



ENVIRONMENTAL SCAN

2017 – 18

A working document to support the strategic planning of NACE members

NACE ENVIRONMENTAL SCAN 2017-18

U.S. ECONOMY

- The U.S. economy is entering its eighth consecutive year of growth. The current rate of growth in the GDP is 1.4%, and the Federal Reserve Bank of New York projects growth of 1.9% and 1.6% for the middle two quarters of 2017. (Source: Bureau of Economic Analysis - BEA)
- Since the start of the 21st century, the economy has grown at an annual rate of 1.9%. (Source: BEA)
- The growth rate during the first two decades of this century is lower than in any decade during the 20th century with the exception of the Depression years of the 1930s when the annual growth rate was 1.3%. (Source: BEA)
- The stock market is also in its eighth consecutive year of growth, but the increase in average stock value (as measured by the S&P 500 index) is considerably more robust than the growth in GDP. (Source: Macrotrends.net)
- The S&P index increased by 10% in the past year. The average change in the index between 2010 and 2016 was 10.3%. (Source: Macrotrends.net)
- The current overall unemployment rate is 4.4%, according to the Bureau of Labor Statistics (BLS).
- Media reports indicate that there are concerns about the implications for changes in trade agreements, global investments, and cross-border activities.
- 65% of global executives responding to a June 2017 McKinsey study cited geopolitical instability as a top risk for global economic growth.
- North American respondents to the same McKinsey study commented on current economic conditions versus 6 months ago as follows: 48% believe it is better than it was; 39% rate is as the same; 13% believe it is worse.

PUBLIC POLICY

- Government de-regulation is proceeding through presidential executive order.
- De-regulation is impacting virtually every sector of the economy, including higher education, where the Department of Education has loosened its oversight of the for-profit sector through the gainful employment regulations.
- Anticipated tax reforms, which include lowering of the corporate tax rate, may be more difficult to achieve, as they require legislative action. The probability of passing such legislation has diminished in light of the difficulties the Senate is facing with the repeal and replacement of the Affordable Care Act.
- Secretary of Education DeVos has suggested the need to completely rewrite the Higher Education Act, but Senator Alexander, chair of the Senate Education Committee, has apparently rejected that idea.
- There is a renewed emphasis to better track outcomes data for college graduates. The College Transparency Act sponsored by Senators Hatch of Utah and Warren of Massachusetts was heavily influenced by the Association of Public and Land-grant Universities, which is seeking support for the bill from other higher education associations.
- State funding for higher education has been decreasing since 1980. According to a study from the American Council on Education (ACE), funding for higher education has increased since 1980 in only two states, Wyoming and North Dakota. Since the recession, all but four states (Wyoming, North Dakota, Wisconsin, and Montana) have decreased support for higher education.
 - On average, state funding has declined 18% per student. Per student funding is down by more than 30% in nine states—Alabama, Arizona, Idaho, Illinois, Kentucky, Louisiana, New Hampshire, Pennsylvania, and South Carolina.

- The current administration's immigration platform, particularly through executive actions such as the travel ban, apparently have had an effect on the enrollment of foreign students at American universities. A report by the American Association of College Registrars and Admissions Officers found that 40% of U.S. colleges are reporting fewer international applications in 2017. The Institute of International Education reports that, overall, 2% fewer international students have been admitted for the coming year.

TECHNOLOGY

Data are from McKinsey & Company unless otherwise indicated.

- **Work and Automation:** About half of the activities carried out today by workers have the potential to be automated. Worldwide, the hours spent on such activities account for \$15 trillion in wages.
 - Work activities most susceptible to automation are those associated with data collection and processing, and physical activities undertaken in a predictable environment.
 - Least susceptible to automation: managing/developing people; applying expertise to decision-making, planning, and creative tasks.
 - For most occupations, in the mid-term, partial automation is more likely than full automation.
 - 5% of occupations will be fully automated.
 - 30% of the activities in 60% of occupations will be automated.
 - Technology will help create new jobs and opportunities.
 - Historical precedent: Shift from agri-based society to industrial-based society did not result in long-term mass unemployment; new jobs were created.
 - Historical context: One-third of the jobs created in the past 25 years were ones that didn't exist or barely existed, e.g., IT development, hardware manufacturing, app creation.
- **Work and Digital Enablement**
 - Digital talent platforms will better align talent with opportunities.
 - There is already some evidence that such platforms raise labor participation and work hours.
 - Currently, 15% of independent work, e.g., contract, freelance work, is enabled by digital platforms, but rapid advances suggest this will grow.
 - 20 – 30% of the working-age population in the United States and European Union is currently engaged in independent work.
 - Korn Ferry predicts that by 2020, independent contractors could comprise 40% of the American work force.
 - By 2020, the world's population will stand at 7.8 billion, but the number of connected devices will be 26.3 billion.

COLLEGE LABOR MARKET

Data are from BLS unless otherwise noted.

- The unemployment rate for young (20-24) bachelor's degree holders has declined to 5.4%, which was the rate in 2007 prior to the recession.
- The percent of young (20-24) graduates employed is currently 75.2%. This compares with an annual average of 81.5% in the 1990s and 79.1% between 2001 and 2008 prior to the recession.
- The NACE *Job Outlook* survey projects a 5.2% increase in new graduate hiring for 2017, the same rate as for 2016.
- NACE's *Job Outlook* data also show that the annual average increase in new college hiring since the recession has been 7.0%. The annual average increase of the pre-recession years of 2003 – 2008 was 12.9%.

- Based on the most recent enrollment data from the National Center for Education Statistics (NCES), there will be 19.0 million bachelor's degrees awarded between 2014 and 2024. Assuming that 81% will be active in the labor market (current level), there will be 15.3 million new bachelor's degree entrants into the job market.
- Based on current BLS projections, there will be 6.8 million entry-level job openings from growth or replacement in occupations requiring a bachelor's degree and no experience.
- BLS projects the following occupations requiring a bachelor's degree with no experience to be the fastest growing over the next 7 years:
 - Operations research analysts
 - Personal financial advisors
 - Cartographers
 - Interpreters and translators
 - Forensic science technicians
- BLS projects the following occupations requiring a bachelor's degree with no experience to have the most total job openings from both replacement and growth:
 - Elementary and secondary teachers
 - Registered nurses
 - Accountants and auditors
 - Software developers and analysts
 - Market research analysts
 - Human resource specialists
- Occupations in which demand is expected to exceed the supply of graduates in the "relevant" major include:
 - Computer science
 - Operations research engineering
 - Environmental engineering
 - Education
 - Industrial engineering
 - Human resources
 - Accounting
 - Nursing
- Occupations in which the supply of "relevant" graduates is expected to exceed demand include:
 - Chemical engineers
 - Electrical engineers
 - Biomedical engineers
 - MIS
 - Mechanical engineers
 - Finance

TALENT ACQUISITION AND MANAGEMENT

- Culture change is extremely difficult, and, with five generations in the work force, employers are working to meet the expectations of a broad range of employees.
- With the rise of the "sharing economy," increased demands for flexible work roles and the growth of freelancers working multiple "gigs," many experts predict the work force of the future will be a blended mix of the traditional employee and contingency workers. *(Source: Korn Ferry)*
- Deloitte reports that 83% of corporate executives rate "careers and learning" as important for their future talent management plans.
- According to LinkedIn, employers are moving toward more personalization in the workplace in terms of benefits, compensation, work location, and overall operations.
- Deloitte's Global Human Capital Trends study reported that 41% of employers have either implemented or will soon be adopting cognitive and AI technologies, with 35% reporting pilot programs in place.

- Deloitte’s study also contends that there is a need to “rewrite the rules for a digital age.” In particular, two trends relate to analytics:
 - 1) “Digital HR” as it relates to technology-based platforms and the digital work force, and
 - 2) “People Analytics,” using data for determining business strategy and solutions.
 - Other studies by SHRM and LinkedIn confirm that more organizations are looking to expand the use of analytics for work force planning, recruitment, development, and retention.
- Personal assistants, embedded virtual reality, and cognitive technologies have now become mainstream in our daily lives, and will soon be implemented more pervasively within organizations as automated sourcing, hiring, and training tools. (*Source: Deloitte*)
- According to a SHRM study, one-fourth of employers ranked automated sourcing tools as the top trend shaping the recruiting industry during the next 5 - 10 years.
- Employing organizations are looking closely at the value of augmented reality tools for employee training. (*Source: Forbes 10 Workplace Trends You'll See in 2017*)
- College graduates have engaged in virtual reality games and activities for years and, as a *Forbes* report tells us, one-fourth of Gen Z and Millennials would like to see companies bring virtual reality into the workplace.
- Building programs and resources for achieving a diverse work force is one of the top three trends for future talent management. (*Source: LinkedIn.*)
 - 57% of recruiters have focused responsibilities related to diversity recruitment. (*Source: SHRM*)
 - Among respondents to NACE’s *Recruiting Benchmarks Survey*, more than 70 percent have a formal program in place to recruit a diverse work force.
- A recent study found that approximately 60% of job seekers have had a poor candidate experience. (*Source: Workplacetrends.com*)
 - The same study found that 70% of employers are investing in the improvement of the candidate experience.
- According to LinkedIn, 72% of job candidates visit the employer’s mobile site to explore employment opportunities.
- Also according to LinkedIn, 45% of candidates are applying using mobile devices; this is likely to increase.
- 68% of responding hiring organizations use social media for branding and recruiting. (*Source: NACE Recruiting Benchmarks Survey*)
 - 86% of students report they use LinkedIn and more than 50% are comfortable with employers contacting them via social media. (*Source: NACE Student Survey*)
- 55% of responding hiring organizations use video interviewing, and the number is increasing each year. (*Source: NACE Recruiting Benchmarks Survey*)
- 65% of employers prefer to hire college candidates with experience, typically gained through an internship. (*Source: NACE Recruiting Benchmarks Survey*)
- 56% of graduating seniors taking part in NACE’s *Student Survey* cited “personal growth” as most important to them in an employer/job, making this the top rated preference.
 - “Personal growth” is the highest rated preference across disciplines:
 - Business – 69.8%
 - Engineering & Science – 58.3%
 - Humanities – 56.9%
 - Social Sciences – 52.5%

HIGHER EDUCATION

- Institutions are addressing several key trends that will influence strategic priorities as they plan for the future. These priorities will influence employers as they plan for engagement in university programs. Studies produced by higher education association leaders highlight the following areas for special concern and attention:

- Diversity Enrollment
- Affordability of Higher Education & Funding the Student
- Access to Education
- Skills Gap
- International Students
- Graduate Outcomes Data
- Institutional Performance Metrics
- Overall, according to NACE's *2016-17 Career Services Benchmark Survey*, operating budgets and staffing for career centers have fallen since pre-recession levels. (See Figures 1 and 2.)

Figure 1: Career Services Operating Budgets, 2017 vs. 2007

Enrollment	2007	2017	2017 in 2007 dollars	% Change in real dollars)
Less than 1,000	25,141	28,739	24,368	-3.1%
1,000 - 2,499	30,866	34,446	30,187	-2.2%
2,500 - 4,999	39,819	43,126	37,794	-5.1%
5,000 - 9,999	70,426	63,450	55,605	-21.0%
10,000 - 20,000	96,581	69,825	61,192	-36.6%
More than 20,000	236,630	189,427	166,007	-29.8%

Figure 2: FTE Professional Staff, 2017 vs. 2007

Enrollment	2007	2017	% Change
Less than 1,000	1.3	2.0	52.3%
1,000 - 2,499	3.1	3.0	-2.3%
2,500 - 4,999	4.0	3.6	-11.3%
5,000 - 9,999	4.8	5.2	8.3%
10,000 - 20,000	7.0	6.2	-12.1%
More than 20,000	11.0	10.6	-3.4%

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ADDENDUM: DEMOGRAPHICS

Data are most current available from the National Center for Education Statistics, IPEDS database.

DEMOGRAPHICS

Bachelor's Degree Enrollments

- There were approximately 10,750,000 students enrolled in bachelor's degree programs at more than 3,000 four-year, degree-granting institutions in the U.S. for the start of the 2014-15 year. Undergraduate enrollments decreased by 0.6% in 2014-15 compared to the previous year.
- Demographically, they are distributed as follows:
 - 56% Female; 44% Male
 - 54% White
 - 12% African-American
 - 15% Hispanic-American
 - 6% Asian-American
 - 4% International
 - 3% Multi-racial
 - 0.6% Native-American
- Approximately 77% or 8,253,000 students were enrolled as full-time students.

Bachelor's Degree Completions

- In 2015, there were 1,918,399 bachelor's degrees awarded, up 1.4% from 2014.
- The top five disciplines in terms of the number of bachelor's degrees awarded were:
 - Business (19.2%)
 - Health Professions (11.5%)
 - Social Sciences (7.3%)
 - Psychology (6.2%)
 - Biology (5.8%)
- There is evidence that students are responding to the demands of labor market.
 - Among the fastest growing disciplines between 2013 and 2015 were health professions (10.4%), computer science (8.7%), and engineering (7.3%).
 - In contrast, history (-9.3%), philosophy (-6.8%), English (-6.3%), area studies (-6.2%), and education (-5.7%) saw the biggest percentage decreases in graduates between 2013 and 2015.
 - Degree awards in STEM majors (computer science, engineering, engineering technology, biology, mathematics, and the physical sciences) increased by 12.5% between 2013 and 2015 compared with an increase of 4.1% in the overall number of degrees awarded.
 - STEM bachelor's degrees account for 17.7% of all bachelor's degrees awarded; an increase from the 16.4% awarded in 2013.

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