Dakota State University: Fueling South Dakota's Technology Needs

FY 2019 ECONOMIC IMPACT REPORT

2021
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DSU by the Numbers

$137.4 Million
Generated in Economic Impact

908 Jobs
Supported and Sustained

$5.7 Million
in State and Local Taxes Generated

$19.2 Billion
Direct Impact Generated by DSU Alumni throughout the Course of their Careers

3,268 Students

436 Graduates Annually

99.3% classes taught by faculty

65.4% undergraduate students from South Dakota

40.7% first-generation college students

38 Undergraduate Programs

10 Graduate Programs

29 Certificate Programs

52 Minors
In 1881, Dakota State University (DSU) began as Dakota State Normal School. The university is located in Madison, a small, vibrant community filled with alumni in the heart of the prairie. Since 1984, when it pivoted to focus on a then-emerging field — computer-related technology — DSU has been at the cutting edge of technology. As an early adopter of technology in higher education, DSU was able to offer distance learning courses in 2001. Even though times have changed and curriculum has evolved since the late 1800s, DSU still produces many of South Dakota’s teachers, including the South Dakota Department of Education’s South Dakota Teacher of the Year in 2020.

Technology is embedded in the fabric of DSU. For evidence, look no further than The Beacom College of Computer and Cyber Sciences, which produces 56% of DSU’s graduates. Cyber isn’t just in the classroom at DSU. In their free time students are participating in hacking competitions to test vulnerabilities in websites and playing Esports competitively.

DSU freely shares its cyber tech facilities and expertise with the community. The new Paulson Cyber Incubator & Entrepreneurial Center includes a co-working space that the Madison business community can use and an applied learning lab where Madison High School students can develop business ideas along with the students and faculty at DSU. This collaboration allows the technical experience of DSU to support innovation in the Madison area. And it was made possible by a local DSU alumnus who built his business into a financial media company that generates more than $10 million in revenue. By supporting the next generation of students through this center, Paulson illustrates the commitment of the Madison and DSU community to continue to be at the cutting edge of technology.

The DSU Trojans field 13 teams in intercollegiate athletic competition across a wide array of men’s and women’s sports. And in the cyber hub of South Dakota, DSU has a co-ed Esports team that competes nationally and grants scholarships to students for their skills.
DSU provides learning that integrates technology and innovation to develop graduates ready to contribute to local, national, and global prosperity.
About the Study

In July 2021, the South Dakota Board of Regents (SDBOR) engaged Parker Philips, Inc. to measure the economic contribution of public higher education overall and of each of South Dakota’s six universities. The goal of this analysis is to tell DSU’s story from a numbers and narrative perspective. To develop this report Parker Philips, Inc. gathered student, financial, and employment data about DSU, visited and toured the campus, conducted interviews, and researched secondary data and information to inform the writing and key messages.

The primary tool used in the performance of this study is the input-output model and data set developed by IMPLAN Group LLC. Financial data used in this study was obtained from South Dakota and included the following data points: operational expenditures, capital expenditures, and payroll and benefits for employees for FY 19. Secondary data was used to estimate spending by visitors (day and overnight) and students (undergraduate and graduate) exclusive of tuition and fees. Additional information on the methodology and assumptions used to complete this study can be found in Appendix B.

The impact presented in this analysis is broken down into three categories: direct impact, indirect impact, and induced impact. The indirect and induced impacts are commonly referred to as the “multiplier effect.” The graphic below provides an overview of the types of impact detailed in this report.
Data Source: South Dakota Board of Regents and Dakota State University

Study Type: Economic Contribution Analysis

Geography: South Dakota

Study Year: Fiscal Year 2019 (FY 19)

Methodology: IMPLAN
DSU Contributes to the State and Local Economy

DSU contributes to the local and statewide economies through its expenditures on operations, capital projects, wages, the spending of students off campus, and the spending of visitors to campus. The direct, day-to-day expenditures of DSU, combined with the student and visitor spending, cause a ripple effect throughout the statewide economy.

The total economic impact of DSU in FY 19 totaled $137.4 million. This contribution to the local and statewide economies is a point-in-time snapshot depicting how the expenditures of DSU and its faculty, staff, students, and visitors make an impact.

Operations and Spending Contribution

DSU operations and capital spending in FY 19 contributed a total of $101.7 million as a result of operational and capital spending. DSU’s operations generated $57.8 million in direct economic impact, $16.8 million in indirect economic impact, and $27.1 million in induced economic impact.

Student Spending Contribution

DSU students contributed a total of $31.5 million to the state’s economy in FY 19 as a result of their spending. They generated $21.2 million in direct economic impact, $5.5 million in indirect economic impact, and $4.8 million in induced economic impact.

Visitor Spending Contribution

Visitor spending contributed a total of $4.2 million. Visitors to DSU generated $2.5 million in direct economic impact, $875,384 in indirect economic impact, and $771,939 in induced economic impact.
DSU’s Combined Economic Impact (FY 19)

$137,353,209 total combined economic impact

$101,650,986 total operations spending
- Direct Spending: $57,781,446
- Indirect Spending: $16,776,743
- Induced Spending: $27,092,797

$31,515,927 total student spending
- Direct Spending: $21,163,335
- Indirect Spending: $5,531,876
- Induced Spending: $4,820,716

$4,186,296 total visitor spending
- Direct Spending: $2,538,973
- Indirect Spending: $875,384
- Induced Spending: $771,939

Source: Parker Philips using IMPLAN with data from SDBOR and DSU
Case Study:

DSU APPLIED RESEARCH LAB – CUTTING EDGE OF CYBERSECURITY

DSU is small but mighty. The 3,200-student university in Madison is a national leader in cyber education and currently holds four Centers of Academic Excellence designations from the NSA and Department of Homeland Security: Cyber Defense Education, Cyber Defense Research, Cyber Operations, and Cyber Defense Consultative Regional Resource Center. Graduates of DSU’s cybersecurity majors are in demand: The Beacom College of Computer and Cyber Sciences has a 96% placement rate for undergraduates and a 100% placement rate for graduate students.

Madison Cyber Labs — affectionately known as MadLabs® — is a perfect example of how DSU’s cybersecurity expertise keeps our country safe while also contributing to the economy of the Madison region and beyond. MadLabs® draws new talent to the state and the region, attracting elite scholars, researchers, professionals, and partnerships with government, businesses, nonprofits, and other higher education institutions. This $18-million, 40,000-square-foot building is the first research facility of its kind in the Great Plains.

The MadLabs® building and its associated programs are the result of a fruitful partnership between the university, the state, the federal government, and private donors. This includes $30 million from PREMIER Bankcard President and CEO Miles Beacom and his wife Lisa, along with Denny Sanford, owner of the Sioux Falls-based First PREMIER Bank and PREMIER Bankcard. Their gift is one of the largest single gifts to higher education in South Dakota history — and it’s generating a ripple effect across the region. Additional support includes $10 million of funding from the state Future Fund approved by then Governor Daugaard. The private and public funding sources are being leveraged to draw an additional $20 million in support from federal sources and private donors. The synergy created by this coalition of advocates for higher education will support South Dakotans for generations to come.

“We can keep our very, very best and brightest students here after graduation to work in South Dakota at MadLabs®. And they’re doing work of national security importance.”

Dr. Josh Pauli
Executive Director, DSU Applied Research Lab
DSU supports a total of **908 full- and part-time jobs** throughout the state. Beyond the direct jobs at the university, indirect and induced jobs include construction for campus projects, retail, restaurants, daycare, real estate, and banking — to name a few.

### Jobs Generated by University Operations
DSU operations supported and sustained a total of 612 jobs: 334 direct jobs, 99 indirect jobs, and 179 induced jobs.

### Jobs Generated by Student Spending
Students from DSU supported and sustained a total of 257 jobs as a result of their spending: 195 direct jobs, 30 indirect jobs, and 32 induced jobs.

### Jobs Generated by Visitor Spending
Visitors to DSU supported and sustained a total of 39 jobs as a result of their spending: 28 direct jobs, 6 indirect jobs, and 5 induced jobs.

Based on analysis by industry sectors, other jobs supported by the university’s economy outside of the higher-education and healthcare sectors include jobs in real estate, retail, and services (e.g., restaurants, child-care centers, and entertainment).

### Dakota State University Employment Contribution (Jobs, FY 19)

<table>
<thead>
<tr>
<th>Contribution Type</th>
<th>Direct Contribution</th>
<th>Indirect Contribution</th>
<th>Induced Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
<td>334</td>
<td>99</td>
<td>179</td>
</tr>
<tr>
<td>Student</td>
<td>195</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>Visitor</td>
<td>28</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>557</td>
<td>135</td>
<td>216</td>
</tr>
</tbody>
</table>

Source: Parker Philips using IMPLAN with data from SDBOR and DSU
DSU’s employees, suppliers, and related constituencies contribute to the local and statewide tax bases. In FY 19, the university contributed an estimated $5.7 million ($3.5 million direct and $2.2 million indirect and induced) through local spending (operational, capital, students, and visitors) as well as direct and indirect support of jobs. At the state and local levels, DSU contributes to the tax bases through its purchasing. Specific taxes include employee and employer contributions to state and local social-insurance funds, sales and use taxes, personal property taxes, taxes paid on motor-vehicle licenses, and payments of fines and fees.

### Dakota State University State and Local Tax Impacts (FY 19)

<table>
<thead>
<tr>
<th></th>
<th>SUB COUNTY GENERAL</th>
<th>SUB COUNTY SPECIAL DISTRICTS</th>
<th>COUNTY</th>
<th>STATE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIRECT</td>
<td>$685,557</td>
<td>$786,544</td>
<td>$314,999</td>
<td>$1,754,528</td>
<td>$3,541,628</td>
</tr>
<tr>
<td>INDIRECT</td>
<td>$140,569</td>
<td>$161,445</td>
<td>$64,143</td>
<td>$356,078</td>
<td>$722,235</td>
</tr>
<tr>
<td>INDUCED</td>
<td>$289,784</td>
<td>$332,910</td>
<td>$132,002</td>
<td>$725,660</td>
<td>$1,480,356</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$1,115,910</td>
<td>$1,280,899</td>
<td>$511,144</td>
<td>$2,836,266</td>
<td>$5,744,219</td>
</tr>
</tbody>
</table>

Source: Parker Phillips using IMPLAN with data from SDBOR and DSU
When COVID-19 hit in 2020, teachers were faced with a daunting challenge: how to quickly and effectively pivot to online learning to keep their students on track. Luckily, technology know-how is in the DNA of Dakota State. This expertise was on full display as faculty from across the university stepped up to provide a rich array of coaching, guidance, and online materials to support teachers and parents in unprecedented times.

DSU’s College of Education has offered free webinars for teachers and parents on a variety of tech tools and resources that can be used in virtual education. The college also created an online archive of rich resources that includes literacy resources, Google Classroom, Reading With Your Child: Support for Parents, and special education materials. Faculty from the schools of education and business also served as resources to principals and superintendents as they sought to keep education alive during COVID. And DSU’s CybHER® program provided short, recorded lessons that can be used by teachers and parents, with a particular focus on encouraging girls to enter the field of cybersecurity.

Madison Central Schools Superintendent Joel Jorgenson knows a thing or two about how to run an effective school district. Jorgenson was voted South Dakota’s Superintendent of the Year in 2019 by the South Dakota School Superintendents Association and has served as the Madison Central School District’s superintendent for the past five years. He steered his district through the unprecedented challenges posed by COVID. “Professors from DSU helped teachers in my district’s elementary schools to learn new education technology platforms and use them to get information out to our kids during COVID. Like so many other South Dakota school district leaders, Jorgenson credits the tech expertise and guidance that DSU faculty provided to the state’s k-12 teachers as key to his families and faculty successfully navigating virtual classrooms.

“By giving them this training, DSU faculty helped my teachers get their lessons out there and have those back-and-forth conversations with the kids that was so important when they were teaching and learning remotely.”

Joel Jorgenson
Superintendent, Madison Central School District
In 2019, 436 students graduated from DSU. Thanks to partnerships with local employers, DSU has built an intentional pipeline to jobs in the region and a strong demand for talent and graduates at local businesses big and small. Nearly 60% of DSU graduates plant their roots in South Dakota, contributing to the state and making a positive economic impact after graduation. The direct impact of the total average wage earned by undergraduate and graduate alumni of DSU on the economy over a 40-year career totals $19.2 billion.

The earnings of the over 7,800 DSU alumni currently living and working in South Dakota over the course of their 40-year careers will total $19.2 billion, support and sustain a cumulative total of 127,844 jobs, and generate $862.9 million in fiscal impacts at the local and state level.
DSU Athletics

DSU has 13 teams in the North Star Athletic Association and National Association of Intercollegiate Athletics and more than nine Esports teams. DSU was the first college football team from South Dakota to win a post-season bowl game — the 1971 Boot Hill Bowl. In 2020–2021, Dakota State set an NAIA record for Scholar-Athletes, who must have a 3.5 GPA or higher to qualify. From 2019–2021 Dakota State received the NAIA award for Champions of Character every year. The award considers integrity, respect, responsibility, sportsmanship, and servant leadership. The DSU Trojans are led by a new mascot, General Cyber. In a nod to the school’s reputation as a cyber hub, DSU has updated the 90-year-old Trojan mascot to General Cyber to bring the tradition into a new identity that melds the old with the new.
DSU Gives Back

The community around DSU benefits from DSU faculty, staff, and students. Based upon assumptions derived from the U.S. Census Bureau and the Points of Light Foundation regarding donation amounts and volunteerism rates by age, income level, and employment status, it is estimated that staff, faculty, and students give $347,615 annually in charitable donations and volunteer for nearly 50,322 hours, valued at $1,185,592. In FY 19, the combined impact of charitable giving and volunteerism totaled $1,479,067. These benefits were in addition to the $137.4 million annual economic impact. Some examples of how DSU gives back to the people of Madison include:

- **Student athletes volunteer in the Madison community during the Day of Service, donating their time to maintain the community pool, donating shoes and winter coats, and assisting in coaching local youth sports teams.**

- **CybHER® is on a mission to support and encourage women to pursue STEM — and technology in particular. The group hosts events, workshops, activities, and competitions for local girls along with mentoring to children from Pre-K to adult. CybHER® also provides support for educators and parents, including a summer camp funded by the National Science Foundation for students in grades 6–9.**

- **Madison Community Center is a joint project with the city of Madison. It provides both the city and the student body of DSU with access to a fitness center, studios, opportunities to take fitness classes, an inside track, and an indoor pool. The Community Center also supports intramural sports for DSU’s community. This collaboration is proof positive that the Madison community and DSU understand the importance of working together and meeting community needs.**

### Charitable Giving and Volunteer Impact of DSU

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staff and Faculty Charitable Giving</strong></td>
<td><strong>$171,742</strong></td>
<td><strong>Staff and Faculty Volunteerism Hours</strong></td>
</tr>
<tr>
<td><strong>Student Charitable Giving</strong></td>
<td><strong>$121,733</strong></td>
<td><strong>Student Volunteerism Hours</strong></td>
</tr>
<tr>
<td><strong>Total Charitable Giving</strong></td>
<td><strong>$293,475</strong></td>
<td><strong>Total Volunteerism Hours</strong></td>
</tr>
<tr>
<td><strong>Value of Staff and Faculty Volunteerism Hours</strong></td>
<td><strong>$109,215</strong></td>
<td><strong>Value of Student Volunteerism Hours</strong></td>
</tr>
<tr>
<td><strong>Total Value Volunteerism Hours</strong></td>
<td><strong>$1,185,592</strong></td>
<td><strong>Grand Total</strong></td>
</tr>
</tbody>
</table>
Conclusion

Dakota State University’s reputation for being on the cutting edge of technology extends far beyond the campus footprint in Madison, South Dakota. DSU generated more than $137 million in economic impact in 2019, and with just over 3,000 students, the school’s outsized impact is clear. From the historic buildings to new construction housing state-of-the-art technology, DSU is a hub for the community, region, and state of South Dakota. In an increasingly connected world, Dakota State University continues to develop the next generation of cyber leaders.
## Appendix A: Terms & Definitions

<table>
<thead>
<tr>
<th>Study Year</th>
<th>FY 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dollar Year</td>
<td>Presented in 2019 dollars</td>
</tr>
<tr>
<td>Total Economic Output/Economic Impact</td>
<td>Includes organizational spending on operations, capital expenditures, labor income expenditures, and value added to the economy as a result of expenditures made by an organization. It is the combined impact of direct, indirect, and induced impacts.</td>
</tr>
<tr>
<td>Direct Economic Impact</td>
<td>All direct expenditures made by an organization due to its operating expenditures. These include operating expenditures, capital expenditures, and pay and benefits expenditures.</td>
</tr>
<tr>
<td>Indirect Economic Impact</td>
<td>The indirect impact includes the impact of local industries buying goods and services from other local industries. The cycle of spending works its way backward through the supply chain until all money is spent outside of the local economy, either through imports or by payments to value added (multiplier effect).</td>
</tr>
<tr>
<td>Induced Economic Impact</td>
<td>The response by an economy to an initial change (direct effect) that occurs through re-spending of income received by a component of value added. IMPLAN’s default multiplier recognizes that labor income (employee compensation and proprietor income components of value added) is not lost to the regional economy. This money is recirculated through household spending patterns causing further local economic activity (multiplier effect).</td>
</tr>
<tr>
<td>Multiplier Effect</td>
<td>The multiplier effect is the additional economic impact created as a result of the organization’s direct economic impact. Local companies that provide goods and services to an organization increase their purchasing by creating a multiplier (indirect/supply-chain impacts). Household spending generated by employees of the organization and the organization’s suppliers create a third wave of multiplier impact (induced/household-spending impacts).</td>
</tr>
<tr>
<td>Government Revenue/State and Local Tax Impact</td>
<td>Government revenue or tax revenue that is collected by governmental units at the state and local levels in addition to those paid directly by an organization. This impact includes taxes paid directly by the organization itself, employees of the organization, and vendors who sell products to the organization and at the household level.</td>
</tr>
<tr>
<td>Direct Employment</td>
<td>Total number of employees, both full-time and part-time, at the organization based on total jobs, not FTEs.</td>
</tr>
<tr>
<td>Indirect Employment</td>
<td>Additional jobs created as a result of an organization’s economic impact. Local companies or vendors that provide goods and services to an organization increase their number of employees as purchasing increases, thus creating an employment multiplier.</td>
</tr>
<tr>
<td>Induced Employment</td>
<td>Additional jobs created as a result of household spending by employees of an organization and the employees of vendors. This is another wave of the employment multiplier.</td>
</tr>
</tbody>
</table>
Appendix B: Data & Methods

Data used to complete the contribution analysis was provided by the South Dakota Board of Regents and the university. Data supplied included operating expenditures, capital spending, pay and benefits, and total employees. Primary and secondary data was used to complete the input-output models in IMPLAN. The study approach and economic-impact findings are a conservative estimate of impact and are based on actual financial information. The study is a snapshot of the economic impact of the university.

OVERVIEW AND THE IMPLAN MODEL

The most common and widely accepted methodology for measuring the economic impacts of economic sectors is input-output (I-O) analysis. At its core, an I-O analysis is a table that records the flow of resources to and from companies/organizations and individuals within a region at a given time. For a specified region such as a state of the nation, the input-output table accounts for all dollar flows among different sectors of the economy in a given period. With this information, a model can then follow how a dollar added into one sector is spent and re-spent in other sectors of the economy, generating outgoing ripples of subsequent economic activity. This chain of economic activity generated by one event is called the “economic multiplier” effect.

The primary tool used in the performance of this study is the I-O model and dataset developed and maintained by IMPLAN Group LLC (formerly Minnesota IMPLAN Group Inc.). IMPLAN is a widely accepted and used software model first developed by the U.S. Forest Service in 1972. Data used in the baseline IMPLAN model and data set come largely from federal-government databases. The input-output tables themselves come from the Bureau of Economic Analysis. Much of the annual data on labor, wages, final demand, and other market data comes from the Bureau of Labor Statistics, the U.S. Census Bureau, and other government sources.

Government agencies, companies, and researchers use IMPLAN to estimate the economic activities associated with spending in a particular industry or on a particular project. The IMPLAN model extends conventional I-O modeling to include the economic relationships among government, industry, and household sectors, allowing IMPLAN to model transfer payments such as taxes. Producers of goods and services must secure labor, raw materials, and other services to produce their product.

The resources transferred to the owners of that labor or those raw materials and services are then spent to secure additional goods and services or inputs to the products they sell. For example, an organization in a region may develop a company that produces tractors with a value of $1 million. However, to produce that product, they may be required to spend $500,000 in wages and benefits, $200,000 to suppliers of tractor parts, $100,000 for electricity, $50,000 for transportation of goods and raw materials to and from the plant, and $50,000 in various professional services associated with operating a business (e.g., attorneys and accountants). The suppliers will, in turn, spend those resources on labor and raw materials necessary to produce tractors. Workers and the owners of the company will buy goods and services from other firms in the area (e.g., restaurants and gas stations) and pay taxes. The suppliers, employees, and owners of this second tier will, in turn, spend those resources on other goods and services whether within the study region or elsewhere. The cycle continues until all of the money leaves the region.
IMPLAN METHODOLOGY

The model uses national production functions for over 536 industries to determine how an industry spends its operating receipts to produce its commodities. These production functions are derived from U.S. Census Bureau data. IMPLAN couples the national production functions with a variety of county-level economic data to determine the impacts at a state and congressional-district level. IMPLAN collects data from a variety of economic data sources to generate average output, employment, and productivity for each industry in a given county. IMPLAN combines this data to generate a series of economic multipliers for the study area. The multiplier measures the amount of total economic activity generated by a specific industry’s spending an additional dollar in the study area. Based on these multipliers, IMPLAN generates a series of tables to show the economic event’s direct, indirect, and induced impacts to gross receipts, or output, within each of the model’s more than 536 industries.

The model calculates three types of effects: direct, indirect, and induced. The economic impact of DSU is the sum of these three effects.

CONSIDERATIONS CONCERNING IMPLAN

There are three important points about the use of IMPLAN (or any other input-output model):

It is a fixed-price model. The model assumes that changes in consumption are not limited by capacity and do not affect prices. This assumption does not cause a problem for the analysis presented here because we are taking a snapshot of South Dakota in a specific year.

As in many studies using this type of model, the direct impacts are not calculated by the model; they are a reflection of actual spending levels and patterns created by South Dakota. Changing the level of direct spending allows us to calculate the magnitude of the indirect and induced effects associated with the initial level of spending.

Because the model continues to calculate additional spending until all of the money leaves the region (i.e., "leakage"), the larger and more economically diverse the region, the longer it will take for spending to leave the region and the larger the impact is likely to be. For example, employees of South Dakota may spend some amount of their income on buying a car. If there are no car manufacturers in their state or county, this spending will leave the region and the multiplier effect will stop. At the national level, some portion of that same spending by that same individual may go to a national auto producer. That spending would lead to more spending at the national level than would be captured by a more regional model. The national impact will be larger than the sum in the individual states, and the individual state impact will be larger than the sum of the impacts in its congressional districts.
Appendix C: FAQ’s

WHAT IS AN ECONOMIC-CONTRIBUTION ANALYSIS?

Technically, this study is a contribution analysis. The study quantifies the economic contribution of the university in terms of economic impact, jobs, and local and state tax revenue. The study calculates how spending by employees, visitors, and students contributes to the economy of South Dakota and beyond. It examines how expenditures create additional impact in the economy directly and through the multiplier.

For the purposes of this study, an economic contribution is defined as the gross changes in South Dakota’s existing economy that can be attributed to the universities. Contribution analysis is a descriptive analysis that tracks gross economic activity: how spending by the university and its constituencies cycles dollars through the economy. The university's economic-contribution analysis does not consider how spending at this university may crowd out spending at another college or university within the state. This type of analysis is one of the most common that is performed and is often mislabeled as an economic-impact study. Please note that while the terms used to express the contribution of South Dakota to the statewide economy are referred to as economic impact, this is a contribution analysis.

Spending by students, staff, and faculty who are explicitly participating in activities associated with South Dakota's output represents a “stemming-from effect” and could also be considered a direct effect of the higher-education industry. For example, a student who attends classes and spends $10 on lunch at a local restaurant is a stemming-from effect of the university. This contribution analysis then follows the direct economic activity and associated stemming-from effects through the economy, with the output of each sector broken down and attributed to expenditures on intermediate inputs or to value-added components such as labor, taxes, and returns to capital. Output multipliers, which are sector- and region-specific, are derived from the appropriate model and relate an industry's economic activity (or changes in the industry's economic activity) to gross sales in the other sectors of the regional economy.

The contribution analysis does not account for the fact that if a student attending class were a local resident, then the $10 they spent on lunch potentially represents $10 they are not spending at another restaurant elsewhere in town. The direct effect in a contribution analysis includes purchases by students from in and out of state and is neither a measure of changes to the state’s economic base nor a measure of the value added to the region above what was paid to input suppliers.

WHAT SHOULD YOU REMEMBER ABOUT THE STUDY WHEN YOU READ IT?

• It is a point-in-time calculation of impact for FY 19.
• It quantifies the amount of impact that the universities produce each year.
• The economic numbers can fluctuate from year to year based on operational spending, capital spending, pay and benefits, number of employees, number of students, and state appropriation.
• This is an economic-contribution analysis that casts a broader net to calculate impact than an economic-impact study.
• These are conservative numbers and adhere to industry-respected protocols.
WHAT METHODOLOGY WAS USED TO COMPLETE THIS STUDY?

IMPLAN data and software were used to conduct this economic-contribution analysis. The IMPLAN database is built using county, state, ZIP code, and federal economic statistics that are specialized by region, not estimated from national averages, to measure the contribution or impact of an organization’s economic activity.

WHAT WERE THE MULTIPLIERS FOR THIS STUDY?

The multipliers used in this study range from 1.8 to 2.1. The multipliers are derived through the input-output models created using the IMPLAN software based upon industries selected during the modeling process.

WHAT DATA DOES THIS STUDY USE TO CALCULATE THE ECONOMIC IMPACT?

Primary data used in this analysis is for FY 19 and was obtained from the South Dakota Board of Regents and the university.

Data addresses the following subjects:
- Operating expenditures.
- Capital expenditures.
- Pay and benefits by employee type.
- Number and types of students (all in-state and out-of-state students included).
- Athletics.
- Volunteerism.
- Charitable giving.
- Alumni data.

Secondary data was used to estimate the following:
- Student spending habits based on the universities’ budgets for spending (full- and part-time undergraduate and graduate students, excluding tuition and fees).
- Visitor numbers and visitor spending habits (day and overnight visitors).

WHAT ARE THE COMMUNITY-BENEFIT IMPACTS BASED UPON?

Charitable-giving impacts are based upon assumptions found in the U.S. Census donor data. These models do not assume a 100% participation rate for staff, faculty, and students and are not based on averages. Some colleges and universities had primary data available on volunteerism, and in those cases actual hours were used in the calculation. For the purposes of this study, it is assumed that 24.9% of staff and faculty donate an average of $2,064 annually and 14.9% of students donate an average of $250 each year.

Volunteer impacts are based upon assumptions found in the U.S. Census, and the value of a volunteer hour was obtained from the Points of Light Foundation and is estimated at $23.56 per hour.
WHY DID THE SDBOR COMMISSION A STUDY?

The SDBOR commissioned the analysis to quantify the impact of all six public higher education institutions in its system. SDBOR and the university have a number of helpful tools to explain the value proposition for supporting higher education; this independent study is one way to help explain its worth. In trying to explain the value of South Dakota public higher education to internal and external constituents, it is important to quantify the workforce and economic gains realized throughout the state. There are many ways to view the impact and value of a university and university system — economic impact is one.

WHY DOES THIS STUDY LOOK DIFFERENT FROM OTHERS WE HAVE SEEN PUBLISHED?

The veracity of the data and methodology are consistent with industry-standard protocols for conducting an effective economic-impact study that is conservative. The data is an independent assessment of the university’s contribution to the overall economy — the numbers drive the message, not the other way around. The report is designed to make the data analysis accessible to all readers.
Get in touch now

888.DSU.9988
820 N Washington Ave.
Madison, SD 57042