-Dade County, n.d.-a). Both Miami-Dade and the greater South Florida region (including Broward County and Palm Beach County) are growing in status as national and global startup hubs. In 2025, South Florida attracted $4.13 billion USD in

venture capital across 376 deals, ranking 9th among US metropolitan areas (eMerge Americas, 2026). Recent research has also identified Miami as an attractive destination for both domestic and international entrepreneurial migration (Endeavor Miami, 2022).

With over 2.8 million residents, Miami-Dade is the most populous county in the state of Florida (US Census Bureau, 2025; Miami-Dade County, n.d.-a). The County's demographic composition is highly diverse. An estimated 70.5% of the population is multiracial or of a racial minority regardless of ethnicity, nearly 70% of the total population is of Hispanic/Latino heritage of any race, and 55.4% of all residents are foreign-born (US Census Bureau, 2021, 2025). About 75% of the population speaks Spanish or another language at home (US Census Bureau, 2025). This breadth of ethnic origin, cultural diversity, and immigration history poses both unique opportunities and challenges for advancing innovation and sustainability in the region.

However, Miami-Dade County faces several pressing economic and environmental challenges. In 2019, the Greater Miami area was estimated to have the 9th-highest poverty rate among large US metropolitan areas (14.3%), with a level of income inequality comparable to that of Colombia (Florida & Pedigo, 2019). This region is at high risk from a wide range of climate change effects, including sea level rise, biodiversity loss, saltwater intrusion, freshwater scarcity, extreme heat, and intensifying natural disasters (Miami Dade County, n.d.-d; Iacurci, 2024; Flavelle, 2018). Known since 2014 to be one of the global urban areas most vulnerable to climate change, Miami-Dade County is ranked at the 99th percentile, the highest overall vulnerability level, on the FEMA National Risk Index (FEMA, n.d.). Successful climate change adaptation measures require coordinated and collaborative interventions in the innovation ecosystem that can enhance Miami-Dade County's resilience against future climate impacts (Jain, 2025; Matos et al., 2022).

Research Methods

The study consisted of an anonymous online survey tool developed at Harvard University in 2013 that has been deployed in more than 50 countries to assess innovation ecosystems and guide governmental and educational interventions. The survey duration was approximately 10-15 minutes, and was made available in both English and Spanish to encourage broader participation. A few initial demographic questions collected information on study participants' area within Miami-Dade County, their educational attainment, and their role in the innovation ecosystem. Subsequent survey questions asked for participants' perceptions of various aspects of the local innovation ecosystem, as well as their awareness of the prevalence of sustainable business practices in the community.

During the research period from November 2025 to April 2026, the anonymous assessment survey was distributed to participants through several communication channels, including email, QR code, social media, phone calls, LinkedIn groups, and newsletters such as the City of South Miami's SoMi Biz Newsletter. The survey was hosted at the following link: https://harvard.az1.qualtrics.com/jfe/form/SV_8nZ8xL0eB06xmQe

At the end of the research period, preliminary results were compared to a similar survey conducted in Miami-Dade County from November 2015 to April 2016. The results mostly converged, and as a result the data from the 2015-16 survey and the 2025-26 survey were combined to produce a single assessment with sufficient statistical significance. Survey data was analyzed using numerical scores assigned to each response (from 0-3 for innovation-related questions, and from 1-6 for sustainability-related questions). These scores were aggregated, and a mean, standard deviation, and 5^{th} and 95^{th} percentiles derived from the aggregate scores. Ecosystem aspects with 95^{th} percentiles exceeding 100 were flagged for potential information

asymmetry. Results are listed in ascending order according to their means, with two composite scores calculated on a scale from 1-100 as means of the ecosystem aspect means in the relevant category (innovation and sustainability).

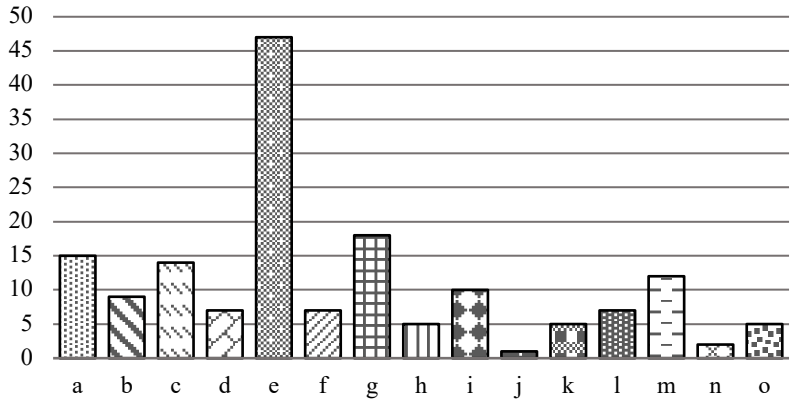
Results

Research Participants

A total of 247 survey responses were collected across the two research periods included in the study. Of these, 21 responses were from participants located outside the research scope area and were excluded from the data analysis. The 2015-16 research period consisted of 177 responses, and the 2025-26 research period consisted of 49 responses, adding up to a total of 226 responses (n = 226). Survey respondents self-selected the area of the County in which they are located. Participants were distributed across 15 out of 17 possible county areas, with most respondents based in Downtown Miami and Miami Beach (Figure 2).

Figure 2

Number of respondents by County area. (n = 164)



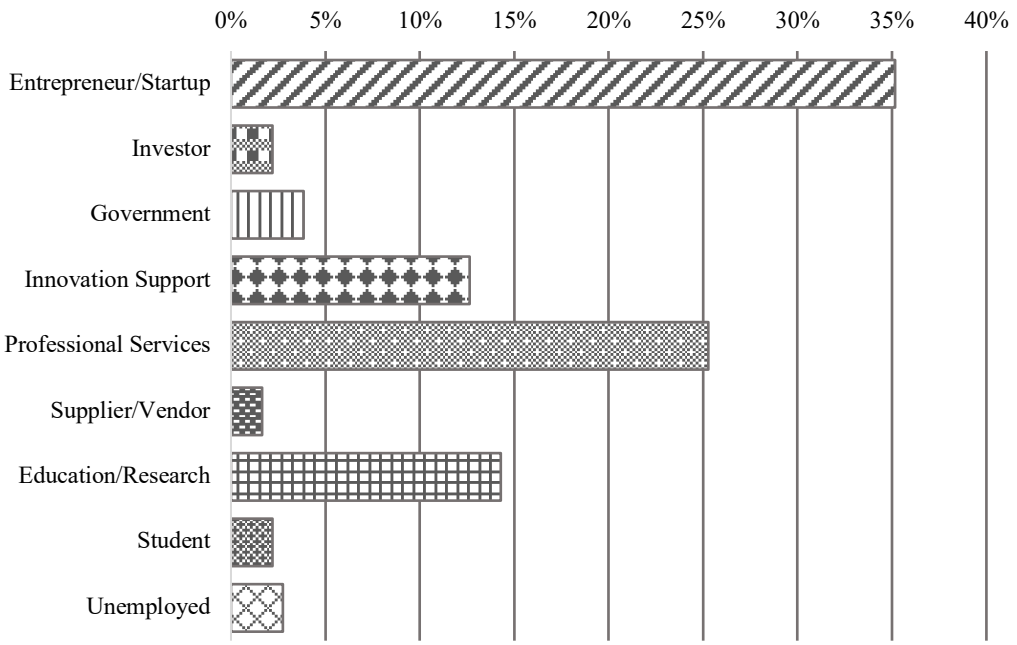
Note. Areas listed in alphabetical order: a. City of Miami (including Brickell and Little Havana); b. Coconut Grove; c. Coral Gables; d. Design District and Wynwood; e. Downtown Miami; f.

Hialeah and Hialeah Gardens; g. Miami Beach; h. Airport Area (including Miami Springs, Doral, and Medley); i. Northeast Dade; j. Northwest Dade; k. Overtown; l. South Dade and Homestead; m. West Miami (including Kendall, Westchester, and South Miami); n. Miami Shores; o. Other area (unspecified).

Survey respondents belonged to a wide range of roles within the innovation ecosystem categorized into 9 main groups. The majority of respondents were either entrepreneurs or professionals working at startups (35.2%); individuals providing professional services such as attorneys, architects, engineers, financial service providers, and consultants (25.3%); educators and researchers (14.3%); and individuals working directly to support the innovation ecosystem (12.7%). The remaining 12.5% of respondents included government officials and staff members, investors, suppliers, students, and unemployed individuals (Figure 3).

Figure 3

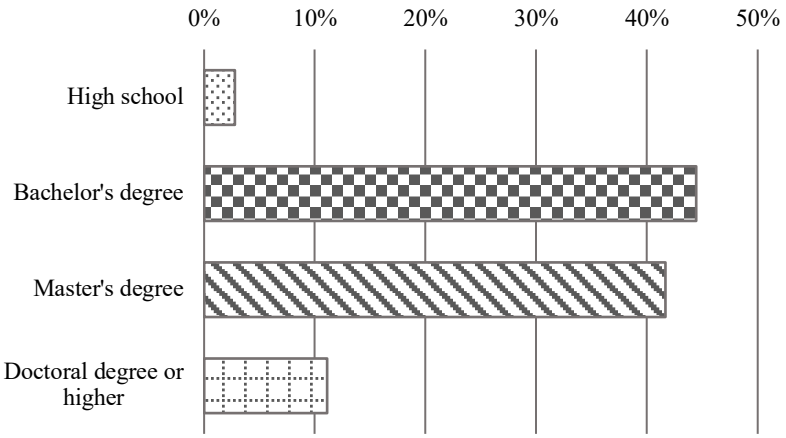
Respondent roles in the local innovation ecosystem. (n = 182)



The 2025-26 survey included an additional question pertaining to educational attainment. Of the study participants who indicated their education level, a significant majority have obtained a bachelor's or master's degree (86%). About 11% of respondents possess a doctoral degree or higher level of education, and roughly 3% have not completed education beyond high school (Figure 4).

Figure 4

Educational attainment level of respondents. (n = 36)



After completing the demographic questions, respondents proceeded to rank aspects of the innovation and sustainability ecosystems according to their knowledge and awareness.

Ranking of Innovation Metrics

Each innovation ecosystem aspect is scored on a scale of 0-100 and listed in ascending order based on its mean. On this scale, the extreme ranges are termed "Early Gestation" (0-16.6) and "Full Maturity" (83.3-100). Miami-Dade County's innovation index was estimated at 61.7, indicating that the county's innovation ecosystem is navigating an "Expansion" phase. The research methodology also evaluates responses for information asymmetry, which could indicate a disparity in awareness on resources and practices among the sample population. This study

found potential information asymmetry related to financial frameworks to support entrepreneurship, the diversity and community role of institutions of higher education, and the availability of business incubators. Individual scores for each innovation ecosystem aspect studied are detailed, along with additional statistical data (Table 1).

Table 1

Innovation ecosystem aspect results for Miami-Dade County, FL.

Innovation Ecosystem Aspect	Mean	Standard Deviation	5th Percentile	95th Percentile	Information Asymmetry
Government support	42.7	31.7	24.6	74.4	No
Internationalization	46.0	31.2	27.4	77.1	No
Investor perception/regulation	53.2	32.2	33.1	85.4	No
Sustainable/social entrepreneurship	55.4	32.8	34.8	88.1	No
Academia-industry collaboration	61.8	27.5	42.7	89.3	No
Intellectual property	62.9	32.2	41.6	95.2	No
Investor availability	64.6	26.6	45.8	91.2	No
Business accelerators	67.9	29.0	47.6	96.9	No
Business incubators	72.5	29.0	51.8	101.5	Yes
Financial frameworks	74.0	29.1	53.1	103.1	Yes
Higher education breadth/role	78.0	25.8	58.6	103.7	Yes
Innovation Index for Miami	**61.7**	**29.7**	**41.9**	**91.4**	

Note. Indexes are calculated on a scale of 0-100. The innovation index is $\mu = 61.7$, with a margin of error $\pm$ 3.88, resulting in a 95% confidence interval of [57.8, 65.6].

Main Areas of Opportunity for Innovation

Strengthen government-led innovation support. At 42.7, government support ranked lowest of all innovation ecosystem aspects studied. Approximately 25% of respondents perceive a complete lack of government incentives for high technology startups, and an additional 33% of respondents signaled that current government incentives are limited to market research and/or initial commercialization only. The Miami-Dade County government runs programs to support

small businesses, but none of these are oriented specifically toward startups, particularly scalable high-technology, social, or sustainable startups (Miami-Dade County, n.d.-g).

However, there are several efforts emphasizing innovation support in which the public sector plays a significant role. For example, the Miami-Dade Innovation Authority (MDIA) was established in 2023 through equal matches in funding from the private, public (Miami-Dade County), and philanthropic sectors (MDIA, n.d.). This entity seeks to accelerate the procurement of private innovations in the public sector through a "Public Challenge" model whereby local, national, and international businesses submit their product or service as a solution to a local issue area. Finalists selected through each public challenge receive equity investment and opportunities for product testing and validation (MDIA, n.d.). Another example of collaboration in support of innovation is the Risk and Resilience Tech Hub (RRTH), a consortium of local government (Miami-Dade, Broward, Palm Beach, and Monroe Counties), tribal government (Miccosukee Tribe), universities, businesses, and nonprofit organizations, with Miami-Dade County as the lead agency (Miami-Dade County, n.d.-f). Through a 2024 grant from the US Economic Development Administration, RRTH aims to develop climate-resilient and reduced-emission concrete technologies, to foster cross-sector collaboration to accelerate technology deployment, and to enhance workforce development through certification, training, and apprenticeship programs (US EDA, n.d.). Additionally, the City of Hialeah is launching the "Palm Centre Business Opportunity Program" to allow new and growing businesses to utilize city-owned retail space for one year at no cost (Egui Brito, 2026; City of Hialeah, n.d.).

Recommendations in this opportunity area surround increasing awareness and connectivity to existing resources. In addition to considering implementing new entrepreneurship programs and incentives, government entities and relevant partners should augment the visibility

of public-private partnerships such as the abovementioned MDIA and RRTH through mass media channels and community engagement, including creative methods such as launch events, community expo fairs, and social media influencer collaborations. Innovation newsletters, similar to those delivered by the Miami-Dade County Grants Office, can list upcoming networking events, training programs, and funding opportunities relevant to founders. Government departments offering innovation support could also partner with local organizations and higher education institutions to host entrepreneurship and innovation workshops for the community. These workshops can also help startups earn pathways to state, federal, and other financial resources (e.g. SBA grants, municipal contracts) to advance their businesses.

Enhance internationalization in the local ecosystem. Despite the major role of international trade and tourism in Miami's economy, internationalization scored only 45.9. Only 14% of respondents perceive an existence of mechanisms to connect startups with foreign ecosystems, while more than half of respondents (59%) believe that the local innovation ecosystem has few or nonexistent relationships with foreign universities, research centers, and funding sources. Miami's role in the global innovation scene has primarily been as an entry point for founders from other regions seeking to enter the US market (Kaminer, 2024). This perception has only recently begun to change. In a 2022 study by Endeavor Miami, 40% of entrepreneurial migrants surveyed, whether domestic or international, listed connectivity to Latin America as one of their primary reasons for relocation. Access to both US and Latin American markets is attractive for startups, and a major advantage of Miami's geographic location and demographic composition.

To enhance the internationalization of the innovation ecosystem, local stakeholders should highlight the advantages of the region in their international outreach. Miami-Dade is well-positioned to reap the benefits of Florida's competitive state tax setting, including low corporate

taxes and no income taxes (MIU, 2026). Additionally, Miami-Dade County offers multiple regulatory incentives for companies to establish or relocate in the region which reward job creation and capital investments (Endeavor, 2022). Ecosystem stakeholders can continue exploring exchanges with foreign universities, research institutions, and prioritizing sister cities and countries that boast large diaspora communities in South Florida. Since Greater Miami is home to more than 100 consulates, bi-national chambers of commerce, and foreign trade offices, there are many opportunities to connect with organizations, programs, and other resources from around the world (Miami-Dade County, n.d.-c).

Innovation support organizations can leverage peak tourism seasons such as Spring Break to host hack-a-thons, pitch competitions, tech expos, and similar activities. This could incentivize entrepreneurial travel, especially among university students and early career professionals debating where to settle down to start building their resumés. Innovation events scheduled around tourism can encourage travelers to bring their talent, enthusiasm, and expertise to Miami-Dade's local ecosystem, sparking networks, relationships, and perceptions of the region beyond sightseeing or entertainment. There are multiple soft-landing programs in the area, which provide support with office space, networking, and mentorship, and more, which can further encourage foreign entrepreneurs to migrate to or expand into the US market (Kaminer, 2024). In tandem, policies and incentives must be developed to attract the funds necessary to propel entrepreneurs towards successful business launches. Fiscal incentives, soft-landing support, or even dedicated eco-tourism experiences can encourage investors from other regions to establish offices in Miami-Dade and form long-term relationships in the area.

Improve the perception and regulation of investors. This ecosystem aspect ranked third lowest at 53.2. Nearly half of all respondents (40%) feel that although community members may know

about types of funding (e.g. crowdfunding, angel investors, etc.), they may not understand the legal definitions, attributes, and responsibilities of different types of investors. Another 26% of respondents indicated that regulations exist but are not well-known among local entrepreneurs and/or investors. Interventions to improve the perception and regulation of innovation investors can focus on community outreach or on the investors themselves. Entrepreneur and small business resource centers can leverage their current networks and programming to disseminate information on relevant laws, legal definitions, and responsibilities of investors. Fact sheets on investor types, due diligence requirements, and state and federal racketeering laws can be made available to founders in local business incubator and accelerator programs. Access to local investor and venture capital group databases such as the Miami Innovation Ecosystem dashboard created by Refresh Miami and dealroom.co can also help founders conduct due diligence before seeking funding (Refresh Miami, n.d.).

Amplify support for sustainable and social entrepreneurship. This innovation ecosystem aspect scored 55.4 out of 100. Approximately 63% of respondents recognize that there is some support for sustainable startups and social enterprises (companies focused on social impact rather than profit), primarily in the form of in-kind donations, philanthropy, and government grants. However, the majority of respondents (75%) signaled an absence of venture philanthropy or angel investor groups dedicated to supporting social enterprises. This perception is corroborated by the Miami Innovation Ecosystem dashboard, which currently only lists four investors supporting social entrepreneurship in Miami (Refresh Miami, n.d.).

Funding support for sustainable startups or social enterprises presents a unique opportunity area for Miami-Dade, given the region's high climate vulnerability, extensive global connectivity, and high social vulnerability. It is important to note that changing political

priorities in state and federal governments, as well as global geopolitical conditions, can inhibit local actors from implementing initiatives or deploying funds specifically aimed at environmental and social challenges. Recent Florida state legislation in particular has created broad enforceable preemptions against the use of public funds for ESG (environmental, social, and governance) and net-zero emissions policies (McGowan, 2024; Miznazi, 2026). However, entrepreneurs in social or sustainability-oriented ventures may often work at the nexus of multiple issue areas. This allows them to pursue diverse funding and revenue streams dedicated to addressing particular health or mobility issues, for example, beyond city and county government programs limited by state preemptions.

While the survey asked participants specifically about funding for sustainable and social entrepreneurship, support for these kinds of startups does not need to be limited to venture philanthropy or grants. Multiple innovation support organizations, research institutions, and economic development and philanthropic organizations recognize climate and sustainability solutions as an essential component of the future of Miami-Dade (Miami-Dade Beacon Council, n.d.-b). Sustainable startups and social enterprises can take advantage of business incubators, accelerators, university partnerships, and other opportunities to propel their products and services despite unfavorable political contexts. Furthermore, ecosystem stakeholders interacting directly with startups can share information on sustainable business practices (e.g. resource efficiency, renewable energy, waste reduction and diversion, etc.) that any sector can choose to adopt.

Optimize academia-industry collaboration. The connection between universities and businesses ranked fifth lowest at 61.8. One third of study participants (33%) identified collaborations between academic institutions and industry as passive (e.g. internships, Memorandums of Understanding). A similarly sized portion of respondents (40%) signaled a presence of active

collaborations in the community primarily driven by research questions and not community needs. Only 25% of participants identified active collaborations that included community-based research, joint intellectual property and publishing, and funding partnerships with local companies or community organizations.

Miami-Dade County is home to a vast array of higher education institutions offering undergraduate and advanced degrees, training programs, and certifications. This study evaluated the role of higher learning in the local innovation ecosystem through two separate facets: the breadth and community impact of higher education institutions, and the linkages between higher education institutions and businesses. The former, educational breadth and diversity, was the highest-scoring aspect of the innovation ecosystem ($\mu = 78.0$) (Table 1). However, the linkages between universities and industry scored considerably lower ($\mu = 61.8$) (Table 1). This 16.2-point gap between the two aspects suggests that, despite the variety of postsecondary institutions present in Miami-Dade County, there are not necessarily abundant opportunities for scholars, businesses, and the community to connect academic theory to local real-world challenges.

There are opportunities for greater synergy between the academic environment and the industries and communities that surround them. These interventions should focus on community-based participatory research and workforce development programs such as training, certification, and apprenticeships. New initiatives are sprouting to address these gaps. For instance, nonprofit Miami Tech Works is building a talent pipeline by connecting educational programs and learners with industry demand (Miami Tech Works, n.d.). Another example is Miami Community ResilientSea, a collaborative citizen science project spearheaded by the University of Miami and local environmental nonprofits, focused on engaging historically underserved communities in coastal cleanup, climate education, and coral and dune restoration activities (UM RSMAS, n.d.).

Ranking of Sustainability Metrics

Each sustainability ecosystem aspect is scored on a scale of 0-100 and listed in ascending order based on its mean. This methodology terms the lowest range as "Early Gestation" (0-16.6) and the highest as "Full Maturity" (83.3-100). Miami-Dade County's sustainability index was estimated at 50.7, which can be considered "Early Expansion." Results indicate potential information asymmetry in nearly all sustainability aspects except for one (minimizing air travel). This suggests that there are two populations in Miami-Dade County: one with significant knowledge on sustainable practices in the county, and another with very little information on local sustainability efforts (Table 2).

Table 2

Sustainability ecosystem aspect results for Miami-Dade County, FL

Sustainability Ecosystem Aspect	Mean	Standard Deviation	5th Percentile	95th Percentile	Information Asymmetry
Minimize air travel	37.2	26.9	14.2	97.2	No
Measure greenhouse gas emissions	39.9	25.8	15.7	101.7	Yes
Use public transportation	43.0	25.7	16.9	109.3	Yes
Composting	45.5	22.1	19.5	105.8	Yes
Sustainable Vendor Certification	46.2	27.3	17.5	122.0	Yes
Work from home	53.5	28.8	19.6	145.7	Yes
Reduce fossil fuel consumption	53.6	28.9	19.6	146.3	Yes
Reduce water consumption	54.2	28.8	19.9	148.0	Yes
Know and consume sustainable food	57.2	23.1	24.0	136.3	Yes
Reduce electricity consumption	58.9	26.8	22.6	153.5	Yes
Recycle metal, paper and glass	68.6	29.9	24.6	191.9	Yes
Sustainability Index Miami	**50.7**	**26.7**	**19.5**	**132.5**	

Note. Indexes are calculated on a scale of 0-100. The sustainability index is $\mu = 50.7$, with a margin of error $\pm$ 3.49 and a 95% confidence interval of [47.2, 54.2].

Main Areas of Opportunity for Sustainability

Reduce air travel-related emissions. This sustainability ecosystem aspect scored lowest out of the 11 aspects studied, with a mean of 37.2 out of 100. Over half of respondents (57%) indicated that no one in their community is minimizing air travel, and an additional quarter (26%) reported that very few people or businesses engage in this practice according to their knowledge.

Minimizing air travel presents a major challenge the South Florida region, across both domestic and international travel, due to its geographic location. Domestic road travel within the US is time-consuming, as northbound travel to the nearest state (Georgia) can take at least 6 hours in a private vehicle, or over 10 hours via public transit and intercity buses (Google, n.d.). For international travel, the nearest countries (Bahamas, Cuba, Mexico, Jamaica, Haiti, Dominican Republic) are only accessible via airborne or maritime vessels. Miami-Dade is a major hub for air travel in the Americas, as the Miami International Airport (MIA, n.d.-a) offers more flights to Latin America and the Caribbean than any other U.S. airport. Nearly 2.5 million passenger flights (domestic and international) departed from MIA in March 2026 (MIA, 2026). This bustling activity makes MIA an important airport for locals, tourists, and visitors connecting through Miami to other destinations.

Due to insufficient and ineffective travel alternatives, recommendations in this category emphasize reductions of air travel-related environmental impacts. While companies should be urged to replace non-essential travel with online interaction options, including hybrid conferencing, livestreaming, and others, this type of prompting will have to come from nongovernmental stakeholders. Florida state legislation becoming effective in July 2026 prohibits local governments from implementing net-zero projects or using public funds to support the same (HB 1217, 2026). As a result, cross-sector collaboration will be key to advance

emissions reduction strategies beyond energy efficiency. Airport capital projects already scheduled or in progress include terminal-wide solar panel installations, natural lighting efficiency, and draining system improvements (MIA, n.d.-b). Airlines flying into and out of MIA should also contribute to local sustainability efforts through their operations and corporate social responsibility (CSR) strategies (Airlines for America, n.d.). The Miami-Dade County Climate Action Strategy (2021) sets forth a goal to reduce MIA emissions by 50% by the year 2030. Additional collaborative initiatives can further reduce the environmental impacts of air travel in Miami-Dade County and ensure alignment with the Climate Action Strategy.

Measure greenhouse gas (GHG) emissions. The practice of measuring GHG emissions is not widespread in Miami-Dade, rated at a low score of 39.8. Approximately half of respondents (49%) have not heard of any local companies measuring GHGs, in addition to 31% who believe very few are engaging in this practice. These results suggest an urgent need for immediate action, as GHG accounting is one of the first steps companies take in order to establish emissions reductions targets, and deliver tangible progress on sustainability goals (Aiuto et al., 2024). It is likely that national and multinational corporations with a presence in Miami already maintain GHG inventories. Several municipalities, as well as Miami-Dade County, have also conducted GHG inventories in recent years (Miami-Dade County, 2021; City of Miami, 2023). However, more action is required to transform GHG accounting into a standard procedure for Miami-Dade corporations and organizations.

State preemptions represent a significant barrier to public sector progress in this ecosystem aspect. The passage of HB 1217 will prohibit county and municipal governments from enforcing GHG accounting or emissions reductions starting on July 1, 2026 (HB 1217, 2026). However, these local governments may still be able to measure GHG emissions, maintain

publicly accessible data, and support clean energy projects that generate cost savings (Miznazi, 2026). In the private sector, chambers of commerce and other business networks can help promote GHG accounting to companies not yet measuring emissions, including offering access to free or low-cost GHG accounting software services for small and family-owned businesses.

Encourage public transportation use. Public transportation scored 43.0 among sustainability ecosystem aspects studied. Nearly half of study participants (42%) indicated that no one in their community uses public transportation. None of the respondents, across all county areas surveyed, described their public transit systems as being used by more than half of community members. Public transportation has long been a topic of debate in Miami-Dade due to low bus frequency, low ridership, deficient accessibility, and poor walkability (Yan et al., 2022; Ceballos, 2023; Peña & Choquette, 2026). Public transit has been shown to generate long-term economic growth in cities through increased access to employment, education, and essential services, (APTA, n.d.; Yan et al., 2022). In order to support both innovation and sustainability, Miami-Dade and its municipalities must invest in a truly effective public transit system.

Miami-Dade County operates five transit services: Metrobus, Metrorail (above ground), Metromover (operating in Downtown only), Special Transportation Service (STS) (ADA-accessible rideshare), and MetroConnect (on-demand, ADA-accessible rideshare) (Miami-Dade County, n.d.-h). Service is largely considered ineffective, as wait times are extensive (up to 60 minutes for Metrobus) and routes are limited, with route cuts taking place as recently as early May 2026 (Ceballos, 2026). Several municipalities operate separate bus, trolley, or electric vehicle microtransit systems, leading to greater inconsistency in the frequency, connectivity, and quality of public transit service throughout the County (CUTR, 2020). Further, year-round

exposure to heat and rain, low tree canopy, and car-oriented roads pose barriers to the micro-mobility necessary for residents to connect to public transit (Peña & Choquette, 2026).

Recommendations focus on improvements to public transit user experience. In addition to aligning with the Climate Action Strategy's 2030 fleet electrification goals, stakeholders should focus public transit investments on wait times, comfort, interoperability, and communication. Instead of operating 60-100-passenger buses with a 60-minute frequency on low ridership routes, smaller 30-40-passenger vehicles can be deployed with a 15-20-minute frequency. Cross-county express routes should be created to transport residents from a transit station (e.g. Okeechobee Station in Hialeah) directly to a highly frequented destination (e.g. Government Center in Downtown), without stops in between. These express routes can leverage existing highway infrastructure, with the use of larger buses replacing dozens of cars normally congested in highway traffic. On-demand microtransit services such as MetroConnect (county) should be expanded into municipal areas to allow riders ease of mobility, especially if they are unfamiliar with municipal transit systems at their destination. Roads due for renovations or repairs should prioritize mixed transit-oriented transformations that make micro-mobility (e.g. pedestrians, bicycles, scooters, etc.) safer and more pleasant. Bus stop shelters should be standardized across the county with baseline amenities such as shade, cooling, and real-time transit information. All of these improvements must be intended to make public transit use a dignified experience among all residents. They must also be accompanied by community outreach and communication to improve perceived and actual transit safety among non-riders to encourage adoption.

Encourage community-led, residential, and commercial composting. The practice of composting is emerging in Miami-Dade County. This ecosystem aspect scored a mean of 45.5, with an overwhelming majority (85%) of survey respondents aware of none or very few people

and businesses engaging in composting in their community. The remaining 15% believe about half of local people and businesses practice home composting or utilize a composting service.

In October 2025, a Miami-Dade County ordinance was passed to facilitate large-scale industrial composting, which before then had been complicated due to zoning and permitting challenges (Cava, 2025). This new legislation has allowed composters to operate more freely, spurring partnerships with municipalities, nonprofit organizations, and cross-sector coalitions across the county to provide residential composting services (Miznazi, 2025). Miami-Dade County is developing a Zero Waste Master Plan which aims to establish a multichannel strategy that will address the region's growing waste crisis (Miznazi, 2025; Waste Advantage, 2026). To support these initiatives, local ecosystem stakeholders should focus on community outreach and education to inform residents and business about composting advantages, benefits, and programs available to them. This outreach should be conducted in a variety of ways: in community workshops, social media posts, schools, parks, and other physical and digital spaces where residents seek out information and connection.

Elevate sustainable vendor certifications. Sustainable vendor certifications are not widespread in Miami-Dade, ranking fifth lowest at 46.2 out of 100. Three quarters of respondents (75%) had little to no awareness of local businesses employing certifications. An additional 21% indicated that about half of local businesses utilize this kind of certification. There are many sustainable vendor certifications available by sector and environmental impact that have demonstrated impacts on customer preference (Prell et al., 2020). However, it remains unclear whether Miami-Dade residents rely on certifications when interacting with companies.

Several municipalities and County departments offer certifications for businesses engaging in sustainable practices. One of these is "Plastic Free 305," an initiative housed under

the Miami-Dade County Division of Environmental Resources Management. This three-tier program recognizes businesses replacing single-use plastics and styrofoam with reusable or bio-based alternatives, within the limitations imposed by state single-use plastic ban preemptions (Miami-Dade County, n.d.-e). Another example is the Coral Gables "Green Business" program, which offers public-facing recognition to local businesses aligned with the city's sustainability goals (Coral Gables, n.d.). Recommendations to elevate sustainable vendor certifications surround customer education on the value of certified businesses, as well as on greenwashing to help customers avoid falsified and vague sustainability claims when making purchases.

Ranking of Economic Activities

Participants were prompted to rank 15 economic activities in order of importance in their community. The list of economic activities, as ranked by respondents, is detailed in Table 3.

Table 3

Main economic activities in Miami-Dade County

Rank	Economic activity	Mean	Standard Deviation
1	Construction, renovations and building management	3.79	3.09
2	Commerce and retail activities	4.73	2.66
3	Government and public services	5.26	3.07
4	Professional service firms	5.48	2.52
5	Hotels and touristic activities	5.79	3.21
6	Manufacturing, petrochemical and industrial services	6.69	4.00
7	Restaurants and food catering services	7.59	3.13
8	Health services	7.90	3.68
9	Agriculture, livestock production or aquaculture	8.52	4.27
10	Food processing and other agro-industrial activities	8.64	3.52
11	Education and research	8.69	3.31
12	Information technology and telecommunications	10.27	3.70
13	Transportation and distribution services	10.38	2.82
14	Mining, oil, gas and extraction activities	11.88	3.75
15	Research and development, innovation services	14.15	2.55

The ranking lists construction, commerce, and public services as the main economic activities in Miami-Dade County. This information can be used to guide the setting of priorities in the main opportunity areas for both innovation and sustainability, particularly through the tailoring of policies and initiatives to specific sectors of high impact or influence.

Overall State of Maturity

The combined data yielded an overall Innovation Index of 61.7 and a Sustainability Index of 50.7 for Miami-Dade County, positioning the region in the Expansion phase for both its innovation and sustainability ecosystems. A comparison of data collected in 2015-16 and 2025-26 shows a slight increase in the innovation index (2.4 points), but over the same time period (10 years) the sustainability index appears to decrease slightly (1.3 points), signaling a potential stagnation in the innovation and sustainability ecosystems over the past decade (Table 3).

Table 3

Ten-year comparison of indexes for Miami-Dade County, FL

	2015-16	2025-26	Combined Data
Innovation Index	61.2	63.4	61.7
Sustainability Index	50.9	49.6	50.7

Note. Indexes are calculated on a scale of 0-100. 2015-16 (n = 177); 2025-26 (n = 49).

Indexes by County Area

The Innovation and Sustainability indexes provide an overall glimpse at the state of the Miami-Dade County. Table 4 lists separate index calculations for each of 5 broad county areas, as well as an additional category for respondents who did not disclose their location. Northwest Dade (n = 13) includes Hialeah, Hialeah Gardens, Miami Gardens, MIA, Doral, Medley, and other neighboring areas. Northeast Dade (n = 10) includes North Miami, Aventura, Sunny Isles, and others. Central Dade (n = 17) consists of Allapattah, Coconut Grove, Little Haiti, Little

Havana, Liberty City, Overtown, Miami Shores, Key Biscayne, and Virginia Key. The Miami Core Area (n = 86; Downtown Miami, Miami Beach, Brickell, Design District, Wynwood) was separated from Central Dade due to the high concentration of resources and survey responses in the area. South Dade (n = 33) includes Coral Gables, West Miami, Kendall, Westchester, Pinecrest, South Miami, Homestead, and surrounding areas. Area Unspecified (n = 62) aggregates all responses where a county area was not disclosed (Table 4).

Table 4

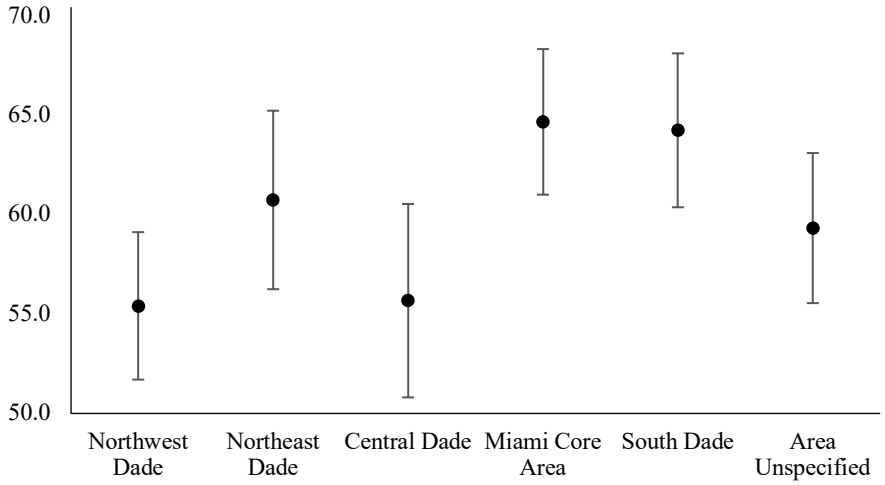
Innovation and sustainability indexes by county area

	Innovation	**Sustainability**
Northwest Dade	55.4	47.2
Northeast Dade	60.8	58.9
Central Dade	55.7	47.2
Miami Core Area	64.7	49.8
South Dade	64.3	57.6
Area Unspecified	59.3	50.4

The county area scores were compared using an interval plot to determine if there were any statistically significant differences between the means. Figure 5 displays the means and confidence intervals for innovation index scores by county area. Compared to the Miami Core Area, the only areas with statistically significant different means are Northwest Dade and Central Dade, with significantly lower means than that of the Miami Core Area. This reveals a substantial disparity in awareness and access to innovation resources between these areas and the center of the Miami-Dade ecosystem. Interventions in the innovation ecosystem should aim to foster equitable access to benefits across all areas of the county (Figure 5).

Figure 5

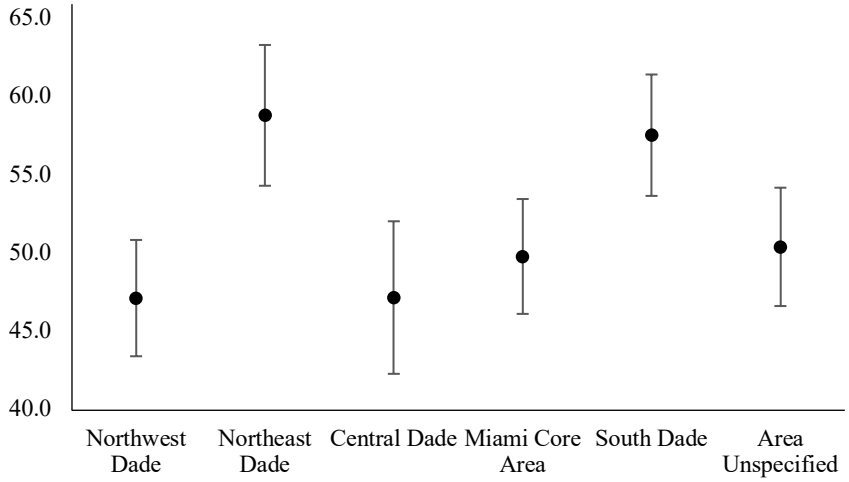
Innovation index score narrowed by county area



A similar interval plot compares sustainability index scores by county area. The only two areas with statistically significant different means, in relation to the Miami Core Area, are Northeast Dade and South Dade. These areas appear to outperform all other areas of the county in public awareness and perception of their sustainability efforts (Figure 6).

Figure 6

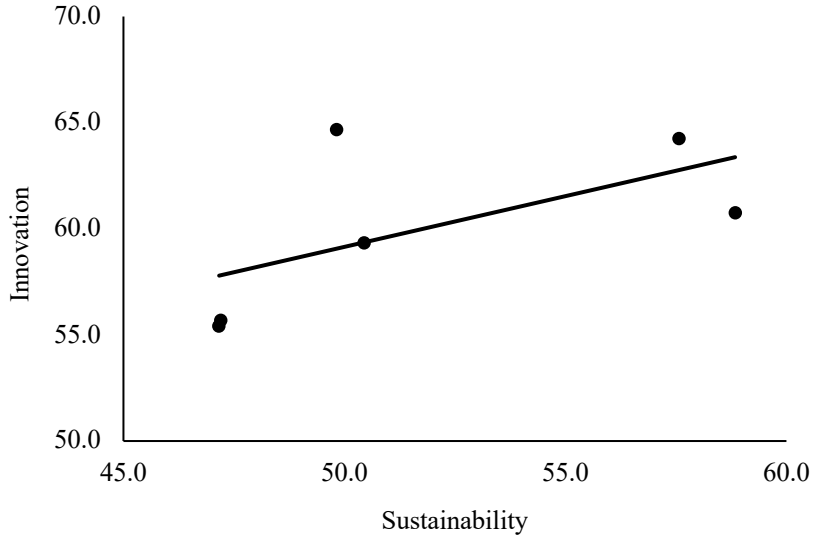
Sustainability indexes narrowed by county area



Research on global innovation ecosystems has demonstrated a correlation between innovation and sustainability (Harvard T.H. Chan School of Public Health, n.d.). To evaluate this correlation in Miami-Dade, a line of best fit was plotted against the six county areas (Figure 7).

Figure 7

Correlation between sustainability and innovation among county areas



Note. Both axes plotted as independent variables; correlation coefficient $r^2 = 0.61$.

The scatterplot shows a moderate positive correlation, which suggests that as either innovation or sustainability are enhanced, the other tends to improve as well. Although this study does not assume a causal relationship between the two variables, sustainability is increasingly being perceived as a key driver of innovation and business growth (Nidumolu et al., 2009; Rotondo & Chow, 2025). Programs that deliberately enhance both innovation and sustainability can help both ecosystems mature simultaneously.

Conclusion

The results from this study present Miami-Dade County as an emerging global hub for innovation and sustainable climate resilience. Data collected from over 200 survey participants

from a broad range of areas within the county reveal clear strengths in the local innovation and sustainability ecosystems, while also outlining clear opportunities for improvement and growth. For the innovation ecosystem, main opportunity areas include government support, internationalization, investor regulation, sustainable and social entrepreneurship, and academic collaborations. In the sustainability ecosystem, main opportunity areas focus on air travel, GHG accounting, public transit, composting, and sustainability certifications.

Further research in several areas can deepen understanding of the current state of the local ecosystems. Research is needed to evaluate the effectiveness of recommendations posed in this report, as well as the correlation (and existence of a causal relationship) between innovation and sustainability. Future research should also examine the extent to which state preemption legislation not yet in effect impacts local governments' ability to advance climate, sustainability, and resilience initiatives. Finally, additional studies on the Miami-Dade innovation and sustainability ecosystems should include aspects and concepts not studied in this report (e.g. entrepreneurial mindset/culture, relationship between ethnic/racial background and access to innovation support resources, cost of climate inaction, circularity).

Miami-Dade County is well-positioned to address the greatest challenges of the 21st century. By embracing its multicultural, multifaceted communities and emphasizing equity, impact, and participation, resources can be made available to all residents and visitors who seek them. Partnerships, both local and far-reaching, will enable the flow of ideas and funds necessary to advance progress throughout the county. With deliberate efforts from its many stakeholders, Miami-Dade's innovation and sustainability ecosystems will continue to expand and mature for years to come.

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