External Environmental Scanning Trends
Indiana University South Bend

Abridged Version

Office of Institutional Research

March 19, 2009

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INTRODUCTION

Since March 21, 2008 the Indiana University South Bend community has been engaged in an external environmental scanning process. Environment scanning is a process of collecting information and analyzing forces of change external to the university. The goal is to identify future trends with a view on generating strategies which will guide development of an effective university strategic plan.

Teams of scanners were organized around broad taxonomy areas of the external environment, which included competition, demographics, economics, education, labor force, politics, social/values/lifestyles, and technology. Each team worked independently to research the trends they felt would constitute significant forces of change over the next 3 to 5 years. This abridged version of trend report does not include the volumes of source material that was a result of the research, but an expanded version will also be made available that includes source references for each of the trends. Look for both versions at the IU South Bend Institutional Research webpage or contact us at 574-520-4104 if you are interested in this version. The trends were reviewed by Mr. Joel Lapin, our environmental scanning and strategic planning consultant, and sent back to IU South Bend for revision. A second review was conducted by Mr. Lapin to fine tune the trend statements and rational for each statement. IU South Bend's Office of Institutional Research completed the assembly of the final document, which included a review of responses from a community leader survey to note any corroboration with our list of trend statements and a review of recent news for any emerging issues.

The Office of Institutional Research will distribute the final trend statements to a number of university entities as well as community "strategic thinkers" to ask for assistance in the next phase of the planning process. Mr. Joel Lapin will facilitate a pair of forums on Friday, April 24, 2009 in order to document community and campus input about the trends. The individuals in attendance at the forum workshops will be asked to draw implications for the community and IU South Bend based on the external trends in this document. The implications will be turned over to the IU South Bend Campus Directions Committee (CDC) in order to refine the initial work done on a SWOT analysis. The final workshop with Mr. Joel Lapin will occur on June 8-9, 2009 with the strategic planners of IU South Bend to draft a strategic plan that will serve the institution from 2010 through 2015.

Thank you to Chancellor Una Mae Reck who supported the project, all the team members listed throughout the document for all their hard work, and a special thanks to Joel Lapin for working with all of us and keeping us honest. I appreciate all the support and patience provided throughout the creation of the external environmental scanning trends, and I look forward to the work to come with the CDC and others to complete the strategic plan for IU South Bend.

John Monte Novak
Director, Institutional Research

COMPETITION TRENDS

Team: Cathy Buckman, Rosanne Cordell, Jeff Jones, and P N Saksena (team leader)

Summary: The competition team not only focused on the obvious competitive forces with other institutions, but they found equally compelling forces of change among the competition for resources, for students' time & attention, for international students, and talented faculty. Community leaders agreed with the notion that affordability and financial assistance was a major focus and key competitive element.

Competition 1: Partnerships with Feeder Schools

As higher education institutions recognize the significant role they play in the quality of our nation's middle and secondary schools, efforts are increasing to build sustaining and mutually reinforcing partnerships with feeder schools.

This trend was corroborated by interviews with community leaders.

The blame game runs throughout the educational system and beyond. Employers blame colleges and universities for inadequately preparing students for the workforce; post-secondary schools blame secondary schools for inadequate college prep; secondary schools blame middle and elementary schools for advancing under-prepared students; and elementary schools blame parents for not providing students with fundamental needs, basic learning skills, and self-discipline. Federal and state administrators have attempted to address this issue with programs such as No Child Left Behind, P-16 legislation, and assessment/accountability requirements for schools. Educators at every level are subject to increasing accountability for student achievement and graduation rates, and schools will begin to address the need for better communication and collaboration across educational levels.

Competition 2: Ivy Tech Transfers

Competition among 4-year schools for Ivy Tech transfers continues to grow, and partnerships with Ivy Tech to improve student persistence and increase transfer rates to 4-year schools has become an important element in higher education strategic planning.

The growth of Ivy Tech Community College in Indiana has changed the way many colleges and universities market, recruit, and manage their enrollment. The mission of the regional campuses of state institutions, in particular, has changed, as these campuses no longer are responsible for delivering developmental coursework to high school graduates enrolled in college. In short, students who are less academically-prepared for four-year college degree programs are being referred to Ivy Tech at a higher rate than in previous years. Partnerships between 4-year schools and Ivy Tech are critical to ensure that students successfully transition from the two-year to the four-year programs. For example, in an effort to gain a larger share of

the Ivy Tech transfer market, Purdue North Central (one of IU South Bend's top competitors) has taken an aggressive approach to strengthening their partnership with local Ivy Tech sites. State residential campuses, as well, are more strategic about encouraging and facilitating student transfer from Ivy Tech.

Competition 3: Innovative Partnerships to Remain Competitive

Innovative partnerships (which include early college programs, new technology, and online course options) are being developed among high schools, post-secondary schools, higher education and technology industries , and local communities.

This trend was corroborated by interviews with community leaders.

Much of the innovation and partnering among the various constituencies named above is driven by Indiana's desire to increase student access to higher education and to increase college graduation rates. The financial investment made at the federal, state, local, and family/individual level is not yielding acceptable results in terms of degree attainment. Secondary and post-secondary schools are focusing more effort on facilitating college preparation and graduation than ever before; and the government is increasing efforts to ensure that college is accessible to those at the lowest income level. As educational costs soar, local businesses and industries are attempting to support the educational goals of their communities with private finances.

Competition 4: Affordability of Higher Education

Colleges and universities are facing major issues related to the financing system and managing affordability. Many are attempting to respond to these issues and remove financial obstacles, especially those related to individuals from low-income backgrounds.

This trend was corroborated by interviews with community leaders.

The Pell Grant no longer serves as a true foundation of financial aid for low-income students, and such students must come up with increased amounts of money to meet educational expenses. (McSwain) In addition to federal and state efforts to respond to this issue and others related to educational funding, colleges and universities are also attempting to respond to issues in managing affordability. Several factors which have contributed to this trend are: rising college costs; decreased purchasing power of federal Pell Grant and first-year Stafford Loan; increasing discount rates in the private sector; changing student demographics; increased family borrowing; and declining yield rates. Examples of several institutional responses to this financial problem are: level tuition programs; institutional guarantees that a student will graduate in four years, or the fifth year is free (four-year promise); elimination of loans for students whose families are at 200% of the federal poverty level (with workstudy condition); 100% tuition and fees grant funding for Pell-eligible families; institutional loan programs with low interest rates; subsidized PLUS loans; 12-month payment plans; pre-payment plans.

(Crockett) Providing students with early estimates of scholarship and financial aid eligibility is more important than ever.

Competition 5: Partnerships with Private Sector

Partnerships between post-secondary schools and the business sector are increasing, as schools seek new funding resources to assist students with their educational pursuits.

See rationale provided in Trend Statement Competition 4. As a result of major challenges to college affordability and the resulting decrease in accessibility for low and middle income families, institutions are seeking to partner with local communities in an effort to increase college enrollment and graduation rates, and to support the institution's diversity goals and overall mission.

Competition 6: Keeping Students' Attention

In future efforts to compete for student attention and enrollment, colleges will emphasize communication mechanisms that center on technology, including but not limited to: web, email, cell phones, blogs, etc. that students value and use.

Students are remaining anonymous in their college selection process longer than ever before, making web sites the most important messaging channel to communicate with this group of prospects. Inquiry-level predictive modeling has become a valuable tool, as has segmenting communication strategies at both the prospect and inquiry stages, and by level of interest. Surveys show that a large majority of high school students will give colleges a valid E-mail address, but when this occurs varies throughout the application/selection process stages (inquiry, applicant, after acceptance, after student's final decision). Student preferences also vary on whether or not they would take calls from college reps on their cell phones, or would accept text messages from a school. In addition, student opinion is mixed on how college and universities should utilize social networking sites to market to and connect with interested students. Online financial aid estimators and tuition cost calculators are of top importance to students; and blogging, podcasting, and live chat/IM are increasingly offered on school sites.

Competition 7: Financial Literacy

Financial literacy programs are on the rise, as colleges are increasingly accepting responsibility for helping students understand personal finance and money management.

Rising college costs, student debt, and a souring economy have fueled interest in programs to help students understand the basics of credit, budgeting, and money management. The new Higher Education Act also addresses the need for student financial counseling, and says specifically that guarantee agencies must work with colleges to develop financial-literacy programs. Universities believe they have a responsibility to help students in this area and are

responding with a variety of programs including one-on-one counseling, for-credit classes, workshops, online presentations, and interactive tools. (Supiano)

Competition 8: Accelerated Degree Programs

Accelerated degree programs are offered by colleges to compete for and enroll non-traditional students, and these will increase as the number of adult learners grows.

Convenience, cost (not price), quality experience, supportive environment, application of learning all will appeal to adult learners. Quality of accelerated programs and creative scheduling have not been shown to be less than that of programs concerned with time involvement as a key component of course design.

Competition 9: International Students

There is growing competition to attract international students, from universities across the globe.

Previously, the U.S. had a majority of schools in the list of 'Best Universities.' This has since changed and now there is significant competition for international students.

Competition 10: Feeder Countries for International Students

Four countries are expected to generate almost two-thirds of the demand for higher education by 2025: China (21%), Malaysia (15%), India (14%) and Indonesia (11%).

Population, economic growth, and demographic trends indicate that these four countries in Asia as being the ones with the highest demand for higher education. By 2025, 60% of global demand for higher education will come from Asia; half will come from China and India. It is expected management/commerce, sciences, and IT will continue to be the leading fields of study for international students.

Competition 11: Law Governing International Students in U.S.

The increase in laws that work against international students once they have graduated will stiffen competition within the United States for international students and disadvantage mid-size institutions like IU South Bend that attract a small, but significant, international student population.

Rules related to international students once they have graduated have been tightened. Effective April 8, 2008, students are allowed to have at most 90 days of unemployment in their one year of Optional Practical Training (unless they have a degree in certain areas).

Competition 12: Recruiting Quality Faculty and Staff

Creative ways of recruiting and retaining faculty and administrators are being used, including benefits packages, housing, and support for further education.

The Baby Boomer generation is retiring, a trend magnified by the Indiana University 18/20 plan which requires faculty to retire at age 64 to take advantage of major benefits.
Same-sex/domestic partner benefits are increasingly under attack, and states that continue to allow those benefits would be at a competitive advantage for faculty and staff that are impacted by bans elsewhere

DEMOGRAPHIC TRENDS

Team: Sam Centellas, Alfred J. Guillaume, Jr. (team leader), John Novak, and Cyndy Searfoss

Summary: Looking at the numbers, we find that Indiana expects to a little better than other parts of the Midwest in terms of maintaining population growth and the number of high school graduates annually. Diversity and age trends appear at the forefront of demographic change as well, and the community leaders echoed some of this sentiment.

Demographic 1: Indiana High School Graduates

Between 2008-09 and 2014-15 the projected annual number of high school graduates in the Midwest will decline by about 6.4 to 8.0 percent, while Indiana will see a loss of only 1.2 to 2.8 percent over that five year time period. Two local school districts, South Bend (about a 10 percent decline) and Penn-Harris-Madison, both expect declines in K-12 enrollments through 2013.

This trend was corroborated by interviews with community leaders.

National, state, and local demographics examined by various sources all indicate that Indiana has been experiencing strong growth in the number of high school graduates over the past seveal years, but this rate is slowing considerably. Nationally there is an indication we will see an overall decline in high school graduates through 2015, and Indiana will see declining high school graduates from now until 2015 too. Beyond 2015, however, Indiana's annual number of high school graduates are expected to begin growing again.

Examining these reports from the National Center for Education Statistics (NCES) and Western Interstate Commission for Higher Eduation (WICHE), one will notice that near future trends show closing of a decade of growth in high school graduates that will level off for the next several years in Indiana. The analysts expect a rebound and rapid growth in Indiana in the

latter part of the next decade (2015-2020) and beyond should demographic patterns remain the same.

Reports from demographer Dr. Jerome N McKibben (1993-South Bend Schools and 2005-PHM Schools) and more recent data from the Indiana Business Research Center (IBRC) shows a decline in school aged children (5-19 years old) for St. Joseph County into the next decade. Some encouraging news from the INcontext article from the IBRC also indicates that Elkhart County expects to see double digit percentage increases in school aged children by 2025. Recent news indicates that updates of these local projections by Dr. McKibben may take place due to recent dramatic changes in our economic situations.

Demographic 2: Michigan and Ohio High School Graduates

There is a projected decline of between five and ten percent in high school graduates in both Michigan and Ohio between 2009-10 and 2015-16.

National demogrphic reports examined by various sources indicate that Ohio and Michigan will experience a decline in high school graduates over the next decade or so. Examining these reports from the National Center for Education Statistics (NCES) and Western Interstate Commission for Higher Eduation (WICHE), one will notice that near future trends show closing of a decade of growth in high school graduates that will drop off for the next several years in Ohio and Michigan.

Demographic 3: Changing Generational Values

Traditionally aged students entering college within the next 3-5 years will enter with a sense of entitlement to high grades and personal attention that they receive from the rest of our consumer driven society, which has been a continuing shift in generational norms towards what is a more "narcissistic" view of their place in the larger world.

Howe and Strauss have dominated the literature in generational studies since the current younger adult generation began in 1982, and they based the premise of their research on the idea that there is a pattern to the generations that come and go throughout history. Howe and Strauss predicted back in the 1980s that the current population of younger adults would become the world's next "Greatest" generation. Future history may still prove them correct, but in the meantime, this generation is still maturing, and researchers, who have been critical of Howe and Strauss, present some fairly compelling evidence that sheds some doubt on the idea that the "Millennials" will be the next "Greatest" generation.

Dr. Mark L. Taylor paraphrased President William C. Durden of Dickenson College description of the "emerging stereotype" rather concisely:

> *They expect high grades without significant effort and often just for showing up; demand comfort and luxury more than a rigorous education; see themselves as consumers and expect services, and extended and direct personal attention on demand;*

> *have little respect for authority and show distain for collegial and social rules of conduct, instead asserting personal privilege; fail to differentiate between civil exchange of reasoned ideas and shouting personal beliefs, yet grow defensive when faced with constructive criticism; and have a naïve sense of the future.*

Dr. Jean M. Twenge, author of Generation Me, would concur with these types of observations as well. Her research of numerous databases and survey results spanning generations have lead her to conclude that the current generation of college bound students are a product of the culture that they were born into, but as a group the behavior of this generation – that she extends to include many of the Generation X group – is narcissistic in its broader worldview. She states from the beginning that, "this generation has never known a world that put duty before self."

Demographic 4: Racial/Ethnic Diversity in Indiana

Indiana expects to see an increase in racial/ethnic diversity. Racial underrepresented groups in Indiana are projected to grow from 11.6 percent of Indiana's population in 2005 to 14.4 percent of the population in 2030. Hispanic ethnicities are expected to grow from 4.5 percent of Indiana's population to 8.1 percent of the population by 2030.

This trend was corroborated by interviews with community leaders.

There seems to be a general consensus among demographers that these shifts in population will take place in the United States. The patterns of natural increases and migration both contribute to the changes. This is a continuation of an existing trend that will really take off after 2015. While it is true that Indiana's racial and ethnic composition will shift, the state is – and will remain – much less diverse than the nation.

Indiana Business Research Center projects for the state of Indiana a 135 percent increase in the number of people claiming a bi-racial heritage, 54 percent increase in Asian Americans, and a 26 percent increase in African Americans between 2005 and 2030. Those people claiming a Hispanic ethnicity in Indiana is expected to double (100 percent growth) in that same time period. This is all compared to White, Non-Hispanics whose growth rate will stay at a more modest 8 percent growth rate in that same time period.

Demographic 5: Income Disparities and Higher Education

Income disparities increasingly are being recognized as the most significant barrier to access and graduation for all students, although they clearly hit minority students the hardest.

This trend was corroborated by interviews with community leaders.

If current trends continue into the future, then poverty may be one of the largest and most persistent barriers to youth reaching their education potential. Starting early in a child's

education there are disadvantages – among them violence, drugs, and teen pregnancy – within poor communities that cycle back to only make things worse.

The list goes on and on, but in the end the chance of a young adult in the bottom quartile in income receiving a bachelor's degree before the age of 24 is at about 10 percent. Federal reliance on loans instead of need based aid, state budgets strapped for cash and decreasing financial support for higher education, and rising tuition all create barriers to those that cannot manage to pay for their education on their own.

In our primary service area, poverty has taken a hold of more families than the previous decade. This has been of serious concern to local school officials and professionals that know all too well the impact poverty can have on education.

Demographic 6: Baby Boomers and College

The aging Baby Boomer generation will begin to reenter college creating large increases in non-traditional students on campus.

The Baby Boomers have grown up, and now are retiring as the social class with the most expendable income. They will spend it in many non-traditional ways, and one of them is by becoming non-traditional students. Soon classes will be filled with millennials and Baby Boomers taking classes with very different learning styles.

Demographic 7: Latino Population Growth

With the annual number of Latino high school graduates in Indiana projected to grow from 2,801 students in 2008-09 to 5,247 students in 2014-15, an 87 percent increase, and 18 percent growth rate in the overall Latino population in Indiana through 2015, Latino college enrollments can be expected to grow at a rapid pace over the next 5 years.

- From 2000 through 2007 the Latino population in Indiana grew by about 47 percent. Latino population numbers are expected to continue a rapid growth rate in Indiana, but at a lower rate than the rest of the nation. Indiana Business Research Center has projected an additional 18 percent increase in the Latino population between 2010 and 2015.
- Western Interstate Commission for Higher Education projects in Indiana a nearly doubling of the number of annual Latino high school graduates every year expected by 2015.
- Compared to their White, Non-Hispanic peers the rate of Latino students going directly to college from high school is somewhat lower, so many new Latino students are among the non-traditionally aged students (*i.e.* over 25 years of age).
- National figures suggested that Latinos are entering college at a comparable rate to White, Non-Hispanics and African Americans, but they are not completing a baccalaureate degree at nearly the same rate.

Demographic 8: Census Projections for North Central Indiana

The population of St. Joseph County and the surrounding 5 Indiana counties is expected to increase by about 2.1 percent between 2005 and 2015, which will put the area's population at 732,784 people.

STATS Indiana from the IBRC

Indiana Population Projections - 'North Central' Total
Note: Metro areas that show (pt) include only projections for the Indiana counties in that area

Year	Total	Pre-School 0-4	School Age 5-19	College Age 20-24	Young Adult 25-44	Older Adult 45-64	Seniors 65+
2005	717,984	52,038	158,930	51,307	193,369	172,009	90,331
2010	723,250	51,279	158,188	50,129	187,661	183,848	92,145
2015	732,784	52,164	155,025	51,800	187,315	184,625	101,855
2020	749,498	54,314	154,367	50,000	193,967	178,891	117,959
2025	770,644	56,046	157,549	49,065	196,089	176,750	135,145
2030	790,953	56,908	162,372	48,787	197,355	176,305	149,226
2035	808,140	56,932	166,736	49,426	199,006	179,069	156,971
2040	823,088	57,337	169,096	50,895	198,943	185,974	160,843
growth to 2015	2.1	0.2	-2.5	1.0	-3.1	7.3	12.8

This region includes the following counties: Elkhart County, IN; Kosciusko County, IN; La Porte County, IN; Marshall County, IN; St. Joseph County, IN; Starke County, IN

NOTE: 2005 data are actual estimates from the U.S. Census Bureau.

Data source: Indiana Business Research Center, IU Kelley School of Business

This table was produced by STATS Indiana : 2/12/2009 10:17:10 AM

Demographic 9: Census Projections for Indiana

Indiana's population will continue to grow (about 12 percent to 6.8 million) at an increasingly slower rate through 2030, but it should see increases in population slightly larger than much of the Midwest.

- Indiana population growth of 729,623 or about 12.0 percent between 2000 and 2030
- Indiana will rank 31st in population growth in that time period
- Indiana #14 in population in the U.S. currently; expected to be #18 by 2030
- Indiana growth rates: 2000-2010; 5.1% | 2010-2020; 3.7% | 2020-2030; 2.8% | 2000-2030; 12.0%
- Midwest growth rates: 2000-2010; 4.7% | 2010-2020; 3.1% | 2020-2030; 1.5% | 2000-2030; 9.5%

- Midwest continues to decline as a proportion of the U.S. population: 2010 about 21.8 percent of the U.S. population; 2015 about 21.3 percent

Demographic 10: Shift in Age Distribution in Indiana

While Indiana's under 18 year old population will remain about 25 percent of the total state's population through 2030, the over 65 year old population is expected to grow from about 12.4 percent of the population to 18.1 percent of the population (below the national average of 19.7 percent by 2030).

This trend was corroborated by interviews with community leaders.

- Indiana ranked 28th in 2000 with 12.4 percent (equal to the national average) of the population over 65 years old
- By 2010 about 12.7 percent of Indiana's population will be over 65 (slightly under the national average of 13 percent); rank will fall to #34
- By 2030 about 18.1 percent of Indiana's population will be over 65; rank of 41st in the nation
- Change in total Indiana population by 2030 of 12.0 percent; over 65 year olds change of population projected at 63.6 percent; North Central Indiana counties will match that at about 65 percent growth between 2005 and 2030

ECONOMIC TRENDS

Team: Grant Black, Mary Jo Regan-Kubinski (team leader), and Melissa Wise

Summary: The economy was the most uncertain and most talked about taxonomy area on which community leaders commented. There appears an acute awareness of the fact that the Michiana region continues to go through an economic transition of sorts with many older manufacturing industries fading and the emergence of Innovation Park and Ignition Park, and the Midwest Institute for Nanoelectronics Discovery (MIND). Other areas where change remains on the horizon include the life sciences, alternative energy, and healthcare.

Economic 1: Nanotechnology at University of Notre Dame

The Michiana region will experience considerable economic and job growth from the development of nanotechnology research and industry centered at the University of Notre Dame.

This trend was corroborated by interviews with community leaders.

The Midwest Institute for Nanoelectronics Discovery (MIND) has selected South Bend as its headquarters, making the city the fourth and likely final site for a regional nanoelectronics research center. The focus of the center will be to explore technologies to replace the semiconductor. Corporate members of the MIND consortium include companies such as IBM, Intel, and Texas Instruments.

The City of South Bend plans to invest tens of millions of dollars to support local nanoelectronics commercialization by developing a new industrial and research campus southwest of downtown. Funding will come from the city's Airport Tax Increment Financing district.

In 2008 Indiana established the Midwest Academic for Nanoelectronics and Architectures (MANA), a new research consortium led by Notre Dame University which already houses a Center for Nano Science and Technology and the ND Nanofabrication Facility established in 1999. Key partners in the consortium include Purdue University, the University of Illinois, Pennsylvania State University, the University of Michigan, Argonne National Laboratory, and other federal government agencies. Direct financing is estimated to reach $25 million over three years, with additional support expected.

Spinoff commercialization efforts are predicted to occur, though no clear estimates of job creation are currently available. However, the National Science Foundation estimates that nanotechnology could create 2 million jobs and $1 trillion worldwide by 2015. Albany, New York, serves as a possible example of the potential impact of a regional nanotechnology initiative on the local economy; at least 2,000 jobs and $4.2 billion in related industries have been generated due to local nanotech efforts. Pat McMahon, executive director of Project Future, the area's development organization, said, "From an economic development perspective, we see this as the most significant venture that the community has had the opportunity to pursue in the last 150 years."

Economic 2: Changeover in Manufacturing Sector

While traditional manufacturing sectors in the region will continue to decline in the midst of negative pressures at the national and international levels, there are opportunities for manufacturing growth by shifting to niche markets and new technologies.

This trend was corroborated by interviews with community leaders.

Manufacturing is the largest sector of the regional economy, comprising over 11 % of businesses and 32% of jobs in the five-county region as of early 2007. This concentration varies across the region, rising to approximately 48% in Elkhart compared to less than 15% in South Bend.

Manufacturing employment across sectors fell 22.4% in the South Bend metro area from 2000 to 2008. In the Elkhart metro area, manufacturing employment fell proportionally less at 5.6%. These declines resulted in the loss of approximately 9,000 jobs since 2000 in the region.

Transportation equipment manufacturing is a dominant sector, with approximately 35,500 employed in the South Bend and Elkhart metro areas as of August 2008. However, South Bend employment in this sector fell 20.3% from 2000 to 2008, while Elkhart's employment fell slightly less at 17.4% during the same period.
Local manufacturing is heavily related to the recreational vehicle (RV) industry. Approximately half of all RVs are produced in the region. While the RV industry experienced record production and shipments levels from 2002-2007, it is currently in a significant decline due to continually increasing energy costs, financial market uncertainties, tighter credit markets, and the national economic slowdown. While long-term industry projections are positive due to the aging of the population and broadening demand across other segments of the population, the short term will likely see a sizeable decline in RV production. Several thousand workers have been temporarily laid off or permanently let go in summer 2008.

The local declines in manufacturing mirror declines nationally. Since 2000, approximately 10% of US manufacturing jobs (1.9 million) have been lost. Movement of manufacturing jobs overseas to take advantage of lower labor costs is one factor for this decline; Economy.com estimates that 1.3 million jobs have moved overseas since 1992. Moreover, the decline in the domestic auto industry has contributed significantly to the decline in recent years.

While global competition has contributed to employment loss in manufacturing, manufacturing is expected to have a solid future, particularly in advanced manufacturing in high-tech industries. However, further employment losses are expected over time due to innovations that reduce the need for - and costs of - US workers.

The evolution of manufacturing sectors will require on-going education of workers to maintain and improve their competitiveness in tighter labor markets.

Economic 3: Metronet and a New Type of Infrastructure

Regional infrastructure will continue to expand, and will do so beyond the traditional roads and buildings to include high-speed data networks, creating new and better opportunities for economic development.

This trend was corroborated by interviews with community leaders.

Metronet is a 40+ mile network of dark fiber in St. Joseph County that provides businesses and other institutions access to a high-speed data network with virtually unlimited bandwidth. Its existence is due to the presence of one of the largest concentrations of transcontinental dark fiber optics in the nation. Use of Metronet can significantly reduce communication costs. Metronet was begun in 2006 and plans to expand as demand increases. Access to Metronet

provides high-speed connectivity unusual in a smaller sized area and creates opportunity for high-tech business development and improved business support throughout the region.

Elkhart County is proposing to develop its own version of St. Joseph County's Metronet that could begin development in 2008.

The statewide Major Moves transportation initiative funded in part from the lease of the 80/90 toll road provides support for significant roadway improvements throughout the region, as well as discretionary funds for counties and cities bordering the toll road that are designated for economic development. Statewide the ten-year plan from 2006-2015 will generate $12 billion in investment and considerable employment growth. Major Moves is expected to contribute heavily to the 11.5% increase in construction and extraction jobs forecast for Indiana through 2014. The local area will benefit from this growth due to Major Moves development in the area, particularly along the Hwy. 31 corridor.

The existing transportation infrastructure already uniquely positions the region in the hub of a national transportation grid, with the ability to reach a greater proportion of the US population within 1-2 days by road than any other area in the country, which has stimulated the growth of the transportation and warehouse industry among others in the region. Rail and air networks also serve the region.

Other local investments in economic development efforts in the short term will contribute to growth potential in the local economy. For example, the innovation park being built adjacent to Notre Dame University will create business and research space for start-up and other companies desiring to develop connections to local university research. In addition, the Eddy Street Commons development also near Notre Dame University is a $215 million project aimed at multi-use, new urbanism development including retail, commercial, and residential components. Such development can be instrumental in attracting and retaining business development, as well as improving the quality of life in the region.

Other recent and future developments related to nanotechnology are discussed in another trend.

Economic 4: Michiana's Shrinking Economy

The economic base of the Michiana region is shrinking as evidenced by recent declines in production and employment, and this downward trend is likely to continue for the foreseeable future.

This trend was corroborated by interviews with community leaders.

Of twenty-one sectors, Indiana's largest was durable goods manufacturing in both 1997 and 2006. Durable goods is the largest portion of Indiana's GDP at 20.5%, nondurable manufacturing is 10%. Thus, manufacturing's combined sectors yielded 30.5%, which is higher

than any other state in the union. Overall, Indiana ranked eight among the fifty states in the amount of manufacturing generated in the United States.

Indiana's employment in the automobile manufacturing industry grew 53% between 1997 and 2006. Based on September CES (current employment statistics), national employment in this sector declined 3.6% since September 2006, while Indiana employment grew 4.6% during that same period. Thus, Indiana gained 600 new jobs.

Indiana's auto manufacturing growth has been due to non-domestic auto makers such as Toyota, Honda and Subaru bringing jobs to the Hoosier state. Greenburg's Honda plant set to open in 2008 will bring 2,000 jobs. In addition, a Toyota/Subaru collaborative venture is expected to add 1,000 jobs.

Another strong growth segment within the manufacturing sector is medical equipment and supplies manufacturing, which is concentrated around Warsaw in Kosciusko County. It grew 28.5% from 1996-2007 and had 18,200 employees as of September 2007.

Motor vehicle body and trailer manufacturing has grown by 49.6 percent (13,100 jobs) between 1997 and 2006 fn Indiana, compared to the U.S. growth of 13.9%.

Indiana's rate of export growth has greatly exceeded its overall economic growth rate since 2001. Vehicles and parts, along with industrial and electrical machinery, remain Indiana's top exporting industries, accounting for 45% of all exports from the state.

Indiana ranks third among all states in the value of pharmaceutical exports. The exports of optical and medical instruments also have registered a healthy annual average growth rate of 10.3% between 2001 and 2006. There is strength in the European market for Indiana pharmaceuticals. From 2001 to 2006, the United Kingdom, France and Germany accounted for an $852 million increase in Hoosier pharmaceutical exports alone. However, the demand and sales for these products can fall as quickly as they rise.

Economic 5: Income in Michiana

The levels of income and earnings in the Michiana region are expected to grow slowly.

Growth in Real GDP for the two metropolitan areas in the region has been slowing in recent years. Growth has steadily declined in the South Bend-Mishawaka metro area, growing 7.2% in 2001-2002, 4.8% in 2002-2003, 4.3% in 2003-2004, and - 0.1% in 2004-2005. The Elkhart-Goshen metro area fared better with growth rates of 9.3%, 9.5%, 4.1%, and 1.7% during the same respective periods. South Bend was ranked 330th out 363 metro areas throughout the United States, and Elkhart was ranked 245th.

Total non-farm employment has also fallen in the region. From August 2000 to August 2008, total employment in the Elkhart metro area fell by 2,100, while in the South Bend metro area,

employment dropped by a substantial 7,000. Moreover, since 2000, declines were experienced in all but two years in the South Bend area, while declines were seen in four of the years.

The heavy concentration of manufacturing in the local economy and the general decline in manufacturing (discussed elsewhere) will likely contribute to this continuation of this decline at least in the short term.

Economic 6: Regional Income Inequity and Poverty

Income inequality will increase and poverty will likely become a problem in the Michiana region, at least in the short term.

This trend was corroborated by interviews with community leaders.

Nominal personal income and per capita personal income has risen in recent years in the local economy, but its growth lags other regions throughout the United States. Compared to the average growth of 6.8% in 2006 and 6.2% in 2007, personal income grew 4.3% and 4.2% in the South Bend metro area and 4.4% and 3.2% in the Elkhart metro area, respectively. In terms of per capita personal income, South Bend was ranked 153rd out of 263 metropolitan areas in 2007, while Elkhart was ranked 174th. Per capita personal income grew 4.2% in 2006 and 4.1% in 2007 in the South Bend metro area but grew much slower in Elkhart where it increased only 2.8% in 2006 and 2.4% in 2007. In 2007, per capita personal income was $34,432 in South Bend and $33,517 in Elkhart - noticeably below the US average of $40,536, continuing a trend that has existed for at least a decade.

Job earnings lag behind the state, and earnings growth has been faster in South Bend compared to Elkhart. In the fourth quarter of 2007, the average weekly wage in the South Bend metro area was $737, averaging 3.3% growth per year since 2001. Wages in Elkhart increased to an average of 2.8% per year, rising to $71 1 in the fourth quarter of 2007. In comparison, the average weekly wage in Indiana was $745, with an average growth rate of 3% per year during the same period.

Poverty rates in the region have increased. In 2000, 10% of the population in St. Joseph County was in poverty, along with 8.3% of Elkhart County. By 2005, these poverty rates had risen to 13.3% and 10.9%, respectively.

Other poverty-related indicators show mixed signs in the 2000s. The number of TANF grant recipients in South Bend has steadily declined from 2003 to 2008, falling 28.1% over the entire period. The number of TANF grant recipients in Elkhart decreased from 2004 through 2006 but has risen since then; from July 2003 to July 2008, the number of recipients decreased 12%. At the same time, however, the number of food stamp recipients increased sizably, 21.1% in South Bend and 50.1% in Elkhart.

Economic 7: Biofuels in Indiana

Indiana is emerging as a leader for the manufacture of biofuels, which will impact the environment, economy, and quality of life of Hoosiers.

This trend was corroborated by interviews with community leaders.

In March 2006, Indiana Governor Mitch Daniels announced plans to build the world's largest biodiesel plant in the state. Lois Dreyfus Agriculture Industries LLC plans to build the plant near Claypool, Indiana. The new facility will produce up to 250,000 gallons of biodiesel per day, which adds up to more than 80 million gallons per year. With this facility, two other biodiesel and six ethanol plants currently under construction, Indiana is emerging as a leader in producing renewable fuels.

This new plant will utilize soybeans and once the plant is completed it will be one of the first biodiesel production plants to fully integrate with a soybean processing plant. With the facilities under construction, the state will produce an additional 400 million gallons of ethanol annually and 95 million gallons of biodiesel. Indiana's goal is to produce a combined 1 billion gallons of ethanol and biodiesel annually.

The U.S. has turned to its heartland to seek fuel from i t s farms and Indiana answered with one of the most aggressive biofuel initiatives in the country.

According to Lt. Gov. Becky Skillman, who also serves as the secretary of agriculture and rural development, Indiana is "rapidly moving from nowhere to national leadership."

Biodiesel is good for the environment. Vehicles using biodiesel produce fewer emissions of carbon monoxide and other harmful pollutants.

Indiana currently has four fuel terminals with biodiesel blending capabilities, the second most in the nation. It also has the third-highest number of public pumps, with 68 offering biodiesel.

Indiana is getting a soybean processing facility and a biodiesel production facility. To have both planned for construction is unprecedented in the U.S. today," says Chris Novak executive director of the Indiana Soybean Board.

There are related economic benefits. For example, the construction of nine new biofuel plants is a reversal of plant closings that have dominated the news in recent years. Skillman notes the combined projects is an investment of $600 million In capital expenditures and creates some 375 new jobs.

Economic 8: Expanding Healthcare Sector

The healthcare sector is a key component of the local and regional economy and is expected to see considerable growth.

This trend was corroborated by interviews with community leaders.

Healthcare is a dominant industry in the region. As one indicator, in the surrounding five-county region, approximately 1,100 businesses employed over 36,500 workers in health care and social services in early 2007, comprising 7.4% of regional businesses and 10.7% of total employment. This is the second highest industrial concentration in the region. Over 9% of the state's healthcare providers are located within the region.

The region is home to the headquarters of two of the leading medical instruments companies, Biomet and Zimmer that will likely face increasing demand for their products as the global population ages.

The five-county region includes 17 hospitals with over 2000 in-patient beds available. The region also is home to a regional campus of the Indiana University School of Medicine. The school is in a joint venture with Notre Dame University to develop a cancer research institution to open in 2010.

At a more local level, employment in healthcare and social assistance sectors rose 10.7% from August 2000 to August 2008 in the South Bend metropolitan area.

From 2003 to 2008, the number of health professionals employed in the South Bend metro area rose 8.5% to 6,625. In the Elkhart metro area, the number of health professionals increased 11.6% to 3,455 during the same period. Of the 6625 professionals in South Bend, 56.1% are registered nurses (RN) or licensed practitioner nurses (LPN) and 10.5% are physicians. In Elkhart, 62.8% are RNs or LPNs and 7.8% are physicians of the 3,455 healthcare professionals.

The local healthcare industry continues to expand as the expected growth in demand for healthcare services and products anticipates an aging population locally, nationally, and globally. For example, Memorial Hospital will complete its largest expansion in 2009, resulting in up to 45 new clinical jobs and 3000 construction related jobs. The South Bend Clinic's expansion begun in 2007 will add approximately 140 jobs to its current employment of 530. According to US Census Bureau estimates, the aged 65 and over category will grow fastest, at 27.3% by 2020 in the South Bend metropolitan area.

According to Center for Health Workforce Studies at the University of Albany, SUNY, healthcare is the fastest growing industry in the United States. Between 2006 and 2016, the sector will grow over 21%, compared to an average of 9% for other sectors. Jobs in home health care and offices of health practitioners will grow the fastest. Nursing will gain the most jobs, with demand for over 1 million new RNs between 2006 and 2016; hospitals alone will add over

300,000 RN jobs. Demand for physicians is also predicted to increase nationally as well, with the strongest demand in specialty fields of dermatology, neurosurgery, pulmonary disease, urology, and gastroenterology.

Economic 9: Indiana's Life Science Initiatives

Indiana is positioning itself to become a leader in the Life Sciences by seeking opportunities and targeting efforts to grow the state's bio and life-sciences industries in the next 3 – 5 years, which will impact the economy, health and quality of life for Hoosiers.

This trend was corroborated by interviews with community leaders.

Indiana University and Purdue University plan to ask the 2009 General Assembly to create a research alliance, the Indiana Innovation Alliance, to grow the state's bio- and life sciences industries. The alliance would also improve the public health and increase the number of physicians being trained in Indiana.

The universities are proposing that the Legislature create the alliance by appropriating $35 million in each of the upcoming fiscal year 2009-201 1 state biennial budget. The funding would include $5 million each year to expand the capacity of the IU School of Medicine to educate physicians. The School of Medicine's goal is to increase medical student enrollment by 30 percent over a six-year period and expand programs at its eight regional centers for medical education. The medical expansion is designed to meet an expected shortage of physicians in the next decade.

The focus of the alliance would be on research with applications in business, including the potential to create new companies. Research focuses of the alliance would encompass medical and health-related fields, pharmaceuticals, bioenergy and biofuels, nanotechnology, health-care delivery and the environment.

According to IU President Michael McRobbie, the alliance is "a coordinated way toward the state's key educational and economic development goals. It means we will be able to marshal the resources and capacity we need to be competitive with the nation's top tier of life science research centers."

Expected outcomes of the alliance include: increased funding for research and development, bringing new funds to Indiana; attracting and retaining academic and commercial researchers, innovators and entrepreneurs; increasing the number of healthcare professionals statewide; and reducing the health-care spending growth rate by companies and organizations.

Central Indiana is already home to global leaders in the life sciences, companies like Lilly, Roche Diagnostics, Dow AgroSciences, Guidant and the Cook Group.

Currently, IU is home to the nation's second largest-medical school and also has top-ranked programs in analytical chemistry and other key science areas.

According to Wade Lange, Indiana Health Industry President and CEO, Indiana "has an incredible life sciences industry base - one that employs 320,000 Hoosiers in 1,200 companies. We already have the world's largest orthopedics company.

As a whole, Indiana employs 6.1 percent of the nation's Drugs and Pharmaceuticals workers. And, the state was one of only four states that experienced gains of more than 1,000 employees with the Medical Devices and Equipment subsector since 2004. In addition, over the past six years, funding from the National Institutes of Health grew at 21 percent, which is almost twice the national rate.

A report from the Battelle/Biotechnology Industry Organization identifies Indiana as one of only three states to have specialized bioscience employment in three of four niche subsectors.

Indiana has the second highest concentration of biopharmaceutical jobs in the country. Indiana is also home to nationally-recognized hospital systems including Clarian Health Partners.

Economic 10: Indiana's Global Market Position

Indiana's economy is becoming increasingly linked to the world economy, particularly in markets such as pharmaceuticals and auto/vehicular parts.

International competition is shifting the economic landscape, and Indiana's exports to international markets have reached record levels. A weakening U.S. dollar has made US goods less expensive on global markets, but the state has also pursued expansion to overseas markets.

Workers need more advanced skill sets & US education is falling behind that of other countries; the gap between the rich & poor is widening; job volatility, consumer psychology ,and Boomer products will influence buying behavior (this was identified as a trend - boomer products); banking & investments, tax structures, and the US budget deficit are areas to "watch".

Economic 11: Local Export Activity

Local export activity is on the rise and should continue to expand, although the magnitude of that growth will be influenced by national and international trends in the economic condition of sectors with high export activity.

A new data set on exports at the metropolitan area level became available in January 2008, which allows for the examination of export activity at the local level in 2005-2006. No other data source is readily available. Based on these data, exports rose 47.9%.in the Elkhart metro area from 2005 to 2006, with the value of exports at $1.3 billion in 2006. In the South Bend

metro area, exports increased at a much slower pace of 17.1%, with 2006 exports valued at $1 billion.

To give some indication of the growing contribution of the region to total exports in Indiana, Elkhart alone accounted for 4.4% of the state total in 2005; one year later in 2006 they contributed 6.3% to the Indiana total. The transportation equipment industry comprises the largest proportion of local exports (49.7%) in South Bend and Elkhart combined. The chemicals industry is second highest (13.7%).

Most local exports go to the Americas, Asia, and Europe. The top five destination trade areas in rank order for Elkhart in 2006 were countries in APEC (Asia Pacific Economic Cooperation), FTAA (Free Trade Area of the Americas), NAFTA, EU, and Asia. For South Bend, the top destinations were countries in FTAA, APEC, NAFTA, EU, and Asia.

The weakening US dollar in global markets contributed to the general growth of US exports, as well as increasing demand for many goods and services in global markets. While the growth in exports is expected to expand in the future, a short decline or slowdown may occur if the US dollar strengthens and the global economy slows in 2009 as expected.

Economic 12: Unpredictability of Current Economic Downturn

The U.S. economy is in an unprecedented state, marked by uncertainty and turmoil, and downward spiraling, particularly in the real estate and stock markets.

This trend was corroborated by interviews with community leaders.

- housing market collapse
- bail out of Freddie, Fannie, AIG
- later bail outs (plans tbd at this time …)
- increasing inflation
- war costs
- energy costs

Economic 13: Real Estate and the Retired

The fragile real estate and stock market outlooks will affect the economic future for all Americans, but particularly the retirement-aged segment of the population.

Nationally, house prices have fallen 10% or so in the past year.

In February 2008, new-home sales slid 1.8% in February to the lowest mark in 13 years, while the median price also declined to $244,100.

In February 2008, the proportion of people ages 55 to 64 in the work force rose to 64.8%, up 1.5 percentage points from April 2007. That translates to more than an additional million in the job pool, according to the U.S. Labor Department.

Individuals counting on proceeds from their home sales to boost their retirement income are at a disadvantage. For example, Mr. Boice, a three-decade veteran at International Business Machines Corp., was planning on selling his home, and move to Arizona for early retirement. However, his home has spent the last year on the market and still hasn't sold. He has cut the asking price by $40,000. Meanwhile, his 401k and individual retirement accounts fell by roughly 20% so far this year, to a combined $240,000.

According to economists and demographers, a huge exodus from the work force should be happening. The first 78 million baby boomers passed the 60-year-old mark two years ago. Some projected 2008 to be a banner retirement year, with the oldest boomers reaching 62, which is the earliest age for collecting Social Security. However, investment advisers and retirement planners at more than a dozen firms say they are seeing large numbers of older workers put off retirement as the housing and stock-market troubles have deepened.

A recent Schwab survey of 1,006 financial advisors indicated that nearly a quarter of their clients are contemplating working longer specifically because of the economic fallout of the past 12 months.

The dot-com bust and stock plunge of 2000-02 was also a factor in delaying retirement. But in those times, those suffering losses in the stock market could take comfort in home values, which were still appreciating. "It's a double whammy this go-around," says Kevin Waldron, a Merrill Lynch financial adviser.

EDUCATION TRENDS

Team: Karen Clark (team leader), Joanne Detlef, Jacqueline Neuman, and Bruce Spitzer

Summary: The education team observed a number of existing trends that they expect will continue into the next 3 to 5 years. Topping the list includes a concern over the growing for-profit sector of higher education and the declining financial support for public institutions. Of course, students and how and what we will teach them remains at the core of our concerns. Changes involving how well they are prepared to learn and how we can meet the challenges to teach them remains a broad theme in many of the other trends.

Education 1: Competition with For-Profit Institutions

Increasing competition for students will continue in the future as for-profit higher education institutions, community and four-year colleges, and countless providers of postsecondary education institutions (e.g. vocational training providers, online providers, etc…) target, recruit, and enroll students.

With increasing gas prices and a public that values convenience, online classes are appealing. Online degrees and online courses are plentiful and reasonably priced. Many education companies market online courses for credit and institutions that offer online degrees are now accredited.

In addition, the Indiana Commission for Higher Education has recently released the report Reaching Higher: Strategic Initiatives for Higher Education in Indiana. This report notes the increasing enrollment at community colleges due to affordability, location, and cost. These factors suggest that IU South Bend will need to sharpen its mission, identify critical community needs, and market itself to target appropriate students.

Education 2: State Financial Support for Higher Education

State financial support for public higher education has been decreasing and will continue to do so in the future.

This trend was corroborated by interviews with community leaders.

All data confirm that state support for public education has been decreasing and will continue to do so in the future. Increasing tuition and fees have offset the decrease in public appropriations in the past. Public higher education institutions will face increased scrutiny when tuition and fees increase in the future and will be held accountable for these increases.

Education 3: Accountability in Higher Education

Publicly-funded colleges and universities will be subject to increasing demands for accountability in a number of areas such as degree completion, retention, costs and spending, programs of study, learning outcomes and overall institutional transparency.

Enrollment continues to increase in higher education institutions, but degree completion in a reasonable amount of time remains unacceptably low. Many returning adults attend college to gain specific skills and training without any intention of completing a degree, however, traditional age students are more likely to enroll with a major and degree in mind. Legislators demand that institutions of higher education be held accountable for raising the number of students who complete degrees in 4 – 6 years.

Education 4: Privatization of Services

There is increasing consideration being given to outsourcing or privatization of higher education services.

Decreasing state appropriations will continue to force colleges and universities to investigate more cost effective ways to provide services including dining services, counseling services, information technology services, facilities maintenance services, and others. Increasing consideration will be given to outsourcing, privatization, or both in the future.

Education 5: Adjunct Faculty

There is an increasing reliance on contingent faculty in higher education.

Fewer individuals choose to complete terminal degrees than in the past. At the same time faculty salaries in public institutions are less competitive than in the past. Because there are fewer applicants for faculty positions and lower salaries offered to those applicants public colleges and universities have an increased reliance on contingent faculty other than tenure-track faculty with advanced degrees. While many of these contingent faculty members possess exceptional expertise they are often part-time employees, work at more than one institution, and have no job security. Relying on contingent faculty may impact student learning and may have questionable results for the effectiveness of college programs including teacher education and school leadership programs.

Education 6: Technology in the Classroom

Technology will continue to impact the way that higher education is delivered and challenge traditional campus and classroom based access and delivery of programs of study.

Technology is being used extensively to support a globally based economy and institutions of higher education are being challenged to provide access to higher education using distance and online based methods as well as virtual reality to prepare students to work in this technology based world.

Education 7: High School Completion Rates

The U.S. Department of Education reported in 2006 that high school status completion rates for 18-24 year olds have trended upwards for all race/ethnicity groups since 1980, and as of 2006 the rate was 96% for Asians/Pacific Islanders, 93% for whites, 85% for African-Americans, 71% for Hispanics, and 90% for multiracial individuals. ***(Note: This rate includes those completing the GED exam.)***

This trend was corroborated by interviews with community leaders.

A significant controversy surrounds the measurement of the U.S. population's attainment of a high school diploma, which is addressed in the source material; but regardless of the measurement there seems to be a consistency in what the numbers show. An educational attainment gap continues to exist between that of whites, and most underrepresented racial/ethnic minorities, including African-Americans, Hispanics, and Native Americans. The gap has been shrinking for the past 40 years, but the rate of progress has slowed in the last 10 years. The income status of an individual seems to play a significant role in educational attainment as well.

Other common factors that act as barriers to educational attainment include: 1) Recurring cycles of poverty; 2) Language barriers; 3) Poor early childhood interventions and preparatory education; 4) Low self-esteem and lack of role models (feelings of alienation and apart of American dream); and 5) single parent households.

Education 8: Math and Science

The U. S. is lagging behind internationally in math and science education.

This trend was corroborated by interviews with community leaders.

1) Students, particularly in inner-city schools, are receiving deficient education in math and science; 2) K-12 teachers are ill-prepared to teach math and science; 3) Minority students and women are often discouraged from taking challenging math and science courses; 4) School officials and teachers are ineffective in dealing with math and science anxieties; and 5) Capable students steer clear of demonstrating math and science aptitude for fear of peer pressure.

Education 9: American Students Abroad

Increasingly American students are choosing to study abroad.

1) Growing interest among college students in world affairs; 2) Recognition that study abroad provides competitive options for employment; 3) Lifestyle growth; 4) increased interest in learning a foreign language. 5) The weakening of the dollar is forcing students to study closer to home in Latin America, Central America, or Canada.

Education 10: College Remediation

There is an increase in the number of entering college students needing remediation.

This trend was corroborated by interviews with community leaders.

Most estimates demonstrate that roughly one out of three college students need some sort of remediation before continuing towards their goal of a college degree. While that rate has only fluctuated slightly over recent years, the rate of high school graduates going on to college and the sheer numbers of college students has increased dramatically. A strong desire exists

nationally to send more high school graduates to college and some may be marginal students, so rather than sacrificing standards the additional at-risk students will need remediation.

LABOR FORCE TRENDS

Team: Carolyn Fermoyle, Linda Fisher (team leader), Jeff Jackson, and Dave Vollrath

Summary: The trends mainly focus on Indiana Economic Growth Region 2. In many cases, not only was the labor force team able to identify from where the careers of tomorrow might come, but they often times were able to numerically represent the extent of these trends through their research. The labor force and economic teams' trends often support one another through the independent research that they each did.

Labor Force 1: Advanced manufacturing

The need for advanced manufacturing skills will increase through 2021.

This trend was corroborated by interviews with community leaders.

Traditional "old" manufacturing and manufacturers are being replaced by "advanced" manufacturing and manufacturers in our region. These new industries and new techniques will require a new set of skills from the labor force. The existing labor force will either need to be retrained or replaced by workers able to make this transition.

Labor Force 2: Business Occupations

According to Indiana Economic Growth Region 2 projections, business occupations will increase 11% between 2004 and 2014.

Manufacturing and retail remain the largest employment sector in the area.

Labor Force 3: Local Government

City and county government services in our region will contract over the next 3-5 years.

This trend was corroborated by interviews with community leaders.

- Governor Daniels Circuit Breaker
- Shepperd-Kernan Report
- Additional recommendations to eliminate local government personnel

Labor Force 4: Healthcare

Healthcare related occupations in Indiana Economic Region 2 are projected to increase by over 20% from 2004-2014.

This trend was corroborated by interviews with community leaders.

Aging of the baby boom generation.

Labor Force 5: Healthcare Managers

The need for managers in the healthcare industry is increasing with a projected increase of 2,040 jobs between 2002 and 2012 for IEGR 2.

Healthcare industry is growing, need for managers are also growing. Additionally as more healthcare managers and administers retire there will be an increased need to fill those positions.

Labor Force 6: Expectations for Growth

Employment projections for Indiana Economic Region 2 predict a 21% increase in healthcare occupations by 2014, a 4% increase in retail occupations and a 6% increase in manufacturing occupations.

This trend was corroborated by interviews with community leaders.

Long-Term Indiana Occupational Projections, Indiana Workforce Development Agency, 9/2007.
"Hoosier Hot 50 Jobs – Economic Growth Region 2", Indiana Workforce Development Agency,

Labor Force 7: Turnover of Labor Force

Over the next 35 years, the number of Hoosiers age 65 and older will increase by 90 percent. That means that in 2040, one in five Hoosiers will be of traditional retirement age. Meanwhile, the number of people in the 25-54 age group - a key labor force demographic - will decline.

This trend was corroborated by interviews with community leaders.

The primary force behind Indiana's changing population is the inevitable aging of the baby boom generation. At present, this group is between the ages of 44 and 61 and, by 2030, this entire cohort will be of traditional retirement age. This fact promises to transform the state.

There will be a steady decrease of those in the labor force aged 25-54 over the next 15 years before it rebounds from 2020 to 2040. Rural areas of the state of Indiana will be the most affected with a 9 percent decline in this age group by 2020. These labor force realities could hinder prospects for Indiana's economic growth over the next 20 years, particularly rural areas of the state.

Labor Force 8: Transportation Sector and Retraining

Major job losses in the RV and transportation sector in our economic growth region will increase the need for retraining of workers.

This trend was corroborated by interviews with community leaders.

- Price of gasoline
- Environmental concerns
- Economy/Recession

Labor Force 9: Teachers

Growth in jobs for elementary and secondary teacher will increase 20% in next seven years (2015) and 32% for postsecondary teachers.

Population in our economic region is growing especially in the 0-18 year old range, and baby boomers retiring in the teaching field.

Labor Force 10: Skill Level of Workforce

Over the next 25 years or so, as better-educated individuals leave the workforce they will be replaced by those who, on average, have lower levels of education and skill.

- Experienced, older workers will leave the workforce. Seniors 65+ swell from 12% to 20%+ of the Indiana population over the next 30 years. Today's teenagers will slowly fill those ranks, making up the bulk of the workforce in 25 years.
- Changing structure of the economy will call for more "knowledge workers" setting the new standard of higher education at the Master's level and requiring students to stay in college longer.
- Aggregate academic achievement of students in k-12 demonstrates at best flat or inconsistent improvement and requires considerable effort to mitigate.
- America's population growth has been increasingly reliant on immigration to maintain population growth. Hispanic immigration, in particular, drives a portion of this trend. More than half of the adult Hispanic population does not have a high school diploma.

- Families that haven't had a college graduate in their family will have to supplement this knowledge based economy. First generation college students, of underrepresented minorities or otherwise, face challenges to completing or even starting college.
- St. Joseph and Elkhart Counties reflects the trends of the nation in many respects, from inconsistent success in school districts to the need for highly skilled workers in a new economy to the changing demographics of the workforce.

POLITICAL TRENDS

Team: Diana Hess, Donna Pandori, Karen White (team leader), and Ilene Sheffer

Summary: The financing of the public sector broadly, as well as higher education specifically, dominated the overall theme of political trends. Accompanying the affordability issue remains the issue of higher education accountability in order to assure the public that they are receiving value for the money spent. Both of these major issues remain the hot topic of conversation regardless of which party controls our political institutions.

Political 1: Accountability in Higher Education

There is increasing attention at the Federal and State levels to and insistence upon accountability in postsecondary education and this trend will continue for the next 3-5 years.

The Higher Education and Opportunity Act of 2008 gives every indication Federal regulation is not expected to go away and more could be coming no matter which party gets into office.

Federal regulation of Higher Education has been creeping up for some time and is primarily being driven by tuition rates that have steadily been increasing over the last 10 years or so.

Eloquently stated in an article, *College Leaders, After 'Dodging a Bullet,' Plan Next Accreditation Battles*, written by Paul Baskin, "dispense with the mythology of the separation of state and higher education, translated by the education community as, Give us money and leave us alone."

Accrediting agencies are increasingly being asked whether they are doing enough to ensure that the colleges they oversee are performing well enough. The federal government and public are looking for assurance that universities are providing affordable quality education while holding the line on tuition costs.

Political 2: Affordability of Higher Education

Tuition costs are outpacing government funding for postsecondary student aid. This will have the greatest impact on low-income students and leave many of them unable to afford college during the next 3-5 years.

This trend was corroborated by interviews with community leaders.

College Affordability: The Wolf in Sheep's Clothing, by Anthony Carnevale:
"As tuitions rise, college enrollments shift from private colleges to the lower priced publics creating an increasing public funding burden, especially in recessions when families are looking for bargains . . . in public colleges, tuition", price students and families pay for college, "never covers full cost", what colleges pay to educate students). Public postsecondary education is one of the few businesses where every new customer means bigger losses". . . "Governments, especially state governments, are paying a declining share of increasing costs at public colleges. When governments pay less, students have to pay more through rising tuition and fees."

Pell Grants Said to Face a Shortfall of $6 Billion, by Sam Dillon & Tamar Lewin:
". . . almost nine million students nationwide completed the federal aid application required for federal grants and loans, a 16 percent increase over last year." Many of these students are applying and qualifying for student aid." . . . "Still, rising tuition, shrinking state aid to colleges and the shaky economy are pushing college out of reach for many low-income students."

With the on-going recession and bleak future economic outlook there is no evidence that this trend will not continue for the next 3-5 years.

Political 3: Pell Grants

The Pell Grant Equity Act may further increase the number of students opting to attend 2-year colleges and may help fuel the movement of 2-year community colleges offering 4-year degrees.

Rising tuition coupled with a shaky economy is making college unaffordable for many students. Parents who were depending on college savings plans for college tuition are finding their plans underlying investments have not met their expectations. As such, community college is becoming a cheaper and more realistic alternative not only for lower but middle income students as well.

Community colleges are becoming more attractive to students as an affordable alternative to more expensive 4-year public schools. Community colleges are seeing record increases in enrollment.

In an article, "Harper bid for 4-year degrees has area colleges steaming", notes "*Trends around the country are leading community colleges to offer vocational bachelor's degree programs*". And another, "*Florida's community colleges shift toward 4-year degrees", highlights one such*

pilot program where students can earn bachelor's degrees in teaching, nursing and business management.

The Pell Grant Equity Act removes "tuition sensitivity" so that students attending lower cost institutions do not have their maximum Pell grant award reduced.

Political 4: Consolidating School Systems

There are increasing recommendations to consolidate school systems and related public services in Indiana.

- Need to establish school districts that are large enough to provide high-caliber education at a lower cost and enhance fiscal responsibility.
- To increase efficiency and effectiveness

Political 5: Green Alliances

Labor unions, environmental groups, and other social-economic justice groups are combining forces to lobby for creation of green jobs. (Blue-Green Alliance, UAW; Sierra Club, Michiana Social Forum, Green Party)

Green lobbying is primarily being fueled by rising fuel prices, concerns about global warming, economic meltdown, and the loss of **millions** of manufacturing jobs over the past decade. Groups who historically have been at odds such (environmentalists, businesses, and unions) are beginning to work together as allies in a united cause to save the environment and create new jobs.

Blue Green Alliance lobbying group has this to say:

> "*Job Opportunities in a Green Economy: Indiana Can Gain from Fighting Global Warming. In Indiana, there are nearly 340,000 jobs in a representative group of job areas that could see job growth or wage increases by putting global warming solutions to work. And the benefits of those new jobs would spread to a much wider swath of the economy.* "

An article in the Wall Street Journal points out "Green is the New Color of Lobbying. Washington - Lobbying for green energy has become a red hot business here". This type of lobbying effort in also happening at the Indiana State level as environmentalists, business, unions and legislatures are starting to see the green in President Obama's Stimulus plan.

Encouraging from the Indiana State legislature is Green Jobs Development Act, not yet passed though, which theoretically will "*promote jobs in renewable energy and energy efficiency*". A trend of this nature will last well into the next 3 to 5 years and beyond.

Political 6: Privatization

In the country as well as in Indiana, there is increasing privatization of public entities, infrastructure and services.

This trend was corroborated by interviews with community leaders.

- "Since the early 90s, the U.S. has had no comprehensive transportation development, and responsibilities were pushed off to states, municipalities and metropolitan planning organizations." (NYT, 8/27/08)
- State and local funds are shrinking creating budget gaps that make pubic-private partnerships more attractive. (NYT, 8/27/08)
- "Investment funds stand to reap handsome fees from the crisis in infrastructure," Ten to 20 years from now infrastructure could be larger than real estate," said Mark Weisdorf, head of infrastructure Investments at JP Morgan. (NYT, 8/27/08)

Political 7: Creative Funding for Education

There is growing interest in seeking "creative" funding to make a college education more accessible and affordable for Indiana residents.

- Insufficient state revenue through taxation.
- Property tax unhappiness by Indiana residents

Political 8: ICHE's Reaching Higher Plan

The Indiana Commission on Higher Education (ICHE) will implement new strategic policies outlined in the "Reaching Higher" document by 2012, and will incentivize institutions with formula funding based on numerous output metrics, including degree completions and completion rates.

ICHE set a goal to be among the top 10 states in the nation for degree completion by 2012. The new strategic plan will tie financial funding to early degree completion, focus on the role of the community college, and award excellence and efficiency that will be evaluated through new accountability standards.

Indiana's higher education has the current stark statistics:

- 4 year graduation rates average a mere 36% and 57% after 6 years
- 22% of all Indiana students and 65% of community college students need remediation
- Hoosier families have experienced an average doubling of tuition and fees at public four year universities over the past 10 years

- Indiana residents currently rank 35th nationally in average personal Income
- Indiana ranks 10th in the nation with 62 percent of its high school grads enrolling in college, but they fail to persist once on campus

Political 9: Community Organizations

There is an emergence of community-based organizations that have the potential to impact policy.

Citizens now are asking for and demanding more transparency and accountability from local leaders. They are increasing their involvement in the community and political arenas. They view themselves as stakeholders and are holding the elected and appointed officials more accountable. TAP, Transforming Action through Power, is a faith based outreach effort and the Community Forum for Economic Development, together, are two strong organizations among many in the community.

Political 10: Property Tax

With the changed property tax assessment indicator, it is likely that county and local governments will loss significant revenues due to property tax caps.

In 1998 the Indiana Supreme Court determined that Indiana's system of property assessment must be based on an objective measure. In 2002 all property was revalued and many properties' assessed values greatly increased. In the same year taxes on inventory were eliminated. The results of the trending process were a six year adjustment based on market value. The result of these changes cause assessed values on some homes to double or even triple. Many homeowners found themselves in situations where their homes were no longer affordable. In response Indiana focused on property tax relief to provide caps on property tax called "circuit breaker." Under House Bill 1001, in 2010, the owner of a homestead will pay no more than 1% in property tax based on the home's gross assessed value.

SOCIAL, VALUES, AND LIFESTYLE TRENDS

Team: Michael Keen (team leader), and Rebecca Torstrick

Summary: Trends in this taxonomy area seem to reflect a review of quality-of-life issues: consumerism, sustainability, technology, healthcare, diversity, safety, family, and spirituality. The one word descriptions present a poor attempt at capsulizing these complex issues, and one would only gain a truer picture of these projected future trends by reviewing the complete section.

Social, values, and lifestyle 1: Sustainability

The shift to valuing and practicing environmental sustainability and improving the environment for the future will continue to grow and become even stronger over the next 3-5 years.

This trend was corroborated by interviews with community leaders.

Every day, there are articles about sustainability in the South Bend Tribune, the Chicago Tribune, the New York Times. Local and national media also run stories on sustainability on an almost daily basis. ABC, CNN, NBC, FOX have all had "green weeks" and advertise how they are going green. Business is doing the same, from Starbucks to WalMart. In other words, in the last 2 years, we have seen a social and cultural transformation in attitudes towards the threat of climate change, the environment, and the future. Perhaps one of the most powerful indicators of the magnitude of this shift and its impact on organizations and businesses is the impact already felt by the auto industry. Those companies that have anticipated and responded to this transformation with high mileage and hybrid cars report record sales of these vehicles, even while major auto companies such as Ford and General Motors report 20% decreases in sales. This transformation is affecting all sectors of the society, economy, and culture.

The election of Barack Obama and his commitment to using the economic stimulus package to build out green jobs, make our infrastructure and buildings more energy efficient, and position the United States as a leader in the green economy is just the latest indicator of how strong and pervasive this trend is.

Social, values, and lifestyle 2: Social Networking

The explosive growth and applications of new forms of social interaction that are virtual or e-based social networking will continue over the next 3-5 years.

The widespread use, rapid development, falling prices, miniaturization, integration, and increasing power of computers, personal data assistants and mobile phones has led to an explosion in a new form of social interaction, virtual or e-based social networking. Social networking includes such practices as smart mobbing, distributed innovation, and collective assessment. The recent development and rapid growth of Facebook and uncountable social networking sites like it indicates that this trend is strong and will continue to develop. Increasingly, business, new organizations, major brand companies, community organizations, and a host of shared interest groups are recognizing and harnessing the power of social networking to carry out their missions. Perhaps the most salient and successful recent example has been the Obama presidential campaign's early recognition and use of social networking to out raise and eventually defeat his initially thought to be undefeatable primary opponent Hillary Clinton, and his eventual win of the presidency. As our cell phones, PCs, music and DVD players, and TVs become increasingly integrated, more portable, more powerful, and more affordable, this trend will continue to develop and morph.

Social, values, and lifestyle 3: Relocalization

There is a growing movement towards relocalization that will continue over the next 3-5 years.

Fueled by rising energy prices, fears of globalization, and concerns about economic well-being, there is a growing movement towards a new localism. We have seen this movement start in the 1990s in response to fears of globalization and the move of jobs and factories offshore. In then took root in the area of food production and consumption through the leadership of Slow Food. Initially begun in Italy, this has become a worldwide movement. It is reflected in the US by the recent burgeoning of Farmers Markets, once limited only to large urban centers, in small towns all across the country, such a Niles, Buchannan and Goshen. Most recently, the movement has begun to encourage people to "Buy Local" in order to support local economic development and small businesses. Ironically, one force driving this new localism is the desire to recapture a sense of community and connection in the global village which has been made possible by the communications and information revolution. Most recently it has been fueled by increasing fuel prices and a desire to reduce the amount of energy needed to provide goods and services for our communities, and concerns about the safety of our food supply and products from other countries.

Social, values, and lifestyle 4: Tailored Consumerism

People are turning away from mass-produced products and services in order to gain products, experiences, and services that have been specially tailored to fit their own unique needs, including things they themselves have produced for themselves.

There has been a huge increase over the last three years in personalized learning, personal shopping, Do-It-Yourself (DIY). Simulated worlds like Second Life are going on Web 2.0 and colleges and universities are beginning to open “virtual” campuses there to attract and engage students. These trends reflect peoples’ desires to create deeply personal and individual relationships with the products and services they consume. The trend within education of “helicopter” parents swooping in to ensure individualized treatment for their children has been well documented. We are familiar with IEPs (Individualized Education Plans) for students with special needs in schools.

As more parts of our lives become commoditized, deep personalization represents our reaction to loss of identity in the face of globalization. However, it also reflects current market realities: the forces of free-market capitalism that drive manufacturers to produce and market products to ever more narrowly defined “niches” in order to continue to grow and post profits.

Social, values, and lifestyle 5: Digital Technology and Learning

Rapid innovations in digital technology are creating new opportunities for novel application of those technologies to learning and lives.

There are numerous articles about the "digital generation," pointing to the coming of age of a generation with access to the Internet, cellphones, ipods, and other wired and digital devices. Teenagers, we are told, are "digital natives in a land of digital immigrants." Any enterprise that wants to reach young people is advised to use IMing instead of direct mail; establish a Facebook or MySpace presence, or go live in Second Life. However, other studies indicate that digital dexterity may not be as widespread as pundits claim. Many youth cannot afford the devices themselves, and, those who can are less likely to truly experiment with them unlike previous generations who got into the guts of then developing computer technology.

[Aside: It remains unclear whether the youth of America are really as tech and media savvy as we give them credit for being—which has implications for the ongoing push in higher education to pump up the use of technology in teaching and learning.]

Social, values, and lifestyle 6: Redefining Diversity

While diversity still refers to differences in gender, race or social class, it is increasingly understood and applied to other identities and affinity groups; communities using these new definitions of diversity are forming across the more traditional lines of gender, race or social class.

In 2000, there were 3.1 million interracial marriages in the U.S., enough to force changes in census procedures to allow Americans to use more than one racial category to define their identity. By 2003, nearly 13% of all American marriages were interracial, a trend that has continued. A 2005 Gallup Poll found that 95% of people aged 18-29 approved of interracial relationships. Thus, numbers of multiracial children are also increasing, with Tiger Woods and Barack Obama representing two well known examples. Chinese-Latinos in New York City are just a further example of diversity within diversity.

Marketers are aware of, searching for, and targeting these more diverse identities using various forms of segmentation techniques. Political candidates search for individuals with just the right intersection of characteristics as important swing voters in tightly contested elections. Finally, certain scientific sectors are working to achieve the "mathematical modeling" of humanity as they seek to commodify human beings.

As people frame their identities in more diverse ways, it opens the possibilities of new alliances for political and social action (as in the ads about the environment that feature Al Sharpton and Pat Robertson united).

Social, values, and lifestyle 7: Health and Wellness

In the next 3-5 years there will be a change of focus from health care to health management with a greater emphasis on health and wellness and prevention among providers and

individuals accompanied by an increased personalization and diversity in health and wellness strategies.

Spiraling medical costs and a general sense that the American health care system is not serving the population has led to calls for fundamental reform and restructuring. The Internet has provided individuals with more options and greater information about their health and illness than ever before. In order to save money, companies and insurers are moving from a focus on health care, to a focus on health and wellness and prevention. To a certain extent, dissatisfied users of the mainstream medical system have already taken matters into their own hands and begun to use complementary and alternative medicine (CAM) options on a widespread basis. Developments in genetic research and therapy, along with greater personal responsibility for one's own health and wellness are leading to an increased personalization in medical care and health and wellness regimes. Patients are picking and choosing based on doctors recommendations, Internet, and complementary and alternative therapies. Interest in health and wellness has also led to a greater interest in nutrition and demand for healthy food choices, as well as a rapidly growing interest in non-Western practices such as yoga, meditation, Tai Chi, etc. Health care providers and workers will be challenged to respond to these trends, as well as the call by President Obama to computerize all medical records in an attempt to increase the efficiency and safety of the health care system.

Social, values, and lifestyle 8: Spirituality

Religious and spiritual diversity, including atheism and agnosticism, will continue to grow and become more visible over the next 3-5 years.

For the last decade or two, America has been embattled in a set of culture wars centered on politics and religion. Surveys and studies show that traditional congregations and organized religion are losing ground as religion and spirituality become more a matter of choice than family inheritance. In part this is a result of the growing diversity in American society, in part a result of the information and communications revolution. Significant growth in Islam, as well as non-Western religious traditions is leading to a great diversity of opportunities from which believers can choose. There has also been an increase in the number of non-believers, as well as individuals who express a non-theistic spirituality. As a result, many Americans, especially young Americans find themselves searching for meaning in their lives, as well as a meaningful way in which to express their values and connect up with communities of likeminded persons. This diversity of belief will also call for greater tolerance, understanding, and acceptance among persons of differing faith, as well as those who profess no faith at all.

Social, values, and lifestyle 9: Aging Population

The increase in the proportion of the population aged 65 or older will have dramatic consequences for public health, the health-care financing and delivery systems, informal caregiving, and pension systems.

This trend was corroborated by interviews with community leaders.

In the United States, the proportion of the population aged ≥65 years is projected to increase from 12.4% in 2000 to 19.6% in 2030 (*3*). The sex distribution of older U.S. residents is expected to change only moderately. Women represented 59% of persons aged ≥65 years in 2000 compared with an estimated 56% in 2030. However, larger changes in the racial/ethnic composition of persons aged ≥65 years are expected. From 2000 to 2030, the proportion of persons aged ≥65 years who are members of racial minority groups (i.e., black, American Indian/Alaska Native, Asian/Pacific Islander) is expected to increase from 11.3% to 16.5%; the proportion of Hispanics is expected to increase from 5.6% to 10.9%.

Social, values, and lifestyle 10: Redefining Retirement

Baby boomers remain consumers of education as they age and are redefining what it means to grow old.

A 1997 study reveals that older people are learning in numbers and amounts of time expended at a rate far exceeding expectations. Fueling the demand is a new generation of retirees who are more affluent, better educated, and healthier than any previous generation in American history.

Studies of participation in formal or organized adult education programs reveal that the percentage of older adult participants is modest but expected to grow. A second trend that appears in recent literature is advocacy of age-integrated, instead of age-segregated, programs and policies. The plethora of information available over the Internet both about and for older adults is a third trend related to older adults with implications for educators. Many older adults are actively using the Internet as both consumers and producers of information. Information about many aspects of aging can be found on the Internet. The use of the Internet by older adults is consistent with the kind of education in which they tend to engage--informal and noncredit, and educators need to consider how they can use it to support and deliver educational programming for older adults.

Social, values, and lifestyle 11: Marriage and Family

As life expectancy increases, people will have more options for how they fit marriage and family into their lives, such that the possible permutations will be too complex for easy demographic profiling.

As people live into their 80s and 90s, remaining relatively healthy until later in life, they may choose to marry and have families early or to build careers and postpone marriage and family until later in life, or to marry early but have children later, or to never do either. Women who become single parents and women who have “empty nest” syndrome have been two stable populations for our educational system in recent years. As women either marry and have children later or don’t have children at all, this will alter when and how they seek education.

Men and women who postpone marriage and family until later in life may be more likely to experiment with different careers earlier in life and so return for additional training or to make an entire career shift.

Social, values, and lifestyle 12: Local Crime

While overall crime rates have been going down in the South Bend region, certain types of crimes (particularly drug-related) have been increasing and will remain high for the foreseeable future.

This trend was corroborated by interviews with community leaders.

Crime rates dropped in Indiana and in South Bend for 2007, although methamphetamine abuse continues to be a major concern in this region. Programs that assist local law enforcement in developing the skills to track and map data on such crimes may be in high demand. The weak economy may also lead to increases in property-related crimes, as thefts increase due to lack of other opportunities to provide for one's self and family. As the economy improves, these crime rates should start to decrease once again.

TECHNOLOGY TRENDS

Team: Pat Ames (team leader), Matt Mooney, Susan E. Thomas, and Kathleen Weidner

Summary: Technology seems to progress at an accelerating rate, so to pinpoint future trends in technology truly attempts to hit a moving target. Time horizons on technology issues seem to shorten on a regular basis. The technology team concentrated mainly on electronic technology that will impact institutions and the delivery of education.

Technology 1: Cybercrime

Computer networks and the users of those networks will be increasingly targeted by cyber-criminals and others bent on wrecking havoc.

Because of immense storage capacities, the susceptibility of users to phishing/social engineering and the volume of sensitive data (including data stored "in the clouds"), computer systems in higher education are under siege by those 1) who would use our storage as a repository for illegally obtained copyrighted data and 2) who would seek to obtain passwords and other personal data for identity theft purposes.

Technology 2: Classroom Technology

Faculty and students will increase use of web-based applications and mobile technologies for classroom instruction and learning.

Both web applications and portable electronic device technology (virtual worlds, video streaming, classroom capture software, web conferencing, data mashups, podcasting) will supplement and enhance both traditional face-to-face instruction and distance education.

Emerging technologies are increasing capabilities for communication and learning.

Virtual world/gaming applications are in place and being used for instruction.

Pod-casting launched this semester in IUSB Chemistry course.

The Horizon Report 2008 identifies six emerging technologies that will or already are impacting higher education: 1) Grassroots Video, 2) Collaboration Webs, 3) Mobile Broadband, 4) Data Mashups, 5) Collective Intelligence, 6) Social Operating Systems.

Technology 3: Laptop Initiatives

The use of 1-to-1 laptop initiatives continues to increase across the nation.

The strong reliance on technology for research, communication, and collaboration has led to a need for ubiquitous computing on campus. The age-old lab model no longer can support the needs of our students and their employers. A 1-to-1 program, like those run at over 400 college campuses, would provide each student with a laptop by increasing the cost of attendance by the cost of the laptop. That would dramatically reduce the need for campus labs, thereby recovering the costs of the physical computers, lab attendants, and energy needed to continuously run nearly 700 desktop computers on campus. Additionally, the university would recover classroom space that is currently used for labs. The financial savings could be put into providing more reliable wireless access, wireless printing, and user support. Our students would have more computing experience and access, thus better preparing them for their career choices.

Technology 4: Virtual Environments

Use of technologies such as distance learning, telecommuting and videoconferencing will likely increase in the next 3-5 years.

Because of the green movement, rising energy costs, convenience, and diminishing budgets there is an increased emphasis on wiser use of resources, both natural and economic. Virtual environments, such as those listed above, have the potential of reducing costs without affecting the educational mission.

Technology 5: Open Source Computing

Faced with increasing software, hardware and infrastructure costs, organizations will find and utilize alternatives such as open-source applications and "cloud computing."

As universities' budgets tighten, they look for ways to cut costs. One of these ways being utilized is through the use of in-house-developed or open-source software which is general available for low- or no-cost. Linux, OnCourse, Sakai and Kuali are examples of open-source applications or projects in use in higher education today. Cloud computing is a term that refers to the use of off-site hosted (usually web-based) applications and off-site data storage in lieu of software and storage installed on machines that reside in individual offices or workstations. (From Wikipedia – "cloud computing" is a style of computing in which IT-related capabilities are provided "as a service", allowing users to access technology-enabled services from the Internet ("in the cloud") without knowledge of, expertise with, or control over the technology infrastructure that supports them.)

Technology 6: Distance Education

The demand for courses and degree programs offered through distance education or online instruction will increase as will the ability to deliver the content with emerging technologies.

Distance education is a globally established and accepted form of instruction and degree completion. According to Kim and Bonk (2006) distance education should see continued growth. The authors note that increasing student demand, emerging web technologies, growth of internet capabilities, and tight campus budgets will push the growth of online courses and programs. Kim and Bonk discovered more specifically an increased need for online certificate and short program (Associates/Masters) offerings along with a rise in blended learning that combines both traditional face-to-face instruction with online. Improvements in online course content, online pedagogy, and student and instructor readiness for online learning are also seen as factors that will increase online and distance education.

Technology 7: Demand for High Tech Workers

Employment opportunities in manufacturing continue to decrease while jobs requiring high tech skills/education go unfilled particularly in nanotechnology/nanoscience.

This trend was corroborated by interviews with community leaders.

In the Michiana area, the decreasing levels of traditional manufacturing-based employment and the increasing need for a technologically sophisticated workforce, especially in the area of nanotechnology, requires that curricula be evaluated (and modified, if necessary) to provide the appropriate education. According to the National Science Foundation, somewhere between 2 to 5 million nanotech workers worldwide will be needed by 2015. Other sources state that a lack of nanotech training will pose challenges to those who want to move forward in development and implementation of nanotech products and services.

EMERGING ISSUES

Offered by John Novak, Director for Institutional Research

Please submit any emerging issues with source material to the Office of Institutional Research.

Emerging Issue 1: Federal Stimulus Package

Whether federal money will flow into Indiana and more specifically Michiana remains on many people's minds. President Obama visited Elkhart County, which has the highest unemployment figures in the country, to assure that help from the federal government was on the way. The mayor of Elkhart lobbied for nearly $100 million in stimulus money. There also remains some question over whether Governor Daniels will accept any of the federal dollars, and whether the Indiana General Assembly will anticipate money from the stimulus to help build the next state budget.

Emerging Issue 2: New Technology High School

The new technology high school in South Bend has been a widely popular idea, including state support that stems from the desire to establish similar high schools throughout Indiana. The proposal continues to gain the approval of local governmental institutions, but there still remains the issue of obtaining the resources to accomplish the task.

Emerging Issue 3: Ivy Tech

The quickly expanding role of Ivy Tech Community College in Indiana makes news on a regular basis. The enrollments statewide surpassed Indiana University this year, and enrollments should grow even more quickly with the retraining of many in the workforce. Indiana's Commission of Higher Education recently outlined Ivy Tech's role more clearly in the Reaching Higher plan for Indiana, and Indiana University also forged a new transfer agreement with the institution. Furthermore, the call for affordability across the country has put a focus on 2-year institutions to sustain the desire to see more citizens become students in higher education institutions.

Emerging Issue 4: Veterans

Men and women of the armed forces will return from active duty over the next three to five years. Some background stories in the news talk about the transition they will face, healthcare issues, and whether they will return to college. Also at issue will be how much support they will receive from the federal government. IU President Michael A. McRobbie was quoted in January saying, "we expect that this new GI Bill will be very popular with the large number of veterans returning from overseas and from military service, especially in these difficult economic times."

Emerging Issue 5: The Economy

In the uncertain economic climate, one eye needs to be kept on the economy. Many expect that unemployment will continue to rise, and families adjust to new realities and find strategies to make ends meet. Indiana Univeristy and other institutions in Indiana have already announced plans to cut costs in this year's budget. In the past couple of weeks, there have been some small glimmers of hope

though. The stock market has rebounded, a news article in the South Bend Tribune that the nanotechnology effort at University of Notre Dame has been picking up steam, and a German company has located a new manufacturing venture in Elkhart County. A Manpower Employment Outlook Survey indicated recently that South Bend-Mishawaka area employers expect a steady pace of hiring in the second quarter. There appears some small indication that the IU business school panel of economics professors that presided over a business outlook panel back in November 2008 were on target to express some optimism over the start of a recovery later in 2009.

Emerging Issue 6: New Tool for Business and Research

From October 27, 2008, South Bend Tribune

> *"…The new, free online tool – the Indiana Database of Research of University Expertise, or INDURE (www.indure.org) – provides a searchable database of researchers, intellectual property and current sponsored research projects available for further development or for integration into new products or services.*
>
> *The site includes researchers and projects at the University of Notre Dame, Purdue University, Indiana University and Ball State University…"*

Emerging Issue 7: California Net Migration

Is California losing its appeal? Net migration out of the most populous state in the Union was negative for the fourth straight year with a net loss of 144,000 people last year. The population continues to grow due to increase overall because of births and immigration, but the economic problems of the state budget, costs outpacing income, and the housing market continue to leave a mark on the California Dream. The AP article by Eric Parsons in January 2009 does not even mention other issues that might drive people out like wild fires or water shortages. Currently, many of these California transplants are headed for other western states, but how long before we see these areas' resources overburdened?

Emerging Issue 8: Tuition Breaks for Neighboring States

Purdue North Central recently joined the Midwest Student Exchange Program. Michigan residents attending PNC will be charged a tuition rate that is 125 percent of the in-state rate. Ivy Tech Community College does not charge out of state rates for bordering counties of neighboring states. The South Bend Tribune ran a pair of articles on the dissolving state boarder with regard to tuition in February of 2009.

Emerging Issue 9: Baby Boomlet 2007

In a report released March 19, 2009 by federal researchers, the 4.3 million births in 2007 topped the peak during the baby boom 50 years earlier. Other news out of this report was that teen birthrates were up for the second year in a row and births to unwed mothers reached an all-time high of about 40 percent.