

IBM Institute for
Business Value

Investing in Black technical talent

The power of partnering with HBCUs

Experts on this topic



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Organizations can establish long-term investments in HBCUs, to everyone's benefit.

Key takeaways

Historically black colleges and universities (HBCUs) have succeeded in realizing their mission of providing Black people with educational opportunities—despite serious funding challenges. They could do even more with more resources.

HBCUs have demonstrated they can innovate to produce an exceptional talent pipeline. By partnering with these schools, organizations can identify win-win opportunities.

Partnership takes serious, sustained commitment. Some organizations have shown how to engage and execute in creative ways to form productive collaborations with HBCUs.

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In the face of financial and other hurdles, historically black colleges and universities (HBCUs) have had an outsized impact on Black people's success. HBCUs' resourceful past points to an innovative future.

Organizations can establish long-term investments in HBCUs, to everyone's benefit. HBCU students gain the skills they need to succeed, and companies nurture the talent they need to compete and thrive. Industries also can collaborate with an array of organizations that bolster HBCUs and their talent.

The profound impact of HBCUs

Meeting needs, offering opportunities

In 1837, Cheyney University was established in Pennsylvania as the first HBCU in the US.¹ For all but a few Black people at that time, Cheyney and other early HBCUs were the only institutions of higher education that were open to them.²

In their initial years, HBCUs mainly educated students to work in teaching, the trades, and agriculture—where the country's needs were greatest. Today, 101 public and private HBCUs (see Appendix) deliver higher education not only to Black people but also to “many students, regardless of ethnicity, race, or income level.”³

Most HBCUs are relatively small institutions, while some more widely known schools—such as Howard University, Morehouse College, and Tuskegee University—receive greater recognition and resources. In part, this disparity stems from a general tendency for the biggest endowment gifts to go to the most highly visible universities, HBCUs included.⁴

HBCUs bestow clear benefits upon their graduates. These individuals go on to enjoy greater financial and personal well-being than Black alumni of other schools.⁵ And they have even been shown to have fewer health problems than Black people who attend predominantly white institutions.⁶

In the nearly 200 years since Cheyney opened its doors, HBCUs, like all colleges, have had to regularly expand their curricula to prepare students for highly anticipated jobs of the future. Producing graduates with the latest and greatest skills continues to require hard work and innovation across the gamut of higher-learning institutions. And, in any given decade, it depends on understanding which skills are most critical for students to be competitive in the workforce.

Doing more with less

A closer look at HBCUs’ track record reveals remarkable achievements in preparing the future workforce, despite significant challenges.

A substantial financial disparity among higher-learning institutions puts HBCUs at a real disadvantage. Compared to other colleges and universities, HBCUs rely much more heavily on government funding and see much less revenue per student (see Figure 1).

Total 2017-2018 revenues for public HBCUs (\$5.4 million) were only 1.3% of revenues for public non-HBCUs (\$403.7 million). The revenue differences are stark on a per-student basis, too: just over \$24,000 for public HBCUs, compared to about \$39,000 for public non-HBCUs. Even Howard University’s impressive endowment of around \$700 million is less than a 50th of Harvard University’s endowment.⁷

Add to those numbers the stark reality that HBCUs have faced declining enrollments, reduced funding, fewer degrees conferred, and even the closure of some institutions.⁸

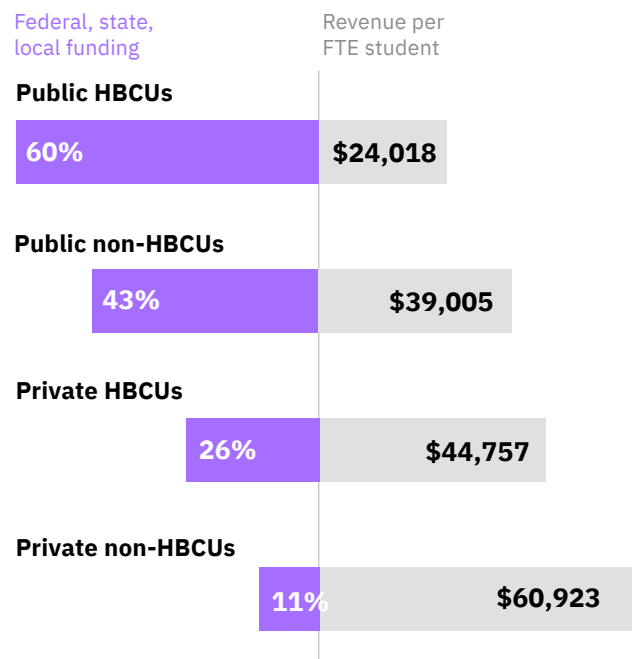
Yet despite having substantially fewer financial resources, HBCUs as a group have accomplished a great deal. True to their mission of advancing Black students, they have produced an astoundingly large percentage of diverse professionals from their ranks (see “Perspective: Small but mighty, HBCUs have widespread impact” on page 3).

All told, HBCUs enroll only about 9 percent of Black undergraduates.⁹ But they have educated one-half of Black doctors and lawyers. And they produce one-quarter of the STEM undergraduate degrees earned by Black Americans.¹⁰

Figure 1

The great funding imbalance

Public HBCUs rely heavily on government funding and operate on less revenue per student than other colleges.



Source: National Center for Education Statistics, Integrated Postsecondary Education Data System

HBCUs represent only 3% of the nation’s educational institutions, yet they have educated one-half of Black doctors and lawyers.

“Despite discrimination and neglect, HBCUs have continued to pull above their weight,” US Representative Alma Adams said to Congress in 2019. HBCUs “do a lot with a little,” said Adams, a graduate and former faculty member of HBCUs.¹¹

As suggested by the title of the acclaimed 2016 book and film *Hidden Figures*, HBCU graduates have made tremendous and even historic contributions that too often have gone unheralded (see “Perspective: HBCU alumna in history: Katherine Johnson” on page 4).

Seen in this light, HBCUs have used their investments effectively and wisely. Strapped for resources, HBCUs have done more with less.

HBCUs can and still should play a significant role in producing graduates with the essential technical talent that business and government demand. But doing so will take more and stronger public-private partnerships to support HBCUs in better aligning students’ college experiences to real-world jobs and entrepreneurial opportunities.

Working with HBCUs to build technical talent

Both the private and public sectors need to be more proactive in developing, hiring, and retaining top technical talent, as well as identifying existing skills pipelines. While HBCUs continue to produce talent that is in demand across industries, not all organizations are poised to leverage this talent source.

In this report we’ll explore the elements of successful partnerships with HBCUs so organizations can help develop the technical talent they need. With innovation built on initiatives that have already proven successful, organizations can leapfrog ahead—without having to invent a new approach from a blank page.

Perspective: Small but mighty, HBCUs have widespread impact

HBCUs represent only 3% of the nation’s educational institutions, yet they account for:

- 80% of Black judges
- 50% of Black doctors
- 50% of Black lawyers
- 25% of Black undergraduates earning degrees in science, technology, engineering, and math (STEM)¹²

Perspective: HBCU alumna in history: Katherine Johnson

Katherine Johnson (1918-2020) was an unsung hero of science, technology, engineering, and mathematics (STEM), yet her contributions to the early exploration of space helped change the world.

After graduating from high school at the age of 14, Johnson enrolled in an HBCU, West Virginia State College.¹³ At age 20, she became the first Black American woman to attend West Virginia University's graduate school. In 1953, Johnson joined the Langley Aeronautical Laboratory, part of the National Advisory Committee for Aeronautics, which later became NASA.

Johnson worked in the Space Orbital Mechanics branch, serving in the role of "human computer." She calculated the flight path for the first space mission and played an instrumental role in the first crewed US space flights, Apollo 11 and Apollo 13.

During the Friendship 7 mission in 1962, NASA used the IBM 7090 Data Processing System to calculate astronaut John Glenn's orbit around Earth. Before Glenn would proceed with the launch, he asked if Johnson had verified the calculations, saying, "If she says they're good, then I'm ready to go." Friendship 7 transformed the space race and led to breakthroughs in STEM worldwide.

Johnson once said, "Some things will drop out of the public eye and will go away, but there will always be science, engineering, and technology. And there will always, always be mathematics."¹⁴

Developing tomorrow's tech talent

Innovate to stay relevant

From their start, HBCUs have embraced innovation—it's been essential to their survival and success. From its beginnings over a century ago, IBM also has had to constantly innovate to remain competitive.

For IBM, taking an innovative approach has included championing diversity and inclusion. Since an IBM predecessor company hired its first black employee in 1899, IBM has continued to lead the way with forward-thinking programs and policies that foster a culture of inclusion. IBM has been ranked No. 4 among top industry supporters of HBCUs, and LinkedIn has named IBM a top employer for HBCUs.¹⁵

To adequately prepare students for a continually evolving world, higher education itself must evolve and innovate. According to research findings from our 2015 IBV report "Pursuit of relevance: How higher education remains viable in today's dynamic world," success depends on 3 prescriptive actions that HBCUs are taking with the support of partners:

- Academic and industry leaders need to work together to prioritize practical and applied educational experiences;
- Technology solutions must improve education access experience, variety, and outcomes;
- Strong relationships are required within education ecosystems.¹⁶

IBM helps HBCUs take these actions through a variety of initiatives that contribute resources and awards, offer faculty training and assets, provide mentoring and workplace learning, and create a pipeline for graduates.

Only 41% of industry and academic leaders believe higher education meets industry needs.

The *IBM Academic Initiative* provides no-charge access to an assortment of classroom resources. Faculty and students get cloud access, e-learning courses with certificates, courseware, tutorials, software, enterprise platforms, and data sets. They learn about artificial intelligence (such as Watson), blockchain, systems data science and analytics, Internet of Things, and cybersecurity.

The *IBM-HBCU Quantum Center* helps prepare students from about two dozen HBCUs for careers in quantum computing. The program gives them cloud access to IBM quantum computers, as well as educational support and funding for student research.

The *IBM Skills Academy* trains university educators in high-demand skill areas such as artificial intelligence, data science, cloud computing, and quantum computing. Faculty use the same resources to teach. So students learn the up-to-date content quickly and without cost and, as a result, gain a competitive advantage in the job marketplace.

The *SOAR Initiative* accelerates the careers of high-potential Black and Hispanic IBMers by pairing them with senior executives who act as mentors and career advocates.

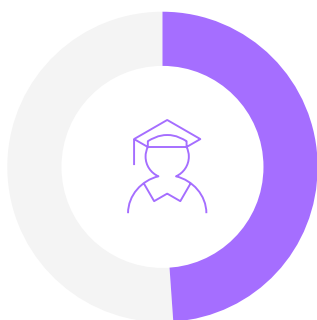
An intensely competitive program, the *IBM Masters Fellowship* helps Black students pursue an advanced degree. It provides financial awards to master's students in HBCUs who show potential for making their mark in promising and disruptive technologies.

IBM isn't alone in such endeavors. Other organizations also have spearheaded productive collaborations with HBCUs (see "How organizations engage with HBCUs today"). Such programs and partnerships can help close the concerning gap between what higher education provides and what industry, society, and students need (see Figure 2).¹⁷

Figure 2

Unmet needs

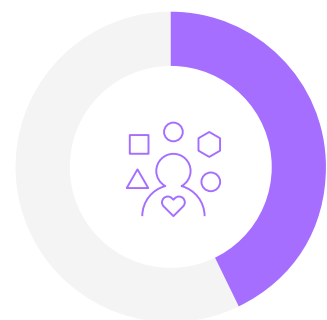
Both industry and academic leaders see a gap between education and sought-after skills.



Only 49%
of industry and academic
leaders believe
**higher education meets
student needs**



Only 41%
of industry and academic
leaders believe
**higher education
meets industry needs**



Only 43%
across industry
and academia believe
**higher education prepares
students with necessary
workforce skills**

Perspective: How other organizations engage with HBCUs today

Nurturing the talent: The US has an ever-growing need for STEM talent; HBCUs have plenty of STEM talent in the making. The National Science Foundation fosters that pipeline by providing HBCUs with awards to develop and implement innovative approaches to STEM education.¹⁸

Providing real-world experience: For HP's HBCU Challenge, HBCU students propose solutions to actual HP business problems. Through the competition, students gain on-the-job experience and identify potential career paths and job opportunities.¹⁹

Inviting to the table: At a dozen HBCUs across the US, Apple introduces students to coding and app design. In addition, Apple's Atlanta-based Propel Center serves as a tech hub for HBCUs.²⁰

Opening the doors: Northrop Grumman holds an annual career fair specifically for HBCU students to learn about the aerospace and defense technology company and to interview for internships and entry-level jobs.²¹

Developing next-gen leaders: Part of the White House Initiative on HBCUs, the HBCU Competitiveness Scholars program honors and develops students who have demonstrated exceptional academic, leadership, and entrepreneurial performance.²²

Teaming up to score a win-win

A host of organizations allows industry partners to support not only HBCUs but Black people's education more broadly. Engaging with these organizations results in a win-win for everyone: More workers gain awareness of and access to today's most in-demand skills, while more companies help ensure their future workforce has the necessary skills.

100 Black Men of America, Inc.

At chapters nationally and globally, 100 Black Men of America, Inc. mentors young men and women so they can fully realize their potential. 100blackmen.org

Advancing Minorities' Interest in Engineering (AMIE)

To help create a more diverse engineering workforce, AMIE facilitates partnerships among corporations, government agencies, and HBCU engineering programs. amiepartnerships.org

American Association of Blacks in Higher Education (AABHE)

The AABHE endeavors to prepare Black individuals for faculty and leadership roles in higher education. aabhe.education

United Negro College Fund (UNCF)

A leader in the field, the UNCF financially supports HBCUs, awards student scholarships, and advocates for minority education and community engagement. uncf.org

How to partner with HBCUs

Organizations ready to begin partnering with HBCUs can take these proven steps to form fruitful collaborations.

Identify the schools that make the right fit

Begin by educating yourself. Learn about the HBCUs in your region. But go beyond geography and consider industry. Identify the schools with educational and sector expertise that align with your organization. Find subject-area synergies and shared objectives.

Define your strategy—and commit to it

After identifying potential partner schools, actively build relationships with them. That should involve more than a one-off presentation or a one-year program. With limited resources, HBCUs have little bandwidth for organizations that only touch down briefly on their campuses. They need trusted, long-term partners. True partnership requires a seriousness of commitment over time.

Get support from the top

Partnership requires buy-in from senior leadership. That encompasses more than the C-suite. All senior leaders should know why such partnerships matter to the future of their business.

Keep a partner mindset

HBCUs have achieved notable successes despite significant obstacles. An effective partner recognizes that performance history. Understand that collaboration isn't an act of kindness but an engagement where both parties benefit.

Define shared metrics of success

Know what success should look like, and track it. A memorandum of understanding can spell out the collaboration's desired outcomes. That could involve a certain number of faculty that an organization trains in its technologies—faculty who then share that training with colleagues and students. Provide resources, and assess their impact.

Evaluate, improve, repeat

Partnering is an ongoing act, not a static state. Continuously evaluate the partnership and find opportunities to make it better.

Appendix 1: 101 HBCUs²³

Alabama	Birmingham	Lawson State Community College	Georgia	Albany	Albany State University		
	Fairfield	Miles College		Atlanta	Clark Atlanta University Interdenominational Theological Center Morehouse College Morehouse College of Medicine Spelman College		
	Gadsden	Gadsden State Community College		Augusta	Paine College		
	Huntsville	J. F. Drake State Community and Technical College Oakwood University		Fort Valley	Fort Valley State University		
	Mobile	Bishop State Community College		Savannah	Savannah State University		
	Montgomery	Alabama State University H. Council Trenholm State Technical College		Kentucky	Frankfort	Kentucky State University	
	Normal	Alabama A&M University			Louisville	Simmons College of Kentucky	
	Selma	Selma University		Louisiana	Baton Rouge	Southern University and A&M College	
	Talladega	Talladega College			Grambling	Grambling State University	
	Tuscaloosa	Shelton State Community College Stillman College			New Orleans	Dillard University Southern University at New Orleans Xavier University of Louisiana	
	Tuskegee	Tuskegee University		Shreveport	Southern University at Shreveport		
	Arkansas	Little Rock		Arkansas Baptist College Philander Smith College	Maryland	Baltimore	Coppin State University Morgan State University
		North Little Rock		Shorter College		Bowie	Bowie State University
Pine Bluff		University of Arkansas at Pine Bluff	Princess Anne	University of Maryland, Eastern Shore			
Delaware	Dover	Delaware State University	Mississippi	Clarksdale	Coahoma Community College		
Florida	Daytona Beach	Bethune-Cookman University		Holly Springs	Rust College		
	Jacksonville	Edward Waters College		Itta Bena	Mississippi Valley State University		
	Miami Gardens	Florida Memorial University		Jackson	Jackson State University		
	Tallahassee	Florida Agricultural and Mechanical University		Lorman	Alcorn State University		
				Tougaloo	Tougaloo College		
				Utica	Hinds Community College, Utica Campus		
				Missouri	Jefferson City	Lincoln University	
			St. Louis		Harris-Stowe State University		

Appendix 1 (continued): 101 HBCUs

North Carolina	Charlotte	Johnson C. Smith University	Texas	Austin	Huston-Tillotson University
	Durham	North Carolina Central University		Dallas	Paul Quinn College
	Elizabeth City	Elizabeth City State University		Hawkins	Jarvis Christian College
	Fayetteville	Fayetteville State University		Houston	Texas Southern University
	Greensboro	Bennett College North Carolina A&T State University		Marshall	Wiley College
	Raleigh	Saint Augustine's University Shaw University		Prairie View	Prairie View A&M University
	Salisbury	Livingstone College		San Antonio	St. Philip's College
	Winston-Salem	Winston-Salem State University		Terrell	Southwestern Christian College
Ohio	Wilberforce	Central State University Wilberforce University	Tyler	Texas College	
	Langston	Langston University	Virgin Islands	Charlotte Amalie	University of the Virgin Islands
Oklahoma	Cheyney	Cheyney University of Pennsylvania	Virginia	Hampton	Hampton University
Pennsylvania	Lincoln University	Lincoln University		Lynchburg	Virginia University of Lynchburg
	Columbia	Allen University Benedict College		Norfolk	Norfolk State University
South Carolina	Denmark	Denmark Technical College Voorhees College		Petersburg	Virginia State University
	Orangeburg	Clafin University South Carolina State University	Richmond	Virginia Union University	
	Rock Hill	Clinton College	Washington, D.C.	Howard University University of the District of Columbia	
	Sumter	Morris College	West Virginia	Bluefield	Bluefield State College
	Jackson	Lane College		Institute	West Virginia State University
Tennessee	Memphis	LeMoyne-Owen College			
	Nashville	American Baptist College			
		Fisk University			
		Meharry Medical College Tennessee State University			

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