TALENT AND TECHNOLOGY FOR THE NEW ECONOMY:
A Report on the 2000 ICAPP TECHNOLOGY SURVEY

TALENT AND TECHNOLOGY FOR THE NEW ECONOMY:
A TAG Membership survey for ICAPP and the Governor's E-Government Initiative

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Executive Summary

In February 2000, the Intellectual Capital Partnership Program (ICAPP) commissioned a survey of Georgia technology businesses to assess the business climate of Georgia, the quality of education in Georgia, and the current and future role of the University System in economic and human resource development - particularly as they relate to technology businesses. In May 2000, an Internet-based survey was distributed to the membership of the Technology Association of Georgia (TAG). The key findings of this survey are as follows.

♦ Georgia is highly regarded as a location in which to conduct business. A pro-business climate, its status as a regional hub and access to an international airport are among Georgia's greatest assets. Its transportation system and the quality of the primary and secondary school systems are considered its greatest weaknesses. The identification of the transportation system as a major weakness is in sharp contrast to an earlier survey in which the transportation system was seen as an asset. The increased concentration of respondents in the metropolitan Atlanta area, where surface transportation is problematic, may account for much of this shift.

♦ The quality of education in Georgia receives mixed reviews. While the University System and DTAE are generally well regarded, the quality of primary and secondary schools is of some concern.

♦ Businesses perceive their Web sites as important tools for marketing of their products. The Internet also receives significant use for procurement services.

♦ Employers of University System graduates give generally high marks to the employees' preparation and performance. The highest regard is for the graduates' computer skills and their ability to work in teams.

♦ Employers identify critical thinking skills, the ability to work in teams and oral communication skills as the qualities they most desire in their employees. Computer skills also received significant support. In general, deficiencies in communication skills are perceived as more common than deficiencies in technical skills.

♦ While computer and Internet-based job directories are perceived as useful, they enjoy only moderate recognition and utilization.

♦ There is considerable support for non-traditional outlets for the University System instructional capacity. Continuing education courses and certificate programs are regarded as useful foci for the University System. Respondents also indicate that they would be interested in "outsourcing" their educational programs to University System institutions, preferably with these programs delivered at the business location or "on-line."

♦ Technology businesses have only modest familiarity with three of Georgia's education and economic development initiatives - ICAPP, Georgia Globe and Yamacraw.

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"The University System of Georgia will be characterized by . . . active partnerships with business and industry, cultural and social organizations, and government in order to analyze, project, and respond to changing state and regional needs, to support Georgia's economic and cultural development and to insure that its graduates are prepared for the future."

--Access to Academic Excellence for the New Millennium, Board of Regents of the University System of Georgia Vision Statement, October 1994.

Background

At its November 1995 meeting, the Board of Regents of the University System of Georgia (USG) approved the report of a team of Mission Review consultants, which included a recommendation that the University System undertake a comprehensive assessment of human resource and employment needs for Georgia. The results of this assessment would form the basis for making decisions to approve new programs at University System institutions.

In order to annually track perceptions of Georgia's business climate and progress of the USG, the ICAPP program of the Office of Development and Economic Services retained the Econometric Center at Kennesaw State University and the Ramsey Chair of Private Enterprise at Georgia State University to perform a survey of Georgia business leaders on the quality of higher education in Georgia, and the importance of the University System to the economic development of the state.

Business leaders from the Georgia Chamber of Commerce, Georgia Industry Association, Community Bankers Association, and the Georgia Economic Developers Association were surveyed in June 1996, with study results presented to the Board of Regents in November, 1996. In 1997, a similar survey of Georgia's human resources professionals was conducted. ICAPP retained the Econometric Center and the Ramsey Chair of Private Enterprise again in 1998 to conduct a follow-up survey of the same population of business leaders.

In 2000, ICAPP retained the Econometric Center to conduct a similar survey of Georgia technology businesses. The membership of Technology Association of Georgia (TAG) was chosen as the initial population to be studied. The 2000 Technology was the first ICAPP survey administered over the Internet and the first to report responses to open-ended questions.

The results of these surveys provide benchmarks of how business executives, human resource professionals and the technology industry perceive Georgia's business climate and its University System. The surveys will be repeated periodically to measure the effectiveness of the University System in preparing students for success beyond graduation, and serving as a key partner in Georgia's economic development.

Overview of Methodology

For the current study, the survey instrument was refined with input from executive officers of several University System institutions, the leadership of the Office of the Chancellor and of the Technology Association of Georgia. During the first week of May 2000, the membership of the Technology Association of Georgia were contacted via email and asked to participate in the survey. A letter of support from Governor Roy Barnes was sent to survey recipients concurrent with the email notification. Survey participants were directed to an Internet site where the on-line survey instrument was posted. A total of 172 completed surveys have been submitted. Statistical tests suggest that non-response bias is unlikely.

Over 30% of survey respondents reported to be in the IT services and consulting industries. Software development and non-IT professional services were also common responses. Manufacturing made up less than 10% of the survey responses.

Survey respondents were concentrated in the metropolitan Atlanta counties. Respondents were most heavily concentrated in Fulton, Cobb, Gwinnett and DeKalb counties. Fifty-two percent of respondents report their business office to be urban while 47% considered it to be suburban. The median number of full-time employees of respondents is 60. While some responses varied across respondent groups, there appears to be considerable agreement on many questions.

Georgia as a Location in Which to Conduct Business

Finding: *Georgia is highly regarded as a location in which to conduct business. A pro-business climate, its status as a regional hub and access to an international airport are among Georgia's greatest assets. Its transportation system and the quality of the primary and secondary school systems are considered its greatest weaknesses. The identification of the transportation system as a major weakness is in sharp contrast to an earlier survey in which the transportation system was seen as an asset. The increased concentration of respondents in the metropolitan Atlanta area, where surface transportation is problematic, may account for much of this shift.*

♦ Businesses believe that the state is a favorable climate in which to conduct business. Eighty-seven percent of respondents rated Georgia as an "excellent" or "very good" location for conducting business. This represents a higher reading than in the previous business leader survey. Less than 3% of respondents rated the state as "fair" and none selected "poor" (see question 6).

♦ Seventy-nine percent of respondents rated Georgia as "much better than average" or "better than average" when compared with those states in which they could realistically conduct business (see question 7).

♦ The most frequently cited factors that make Georgia a desirable location for businesses are its location as a regional hub, overall business climate, and access to airport or port (see question 8). Those citing the transportation system as an asset dropped from over 42% in the 1998 business leader survey to 5%. This decrease likely reflects, in part, the increased representation of metropolitan Atlanta businesses among respondents and lower reliance on the transportation system due to decreased representation of good-producing industries.

♦ The transportation system, the quality of primary and secondary education and the quality of the workforce are considered the three greatest drawbacks to the state. There is also significant concern over crime, economic incentives and government services (see question 9). The greater concern over the transportation system extends the upward trend identified in the 1996 and 1998 business leader surveys.

♦ When asked to which city or region they would relocate if they were to leave Georgia; Raleigh-Durham, Austin, San Francisco and Charlotte were most commonly selected (see question 10).

The Utilization of the Internet by Technology Businesses

Finding: *Businesses perceive their web sites as important tools for marketing of their products. The Internet also receives significant use for procurement services.*

♦ Over 96% of respondents reported having an Internet web site (see question 1).

♦ Ninety-four percent of those businesses consider the web site an important marketing tool (see question 2). Over 70% report that customers use their web site to place orders or make sales contacts (see question 3).

♦ Sixty-one percent report using the Internet for procurement (see question 4). However, only 17% use the Internet for purely financial transactions (see question 5).

The Quality of Education in Georgia

Finding: *The quality of education in Georgia receives mixed reviews. While the University System and DTAE are generally well regarded, the quality of primary and secondary schools is of some concern.*

♦ More than 22% of respondents rate Georgia's primary and secondary schools as "very good" or "good." No respondents rated primary and secondary education as "excellent" (see question 11).

♦ Forty-eight percent of respondents rate the state's technical and adult education institutions as "excellent," "very good" or "good" (see question 12).

♦ Over 83% of Georgia's technology businesses assess the quality of the University System as "excellent," "very good" or "good." Nearly 6% of respondents rated the quality of the University System as "excellent" (see question 13). In general, technology businesses gave less favorable marks to Georgia's educational systems than did business leaders.

♦ Nearly 52% percent of business leaders report that the University System of Georgia would be considered an asset when deciding where to locate one's business (see question 14).

♦ Georgia's business leaders were asked to rate the performance of the University System in serving its three-fold mission of teaching, research and service. Over 75% rate the teaching mission of the University System as "excellent," "very good" or "good" (see question 15a). The research and public service missions are judged as "good" or better by 67% and 56% of respondents respectively (see questions 15b and 15c).

The Quality of Education in the University System

Finding: *Employers of University System graduates give generally high marks to the employees' preparation and performance. The highest regard is for the graduates' computer skills and their ability to work in teams.*

♦ Over 80% percent of respondents have employed graduates of the University System of Georgia (see question 16). Those businesses were asked to rate the preparation of these employees in terms of oral communications, written communications, computer skills, quantitative skills, critical thinking, the ability to work in teams, and overall performance.

♦ Over 81% of respondents rate USG graduates as "excellent," "very good" or "good" in terms of oral communication skills. Thirty-nine percent rate these graduates as "excellent" or "very good" (see question 17a).

♦ Nearly 72% percent of respondents rate USG graduates as having "excellent," "very good" or "good" written communication skills. Almost 27% rate these graduates as "excellent" or "very good" (see question 17b).

♦ Nearly 83% of respondents rate USG graduates as "excellent," "very good" or "good" in terms of computer skills. Over 50% rate these graduates as "excellent" or "very good" (see question 17c).

♦ Over 73% of respondents rate USG graduates as having "excellent," "very good" or "good" mathematical/quantitative skills. Nearly 40% rate these graduates as "excellent" or "very good" (see question 17d).

♦ Over 75% of respondents rate USG graduates as "excellent," "very good" or "good" in terms of critical thinking skills. Thirty-nine percent rate these graduates as "excellent" or "very good" (see question 17e).

♦ Nearly 83% of business leaders rate USG graduates as "excellent", "very good" or "good" in terms of the ability to work in teams. Forty-four percent rate these graduates as "excellent" or "very good" (see question 17f).

♦ Eighty-four percent of respondents rate USG graduates as "excellent," "very good" or "good" in terms of overall preparation. USG graduates are rated "excellent" or "very good" by 42% of the 2000 survey's respondents (see question 17g).

Graduate Skills, Employers' Needs and Employee Recruitment

Finding*: Employers identify critical thinking skills, the ability to work in teams and oral communication skills as the qualities they most desire in their employees. Computer skills also received significant support. In general, deficiencies in communication skills are perceived as more common than deficiencies in technical skills.*

Finding: *While computer and Internet-based job directories are perceived as useful, they enjoy only moderate recognition and utilization.*

♦ Technology business leaders were asked what three qualities they most valued in their employees. Critical thinking skills (78%), the ability to work in teams (60%) and oral communication skills (60%) were considered most important. Computer skills (52%) also received support (see question 18).

♦ Over 68% of technology businesses reported having had to look outside Georgia to find employees with skills specific to their employment needs (see question 19).

♦ Nearly 64% of technology businesses reported having a human resource department (see question 28).

♦ A typical (median) technology business reported that 50% of its employees had graduated from college in the last five years (see question 29).

♦ Only 24% reported having used the job placement services of an institution of the University System (see question 30).

♦ Less than 5% reported familiarity with GeorgiaHire (see question 33). When a description of GeorgiaHire was provided, over 49% said that while they were not using GeorgiaHire now, they would be likely to do so (see question 35).

♦ Various private, Internet-based job directories enjoy moderate utilization (see question 36).

♦ When asked about the relative deficiencies of employees in technical versus communication skills, businesses were more likely to identify a deficiency in communication skills (see question 37).

♦ Technology businesses indicated a preference for hiring information technology employees from science or technology schools (see question 37).

♦ Nearly 60% of respondents reported that when hiring new employees, standardized certifications are a desired trait (see question 32).

Innovations in Educational Instruction and Service

Finding: *There is considerable support for non-traditional outlets for the University System instructional capacity. Continuing education courses and certificate programs are regarded as useful foci for the University System. Respondents also indicate that they would be interested in "outsourcing" their educational programs to University System institutions, preferably with these programs delivered at the business location or "on-line."*

♦ Over 37% of all businesses report that their employees have previously enrolled in continuing education courses or certificate programs (see question 21). Over 60% of respondents agree that such programs would fill one of their important needs (see question 22).

♦ Over 60% of technology business executives would prefer to outsource educational programs to a college or university rather than to offer these programs internally (see question 23).

♦ Of businesses who would outsource educational programs, 22% prefer that these programs be delivered at their business location and 36% would prefer the program be offered "on-line" (see question 24).

♦ Programs that develop computer skills (66%) or leadership and team building skills (53%) are most often cited as the programs that would be outsourced (see question 25). There is also support for programs that develop critical thinking (50%) and oral communication skills (42%).

♦ Over 46% of businesses have had to look outside the University System to meet their continuing education needs (see question 26).

♦ Nearly 50% of businesses offer tuition reimbursement to their employees (see question 20).

♦ Over 74% percent of businesses believe that they could benefit from courses taught over the Internet (see question 27).

♦ Technology businesses have only moderate familiarity with three of Georgia's education and economic development initiatives - ICAPP, Georgia Globe and Yamacraw (see question 41).

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Appendix I:

**Responses to Individual Questions**

(note: Responses to the 2000 Technology Survey are contrasted with responses to the 1998 Business Leaders Survey were applicable)

Question 1: Does your company currently have a web site on the Internet?
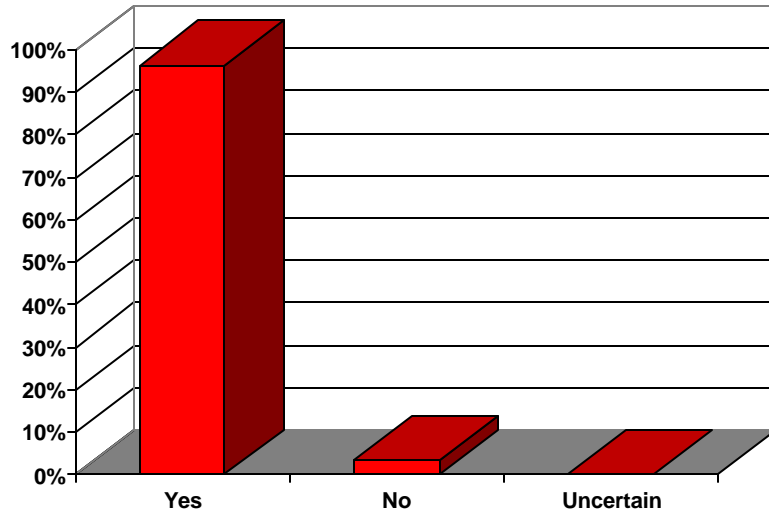
	Technology Businesses
Yes	**96.5%**
No	**3.5%**
Uncertain	**0.0%**

Question 2: Do you consider your web site to be an important marketing tool for your business?
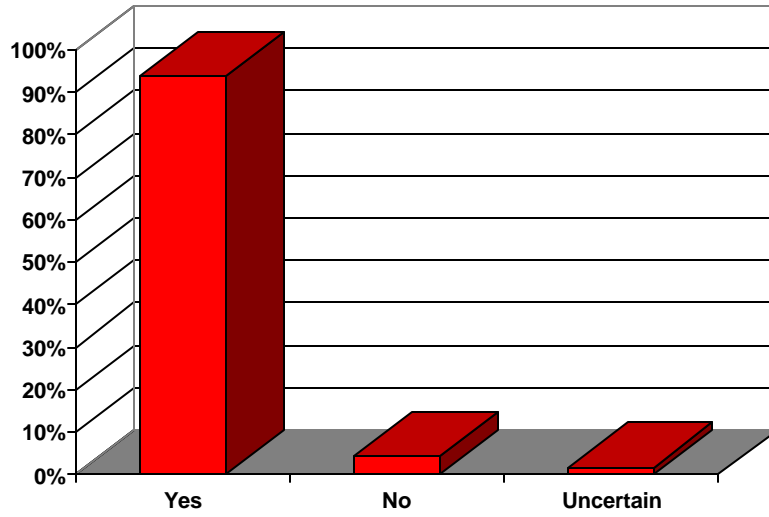
	Technology Businesses
Yes	**94.0%**
No	**4.2%**
Uncertain	**1.8%**

Question 3: Do customers order products or make sales contacts with you over that web site?

|	80%			
	70%			
	60%			
	50%			
	40%			
	30%			
	20%			
	10%			
	0%	Yes	No	Uncertain
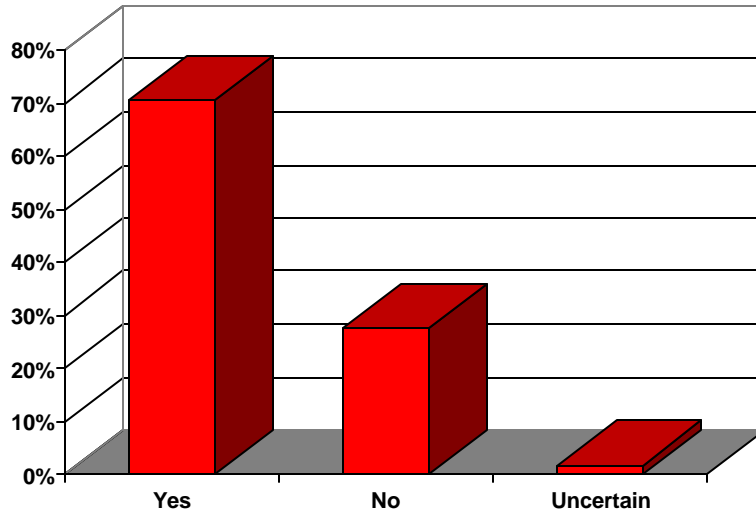
	Technology Businesses
Yes	70.5%
No	27.7%
Uncertain	1.8%

Question 4:Does your company use the Internet for procurement (i.e. do you buy from other businesses over the Internet)?
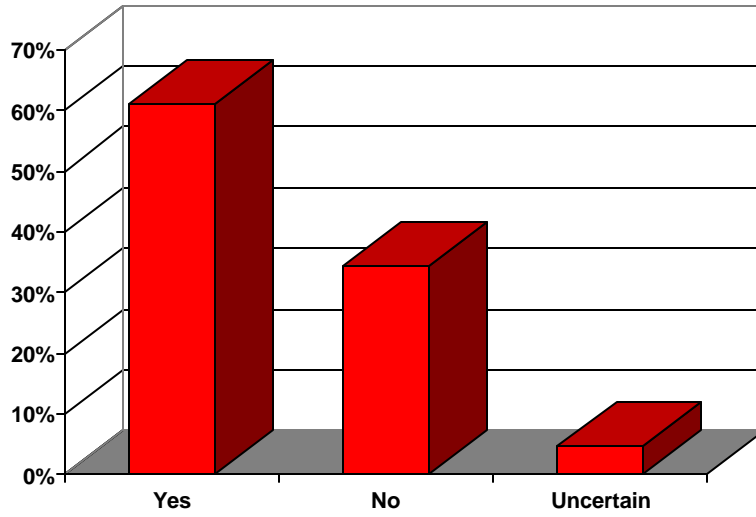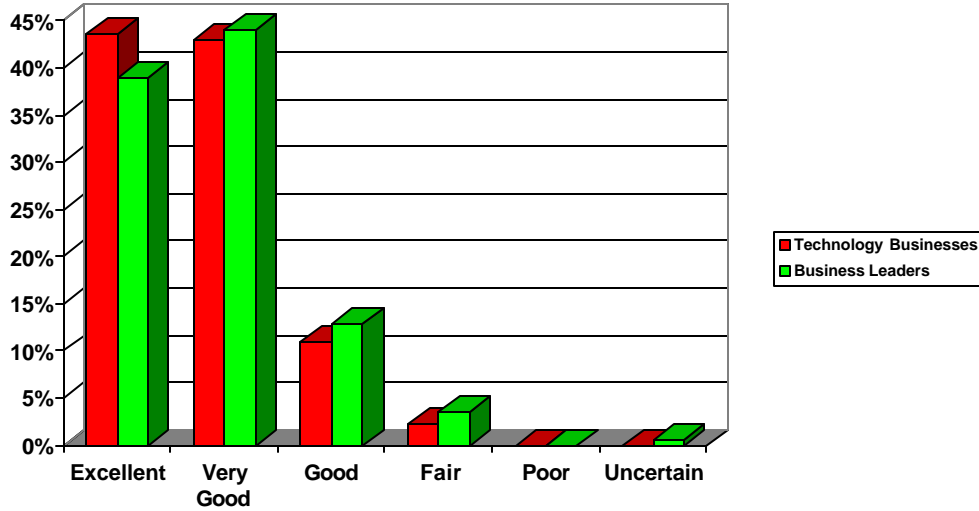

	Technology Businesses
Yes	**61.0%**
No	**34.3%**
Uncertain	**4.7%**

Question 5:Does your company use the Internet for conducting purely financial transactions (e.g. Internet Banking)?
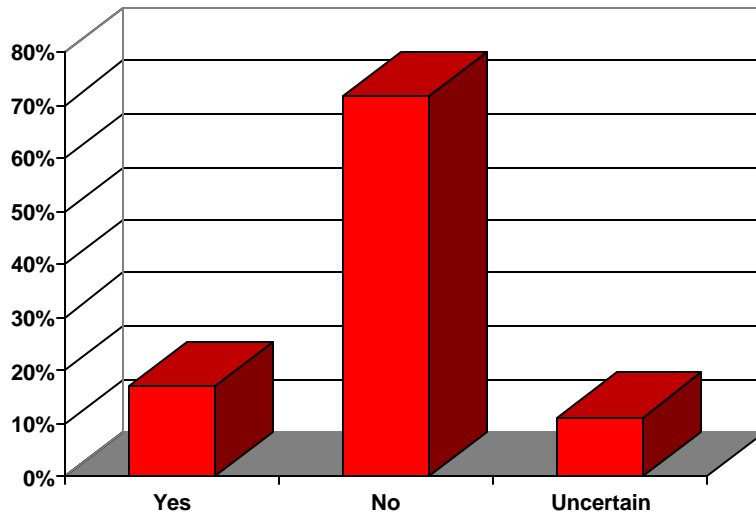
	Technology Businesses
Yes	**17.1%**
No	**71.8%**
Uncertain	**11.2%**

Question 6: Overall, how would you rate Georgia as a location for a company such as yours to operate?

	Technology Businesses	Business Leaders
Excellent	**43.6%**	39.00%
Very Good	**43.0%**	44.00%
Good	**11.0%**	12.90%
Fair	**2.3%**	3.60%
Poor	**0.0%**	0.00%
Uncertain	**0.0%**	0.60%

Question 7: Compared with other states in which you could realistically do business, is the Georgia business climate...
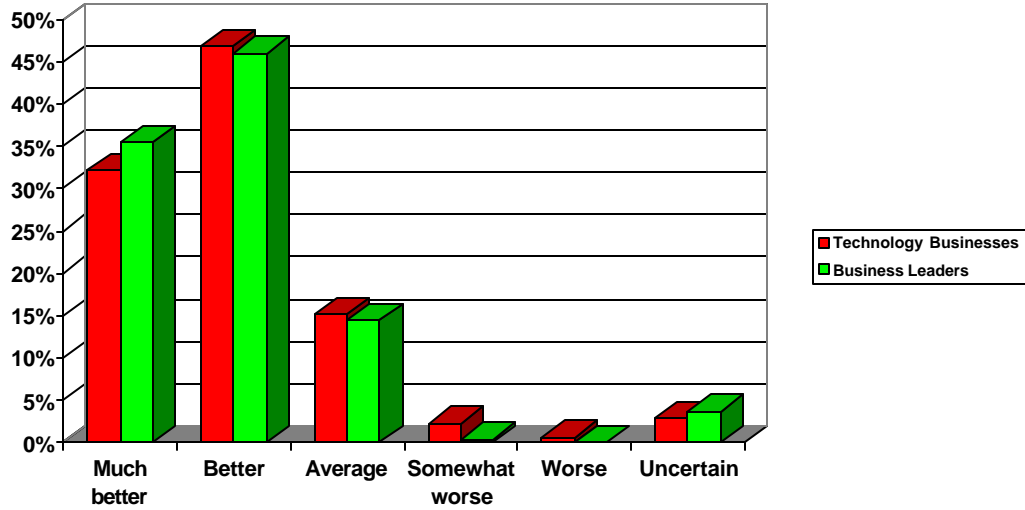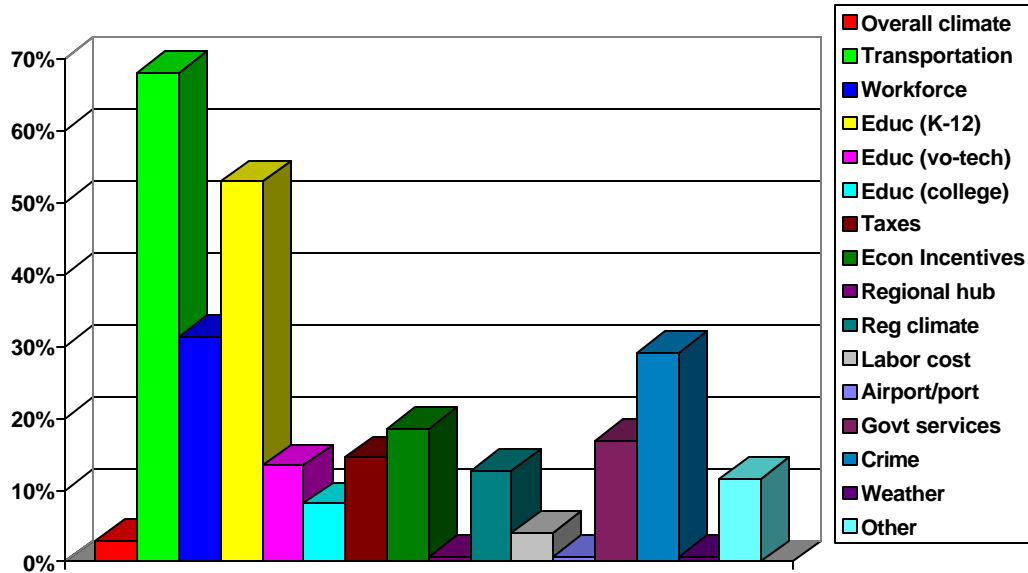

	Technology Businesses	Business Leaders
Much better than average	**32.2%**	35.5%
Better than average	**46.8%**	46.0%
Average	**15.2%**	14.4%
Somewhat better than average	**2.3%**	0.4%
Much worse than average	**0.6%**	0.0%
Uncertain	**2.9%**	3.7%

Question 8: Thinking about the factors that make a location desirable for conducting business, what do you consider to be Georgia's three greatest assets as a place to do business?
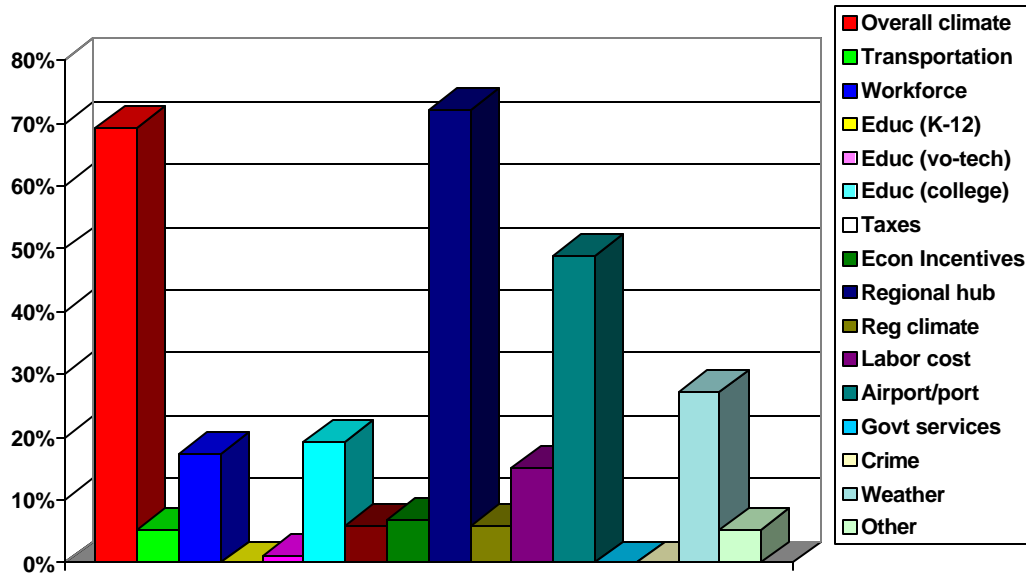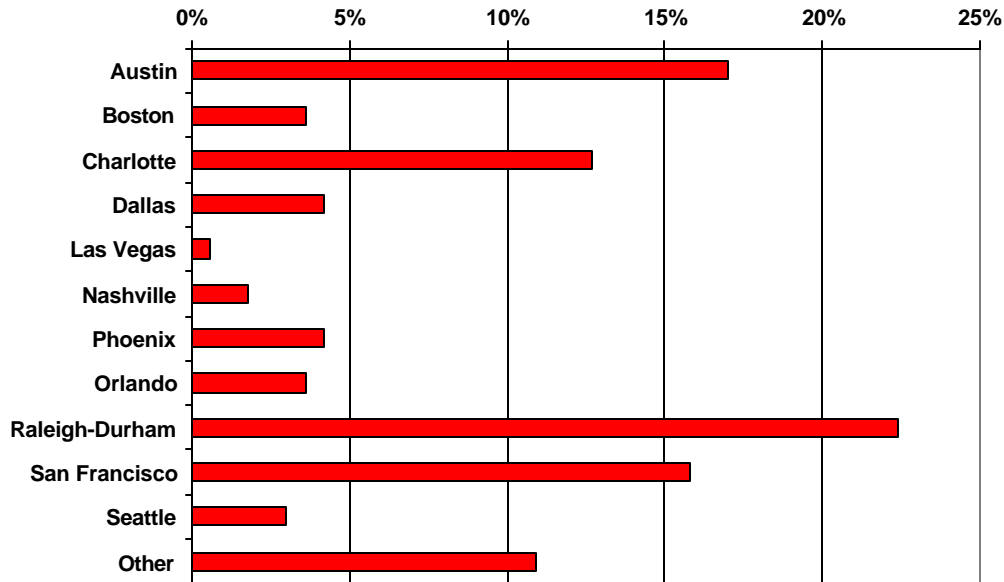

	Technology Businesses	Business Leaders
Overall Climate	69.2%	70.0%
Transportation system	5.2%	42.5%
Quality of Workforce	17.4%	6.1%
Education (K-12)	0.0%	1.6%
Education (vocational & tech)	1.2%	5.3%
Education (college & university)	19.2%	9.5%
State & Local taxes	5.8%	9.0%
Economic Incentives	7.0%	8.8%
Regional hub	72.1%	52.7%
Regulatory climate	5.8%	13.9%
Labor cost	15.1%	23.4%
Access to airport/port	48.8%	24.2%
Government services	0.0%	2.3%
Concern over crime	0.0%	0.7%
Weather	27.3%	22.6%
Other	5.2%	0.0%

Question 9: What are Georgia's three greatest weaknesses as a place to do business?

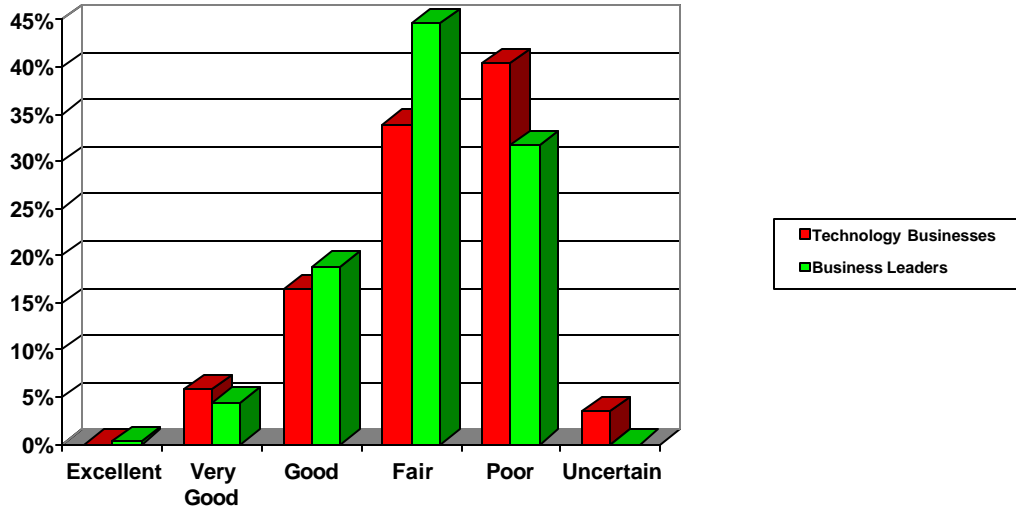|	**Technology Businesses**	Business Leaders
Overall Climate	**2.9%**	1.1%
Transportation system	**68.0%**	19.2%
Quality of Workforce	**31.4%**	53.3%
Education (K-12)	**52.9%**	67.8%
Education (vocational & tech)	**13.4%**	18.1%
Education (college & university)	**8.1%**	4.1%
State & Local taxes	**14.5%**	23.7%
Economic Incentives	**18.6%**	25.4%
Regional hub	**0.6%**	0.8%
Regulatory climate	**12.8%**	11.1%
Labor cost	**4.1%**	4.6%
Airport/port	**0.6%**	3.6%
Government services	**16.9%**	19.2%
Concern over crime	**29.1%**	32.9%
Weather	**0.6%**	0.3%
Other	**11.6%**	0.1%

Question 10: If you were considering where to locate your business (other than in Georgia), in what city or region would you most likely prefer to locate?

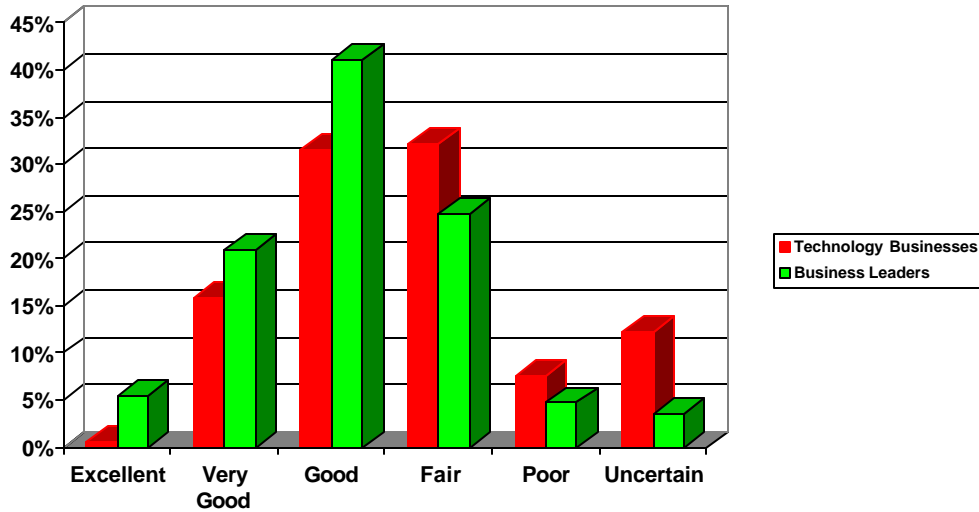|	Technology Businesses
Austin	**17.0%**
Boston	**3.6%**
Charlotte	**12.7%**
Dallas	**4.2%**
Las Vegas	**0.6%**
Nashville	**1.8%**
Phoenix	**4.2%**
Orlando	**3.6%**
Raleigh-Durham	**22.4%**
San Francisco	**15.8%**
Seattle	**3.0%**
Other	**10.9%**

Listed as "other" in order of frequency: New York, Washington DC, Denver, Los Angeles, Northern Virginia, San Diego, Chicago, Houston, Jacksonville, New Orleans, Portland and South Florida.

Question 11: What is your overall impression about the quality of Georgia's primary and secondary schools (kindergarten through 12th grade)?
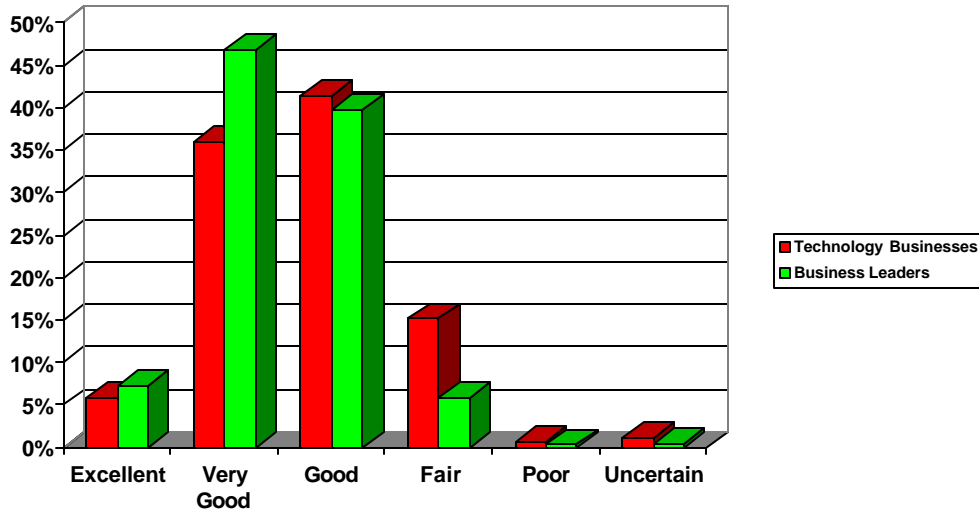

	Technology Businesses	Business Leaders
Excellent	**0.0%**	0.3%
Very Good	**5.8%**	4.4%
Good	**16.4%**	18.9%
Fair	**33.9%**	44.7%
Poor	**40.4%**	31.7%
Uncertain	**3.5%**	0.0%

Question 12: What is your overall impression about the quality of Georgia's technical and adult education institutes (vocational and technical education)?
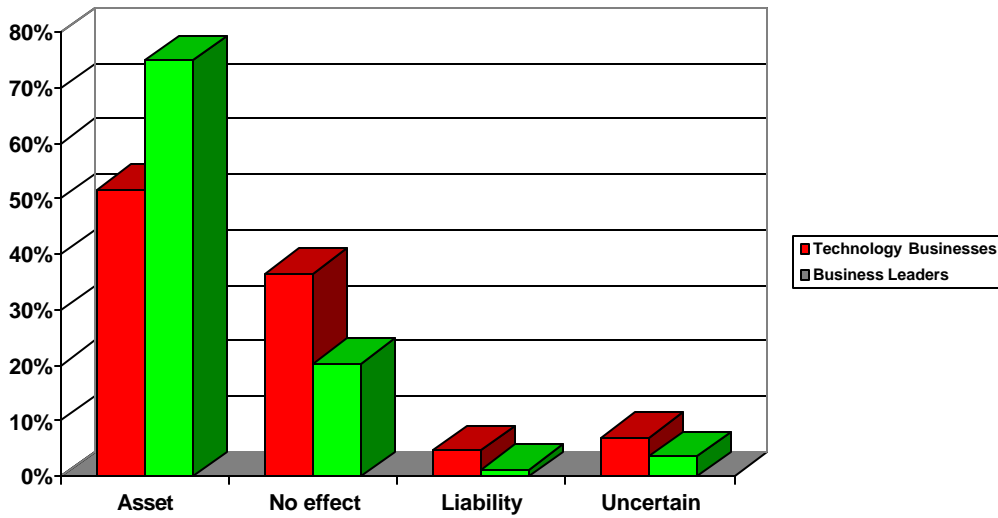
	Technology Businesses	Business Leaders
Excellent	**0.6%**	5.4%
Very Good	**15.8%**	20.9%
Good	**31.6%**	41.0%
Fair	**32.2%**	24.7%
Poor	**7.6%**	4.7%
Uncertain	**12.3%**	3.5%

Question 13: What is your overall impression of the quality of the University System of Georgia?

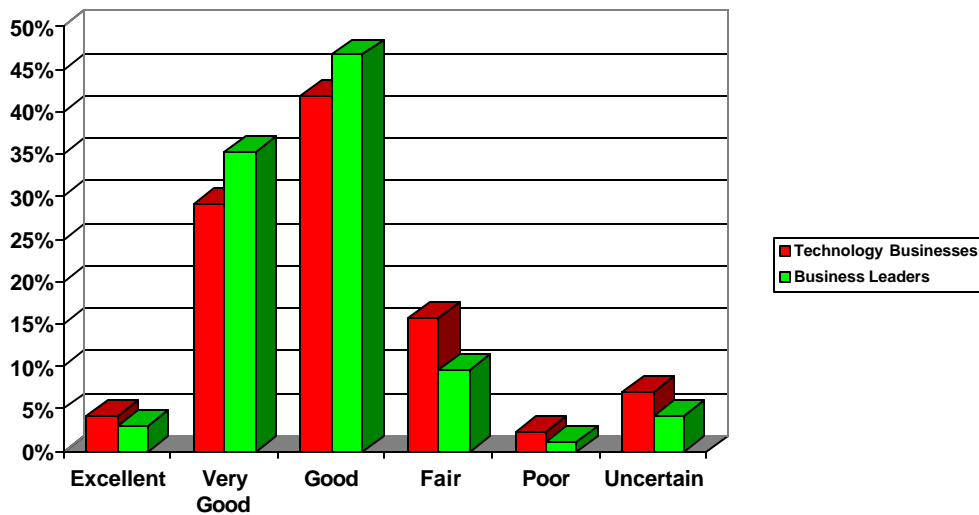|	**Technology Businesses**	Business Leaders
Excellent	**5.8%**	7.3%
Very Good	**36.0%**	46.8%
Good	**41.3%**	39.8%
Fair	**15.1%**	5.8%
Poor	**0.6%**	0.3%
Uncertain	**1.2%**	0.4%

Question 14: If you were considering where to locate your business, would the quality of the University System of Georgia be considered an asset or a liability?

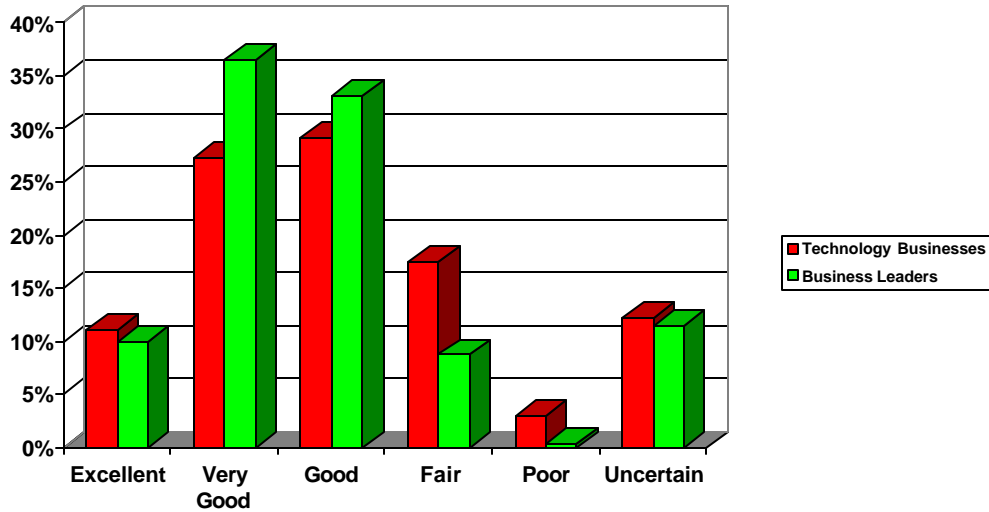|	**Technology Businesses**	Business Leaders
Asset	**51.7%**	75.0%
No effect	**36.6%**	20.3%
Liability	**4.7%**	1.2%
Uncertain	**7.0%**	3.5%

The University System of Georgia serves a three-fold mission of teaching, research and public service. The public service component of this mission includes a variety of continuing education programs and services. The research component of the mission includes both applied and basic research. The teaching component includes instruction in undergraduate, graduate and professional programs.

Question 15a: Considering the three-fold mission of our University System, how would you rate the achievement of our system in teaching?
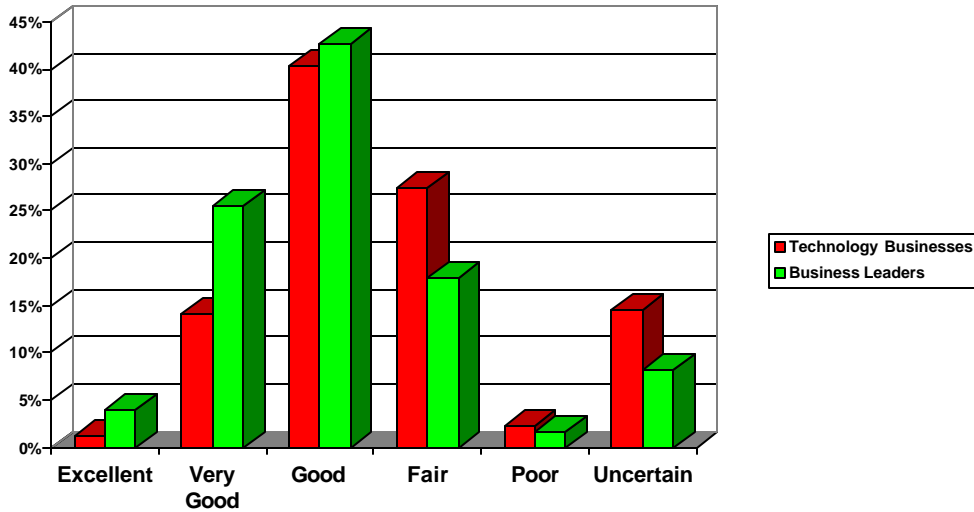

	Technology Businesses	Business Leaders
Excellent	4.1%	3.1%
Very Good	29.1%	35.3%
Good	41.9%	46.7%
Fair	15.7%	9.7%
Poor	2.3%	1.1%
Uncertain	7.0%	4.1%

Question 15b: Considering the three-fold mission of our University System, how would you rate the achievement of our system in research?
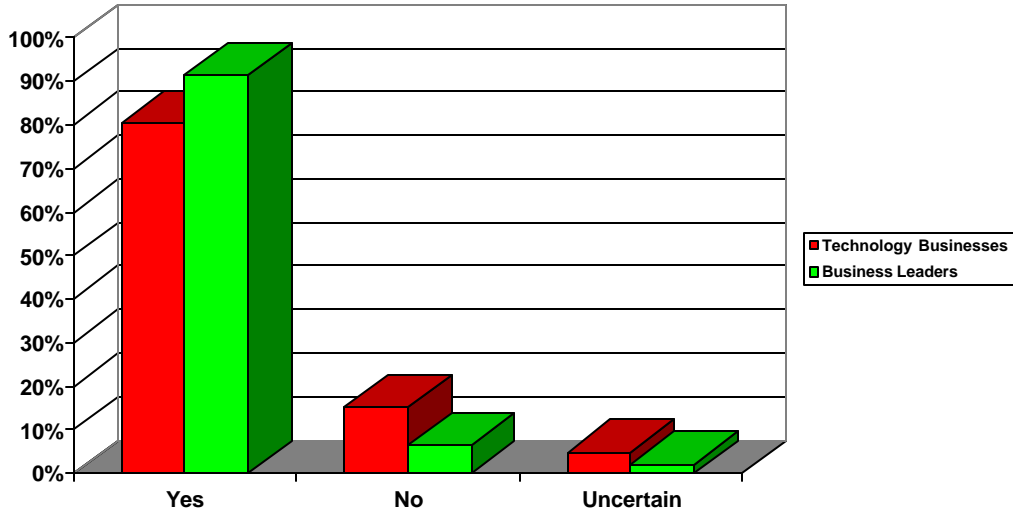

	Technology Businesses	Business Leaders
Excellent	**11.0%**	9.9%
Very Good	**27.3%**	36.5%
Good	**29.1%**	33.1%
Fair	**17.4%**	8.7%
Poor	**2.9%**	0.3%
Uncertain	**12.2%**	11.5%

Question 15c: Considering the three-fold mission of our University System, how would you rate the achievement of our system in public service?

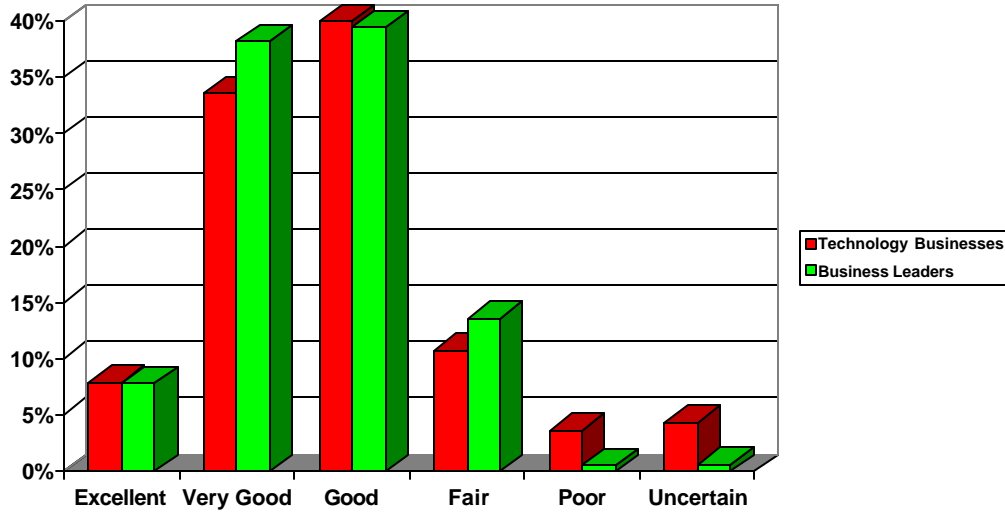|	**Technology Businesses**	Business Leaders
Excellent	**1.2%**	3.9%
Very Good	**14.0%**	25.5%
Good	**40.4%**	42.6%
Fair	**27.5%**	18.0%
Poor	**2.3%**	1.7%
Uncertain	**14.6%**	8.2%

Question 16: Has your firm ever employed graduates of the University System of Georgia?

	Technology Businesses	Business Leaders
Yes	**80.2%**	91.4%
No	**15.1%**	6.5%
Uncertain	**4.7%**	2.1%

Question 17a: How would you assess the preparation of these employees in oral communication?

	Technology Businesses	Business Leaders
Excellent	**7.9%**	7.8%
Very Good	**33.6%**	38.2%
Good	**40.0%**	39.4%
Fair	**10.7%**	13.6%
Poor	**3.6%**	0.5%
Uncertain	**4.3%**	0.6%

Question 17b: How would you assess the preparation of these employees in written communication?
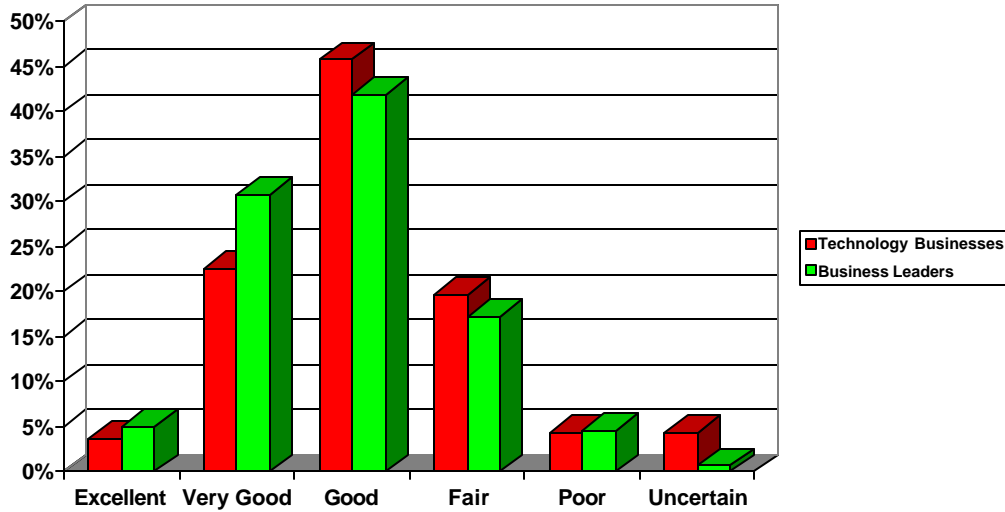
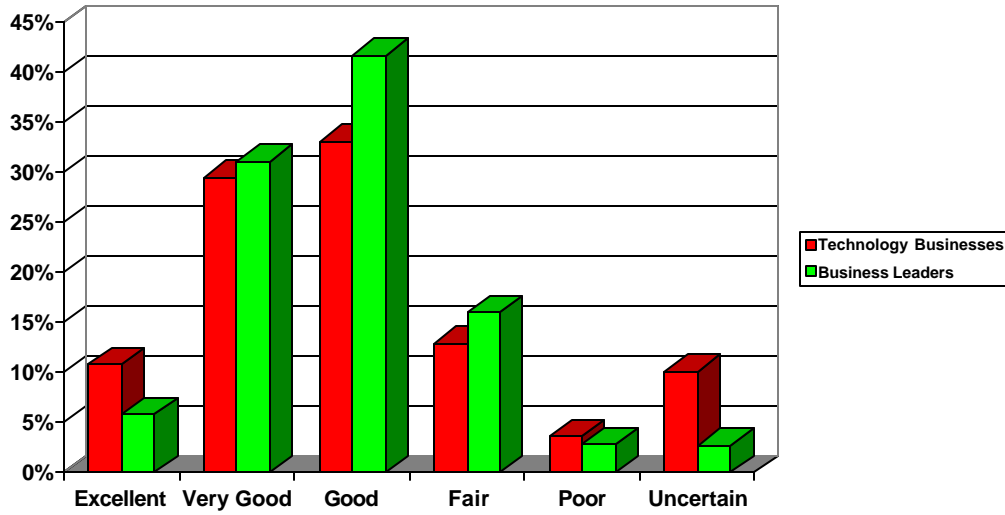|	**Technology Businesses**	Business Leaders
Excellent	**3.6%**	5.0%
Very Good	**22.5%**	30.8%
Good	**45.7%**	41.8%
Fair	**19.6%**	17.2%
Poor	**4.3%**	4.6%
Uncertain	**4.3%**	0.6%

Question 17c: How would you assess the preparation of these employees in computer skills?
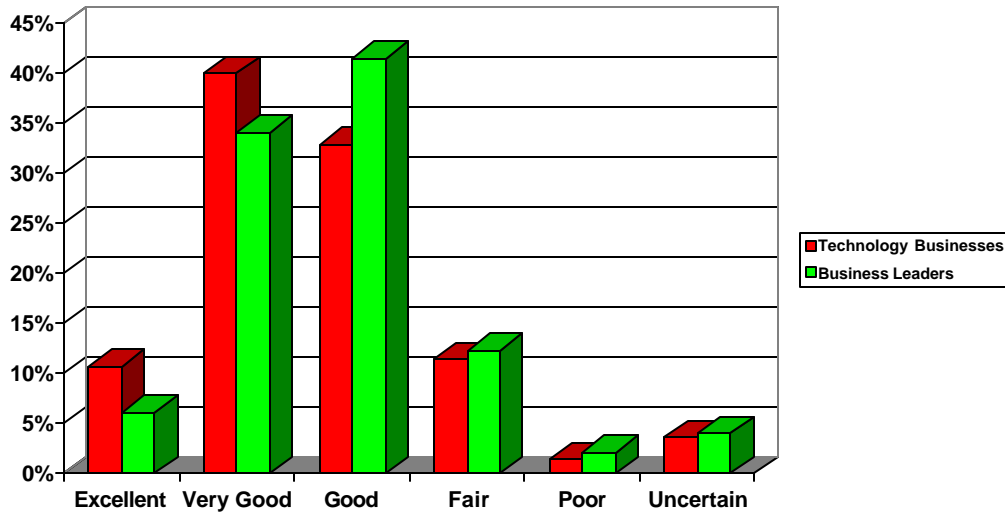
	Technology Businesses	Business Leaders
Excellent	**10.7%**	6.1%
Very Good	**40.0%**	34.0%
Good	**32.9%**	41.5%
Fair	**11.4%**	12.3%
Poor	**1.4%**	2.1%
Uncertain	**3.6%**	4.0%

Question 17d: How would you assess the preparation of these employees in quantitative/mathematical skills?

	Technology Businesses	Business Leaders
Excellent	**10.8%**	5.8%
Very Good	**29.5%**	31.1%
Good	**33.1%**	41.6%
Fair	**12.9%**	16.0%
Poor	**3.6%**	2.8%
Uncertain	**10.1%**	2.7%

Question 17e: How would you assess the preparation of these employees in critical thinking?
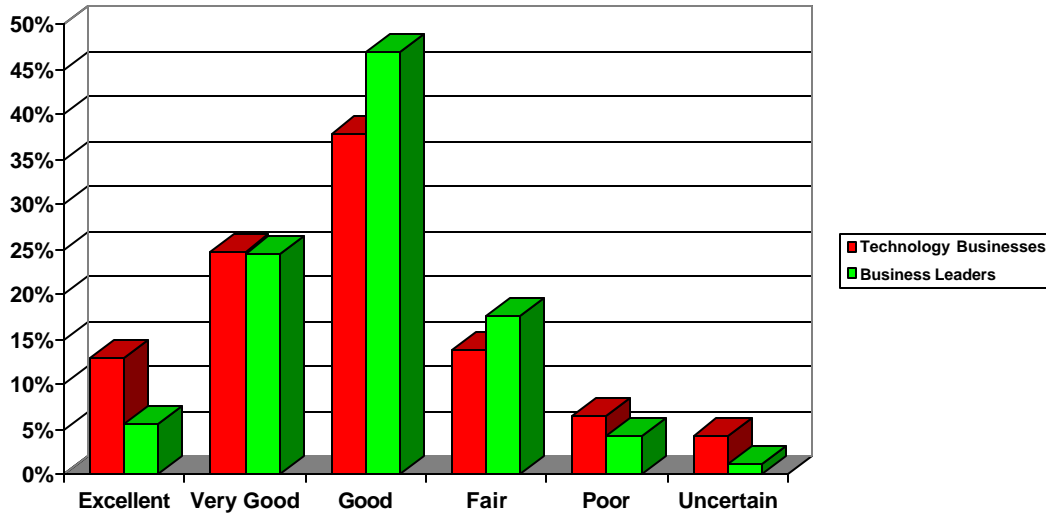
	Technology Businesses	Business Leaders
Excellent	**13.0%**	5.7%
Very Good	**24.6%**	24.4%
Good	**37.7%**	46.9%
Fair	**13.8%**	17.6%
Poor	**6.5%**	4.3%
Uncertain	**4.3%**	1.2%

Question 17f: How would you assess the preparation of these employees in the ability to work in teams?
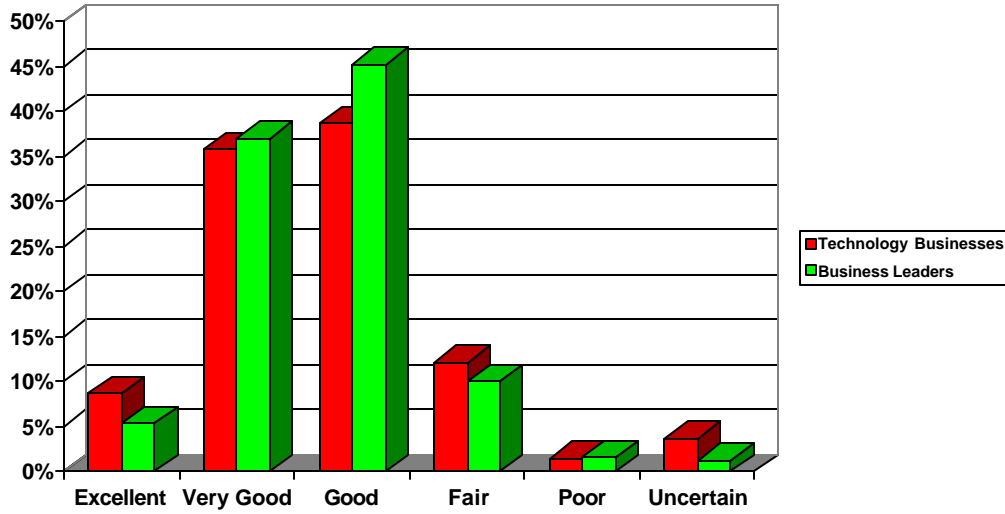
	Technology Businesses	Business Leaders
Excellent	**8.6%**	5.3%
Very Good	**35.7%**	36.9%
Good	**38.6%**	45.2%
Fair	**12.1%**	10.0%
Poor	**1.4%**	1.5%
Uncertain	**3.6%**	1.2%

Question 17g: How would you assess the overall preparation of these employees?
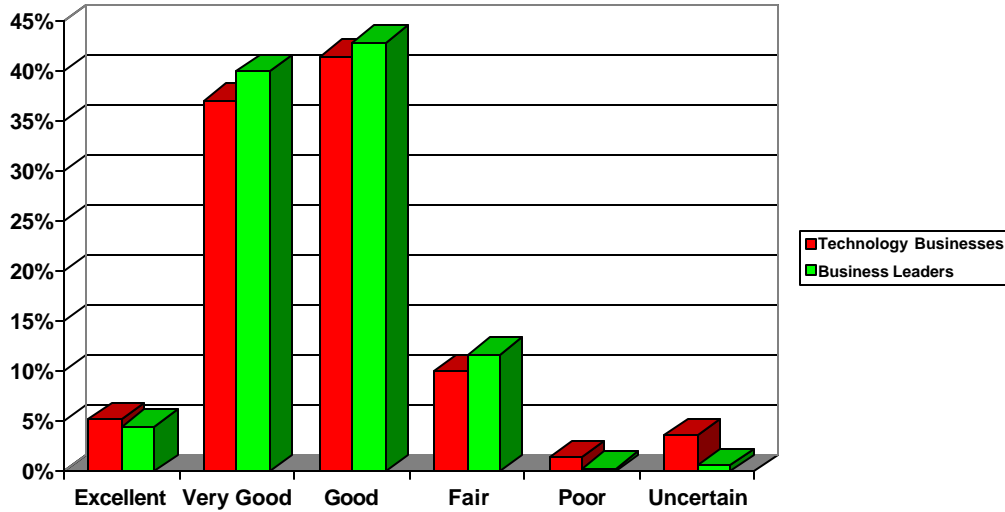
	Technology Businesses	Business Leaders
Excellent	**5.2%**	4.5%
Very Good	**37.1%**	40.0%
Good	**41.4%**	42.9%
Fair	**10.0%**	11.7%
Poor	**1.4%**	0.3%
Uncertain	**3.6%**	0.6%

Question 18: From the skills/qualities listed below, please select the three skills that you feel are the most desirable in your employees.
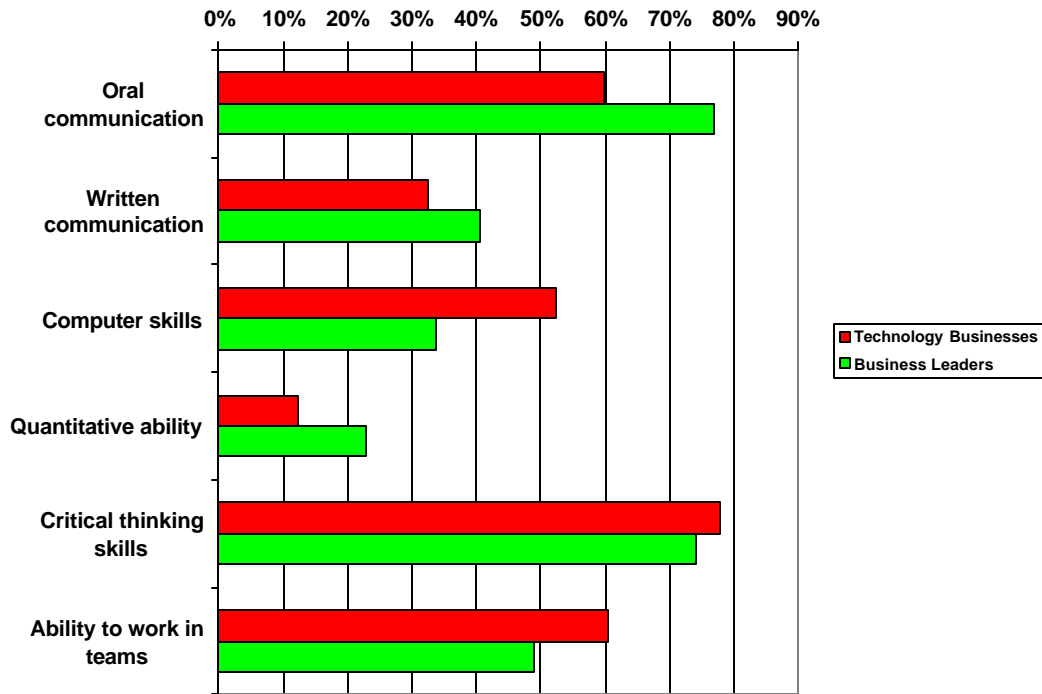
	Technology Businesses	Business Leaders
Oral communication	**59.9%**	77.0%
Written communication	**32.6%**	40.6%
Computer skills	**52.3%**	33.7%
Quantitative ability	**12.2%**	22.7%
Critical thinking skills	**77.9%**	74.1%
Ability to work in teams	**60.5%**	48.9%

Question 19: Has your company ever had to look outside Georgia to find employees with skills specific to your employment needs?
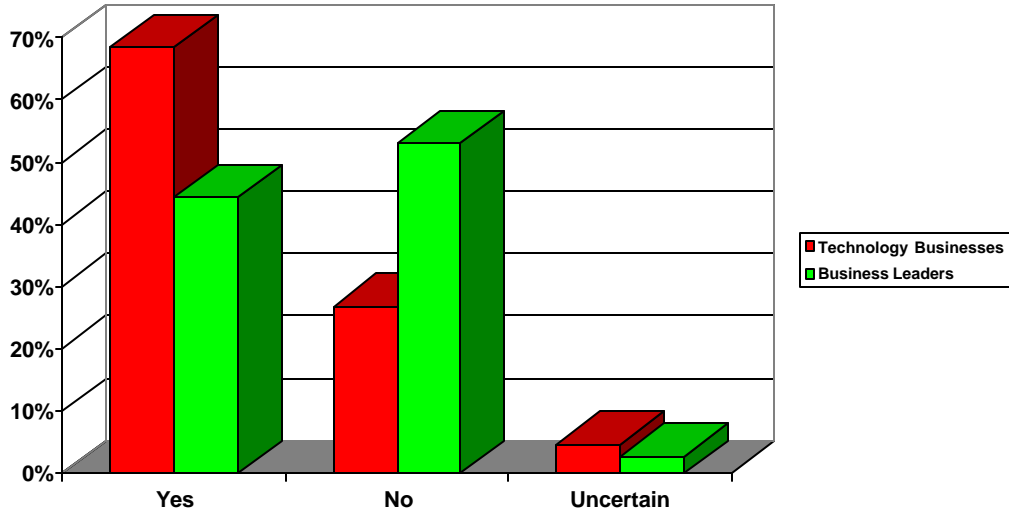
	Technology Businesses	Business Leaders
Yes	**68.4%**	44.4%
No	**26.9%**	53.0%
Uncertain	**4.7%**	2.6%

Question 20: Does your firm offer tuition reimbursement to its employees?
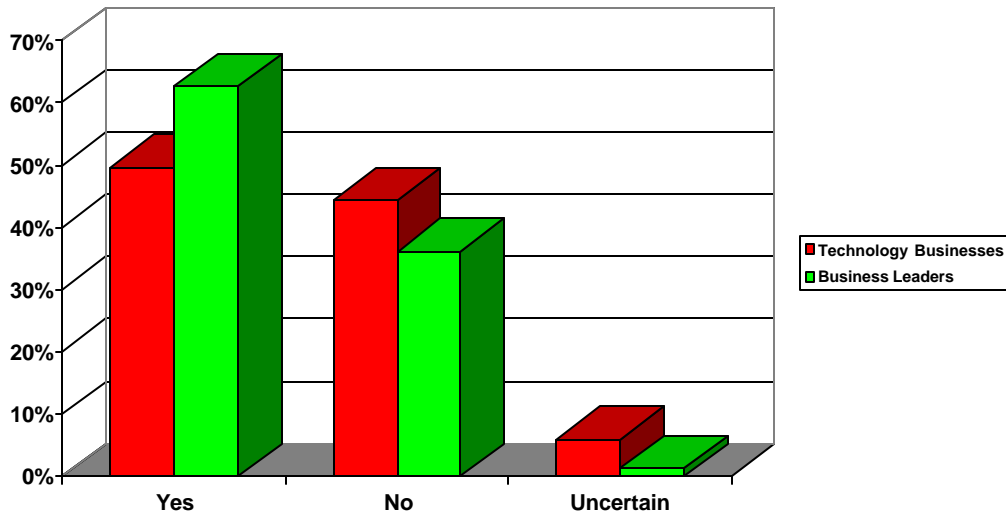
	Technology Businesses	Business Leaders
Yes	**49.7%**	62.7%
No	**44.4%**	36.1%
Uncertain	**5.9%**	1.3%

Our university system has become increasingly dedicated to the principle of "life-long learning". One component of "life-long learning" is the offering of non-credit courses. Another national trend is toward certificate programs in which participates obtain a competence in a specific skill or receive training specific to a selected industry. These programs are usually shorter in length than degree-granting programs.

Question 21: Have you or your employees enrolled in continuing education and/or certificate courses before?
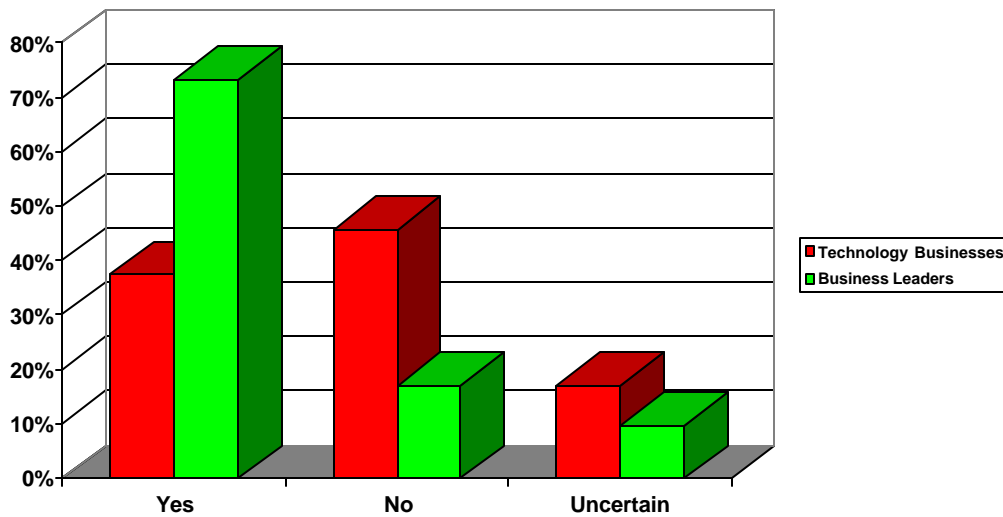
	Technology Businesses	Business Leaders
Yes	**37.4%**	73.2%
No	**45.6%**	17.0%
Uncertain	**17.0%**	9.8%

Question 22:Do you think this is an important need that you have? (Referring to continuing education and certificate programs)
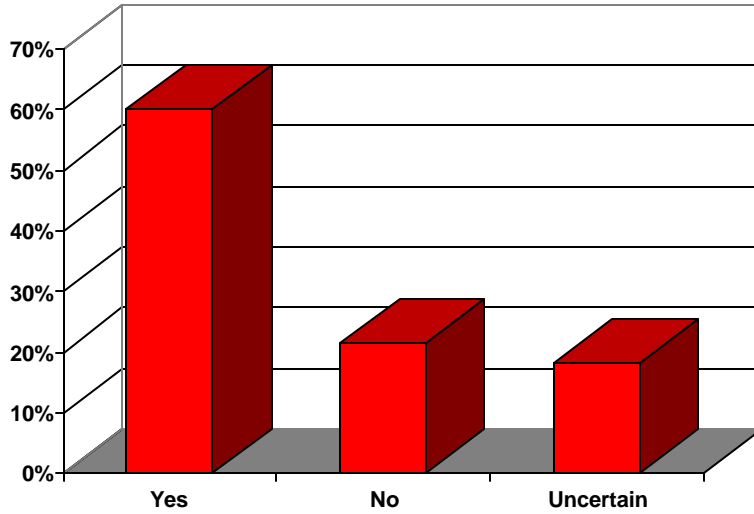
	Technology Businesses
Yes	60.2%
No	21.6%
Uncertain	18.1%

Question 23: If you had a choice, would you prefer to conduct training internally or to "outsource" it to a college, university or technical institute?
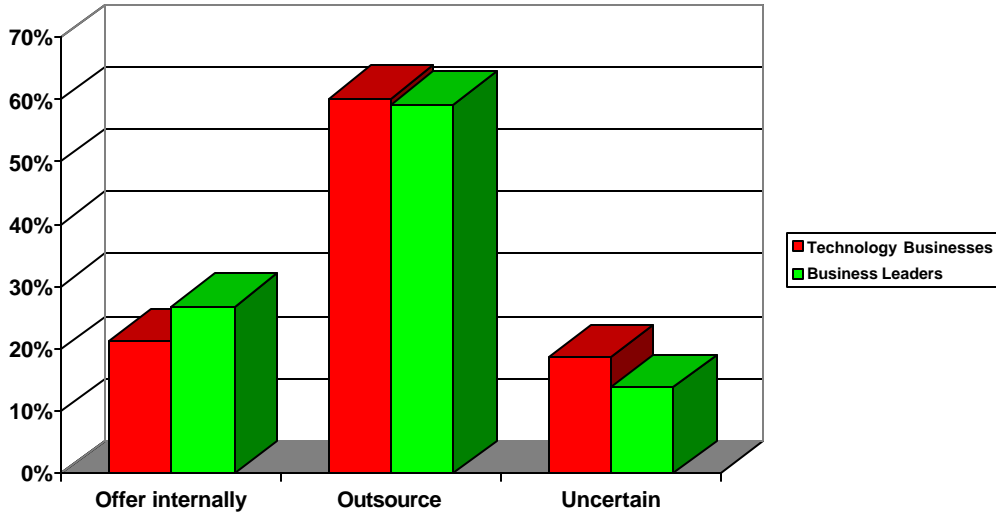
	Technology Businesses	Business Leaders
Offer internally	**21.1%**	26.8%
Outsource	**60.2%**	59.3%
Uncertain	**18.7%**	13.9%

Question 24: If you would outsource the training, would you prefer to have it conducted at your facilities, at a University System institution or using some online technology?
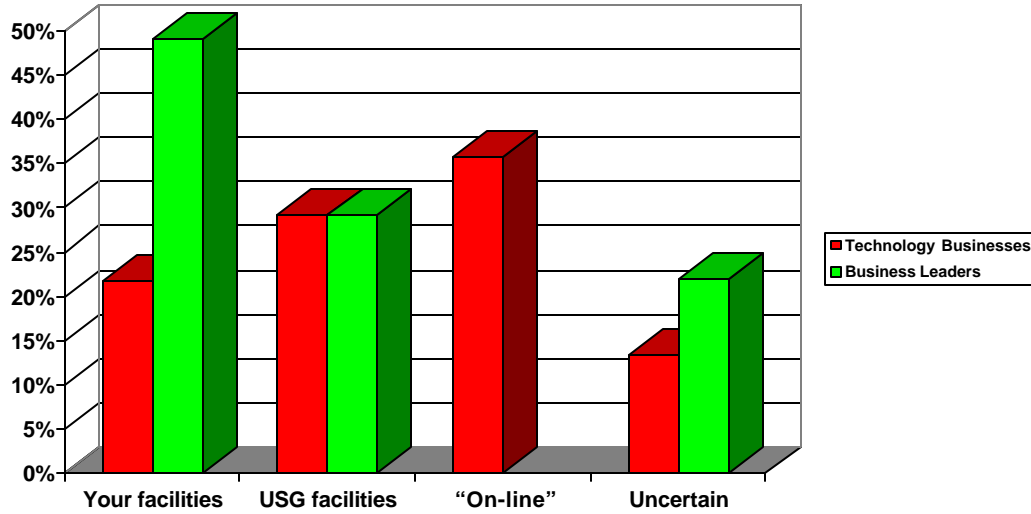
	Technology Businesses	Business Leaders
Your facilities	**21.8%**	49.0%
USG facilities	**29.1%**	29.1%
"On-line"	**35.8%**	NA
Uncertain	**13.3%**	21.9%

Question 25: What type of programs would you prefer to outsource?
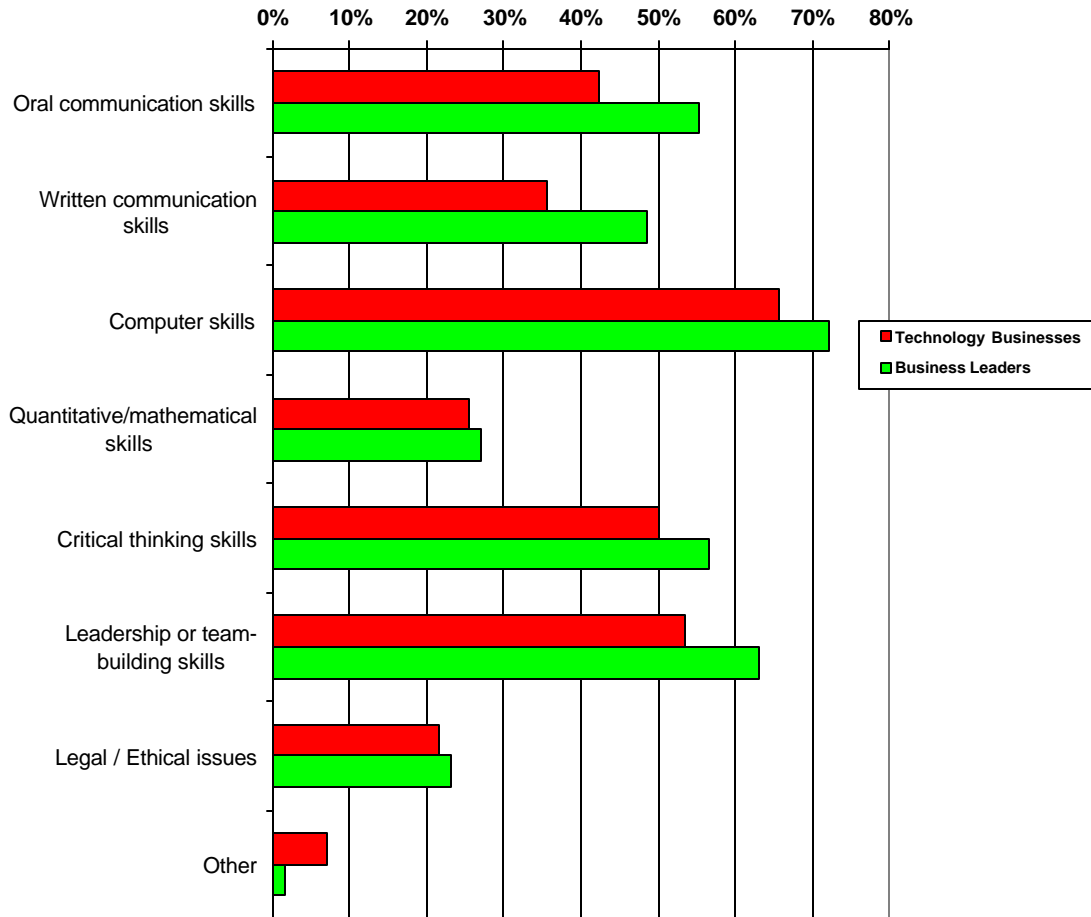
	Technology Businesses	Business Leaders
Oral communication skills	**42.4%**	55.4%
Written communication skills	**35.5%**	48.5%
Computer skills	**65.7%**	72.1%
Quantitative/mathematical skills	**25.6%**	27.0%
Critical thinking skills	**50.0%**	56.6%
Leadership or team-building skills	**53.5%**	63.2%
Legal / Ethical issues	**21.5%**	23.2%
Other	**7.0%**	1.7%

Question 26: Has your company had to look to institutions outside the University System of Georgia to meet your continuing education needs?
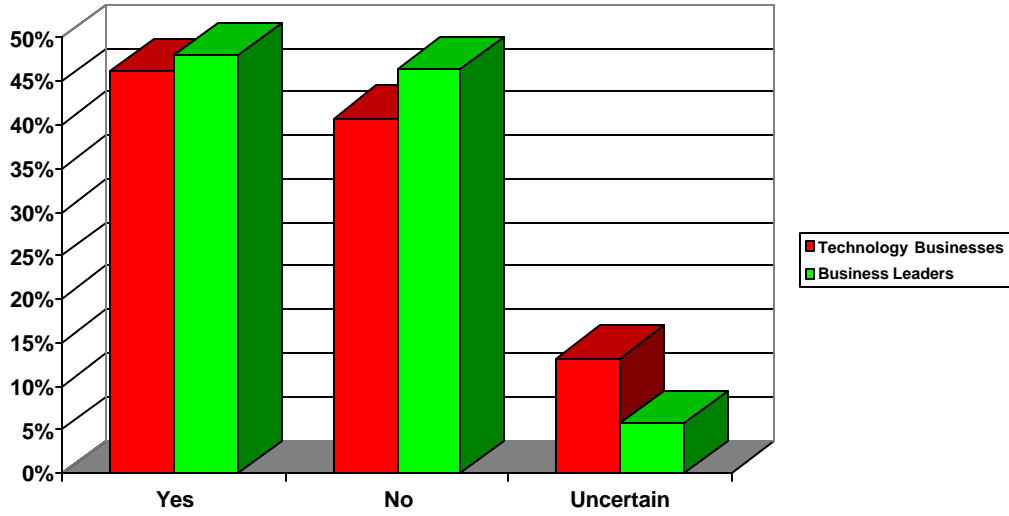
	Technology Businesses	Business Leaders
Yes	**46.1%**	48.0%
No	**40.7%**	46.4%
Uncertain	**13.2%**	5.7%

Question 27: Some educational institutions offer courses in which academic instruction is given over the Internet. Would your company utilize or benefit from courses offered over the Internet?
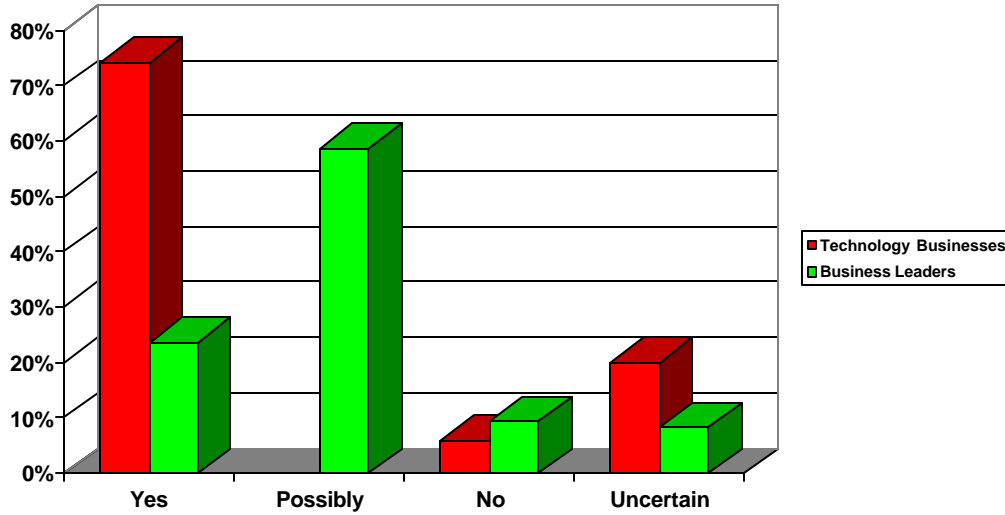
	Technology Businesses	Business Leaders
Yes	**74.1%**	23.5%
Possibly	**NA**	58.6%
No	**5.9%**	9.3%
Uncertain	**20.0%**	8.3%

Question 28: Does your company have a Human Resources department –
that is, one or more employees who are dedicated exclusively to recruiting
and retaining employees?
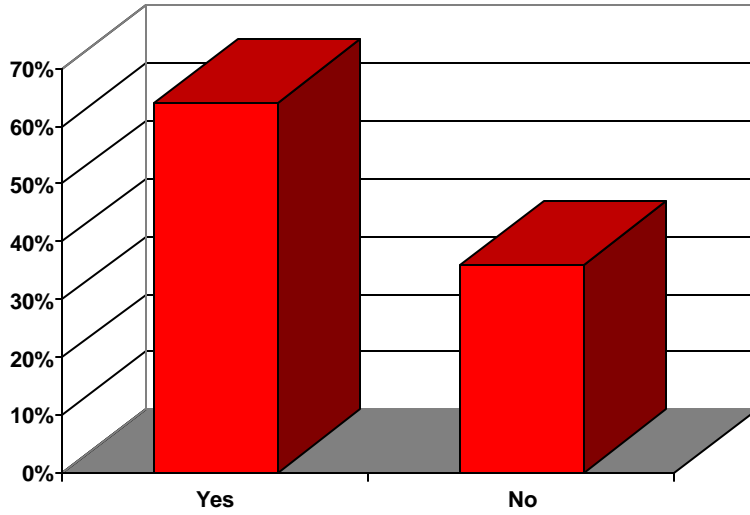
	Technology Businesses
Yes	63.9%
No	36.1%

Question 29: What percent of your new positions are filled by people who have graduated from college in the last five years?
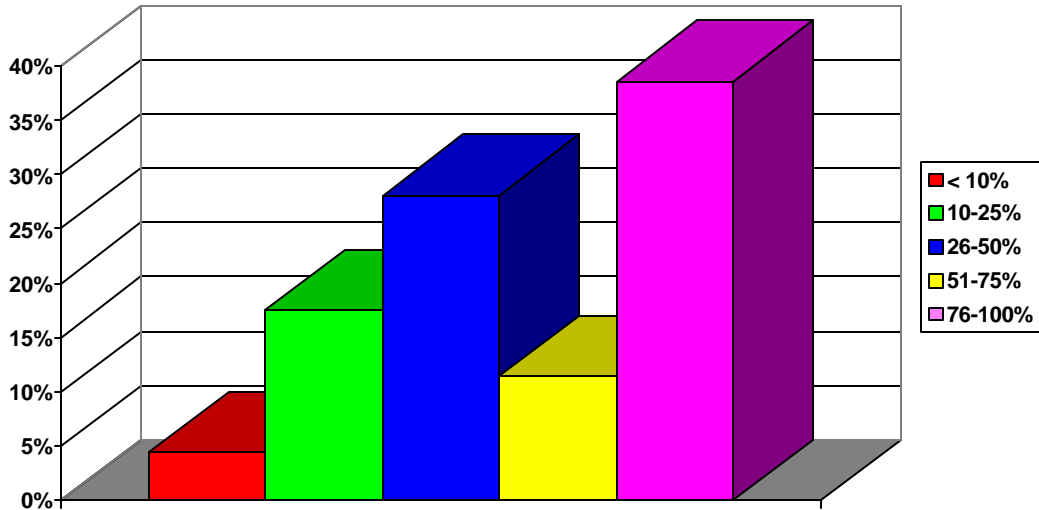
	Technology Businesses
< 10%	**4.4%**
10-25%	**17.5%**
26-50%	**28.1%**
51-75%	**11.4%**
76-100%	**38.6%**

	Technology Businesses
Mean	**59%**
Median	**50%**
Mode	**50%**

Question 30: Has your business ever used the job placement services of an institution in the University System of Georgia?
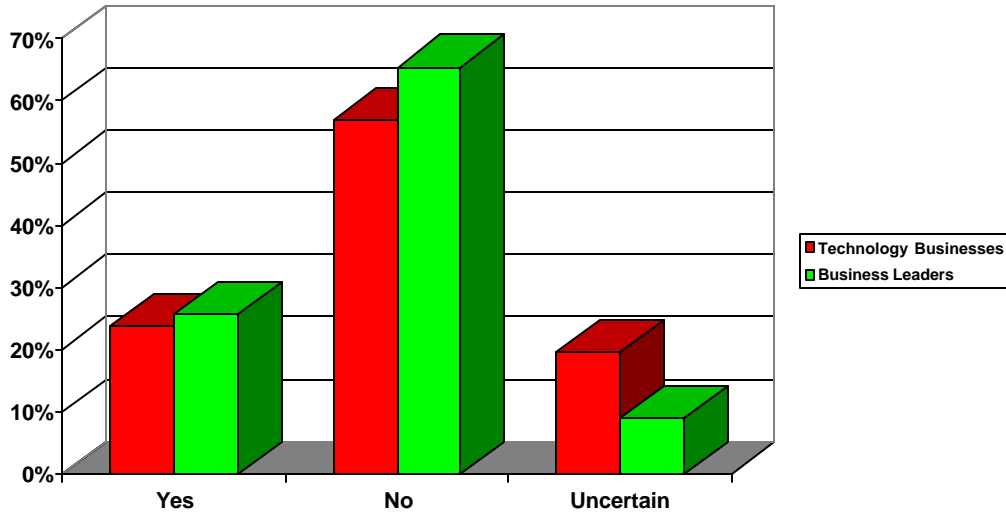
	Technology Businesses	Business Leaders
Yes	**23.7%**	25.7%
No	**56.8%**	65.3%
Uncertain	**19.5%**	9.0%

Question 31: What was your level of satisfaction with this service (job placement services)?
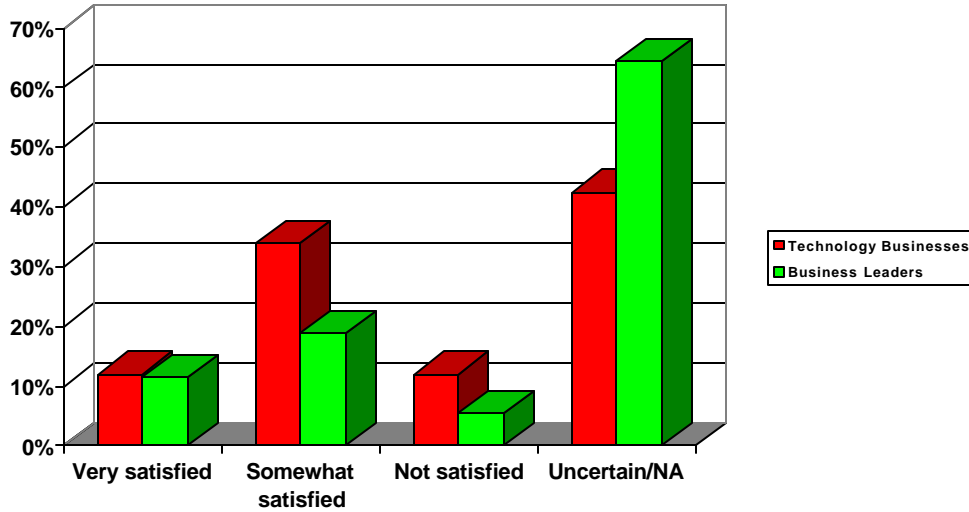
	Technology Businesses	Business Leaders
Very satisfied	**11.9%**	11.4%
Somewhat satisfied	**33.9%**	18.8%
Not satisfied	**11.9%**	5.4%
Uncertain/NA	**42.4%**	64.4%

Question 32: When you hire new employees to work with computer technology (including software applications and networking), is it important to you that the individual have completed a standardized certification program (e.g. Microsoft NT certification, Oracle certified professional, etc.)?
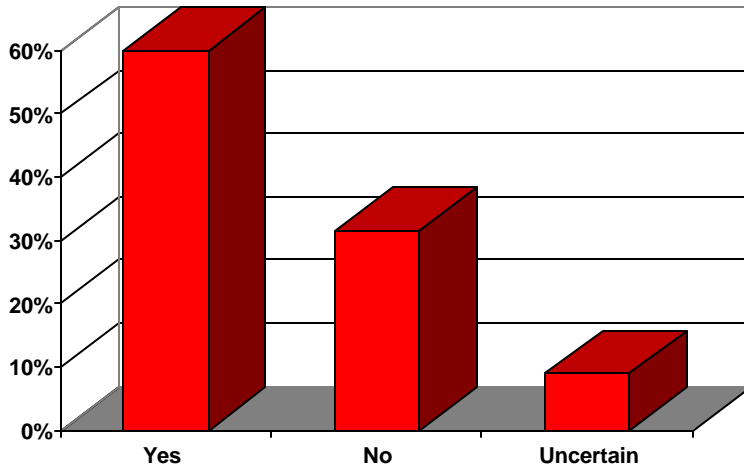
	Technology Businesses
Yes	**59.8%**
No	**31.4%**
Uncertain	**8.9%**

Question 33: Are you familiar with a state program known as GeorgiaHire?
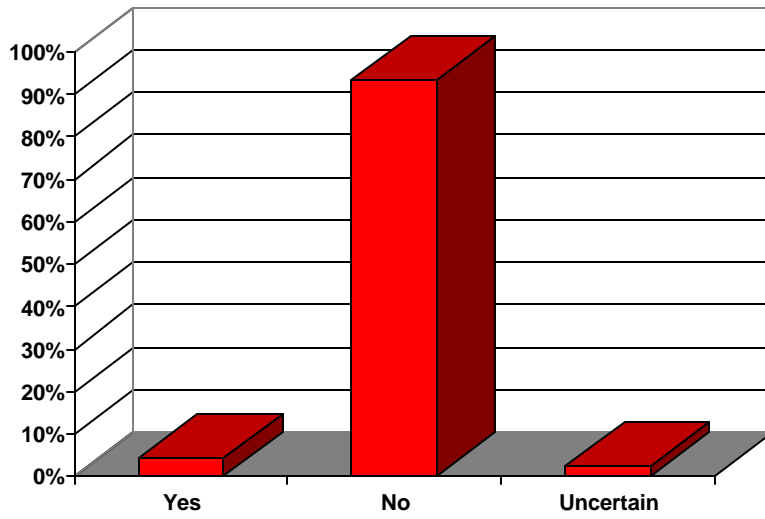
	Technology Businesses
Yes	**4.2%**
No	**93.4%**
Uncertain	**2.4%**

GeorgiaHire is the official job site and on-line resume database for students and alumni of the 34 colleges and universities that are the University System of Georgia. Over 26,000 students are currently registered with GeorgiaHire.

Question 35: How likely is it that your company would utilize GeorgiaHire?
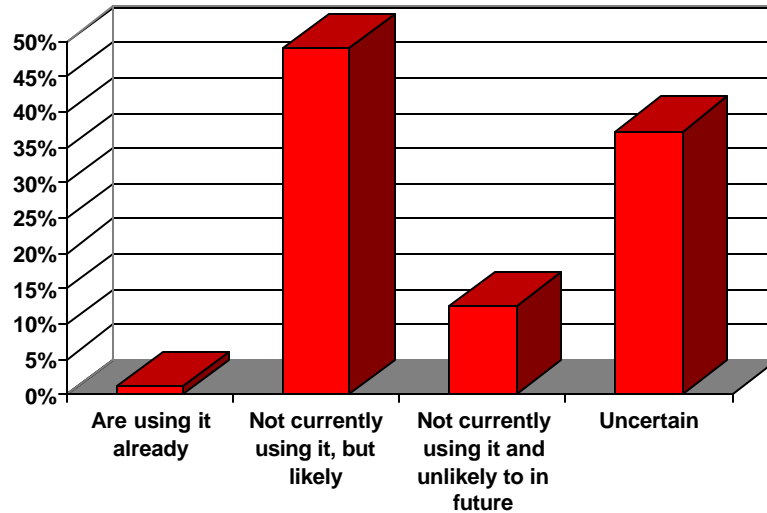
	Technology Businesses
Are using it already	**1.2%**
Not currently using it, but likely	**49.1%**
Not currently using it and unlikely to in future	**12.4%**
Uncertain	**37.3%**

Question 36: Have you used any of the following Internet job directories?
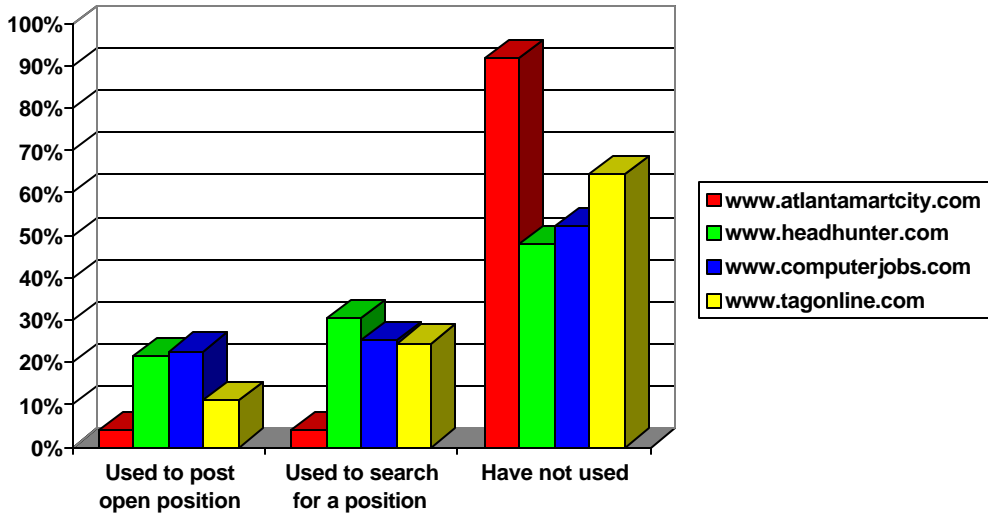
	Used to post open position	Used to search for a position	Have not used
www.atlantamartcity.com	4.1%	4.1%	91.7%
www.headhunter.com	21.5%	30.4%	48.1%
www.computerjobs.com	22.6%	25.2%	52.2%
www.tagonline.com	10.9%	24.5%	64.6%

Listed as "other" in order of frequency: www.monster.com, www.careerpath.com, www.hotjobs.com, www.brainbuzz.com, www.dice.com, www.aiga.com, www.commarts.com, www.vetjobs.com, www.developmentjobs.com, www.jobtrack.com, www.techies.com.

Question 37: For each of the following statements, please indicate whether you strongly agree, agree, disagree or strongly disagree with the statement.
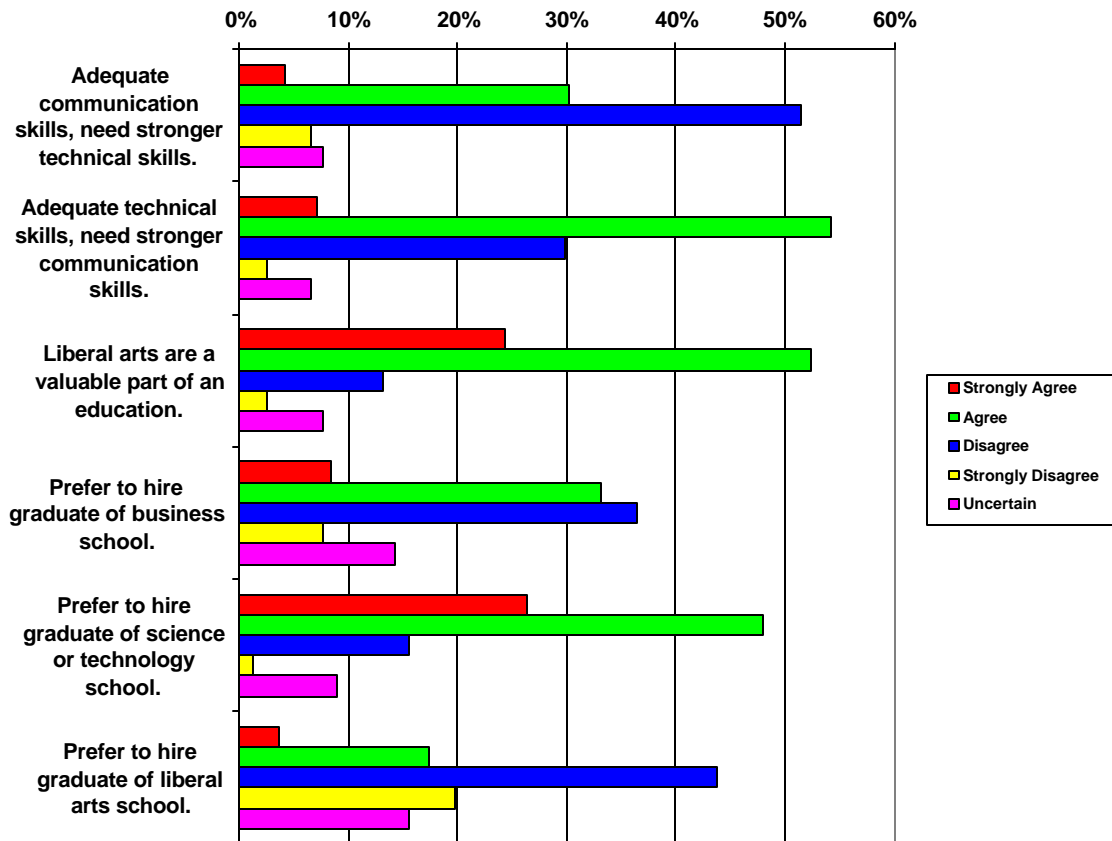
	Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain
My employees have **adequate communication skills,** but **need stronger technical skills.**	4.1%	30.2%	51.5%	6.5%	7.7%
My employees have **adequate technical skills,** but **need stronger communication skills.**	7.1%	54.2%	29.8%	2.4%	6.5%
Courses in liberal arts are a valuable part of an employee's education.	24.4%	52.4%	13.1%	2.4%	7.7%
If I were hiring a new employee to work in information systems, I would prefer to hire a **graduate of business school.**	8.3%	33.1%	36.4%	7.7%	14.2%
If I were hiring a new employee to work in information systems, I would prefer to hire a **graduate of science or technology school.**	26.3%	47.9%	15.6%	1.2%	9.0%
If I were hiring a new employee to work in information systems, I would prefer to hire a **graduate of liberal arts school.**	3.6%	17.4%	43.7%	19.8%	15.6%

Question 41: For each of the three programs listed below, please indicate your familiarity with each program.
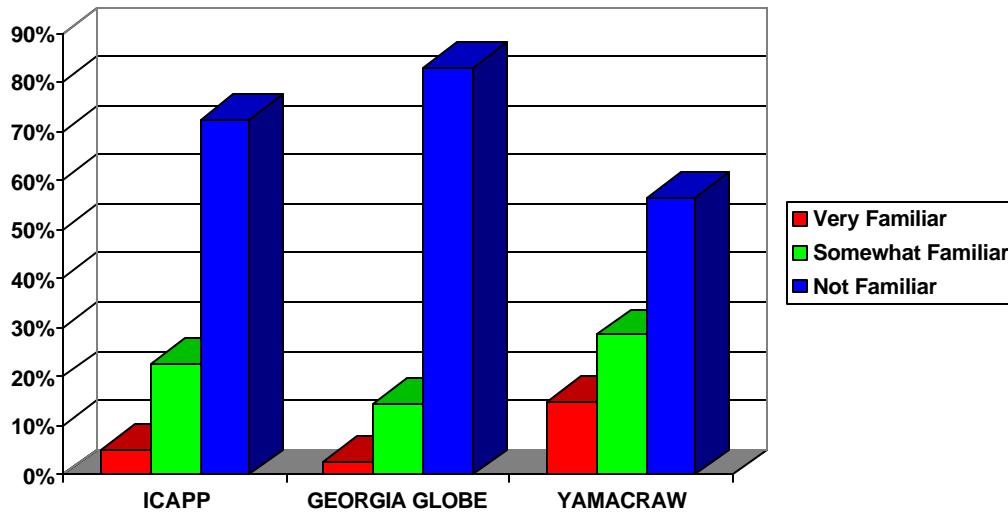
	ICAPP	GEORGIA GLOBE	YAMACRAW
Very Familiar	5.0%	2.5%	15.0%
Somewhat Familiar	22.6%	14.4%	28.5%
Not Familiar	72.3%	83.1%	56.3%

Responses to Demographic Questions

In total, how many people does your company employ?

	Technology Businesses	Business Leaders
Full-time employees (median)	60.0	60.0

Is your company headquartered in Georgia?

	Technology Businesses	Business Leaders
Yes	**72.9%**	86.6%
No	**27.1%**	13.4%

Do you consider your business office location to be urban, suburban or rural?

	Technology Businesses	Business Leaders
Urban	**51.9%**	33.4%
Suburban	**46.8%**	32.8%
Rural	**1.3%**	37.5%

TALENT AND TECHNOLOGY FOR THE NEW ECONOMY:
A TAG Membership Study for ICAPP and the Governor's e-Government Initiative

Appendix II:

Responses to Open-ended Questions

(note: Non-responsive answers were deleted. The 2000 Technology survey
is the first ICAPP survey to report open-ended responses)

Question 8: "Thinking about the factors that make a location desirable for conducting business, what do you consider to be Georgia's THREE (3) greatest assets as a place to do business?" *(open-ended responses for those who answered "other")*

"Access to venture capital"

"Achievement of critical mass in high tech population of skilled individuals and companies."

"Cost of living."

"Grew up here."

"Hub for technology firms."

"I live here."

"Overall technology climate."

"Power and communications infrastructure."

"Quality of life."

"Technology focus is getting better each year, prompted by private business and associations like TAG."

"Technology Infrastructure."

"Technology / venture capital boom."

"Very optimistic - land of opportunity."

Question 9: "What are Georgia's THREE (3) greatest weaknesses as a place to conduct business?"
(open-ended responses for those who answered "other")

"Air quality."

"Available workforce."

"Difficulty in finding qualified employees."

"Doesn't yet have the national reputation for quality companies that it will."

"Don't know enough to be more specific."

"Environment (water and air quality)."

"Housing costs."

"It is strictly a business city. The arts don't survive in Atlanta. It focus to much on business and nothing else."

"Lack of labor force at all levels."

"Lack of local venture capital firms that are in the top tier nationally."

"Lack of low cost state-wide Internet access (as is now available in Virginia). I can't get DSL in Kennesaw for heaven's sake. If we can't fix traffic we have to have better Internet access."

"Lack of mass transit outside the perimeter."

"Marta needs to be improved."

"Only 20% of adults in State have college degree."

"Politics."

"Pollution and infrastructure aging."

"Special taxes such as the extra car tax."

"Technology infrastructure is weak – *[Atlanta-based telecommunications company]*'s availability of services is very weak."

"Too regional in scope - not international."

"Traffic."

"Traffic is horrendous."

"Traffic, Traffic, No Public Transportation!!!!"

"What do you believe are the University System's strengths and weaknesses?"

"Availability of quality education."

"Biggest weakness is inability to compete with NE schools in attracting key technology talent. Strength lies in leveraging Atlanta's technology business and cultural community."

"Comprehensive degree offerings."

"Difficult for people from other states to assess quality of system."

"Diversification of its curriculum; those schools that use professors to instruct instead of teaching assistants; schools dedicated to outreach."

"Diversity. Not everyone should be a computer geek."

"Entrance requirements getting tougher which is good; academic standards appear low."

"Faculty & academic reputation (strengths), diversity of student body (weakness)."

"First, the quality of student entering the system is poor. Second, the overall capability and skill of the people graduating is not much better."

"For public system, I believe the University System does an adequate job. I feel too many resources are going to UGA Athens, at the expense of other schools in the system. However, the weakness in the Georgia public education system lies within the K-12system...."

"Georgia Tech is a technology strength."

"Georgia Tech is a very strong school that provides many of the quality talent hired by this company."

"Georgia Tech is excellent for preparation of technical minded managers & software people. I would always defer to Tech if candidates were identical in all other ways. UGA is acceptable in some areas business, etc. I've found all other colleges & universities in Georgia to be sub-par."

"Georgia Tech is weak in critical thinking, writing, and understanding the world, while UGA is the opposite, while GSU seems to blend the best of both worlds."

"Good basic education and professional programs. Poor engineering/technical/research programs."

"Great reputation, strong tech combined with business, could use more intern programs."

"Hard to say, wide disparity among the schools."

"HOPE scholarship has made it much more competitive, resulting in higher caliber of graduates."

"HOPE Scholarship is a definite plus. We have some great state schools and some others that are not as strong in providing a technical education."

"I am uncertain as I do not have enough exposure to it."

"I believe the HOPE program will retain some of the better high school kids that may have moved. The elementary, middle, and high schools do not challenge the children. There is an attitude among kids that 'It is not cool to be smart.' In other states, smart kids are brought together and they can play-off of each other and then it is cool to be smart."

"I do not have enough data points to comment -- I work with and hire seasoned professionals."

"I don't really know since I have never participated in the University System personally."

"It exists. It has the support of the government. It is trying to serve the needs of the State of Georgia."

"It is reputable but the graduates are not prepared for real world."

"Lack of job placement support, they need to know how to work long hours, in teams and do stuff right the first time."

"Many local sites."

"Math & Science improving. Communication & written skills - major weakness."

"National reputations and increasing admission standards for UGA and GT."

"Not a lot of understanding about its strong programs and why."

"Not friendly to night students."

"Openness in seeking to meet needs of the business community."

"Quality of Education."

"Reputation and depth of offerings."

"Strength- Breath of programs. Weakness - national marketing."

"Strength - good atmosphere, students desire to reside in GA, System's desire to do what businesses want. Weakness - diversity of programs, placement programs awareness, guidance of students to open careers."

"Size, availability and cost diversity seem to be the strengths."

"Strength - Available to all deserving students through HOPE. Weakness - We need technicians with specific job skills, not bachelor degreed candidates."

"Strength - GA Tech."

"Strength - HOPE scholarship keeping bright students home; weakness: no e-commerce curriculum."

"Strength - research institutions; weaknesses - two-four year colleges."

"Strength = sports. Weakness = education and individual attention to students."

"Strength is anchored by GA Tech. Weakness is everyone else."

"Strength is evident in the graduates and leaders of the system. Primary weakness is uniformity and joint reputation-building efforts nationwide."

"Strength is focus on tech skills, weakness is lack of focus on critical thinking skills."

"Strength: Continuing Education Programs. Weaknesses: Not enough."

"Strength: Georgia Tech brand identity, weakness: indoctrination of liberal views."

"Strength - extensive system that provides education for a wide variety of fields. Weakness-system not well known outside the state of GA."

"Strength - reputation; weakness-class size too large."

"Strengths - Georgia Tech and its alumni and research base. Weaknesses -- Generally colleges other than Georgia Tech, GSU or UGA."

"Strengths - liberal arts and business, weakness - technical training courses are too few and outdated"

"Strengths are its overall education value."

"Strengths are quality of education and students thanks to lottery, as well as technology focus. weakness is that Georgia's quality of K-12 education is not what it needs to be to afford all residents of our state the level of education they deserve and need to compete in today's world."

"Strengths is availability of education, weakness is quality of education compared to other states like North Carolina, California, and Massachusetts."

"Strengths: Building communication and critical thinking skills.   Our target schools for Info System are UGA and GA Tech. These have very strong programs in Info System and Computer Science. Weaknesses: Consistency!!! Students from other University System schools seem to be weaker in terms of professionalism, communication skills, and critical thinking."

"Strengths: Choices, programs, location. Weaknesses: Theory verses Action. Professors lack of computer literacy, tenure structure, pay not in line with results or expertise."

"Strengths: UGA and GT."

"Strengths: accessibility for statewide students, strong programs. Weaknesses: geographic disparities in classes and access to advanced courses."

"Strengths: Georgia Tech because of its curriculum and high academic standards; the EMBA program at GSU; the HOPE scholarship because it is increasing academic standards at UGA."

"Strengths: preparing & placing students in local area and connection with private sector & business leaders WEAKNESSES: Very little recognition outside the SE and outreach activities with business across the states and Int'l."

"Strength-UGA and GT; weakness - not enough 2 year institutions."

"Strong education programs, but not turning out enough people with computer science skills."

"Strong in soft skills; weak in hard skills."

"Strong program, strong labor pool."

"Students have poor work ethic, weak communication skills!"

"Tech, GSU and UGA, Georgia Southern - strengths. Other schools tend to be weaker."

"Technology quality good, but quantity insufficient. Better written/oral communication, leadership training & skills."

"Technology-strength/weakness-not sure."

"The HOPE Program and Clayton College & State University's innovative IT curriculum are strengths while a struggle to match up courses offered with rapidly changing technology is a weakness."

"The many choices of schools."

"They offer the programs generating the skill sets we need."

"Too much emphasis on sports programs and socializing and not enough on science and technology."

"Tuition costs are good."

"We here are very pro Georgia. Outside of our area, people don't have the best opinion of our colleges. More public awareness is needed."

"We need to find a way to make computer training more accessible to our post-bac employed population. This means affordable reasonable night classes."

"Weakness - English and Communications skills. Strengths - locally located."

"Weakness is the overall perception of poor quality of education in Georgia."

"Weakness: over emphasis on sports."

"Based on your current projected business challenges, what are three (3) actions that the University System could take to better meet your needs?"

"1. Only graduate people who can read and write at a college level. 2. Expand programs in critical thinking and communication. 3. If the Secondary School System is not improved, recruit students from elsewhere who are capable."

"1. Need graduates with Telecommunications and networking background and experience, 2) need people with strong communications skills, 3) need access to candidates who are not necessarily recent graduates, e.g. those in continuing education."

"1. Survey the technical market and change curriculum to meet market needs; 2) Spend more time selecting top faculty talent; 3) Provide faculty with training and development opportunities or get them into businesses during their 'off' semesters."

"1. Make sure students learn to think out of the box."

"1. Require professors to spend time each year (or every other year) working in industry. Theory is not as important as real world applied leanings. 2. Encourage changes in curriculum--be more responsive to add Java, e-commerce, etc. to curriculum. 3. Provide "market compensation" to I.S. professors--other schools seem to be stealing Georgia talent."

"1. Technical graduates must have business savvy. 2. Sent student resume packages. 3. Enlist business leaders for technical program advisory panels."

"1. Broaden non-4 year degree. 2. Mentor through alumni. 3. Public forum."

"1. Collaborate with non-USG adult learning resources."

"1. Differentiate schools and funding based upon SAT scores. 2. Increase standards for teaching degrees. 3. Incorporate team building as a process in all programs."

"1. More graduates, 2. Co-op/part-time student workers 3. More academic scholarships."

"1. Provide specific technical skill training (machine operation, soldering, workmanship standards)."

"Actively solicit for internship opportunities at companies."

"All graduates must be computer literate. Standards need to be established and achieved. Professors must also exceed computer literacy standards to be effective in teaching it. It is my experience the less comfortable teachers are or lack interest, the requirements are minimal or none for the student proficiency. This attitude is failing our students and humanity. The business pay and results structure needs to be brought to education system. This is more of an issue at the grade and high schools because students are less aware that they control their own results. Program concepts and the universal laws found in programs by Earl Nightingale, Napoleon Hill, and Bob Proctor should be required in grade school."

"Attract and educate more engineering students."

"Beef up Liberal Arts component of 4-year degrees, require more courses in English specifically in the writing area."

"Better advertising of marketing and project management courses available and be reasonable price."

"Better educators for our children."

"Better hands on technical training."

"Better integration of basic design skills with web design skills. There are far too many ugly web sites out there."

"Better training for technical needs; must have classes for employees who work during the day."

"Build strong foundation skills, provide hands on experience, advertise your best students."

"Buy computers from my company instead of purchasing from Dell, Gateway, IBM and Apple at much higher pricing. We could supply at least 2:1 with equal equipment."

"Combine business issues with IT issues and Stress use of the Internet in day to day activity."

"Communicate the programs better; reach out to companies."

"Continue to improve teaching staff. Work with TAG. Drive an on-the-job orientation program."

"Continue to make GA a national leader in technology fields and bring good people to Atlanta and Georgia."

"Crank out more Computer Science degrees!!!"

"Create more internship programs, Disseminate technology research, Better communication with Private sector."

"Develop a stronger, more credible IT degree."

"Develop training programs, help in locating quality technical people, assist in business networking."

"Double the course load in technical areas and creative studies, and reduce emphasis on social programs."

"Enhance funding of technical and engineering programs to attract top-flight students to area."

"Establish a new Georgia Tech in Waycross or South Georgia to spur development over a 30 year period. Provide a business incubator and lots of office space and awesome bandwidth communications, as well as amenities, to make Research Triangle happen in South Georgia."

"Extend online and instructor-led training for IT skills and certification courses, mandate communications/soft skills as part of curriculum, enhance placement programs connecting area businesses with graduates."

"Focus more on technology related fields, including management skills."

"Get students better prepared for web technology and the Internet."

"Give them hands on job experience so they have something to add day one."

"Greater financial support for the Continuing Education (CE) programs that provide technical training; Offer HOPE grants for certificate programs conducted by CE; Job placement services for CE students."

"Help students develop critical thinking skills. Provide more programs for after normal business hours education."

"Highlight the programs that might allow liberal arts majors or other majors to pursue a high tech career. Target high middle and high schools to begin to turn children on to technology as a career."

"I'm just becoming aware of one day seminar offerings on "hot" technology topics - I would say increase awareness and maybe the variety of topics. I'm also not sure what the university system does in terms of executive education (e.g., 1 - 2 week programs in the summer) but regard this as desirable."

"Improve education communication and skills to speak before a group & clear communications."

"Improve education in technology, communications (oral and written) and instill an interest in life long learning."

"Improve the quality of education, improve the content of education, hire more professors."

"Increase IS offerings and computer programming offerings."

"Increase standards."

"Increase technical, written and oral communications skills."

"Internship programs; more adult, continuing and executive education."

"Make sure liberal arts is a component of all technical education - our company in particular relies on both technical and verbal skills. Well-rounded individuals make the best employees. Also, expand and continue to improve Internet-based education. Finally, appoint a panel of businessmen and women from across the state to serve as an advisory board to the Board of Regents to address business needs and issues."

"Market itself better in order to recruit high school students into technical programs."

"Meet with technology companies to update course curriculum."

"More classes at different locations."

"More computer science graduates. More emphasis on managing technology in business/management programs."

"More corporate partnering, updated computer science courses, on-line instruction."

"More emphasis and incentives for placing key candidates locally (instead of losing them out of state)."

"More flexibility in schedules for students, better financial aid programs, more hands-on experience in the classroom."

"More in involvement in Atlanta business community."

"More information on the GeorgiaHire program."

"More Internet-related certificate and continuing education programs."

"More proactive approach to our HR department. Ask our company for assistance in appropriate areas within the System. Take a concerted, unified stance on growing the technical and new media talent in Georgia."

"More specialized training, more outreach programs, more executive masters programs for professionals."

"Need better PC skills, better vocabulary courses."

"Need to be better informed of opportunities."

"Offer evening and weekend degree programs and build the name brand of the USG."

"Offer more educational programs that meet the general needs of the public for professional development."

"Offer more graduate programs online."

"Partnerships between business and education."

"Produce high quality technical (IT) workforce."

"Produce more engineering graduates; spread engineering programs across State (not just GA Tech); emphasize writing skills more."

"Promote education as much as football and other sports."

"Promotion of small and mid-sized business expansion. Assistance with infrastructure issues to accommodate growth. Provision of online/distance learning tools."

"Provide better awareness to businesses regarding placement services and continuing education opportunities."

"Provide resources to prepare graduates for interviews and the business world."

"Push skill development and business savvy."

"Require graduates to possess thorough computer skills, improve the graduates writing skills and presentation skills."

"Show improved performance of public school students at all levels (Primary, High School, College). Continue Business/School Collaborative Projects. Offer increased technical school programs for the general public."

"Support for entrepreneurship, start-ups."

"Talking on a support role for business where problems can be worked on. The current business alliance with GA Tech is extremely poor. The quality and cost of the work has been unacceptable."

"Teach more critical thinking skills and produce more well-rounded graduates but without sacrificing technical skills training."

"To offer full accredited majors online - bachelors primarily."

"Train students on basics of word, excel & power point, train on presentation skills and finally on leadership."

"Train technology employees."

"Was not aware of the GeorgiaHire program, that is one that I will now utilize and answers an action need."

"Work study programs, less theory more application, basic office skills - i.e. how to use a fax, copier, timesheets."

"What public service or outreach programs could the University System provide that would meet the needs of your business?"

"Already use and are involved in many programs offered by GA Tech"

"Any programs that involve community service."

"Better internship programs."

"Commitment to the IOM program at Atlanta Chamber; open seminar or mentoring programs to Atlanta business leaders."

"Communications classes, basic computer training, business and personal etiquette."

"Computer instruction, educational mentoring."

"Computer literacy programs, especially in underprivileged urban and rural areas."

"Continuing Education and Technical Programs."

"Co-op/part-time student workers."

"Create local/regional training centers for IT skills building and certification."

"Current matters seminars for technology strategies."

"Decrease fees for colleges."

"Expand the Small Business Development Centers by providing more staff, business building expertise (been there done it action not theory), plus incubator-type support systems with advisory board/Management team creation opportunity and function."

"Extension courses."

"Greater and easier access to work with students while in school. Affordable continuing education for people in the work force to improve basic communication skills as well as practical, technical work skills. Such course need to be available at convenient times and locations to the work force and taught by your most capability teachers."

"Help place them better."

"Hiring! Ongoing employee education."

"Intern programs that the system emphasizes and supports. The problem we have is getting the systems attention when we are looking for interns."

"Internship programs."

"Internships."

"Internships, Research Programs, Co-operative studies, Statistical Analysis and Surveys."

"Mailed brochures of courses."

"Make the libraries open without having to go sign up at a public library. This is the information age."

"Marketing on the web."

"More basic skills courses for adults."

"More chances for interaction between schools and corporations in Atlanta."

"Non credit programs focusing on technology."

"Job fairs and placement efforts are good and we've used them."

"On-line courses for training purposes not degrees."

"Organize small teams of students and faculty to help in start-ups getting through angle financing to first round VC money. I could start several businesses a year but its tough at the beginning out of pocket when other business work is already established and demands attention."

"Placement."

"Promote the opportunities if Information Technology employment at the high school level, before they pick a 'supposed' direction of major."

"Provide free/cheap computer training classes at night for adults in web design (photoshop, quark, illustrator, html, flash etc.)."

"Setting up a web site that would list companies and what they are working on, USG research projects (by specialty) and areas that would like to work with industry on. USG patent policy is unacceptable and there is "tax" where 50% of funding goes for University overhead administration which is unreasonable."

"Somehow letting businesses know about their programs."

"Talk more about technology opportunities in Atlanta and GA."

"Tax and Retirement Planning, Marketing Courses, Time Management Courses, Women in Growing Companies."

"Training programs--management of technically oriented projects."

"Tutoring staff who are currently in the workplace lacking skills; tutoring HS students life management skills."

"Understanding of the graduates' technical skills levels and communications skills."

"Upgrade Lanier Tech desire to provide the training we need."

"When we start our .com, send us a list of GA Univ. system benefits/resources we can use (i.e. GeorgiaHire)."

TALENT AND TECHNOLOGY FOR THE NEW ECONOMY:
A TAG Membership Study for ICAPP and the Governor's e-Government Initiative

Appendix III:

Final Questionnaire

TALENT AND TECHNOLOGY FOR THE NEW ECONOMY:
A TAG Membership Survey for ICAPP and the Governor's e-Government Initiative

We are interested in the opinions of Georgia's technology executives about the quality of public higher education and its implications for the overall business environment. In particular, we are interested in assessing how well the 34 units of the University System of Georgia serve their constituency of technology business and in what ways they could strengthen their service. Information from this survey will be shared with The Office of the Governor, members of the Board of Regents of the University System of Georgia, the Chancellor of the University System, Presidents of Georgia's public colleges and universities and various business and civic leaders. Your responses to this survey will be kept strictly confidential.

We would like to began with a few questions about how information technology affects your business practices . . .

(1) Does your company currently have a web site on the Internet?
  ☐ Yes   ☐ No   ☐ Uncertain

  (Routing: If "yes" to Q1, the continue. Else, skip to Q4)

(2) Do you consider your web site to be an important marketing tool for your business?
  ☐ Yes   ☐ No   ☐ Uncertain

(3) Do customers order products or make sales contacts with you over that web site?
  ☐ Yes   ☐ No   ☐ Uncertain

(4) Does your company use the Internet for procurement (i.e. do you buy from other businesses over the Internet)?
  ☐ Yes   ☐ No   ☐ Uncertain

(5) Does your company use the Internet for conducting purely financial transactions (e.g. Internet banking)?
  ☐ Yes   ☐ No   ☐ Uncertain

Next, we would like to answer a few questions about the business climate of Georgia . . .

(6) Overall, how would you rate Georgia as a location for a company such as yours to operate?
  ☐ Excellent   ☐ Very Good   ☐ Good   ☐ Fair   ☐ Poor   ☐ Uncertain

(7) Compared with other states in which you could realistically do business, is the Georgia business climate . . .

  ☐ Much better than average
  ☐ Somewhat better than average
  ☐ About average
  ☐ Somewhat worse than average
  ☐ Much worse than average
  ☐ Uncertain/don't know

(8) Thinking about the factors which make a location desirable for conducting business, what do you consider to be Georgia's **THREE (3) greatest assets** as a place to do business? (Please select three)

- ☐ Overall business climate
- ☐ Transportation and road system
- ☐ Quality and preparation of workforce
- ☐ Quality of education (kindergarten through 12th grade)
- ☐ Quality of education (vocational and technical)
- ☐ Quality of education (colleges and universities)
- ☐ State and local taxes
- ☐ Economic incentives

- ☐ Location as a regional hub
- ☐ State and local regulatory climate
- ☐ Labor cost
- ☐ Access to international airport or port
- ☐ Availability/quality of government services
- ☐ Concern over crime
- ☐ Weather
- ☐ Other   _____

(9) What are Georgia's **THREE (3) greatest weaknesses** as a place to conduct business? (Please select three)

- ☐ Overall business climate
- ☐ Transportation and road system
- ☐ Quality and preparation of workforce
- ☐ Quality of education (kindergarten through 12th grade)
- ☐ Quality of education (vocational and technical)
- ☐ Quality of education (colleges and universities)
- ☐ State and local taxes
- ☐ Economic incentives

- ☐ Location as a regional hub
- ☐ State and local regulatory climate
- ☐ Labor cost
- ☐ Access to international airport or port
- ☐ Availability/quality of government services
- ☐ Concern over crime
- ☐ Weather
- ☐ Other   _____

(10) If you were considering where to locate your business (other than in Georgia), in what city or region would you most likely prefer to locate?

- ☐   Austin
- ☐   Boston
- ☐   Charlotte
- ☐   Dallas
- ☐   Las Vegas
- ☐   Nashville
- ☐   Phoenix
- ☐   Orlando
- ☐   Raleigh – Durham (Research Triangle)
- ☐   San Francisco (Silicon Valley)
- ☐   Seattle
- ☐   Other _____

Next, we would like to ask a few questions about the quality of education in Georgia . . .

---

(11) Thinking about the various levels of education in Georgia, what is your overall impression about the quality of Georgia's **primary and secondary schools** (kindergarten through 12th grade)?

☐ Excellent   ☐ Very Good   ☐ Good   ☐ Fair   ☐ Poor   ☐ Uncertain

(12) What is your overall impression about the quality of Georgia's **technical and adult education** institutes (vocational and technical education)?

☐ Excellent   ☐ Very Good   ☐ Good   ☐ Fair   ☐ Poor   ☐ Uncertain

> *The University System of Georgia* (USG) consists of the following 34 public colleges and universities: *Georgia Institute of Technology, Georgia State University, Medical College of Georgia, The University of Georgia, Georgia Southern University, Valdosta State University, Albany State University, Armstrong Atlantic State University, Augusta State University, Clayton College & State University, Columbus State University, Fort Valley State University, Georgia College & State University, Georgia Southwestern State University, Kennesaw State University, North Georgia College & State University, Savannah State University, Southern Polytechnic State University, State University of West Georgia, Abraham Baldwin Agricultural College, Atlanta Metropolitan College, Bainbridge College, Coastal Georgia Community College, Dalton State College, Darton College, East Georgia College, Floyd College, Gainesville College, Georgia Perimeter College, Gordon College, Macon State College, Middle Georgia College, South Georgia College, and Waycross College.*

(13) What is your overall impression of the quality of the University System of Georgia (USG)?
☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor ☐ Uncertain

(14) If you were considering where to locate your business, would the quality of the USG be considered an "Asset" or a "Liability"?
☐ Asset ☐ No effect ☐ Liability ☐ Uncertain

> **The University System of Georgia serves a three-fold mission of teaching, research and public service. The public service component of this mission includes a variety of continuing education programs and services. The research component of the mission includes both applied and basic research. The teaching component includes instruction in undergraduate, graduate and professional programs.**

Considering the three-fold mission of the USG, how would you rate the achievement of our system in each of the three areas?

(15) Teaching
☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor ☐ Uncertain

(16) Research
☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor ☐ Uncertain

(17) Public Service
☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor ☐ Uncertain

(18) Has your firm ever employed graduates of the University System of Georgia?
☐ Yes ☐ No ☐ Uncertain

(Routing note: if respondent answered "No" or "Uncertain" on Q18, skip to Q26. Otherwise, please continue)

On average, how would you assess the preparation of these employees in the following areas?

(19) oral communication
☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor ☐ Uncertain

(20) written communication
☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor ☐ Uncertain

(21) computer skills
☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor ☐ Uncertain

(22) quantitative/mathematical skills
    ☐ Excellent   ☐ Very Good   ☐ Good   ☐ Fair   ☐ Poor   ☐ Uncertain

(23) critical thinking
    ☐ Excellent   ☐ Very Good   ☐ Good   ☐ Fair   ☐ Poor   ☐ Uncertain

(24) ability to work in teams
    ☐ Excellent   ☐ Very Good   ☐ Good   ☐ Fair   ☐ Poor   ☐ Uncertain

(25) overall performance
    ☐ Excellent   ☐ Very Good   ☐ Good   ☐ Fair   ☐ Poor   ☐ Uncertain

(26) From the skills/qualities listed below, please select the three (3) skills that you feel are the most desirable in your employees.

    ☐ oral communication skill   ☐ written communication skills
    ☐ computer skills   ☐ quantitative/mathematical skills
    ☐ critical thinking skills   ☐ ability to work in teams

(27) Has your company had to look outside of Georgia to find employees with skills specific to your employment needs?
    ☐ Yes   ☐ No   ☐ Uncertain

(28) Does your firm offer tuition reimbursement to its employees?
    ☐ Yes   ☐ No   ☐ Uncertain

The USG has become increasingly involved in providing non-degreed educational programs for Georgia businesses. These programs may take the form of continuing education courses for the general business audience or as specialized education courses designed to meet the needs of a specific business. We are interested in how the University System can met your employee development needs.

---

(29) Have you or your employees attended **continuing education and/or "certificate" courses** offered by an institution of the University System of Georgia?
    ☐ Yes   ☐ No   ☐ Uncertain

(30) Do you think that this is an important need that you have?
    ☐ Yes   ☐ No   ☐ Uncertain

(31) If you had a choice, would you prefer to conduct training internally or to "outsource" it to a college, university or technical institute?
    ☐ Offer Internally   ☐ Outsource   ☐ Uncertain

(32) If you would outsource the training, would you prefer to have it conducted at your facilities, at a University System institution or using some "on-line" technology (such as internet linkage, satellite linkage, video, Georgia Public Television, etc.)?
    ☐ At my facilities   ☐ At University System facilities ☐ "On-line"   ☐ Uncertain

(33) What type of programs would you prefer to outsource?
    ☐ programs which develop **oral communication** skills
    ☐ programs which develop **written communication** skills
    ☐ programs which develop **computer** skills
    ☐ programs which develop **quantitative/mathematical** skills
    ☐ programs which develop **critical thinking** skills
    ☐ programs which develop **leadership or team-building** skills
    ☐ program which address **legal/ethical** issues
    ☐ other _____

(34) Has your company had to look to institutions outside the University System of Georgia to meet your continuing education or training needs?

☐ Yes ☐ No ☐ Uncertain

(35) Some educational institutions offer courses in which **instruction is given over the Internet**. Would your company utilize or benefit from courses offered over the Internet?

☐ Yes ☐ No ☐ Uncertain

We are interested in how your business recruits new employees and fills job vacancies . . .

---

(36) Does your company have a Human Resources department - that is, one or more individuals who are dedicated exclusively to recruiting and retaining employees?

☐ Yes ☐ No ☐ Uncertain

(37) Approximately, what percent of your new positions are filled by people who have graduated from college in the past five years?

☐ Approximately _____ % ☐ Don't know/uncertain

(38) Has your business ever used the job placement services of an institution in the University System of Georgia?

☐ Yes ☐ No ☐ Uncertain

(Routing note: If "yes" to Q38, continue to Q39. Otherwise, skip to Q40.)

(39) What was your level of satisfaction with this service?
☐ Very satisfied ☐ Somewhat satisfied ☐ Not satisfied ☐ Not applicable/uncertain

(40) When you hire employees to work with computer technology (including software applications and networking), is it important to you that the individual have completed a standardized certification programs (e.g. Microsoft NT certification, Oracle certified professional, etc.)
☐ Yes ☐ No ☐ Uncertain

(41) Are you aware of a state program known as GeorgiaHire?

☐ Yes ☐ No ☐ Uncertain

(*Routing: If "no" skip to box after Q42, otherwise continue*)

(42) Please provide a brief description of your impression of GeorgiaHire? (open ended response)

_____

GeorgiaHire is the official job site and on-line resume database for students and alumni of the 34 colleges and universities that are the University System of Georgia. Over 26,000 students are currently registered with GeorgiaHire.

---

(43) How likely is it that your company would utilize GeorgiaHire?

☐ Are using it already
☐ Not currently using it, but likely
☐ Not currently using it and unlikely to in the future
☐ Uncertain

(44) Have you used any of the following internet job directories?

	Used it to post an open position	Used it to search for a position	Have not used
www.atlantamartcity.com	☐	☐	☐
www.headhunter.net	☐	☐	☐
www.computerjobs.com	☐	☐	☐
www.tagonline.org	☐	☐	☐
Other _____	☐	☐	☐

We are almost finished. Thanks for your assistance so far.

Below you are given several statements concerning characteristics of employees. For each statement, please indicate whether you strongly agree, agree, disagree, or strongly disagree with the statement

---

(45) My employees have adequate communication skills, but need stronger technical skills.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ Uncertain

(46) My employees have adequate technical skills, but need stronger communication skills.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ Uncertain

(47) Courses in the liberal arts (literature, history, social sciences, languages, etc.) are a valuable part of an employee's education.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ Uncertain

(48) If I were hiring a new employee to work in the information systems area, I would prefer to hire someone who has graduated from a degree program housed in a **business school**.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ Uncertain

(49) If I were hiring a new employee to work in the information systems area, I would prefer to hire someone who has graduated from a degree program housed in a **science or technology school**.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ Uncertain

(50) If I were hiring a new employee to work in the information systems area, I would prefer to hire someone who has graduated from a degree program housed in a **liberal arts school**.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ Uncertain

(51) What do you believe are the University System's strengths and weaknesses? (open-ended response)

_____

_____

(52) Based on your current projected business challenges, what are three (3) actions that the University System could take to better meet your needs? (open-ended response)

_____

_____

(53) What public service or outreach programs could the University System provide that would meet the needs of your business? (open-ended response)

_____

_____

(54) For each of the three programs listed below, please indicate your familiarity with each program.

	Very Familiar	Somewhat familiar	Not Familiar
ICAPP	☐	☐	☐
GEORGIA GLOBE	☐	☐	☐
YAMACRAW	☐	☐	☐

The following demographic information is collected for statistical purposes only.

(55) Which of the following industries best describes your business?

☐ Manufacturing of Computer Hardware (including peripherals)
☐ Manufacturing of Other Products
☐ Development of Computer Software
☐ Retailer of Computer Hardware
☐ Retailer of Computer Software
☐ Internet Service Provider or Domain Host
☐ Information Technology Services (including data processing)
☐ Information Technology Consulting
☐ Professional Services Outside the IT Industry (e.g. law, accounting, general business consulting)
☐ other _____

(56) Which of the following best describes your function within your company?

    ☐   General Management
    ☐   Human Resources
    ☐   Sales and Marketing
    ☐   Technical functions (including engineering, product and software development)
    ☐   Other   _____

(57) In total, how many people are employed at your company?

Full-time _____   Part-time _____

(58) In which county is your business office located?

County   _____ (counties will be listed here)

(59) Is your business headquartered in Georgia?
☐ Yes   ☐ No

(60) Do you consider your business office location to be Urban, Suburban or Rural?
☐ Urban   ☐ Suburban   ☐ Rural

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