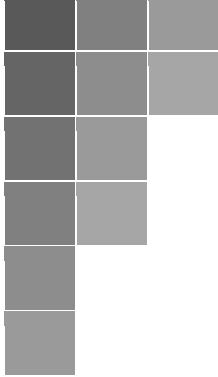


tirian



Report on

Human Capital Needs Assessment

prepared for

THE CEO COUNCIL OF GROWTH

JUNE 2006

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I. Executive Summary

As part of a plan to better understand the human capital needs of the Greater Philadelphia region's employers and the region's ability to supply those needs, the CEO Council for Growth's Human Capital Working Group (Working Group) conducted a survey of business leaders in Philadelphia. The purpose was three-fold;

- to develop a basic understanding of the current human capital needs of area employers to better inform Select Greater Philadelphia's policy agenda,
- to establish a baseline of data for future trend comparisons to assess the impact of proposed initiatives,
- to obtain information that can inform Select Greater Philadelphia's marketing strategy

Tirian Group, in cooperation with Select Greater Philadelphia staff and feedback from the Working Group members designed and hosted a web-based survey consisting of 16 questions covering a variety of human capital topics. The survey was administered online in March of 2006. Invitations were sent to CEOs and other senior staff members of 191 area employers, including all 61 CEO Council for Growth members' organizations. Through combined efforts, a total of 64 responses were received for a response rate of 34%. A response rate in this range is typical of most business surveys¹. Given the response rate obtained for the survey, the representativeness of respondents based on industry, and congruence with anecdotal evidence, we are confident that the survey results are representative of the population of employers surveyed.

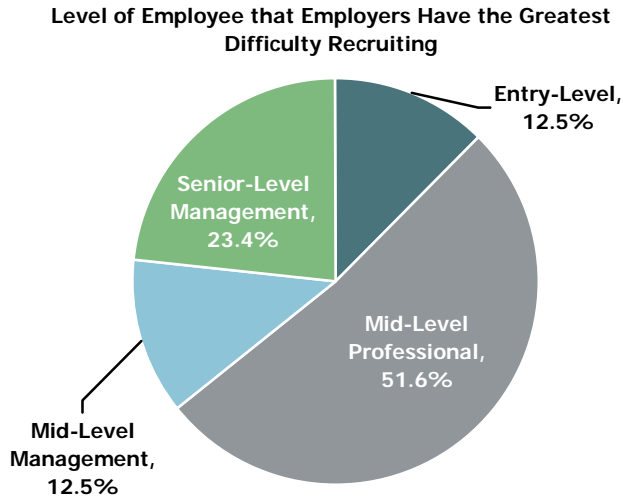
Highlights

- Fields of study that employers indicated were currently in high demand in their industry included business and financial disciplines followed by health related disciplines, computer & information technology, and law related disciplines. More than half of all employers (56%) included "Business Administration, Management and Operations" as one of their top five.
- Data from the U.S. Department of Education showed that the disciplines in which academic degrees (i.e. bachelors, masters, etc.) were awarded in the past year by 76 Philadelphia area educational institutions closely mirrored the fields of study that employers reported were in highest demand in their industry.

Degrees Awarded in 2005 by Philadelphia Area Educational Institutions	
Business/Management	13,600
Health Professions	8,250
Engineering	2,650
Computer & Information Technology	2,000
Biological & Biomedical Science	1,850
Total	28,350
Total - All Disciplines	65,400

¹ Dillman, Dr. Don A. "Mail & Internet Surveys." 2nd ed. New York: John Wiley & Sons, Inc., 2000.

- The level of employee that employers reported having the greatest difficulty recruiting was the mid-level professional. More than half (51.6%) of all employers indicated that mid-level professionals were the hardest for them to recruit.



- Interestingly, of the employers that said they were having the greatest difficulty recruiting mid-level professionals, roughly half (48%) said that the mid-level professional will be their highest priority in future recruiting efforts. Overall, one-third reported that the mid-level professional will be their highest priority in future recruiting efforts.

- Two out of five employers reported that they are not able to meet their diversity goals by hiring from Greater Philadelphia's workforce. As well, about one-third cited difficulties in sourcing minority recruits in open-ended comments about the difficulties employers are facing in recruiting and retaining talent.

	Strongly Agree/ Agree	Undecided	Strongly Disagree/ Disagree
We are able to meet our diversity goals by hiring from the Greater Philadelphia workforce	50%	13%	38%

- Most employers (82%) felt that the overall quality of the workforce from the Philadelphia region was on par with, or better than, the quality of the workforce from other regions.
- Nearly all employers offered some type of professional development programs/continuing education benefits to their employees. Thus, more important questions may be; what are the participation rates in such programs, and how effective are these programs in developing the skills that the employer desires.

Professional Training / Continuing Education Benefits	Percent Offering
Company run educational/development programs	94%
Sponsorship/reimbursement for professional certifications	83%
Pre-payment/reimbursement for attendance at professional conferences	81%
Tuition reimbursement for undergraduate education at colleges & universities	78%
Tuition reimbursement for graduate education at colleges & universities	76%
On site professional development programs through external service providers	68%
Advising to guide professional development	65%
Tuition pre-payment plan	18%

II. Background & Purpose

Select Greater Philadelphia (Select) is an economic development marketing organization that focuses on building the economy of the Greater Philadelphia region by attracting and retaining businesses. The CEO Council for Growth (CEO Council) is the governing board of Select and is comprised of prominent business executives from the region. In an effort to better understand the human capital needs of regional employers and the region's ability to supply those needs, the CEO Council for Growth's Human Capital Working Group (Working Group) developed a comprehensive strategy to address the issue. As part of this plan, CEO Council contracted Tirian Group to conduct a survey of business leaders in Philadelphia. The purpose of the survey was three-fold;

- to develop a basic understanding of the current human capital needs of area employers to better inform Select Greater Philadelphia's policy agenda,
- to establish a baseline of data for future trend comparisons to assess the impact of proposed initiatives,
- to obtain information that can inform Select Greater Philadelphia's marketing strategy

III. Methodology

Tirian Group, in cooperation with Select Greater Philadelphia staff and feedback from Working Group members, designed and hosted a web-based survey consisting of 16 questions covering a variety of human capital topics. The survey was administered via an email invitation, beginning on Tuesday, March 14, 2006 with a deadline of Friday, March 24. Email invitations were sent to CEOs and other senior staff members of 191 area employers, including all 61 CEO Council for Growth members' organizations. In some cases, as many as six individuals at an organization were contacted regarding the survey, however only one response per organization was permitted. The email contained an embedded URL linking the respondent to the survey site. A follow up email was sent to non-respondents on Friday, March 17th and the final reminder was sent to non-respondents on Friday, March 24. Select Greater Philadelphia staff also placed phone calls to non-respondents during the week of March 20th. The original survey deadline was extended to Wednesday March 29th to allow for additional responses. Through these combined efforts, a total of 64 responses were received for a response rate of 34%. A response rate in this range is typical of most business surveys².

IV. Quality of the Data

Given the response rate obtained for the survey, the representativeness of respondents based on industry, and congruence with anecdotal evidence, we are confident that the survey results are representative of the population of employers surveyed. However these results should not be generalized to *all employers* in the Greater Philadelphia region because the survey population was primarily composed of the largest employers in the region. Thus, the results are not necessarily representative of smaller employers in the region. Additionally, some caution should be used when generalizing about the results when comparing sub-populations (e.g. within industries) because the numbers become small when the data are disaggregated on those variables. As well, larger employers were somewhat over-represented in the survey results. An assessment of the impacts of weighting to account for potential non-response bias indicates that the impact of the over-representation on most items was negligible. Therefore, the data in this report are *not* weighted.

² Dillman, Dr. Don A. "Mail & Internet Surveys." 2nd ed. New York: John Wiley & Sons, Inc., 2000.

V. Survey Results

Fields of Study in Demand

We asked employers to indicate the top five specific fields of study in highest demand in their industry. Not surprisingly, those topping the list included business and financial disciplines followed by health related disciplines, computer & information technology, and law related disciplines (See Table 1). More than half of all employers (56%) included “Business Administration, Management and Operations” as one of their top five.

Table 1 - Top 15 Fields of Study in Highest Demand

Business Administration, Management and Operations	56%
Accounting and Related Services	38%
Finance and Financial Management Services	30%
Management Information Systems and Services	25%
Marketing	17%
Specialized Sales, Merchandising and Marketing Operations	16%
Nursing	14%
Clinical/Medical Laboratory Science and Allied Professions	13%
Real Estate	13%
Computer/Information Technology Administration and Management	11%
Law	11%
Pharmacy, Pharmaceutical Sciences, and Administration	11%
General Sales, Merchandising and Related Marketing Operations	11%
Computer Systems Networking and Telecommunications	9%
Electrical, Electronics and Communications Engineering	9%

The fields of study in high demand within industries varied, but “Business Administration, Management and Operations” was in the top 5 for four of the five industry groupings and “Accounting and Related Services” was in the top 5 for three of the five industry groupings (See Table 1.1).

Table 1.1 - Top 5 Fields of Study in Highest Demand By Industry

Finance and Insurance	
Finance and Financial Management Services	84.6%
Business Administration, Management and Operations	53.8%
Accounting and Related Services	53.8%
Business/Managerial Economics	38.5%
Specialized Sales, Merchandising and Marketing Operations	30.8%
Health Care and Social Assistance	
Clinical/Medical Laboratory Science and Allied Professions	75.0%
Pharmacy, Pharmaceutical Sciences, and Administration	75.0%
Health and Medical Administrative Services	62.5%
Nursing	62.5%
Allied Health Diagnostic, Intervention, and Treatment Professions	50.0%
Manufacturing	
Business Administration, Management and Operations	87.5%
Specialized Sales, Merchandising and Marketing Operations	37.5%
Electrical, Electronics and Communications Engineering	25.0%
Biochemistry, Biophysics and Molecular Biology	25.0%
Pharmacology and Toxicology	25.0%
Professional, Scientific, and Technical Services	
Business Administration, Management and Operations	47.1%
Accounting and Related Services	47.1%
Management Information Systems and Services	47.1%
Computer Systems Networking and Telecommunications	29.4%
Law	29.4%
All Others	
Business Administration, Management and Operations	72.2%
Accounting and Related Services	38.9%
Management Information Systems and Services	33.3%
Real Estate	33.3%
Finance and Financial Management Services	27.8%

Interestingly, about one-fourth of the roughly 50,000 bachelors and masters degrees awarded by 76 Philadelphia area educational institutions in the past year were awarded in business related disciplines. As well, more than 28,000 total degrees were awarded last year in the five key discipline areas that closely mirror the top fields of study indicated by area employers in the survey (See Table 2).

Table 2 - Degrees Awarded in 2005 by Philadelphia Area Educational Institutions

	Computer & Information Technology	Engineering	Biological & Biomedical Science	Health Professions	Business/ Management	All Disciplines
Associates	380	50	20	1,900	1,530	9,700
Bachelors	1,200	1,600	1,350	2,350	7,830	34,000
Masters	400	800	340	1,560	4,210	16,000
Doctorate	20	200	140	480	30	2,000
First-Prof (J.D., M.D.)	0	0	0	1,960	0	3,700
Total Degrees	2,000	2,650	1,850	8,250	13,600	65,400

Source: U.S. Department of Education – National Center for Education Statistics

The 64 responding employers reported hiring an estimated 8,700 recent college graduates within the last year. If we extrapolate that number to all 191 employers (with responses weighted based on size) we can estimate that the 191 employers surveyed hired an estimated 17,000 recent college graduates. With 50,000 total bachelors and masters degrees and more than 21,600 bachelors and masters degrees awarded in the five discipline areas shown in table 2, there would certainly seem to be enough supply in the “right” disciplines to meet the needs of the regions’ employers. The more important question appears to be whether we retain enough of the graduates in the region upon graduation, or recruit enough from outside of the region to offset the outbound migration, as well as whether the graduates produced are workforce ready, possessing the skills and/or experience that employers need.

Table 2.1 shows that hiring of recent college graduates was strong in the “Finance and Insurance” and “Professional, Scientific, and Technical Services” industries relative to the size of industry.

Table 2.1 – Hiring by Industry

	Finance and Insurance	Health Care and Social Assistance	Manufacturing	Professional, Scientific, and Technical Services	Other	Total
Estimated number of employees (of survey respondents) within industry	36,440	53,460	18,676	12,112	64,949	185,637
Percent of total	20%	29%	10%	7%	35%	
Estimated number of recent college graduates hired within industry	3,274	1,757	185	934	2,591	8,741
Percent of total	37%	20%	2%	11%	30%	

Current Level of Education

Employers were asked to tell us about the typical level of education obtained by their current employees across four levels of employees. More than half (55%) of entry-level employees typically obtained less than a bachelor's degree (See Table 3). Conversely, almost 90% of mid-level professional employees typically obtained a bachelors degree or more. Employers indicated that one-third of their mid-level management and more than two-thirds of senior-level management typically obtained a masters degree or higher.

Table 3 – Current Level of Education Typically Obtained by Employees

	Entry-Level Employees		Mid-Level Professional Employees		Mid-Level Management		Senior-Level Management	
	Count	%	Count	%	Count	%	Count	%
High School Diploma	24	37.5%						
Some College	9	14.1%	2	3.3%				
Associates Degree	2	3.1%	5	8.2%				
Bachelors Degree	26	40.6%	43	70.5%	38	60.3%	19	30.2%
Masters Degree	1	1.6%	6	9.8%	20	31.7%	33	52.4%
Doctoral/ Professional Degree (e.g. MD, JD)	2	3.1%	4	6.6%	2	3.2%	8	12.7%
Professional Certification			1	1.6%	3	4.8%	3	4.8%

Source of Hires

On the issue of the sources of new hires, typically the majority of entry level employees (80%) come directly from educational institutions, while just 20% come from the current workforce (See Table 4). Conversely, more than half of all upper level-positions are filled from the current workforce. Interestingly, about one quarter of the employers reported that 4-year institutions outside of the region were their primary source of senior-level management recruits.

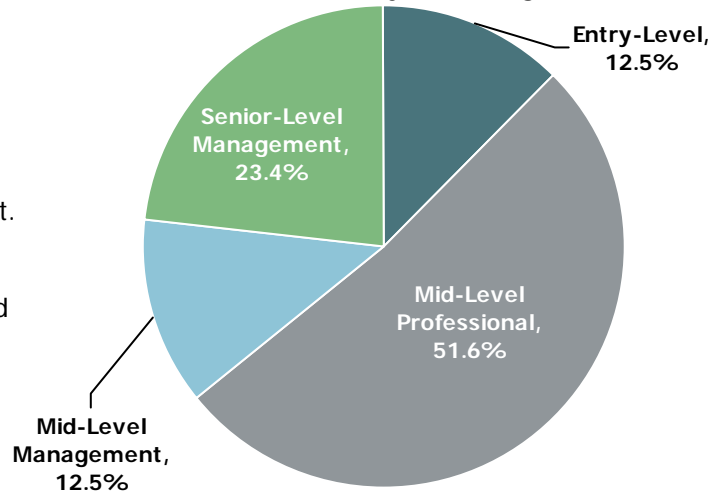
Table 4 - Current Source of Employees

	Entry-Level Employees		Mid-Level Professional Employees		Mid-Level Management		Senior-Level Management	
	Count	%	Count	%	Count	%	Count	%
4-year In Region	21	35.0%	19	31.7%	14	23.7%	4	6.7%
4-year Outside of Region	7	11.7%	5	8.3%	6	10.2%	16	26.7%
2-year In Region	4	6.7%	3	5.0%	1	1.7%		
2-year Outside of the Region	1	1.7%					1	1.7%
Technical or Professional Schools	6	10.0%	3	5.0%	1	1.7%	1	1.7%
High Schools	9	15.0%						
Other Corporations/Organizations	12	20.0%	30	50.0%	37	62.7%	38	63.3%

Difficulties with Recruiting

When we asked employers about the level of employee that they have the most difficulty in recruiting, the clear answer was *“Mid-Level Professionals.”* More than half (51%) of the respondents indicated that this was their most difficult group to recruit. The second most difficult group was the “Senior-Level Management”, with about one-quarter (23%) of the respondents. “Entry-Level” and “Mid-Level Management” were the least difficult groups to recruit.

Chart 1 - Level of Employee that Employers Have the Greatest Difficulty Recruiting



We also asked employers to tell us (as an open ended question) about the specific challenges they were facing with respect to recruiting & retaining talent. About 86% of the respondents provided comments. One of the most frequently cited difficulties that employers faced was *sourcing recruits with highly specialized skills relevant to their industry* (See Table 5). One respondent said “Many of our mid-level professional positions require specialized, technical knowledge and skills. In addition, the passage of the Sarbanes Oxley Act has created a need for mid-level audit professionals in private industry...” Another significant difficulty was the sourcing of minority talent. When dealing with an industry with highly specialized skills, it further exacerbates the problem of sourcing minority talent. One employer, who was already experiencing difficulty recruiting experienced talent, expressed their frustration saying “Finding women and minorities with experience in this field is all the more difficult.”

Table 5 - Top Challenges in Recruiting & Retaining Talent

Difficulties Sourcing Recruits with Specialized Skills	38%
Low Supply – High Demand in Labor Market	33%
Sourcing Minority Recruits	29%
Difficulty Recruiting & Retaining Women	16%
Quality of Pool	15%
High Compensation Packages Demanded – Too Competitive	13%
Retaining Mid-level Talent	5%
High Turnover Rates in Entry-Level Positions	4%

The Region's Impact on Recruiting

We asked employers (as an open ended question) about the specific aspects of the Greater Philadelphia Region that assist or hinder them in recruiting talent to their organizations. Positive aspects of region included; the variety and quality of education, cultural and entertainment opportunities available in the region, a generally good quality of life, and the location and size of the region (See Table 6). Aspects that hinder their ability to recruit talent included; high taxes including the city wage tax, transportation/commuting difficulties, the high cost of living (northeast, relative to other regions of the nation), and concerns about crime (See Table 7).

Table 6 - Top Recruiting Aspects of Philadelphia

Quality Educational Institutions/Opportunities	34%
Variety of Entertainment/Cultural Opportunities	28%
"A Good Quality of Life"	25%
Size of Market	21%
Location in Northeast/Shore & Mountains	17%
Improving Image of Philadelphia	17%
Low Cost of Living	15%
Ease of Commute/Transportation	13%
Variety of Housing	11%

Table 7 - Top Recruiting Challenges of Philadelphia

High Taxes/Wage Tax	36%
Difficult Commute/Limited Transportation Choices	30%
High Cost of Living	21%
Crime	17%
Highly Competitive Hiring Market	15%
Poor Image of Philadelphia	13%
Government - Local & State	11%
Parking in City	8%

Satisfaction with Current Workforce & Region

Employers were asked to indicate their level of agreement with a handful of statements regarding the region and their workforce. Ninety percent of all employers surveyed feel that their current workforce has the skills and abilities to meet their current business needs. Two out of 5 employers do not agree that they are able to achieve their diversity goals by hiring from the region. One-fourth of the respondents do not think the region's colleges & universities are producing enough graduates with the "right" degrees. A third of the employers do not think the region's colleges & universities are helping them meet their changing skill needs. About a quarter do not think that their current workforce has the skills and abilities to meet their future needs and growth. Roughly half of the

employers are as satisfied with the quality of the workforce from the Philadelphia region, while another third are more satisfied with the region's workforce relative to the workforce from other regions.

Table 8 – Satisfaction with Current Workforce & Region

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Our current workforce has the skills and abilities to meet our current business needs	25.0%	65.6%	0.0%	9.4%	0.0%
We are able to meet our diversity goals by hiring from the Greater Philadelphia workforce	10.9%	39.1%	12.5%	28.1%	9.4%
The region's colleges and universities are producing enough graduates with the right degrees for our needs	20.0%	41.7%	13.3%	20.0%	5.0%
The region's colleges and universities are assisting us in meeting the changing skill needs of our workforce	14.0%	40.4%	12.3%	31.6%	1.8%
Our current workforce has the skills and abilities to meet our future business needs and growth	3.1%	60.9%	14.1%	20.3%	1.6%
	Significantly more satisfied	Somewhat more satisfied	Equally Satisfied	Somewhat less satisfied	Significantly less satisfied
Please indicate your satisfaction with the quality of the Greater Philadelphia Workforce relative to the quality of the workforce from other regions	11%	26%	46%	18%	0%

Professional Development Programs

A large percentage of employers indicated that they offer a variety of professional development programs to their employees (See Table 9). Nearly every employer (94%) offers a company run educational/development programs. Conversely, very few employers (18%) offer a pre-paid tuition program.

Table 9 – Professional Training / Continuing Education Benefits Offered to Employees

Company run educational/development programs	94%
Sponsorship/reimbursement for professional certifications	83%
Pre-payment/reimbursement for attendance at professional conferences	81%
Tuition reimbursement for undergraduate education at colleges & universities	78%
Tuition reimbursement for graduate education at colleges & universities	76%
On site professional development programs through external service providers	68%
Advising to guide professional development	65%
Tuition pre-payment plan	18%

Soft Skills

We asked employers to tell us about the relative importance of various “soft” skills to their organization's future growth. At the top of the list were “Understand professional and ethical responsibility” and “Communicate effectively”, with 95% of employers indicating that these two skills would be very important (See Table 10). At the bottom of the list were “Understand contemporary workplace issues” and “Apply knowledge of mathematics, science, and engineering”, with less than 40% of employers indicating that these skills would be very important for their business’s future growth.

Table 10 – Importance of “Soft” Skills for Future Growth

	Very Important	Somewhat Important	Not Very Important
Understand professional and ethical responsibility	95%	5%	0%
Communicate effectively	95%	5%	0%
Identify, formulate and solve problems	86%	14%	0%
Use modern computer technology	81%	19%	0%
Leadership	81%	18%	2%
Think creatively	76%	22%	2%
Analyze and interpret data	75%	24%	2%
Function on multi-disciplinary teams	67%	33%	0%
Recognition of the need for and ability to engage in life-long learning	60%	40%	0%
Train and mentor colleagues	60%	38%	2%
Understand contemporary workplace issues	40%	59%	2%
Apply knowledge of mathematics, science, and engineering	32%	45%	21%

Following up on the ratings of soft skills, we asked employers (as an open ended question) what additional skills and/or abilities will be necessary for their organization's future growth. Review of these comments revealed that one of the top skills they were looking for would be flexibility/adaptability in light of rapid change within an industry (See Table 11). One employer described it as “Strategic Agility - the eagerness and ability to learn quickly and leverage a flexible mindset in response to shifting dynamics, adversity, and/or change.”

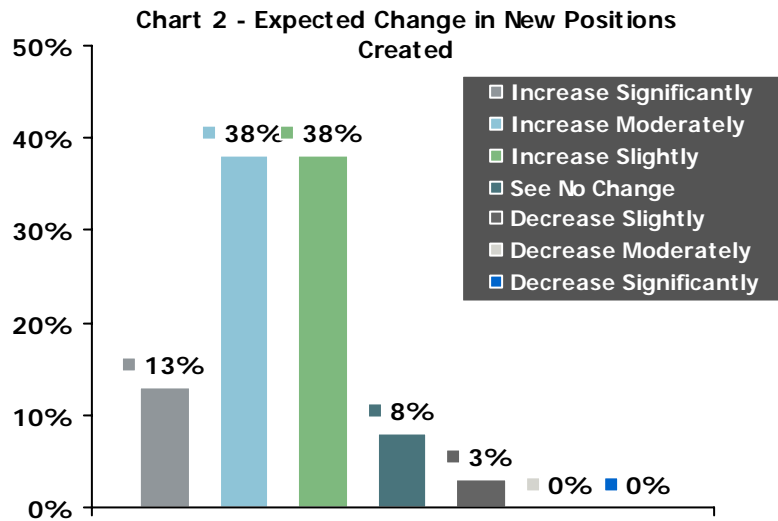
Table 11 – Other “Soft Skills” Necessary for Future Growth

Ability to Adapt to Change	38%
Synthesis/ Strategic Skills	19%
Customer Service/People Skills	16%
Conflict Resolution/Consensus Building	9%
Risk Taking	9%
Multi-tasking	6%
Ability to Motivate Others	6%
Time Management/Organization Skills	6%

Future Priorities in Recruitment

Lastly, employers were asked about their expectations regarding their organization’s future recruiting priorities within the next three to five years. While it is difficult to effectively predict what will happen, over time, a change in trends could be seen. First, we asked

if they expected the number of new positions created in their organization to increase or decrease over the next 3 to 5 years and the extent to which they would increase or decrease. Nearly every employer expected an increase (89%), while just 3% expected a decrease; the rest projected no change (See Chart 2).



Next, we asked employers to tell us

what the top 3 business units that they expected to recruit most heavily for in the next 3 to 5 years were.

Employers selected from 14 options or provided their own open-ended choice. While there was no clear top business unit for future recruiting efforts. It is interesting to note that Information Technology (IT) was at the top of the list, given that it was lower on the list of current fields of study in demand (See Table 1, p. 3).

Table 12 - Top 10 Business Units Recruiting Most Heavily for in the Next 3 to 5 Years

Information Technology	31%
Sales	31%
Operations	27%
Administrative Support Staff	27%
Healthcare Professionals	25%
Customer Service	23%
General Management/Administration	23%
Marketing	17%
Finance	14%
Research and Development	14%

Lastly, we asked them to rank, in terms of future recruitment priority, each of the four levels of employees. Just edging out entry-level employees was mid-level professionals, with one-third of employers responding that they would be their highest recruitment priority in the next 3 to 5 years. The second priority was clearly entry-level,

followed by mid-level management and senior-level management. Interestingly, very few employers (18%) indicated that recruiting senior-level management would be 2nd or 3rd priorities in future recruitment. With 28% of employers indicating that senior-level management would be the *highest* priority and 41% indicating it would be the *lowest* priority, this group demonstrated a bimodal distribution, which was not seen in any of the other levels of employees.

Table 13 - Highest Priority in Future Recruiting Efforts

	Entry-Level	Mid-level Professional	Mid-Level Management	Senior-Level Management
Highest Priority in your future recruiting	31.1%	32.8%	8.2%	27.9%
2nd Priority in your future recruiting	46.8%	29.0%	16.1%	8.1%
3rd Priority in your future recruiting	14.5%	33.9%	41.9%	9.7%
Lowest Priority in your future recruiting	14.8%	14.8%	29.5%	41.0%

VI. Research Recommendations

In order for Select Greater Philadelphia and the CEO Council for Growth to effectively assess the impact of initiatives implemented as a result of this research, it is recommended that they conduct a similar survey of employers within one to two years, after those initiatives have been implemented. A number of the items from this survey should be reused in the follow-up study to directly measure the impact on satisfaction with the quality of the workforce, particularly the agreement questions and satisfaction question. Other items could be repeated in a follow-up study to assess the changing trends in the labor market in the Greater Philadelphia region. Items such as the top fields of study in demand and projections of new positions being created may provide important gauges of the changing landscape of the market. Items in the open-ended responses regarding the impact that the region has on recruiting efforts should be codified into selections for future years. This will provide more robust and consistent information, while still leaving an option for an open-ended response. An additional question regarding professional development benefits should be added to determine the participation rates in these programs, in order to better determine the overall effectiveness of these programs. With so much focus apparently being placed on recruiting the mid-level professional, future research should focus more closely on uncovering more about who the mid-level professionals are, what they are looking for in a career, and the career paths they take.