Economic impact of University System shows sharp increase

By David Terraso, Institute Communications and Public Affairs

A newly released study on the University System of Georgia’s $9.7 billion annual economic impact on the state of Georgia indicates that the economic clout of the USG’s 34 public colleges and universities continues to increase.

The study, which spanned Fiscal Year 2004, was conducted by the Selig Center for Economic Growth in the University of Georgia’s Terry College of Business. It was initially released in 2000 covering Fiscal Year 1999, updated in 2002 to report Fiscal Years 2000 and 2001, and has just been updated again to show a $1.7 billion increase in the System’s economic impact since the 2002 study.

In addition to the $9.7 billion in "output impact" generated by the University System, the study found that public higher education is responsible for 2.8 percent of Georgia’s workforce, or 106,831 full- and part-time jobs.

The Intellectual Capital Partnership Program (ICAPP), an initiative of the Board of Regents’ Office of Economic Development, commissioned the study by Jeffrey M. Humphreys, director of economic forecasting for the Selig Center.

This is the first year the study did not include the economic impact of construction projects on the University System’s campuses. Because of this change, some University System institutions show a decline in overall economic impact, despite the fact there may have been a significant increase in enrollment over the time period between the two studies.

“The single biggest factor driving the increase in the System’s economic impact is the significant growth in the number of students enrolled in Georgia’s public colleges and universities,” Humphreys said. “Not only are there more students, but they are spending more. And of course, with more students, institutions are spending more to serve them.”

The “output impact” is a measure of sales in a community. The study calculated spending by each of the System’s 34 institutions on salaries and benefits, operating supplies and expenses ($3.8 billion), as well as spending by students who attend that particular institution ($2.6 billion). Of the $9.7 billion total, $4.4 billion (66 percent) is initial spending by the institutions and students; $3.3 billion ($4 billion is the multiplier effect of those dollars as they are spent again in the region. Humphreys found that on average, for every dollar of initial spending in a community by University System institutions, an additional 52 cents was generated for the local economy hosting a college or university.

Yet another component of the study is the analysis of the employment impact of all 34 institutions on their host communities. The impact jobs are significant: approximately 62 percent of these jobs are off-campus positions in either the private or public sectors, and 38 percent are on-campus employees of the University System. The study found that on average, for each job created on campus, there are 1.7 off-campus jobs that exist due to spending related to the institution. Jobs related to the University System institutions show a decline in overall economic impact, despite the fact there may have been a significant increase in enrollment over the time period between the two studies.

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Making good decisions when the pressure is on

Research News

Research into how people make decisions while under pressure could help the U.S. military improve training for its leaders and lead to better decision-support systems.

Studies have shown that when people process information, they develop unconscious strategies—or biases—that simplify their decisions. Now, research at the Georgia Tech Research Institute (GTRI) is revealing how these biases affect people when they’re dealing with lots of information—and have little time to form conclusions.

“The immediate application for this research is to develop training programs to improve decision-making,” said Dennis Folds, a principal research scientist in GTRI’s Electronic Systems Laboratory. “Yet our findings could also help design new types of decision-support systems.”

The research indicated that nine different kinds of biases can lead to errors in judgment when people are dealing with a lot of information. Meanwhile, the error rate was not as high as researchers expected for individuals under time pressure. Also, the study revealed that subjects who were trained to spot conditions that lead to decision-making biases were better at detecting “false-alarm opportunities.”

To test the affects of these biases, Folds had experiment subjects view an inbox on a computer screen containing a variety of text messages, maps, photographs and video and audio recordings. Subjects—the majority being Georgia Tech ROTC students—were instructed to report certain military situations, such as incidents of sniper fire or acts of suspected sabotage. They were not to report other events, such as normal accidents in an urban area unrelated to enemy activity.

To decide whether or not an event should be reported, subjects reviewed a series of messages that contained both bona fide evidence as well as information created to trigger the biases that cause poor decisions. In each trial, subjects were allowed enough time to spend an average of 20 seconds per element data plus one additional minute for reporting; they were also asked to attach information that supported their decision.

Folds said he was surprised at how well subjects could perform the task while under pressure. Although he expected an accuracy rate of about 50 percent, subjects correctly reported 70 percent of incidents.

In a second experiment, researchers divided subjects into two groups, using one as a control group while training the other group how to spot conditions that spark decision-making biases. Subjects who received training were able to detect about twice as many “false-alarm opportunities” as the control group.

Although training helped participants recognize when traps existed, it didn’t help them identify the specific bias. “When subjects were under pressure to make decisions rapidly, the distinctiveness of the categories fell apart,” Folds explained. “That’s significant, because it helps us tailor training efforts.”

The experiments also revealed what kind of information is meaningful to decision makers. Folds noted: Software designed especially for the trials tracks when subjects open a document for the first time and when they go back for a second time or third look. The amount of time that subjects spend reviewing data—along with the data they attach to reports—showed a decided preference for text messages over other formats.

Folds’ team is conducting more research: Two new sets of trials are examining how decision-making errors occur in groups, while another experiment is trying to pinpoint how rapidly individuals can make good decisions.

For more information...

Georgia Tech Research Institute
www.gtri.gatech.edu

School of Psychology
www.psychology.gatech.edu

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going to say,” said Zenzi Griffin, an assistant professor in the School of Psychology. “So, if people are rushing or being inattentive you might expect if they made an error that they spent less time looking at the object. But I found almost no difference in the amount of time people spent looking at an object when they made an error compared to when they didn’t. In fact, people who made an error spent slightly more time looking at the object.”

In the study, Griffin asked participants to name two or three line-drawn objects or describe the action in a scene, while tracking eye movements with video cameras outfitted with special software. She identified 41 full or partial speech errors uttered by 33 participants during eye-tracking experiments.

The results, said Griffin, show that at some level people know what they meant to say and that looking at the object doesn’t help to ensure that they will name it correctly. They also suggest that when a person makes a speech error, knowing what they are looking at may be more informative of their intentions than the words they say.

That may be useful to designers of speech recognition software, said Griffin. “Gaze can potentially provide clues to what uncertain words are—at least when people are talking about things in their immediate environment, like in a cockpit or an automobile,” she said. “Gaze can also help to disambiguate which object you are referring to, so if you say ‘Open the door,’ the software could know to which door you are referring.”
Through TechWorks, pay stubs go paperless

Michael Hagerty
Institute Communications and Public Affairs

One of the enduring symbols of the working life is going digital. Beginning this month, the Office of Human Resources, continuing its efforts to streamline its administrative systems, will no longer print and distribute pay advices to its employees.

The pay advice, also called a pay stub, contains information related to tax and other deductions, as well as compensated absence totals such as vacation or sick leave. OHR has moved it all online.

The data is now available through the TechWorks program — a central online resource for administrative forms and services — the same informational gateway most employees used to initiate changes to their benefits plan.

Features within TechWorks have been rolled out in phases. Last summer, OHR and the Office of Information Technology’s Enterprise Information Systems launched Employee Self-Service, a Web-based application that allows employees to view and update their own HR information. After a spring pilot project, OHR and OIT rolled out Employee Self-Service via TechWorks to more than 13,000 faculty and staff members, including student employees.

The service was expanded in the fall to support an online Employee Benefits Open Enrollment. Other features include the ability to electronically submit changes to personal information, direct deposit accounts and voluntary deductions.

For payroll, the system will provide faculty and staff with a personal digital archive, allowing users to view and print advices issued since 1999 and W2 forms from 2001. Tax forms for 2004 will be available by the end of the month. Additionally, all electronic and printed versions of the pay stubs and tax forms are endorsed by the IRS, which can prove useful when a user is required to provide proof of income.

For departments that currently cannot provide their employees with adequate support and access to computers and printers, advice will still be printed and distributed as before. A brief tutorial on how to go through the process of viewing and printing pay stubs is located at www.ohr.gatech.edu. It also has information about where to go if you don’t have access to a computer for your daily job activities as well as links to a reference guide and computer lab policies.

Young students compete to build helpful robots at Tech

Megan McCraye
Institute Communications and Public Affairs

Georgia elementary and middle school students gathered at Tech’s Campus Recreation Center on Jan. 15 to let their robots compete — but not in the usual “Battle Bots” struggle or obstacle course. The students, ages 9-14, built robots that instead competed to best perform a task that would benefit someone with limited mobility or motor skills.

The theme of this year’s State of Georgia FIRST Lego League Challenge, called No Limits, challenged 48 student teams to design robots to do everything from feeding a pet to retrieving a pair of glasses from across the room. Students constructed the robots from Lego Mindstorms Robotics Invention System sets and then programmed them to perform independently a variety of tasks.

A student team surveys the course for the competition.

To program the robots, students were given all the details about the course — made entirely of Lego pieces — which their robots would have to traverse to complete their tasks.

Other robot challenges included taking a tray of Lego food from one table to another, without spilling or opening a gate, picking up a CD off the floor and setting it on a table and walking up stairs.

The annual competition encourages students to develop new science and math skills as they build robots that compete against each other. It was created by FIRST (For Inspiration and Recognition of Science and Technology) and The Lego Company.

Jeffrey Davis, an assistant professor in the School of Electrical and Computer Engineering and coordinator of the State of Georgia FIRST Lego League, says he’s watched the Georgia chapter of the competition grow each year from a handful of teams in 2002 to 48 teams this year.

Economic Development. “It conclusively demonstrates that beyond the almost incalculable benefits colleges and universities offer communities through a more educated society, cultural opportunities and other activities, our campuses have an ongoing and powerful economic impact on communities large and small.”

New endowed chair in ISyE

Chebbo (Chip) C. White III has been named Schneider National Chair in Transportation and Logistics for the School of Industrial and Systems Engineering.

The chair is funded by Schneider National, a major provider of transportation and logistics in the United States, and will support student instruction and research in the logistics and supply chain management area with special emphasis on the problems of carriers and shippers.

White, who is also the executive director of the Logistics Institute, came to Tech in 2002 from the University of Michigan. He teaches courses about decision making under uncertainty and risk.

“The newly created Schneider National Chair of Transportation and Logistics at Georgia Tech will bring a new level of visibility and permanence to the study of logistics engineering,” says Christopher Lofgren, president and CEO of Schneider National. “As a Georgia Tech alum and a business partner through Schneider National, I consider it a privilege to help fund the future of an organization so ingrained in the knowledge, discovery and advancement of supply chain management, logistics and transportation planning.”

Tech listed among world’s best

Georgia Tech placed 17th in a list of the top 100 engineering and information technology schools in the world published last month by the Times of London. This is the second time Georgia Tech has been named by the Times of London in their rankings. In November, the Times ranked Tech 65th among the top 200 universities in the world.

Universities in the United States held 28 spots on the list, and Georgia Tech was 7th among its U.S. peers. Eight Australian universities were named, while the United Kingdom placed seven and Germany six. The report listed its top five as University of California at Berkeley, followed by Massachusetts Institute of Technology, Stanford University, Indian Institutes of Technology and the Imperial College of London.

This is the first time the British newspaper has ranked institutions of higher learning.

Seeking teachers for GT 1000

The Office of Success Programs is seeking volunteers to teach a section of GT 1000, a freshmen seminar helping new students adjust to college life.

Assistant Director of Success Programs Paddy Pennington said, “Every fall, new students arrive on campus with many questions, high hopes for success and lots to learn. This course helps to introduce them to campus culture, as well as the resources and opportunities we have here.”

Instructors must hold a master’s degree, have been employed at Tech for at least one year, and have their supervisor’s support.

For more information, visit www.successprograms.gatech.edu or e-mail pk446@mail.gatech.edu.

WWW.WHISTLE.GATECH.EDU

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**Arts & Culture**

**Jan. 30**
The Ferst Center hosts the Atlanta premiere of the Soweto Gospel Choir. For tickets, call 894-9600.

**Jan. 31**
The Ferst Center welcomes the classical vocal ensemble Amiél Forever for an 8 p.m. performance. For tickets, call 894-9600.

**Feb. 3**
The H. Bruce MeVehery Poetry Reading, featuring Kurt Brown, Stuart Dischell, Thomas Lux, H. Bruce MeVehry and Natasha Trethewey, will be at 4:30 p.m. in the Clary Theater. No tickets or reservations required.

**Brown Bags/Conferences/Lectures**

**Jan. 27**
The Georgia Tech Research on Accessible Distance Education (GRADE) hosts a lunchtime roundtable on “Accesible Features on Dreamweaver MX.” Lunch will be provided, but registration is required. For more information, e-mail barbara.christopher@coa.gatech.edu.

**Jan. 28**
A Science and Technology Studies (STS) Seminar features Public Policy Associate Professor Michael Hoffmann on “Model-based Reasoning: A Tool for Understanding to health policy and its impact, at 7:30 a.m. in its Technology Square offices. For more information, visit www.coa.gatech.edu/cssd.

**Jan. 28**
The Center for Paper Business and Industry Studies welcomes Erica Groshen, Federal Reserve Bank of New York assistant vice president for research and market analysis, on “Lessons for the Future from the Jobless Recovery,” at 11 a.m. in the Kress Auditorium at IPST. To view the webcast, visit www.cpbis.gatech.edu/dls2005.

**Jan. 28**

**Feb. 1**
The Center for Quality Growth and Regional Development hosts the monthly meeting of the Healthy Places Research Group, on issues pertaining to health policy and its impact, at 7:30 a.m. in its Technology Square offices. For more information, visit www.coa.gatech.edu/cqgrd.

**Feb. 2**
The College of Management’s IMPACT Speaker Series welcomes Chick-fil-A founder and CEO Truett Cathy at 4:30 p.m. in the LeCraw Auditorium.

**Feb. 8**
The Office of Diversity Management sponsors a seminar in “Preventing Sexual Harassment,” from 9 - 11 a.m. in room 119, Centennial Research Building. To register or for more information, visit www.trainsweb.gatech.edu/mastac.asp.

**Feb. 16**
The Office of Sponsored Programs offers a class in how to find research funding. Call 894-6944 to reserve a seat.

**Miscellaneous**

**Jan. 30**
Last day to register for Options classes, with discounts available for faculty and staff. Visit www.fun.gatech.edu/SPRINGOptions for a complete schedule.

**Feb. 8-9**
The Campus Recreation Center’s G.L.T. FIT Program offers a HealthCheck Blood screening from 7:30 - 10:30 a.m. for faculty and staff. To schedule an appointment, call 894-5987 or e-mail johannahar@crc.gatech.edu.

The classifieds are a free service provided to members of the faculty and staff. To submit an ad, e-mail the text to editor@cpca.gatech.edu. Due to the volume of submissions, it may take several weeks for ads to appear in print.