

University of Kentucky

From the Selected Works of Antje Mays

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Winthrop, Fount of Knowledge: On University-Industry Knowledge Partnerships

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Available at: <https://works.bepress.com/antjemays/26/>

Winthrop, Fount of Knowledge

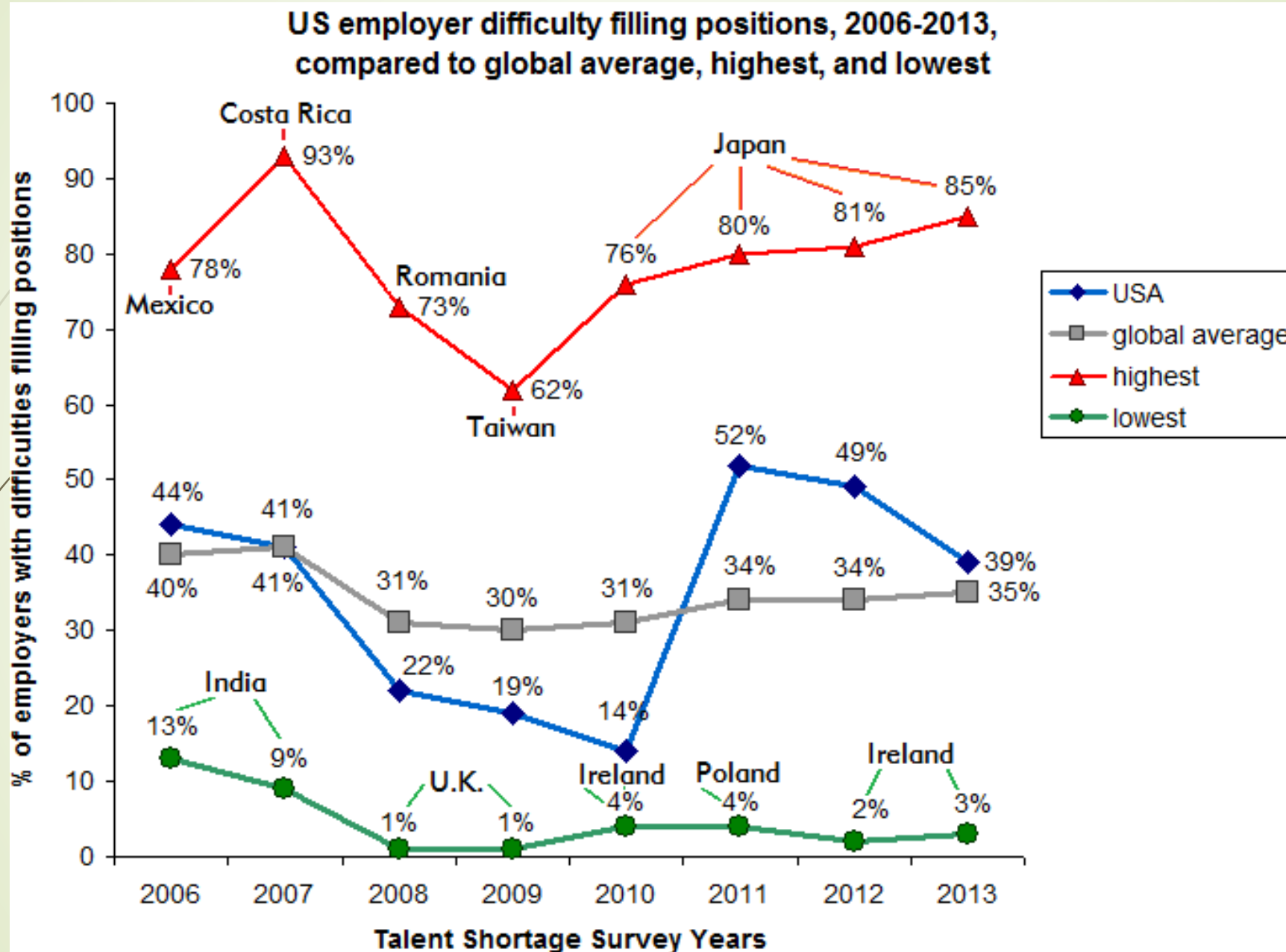
On University-Industry Knowledge Partnerships

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University-Industry Knowledge Partnerships – First Steps

- **Environmental scan – local economic trajectory and goals:**
 - Identify growing industries
 - Identify sectors targeted for growth by local economic development initiatives
 - Identify skill needs (example: employer survey data)
- **Inventory of academic and professional programs**
 - Which programs in already place relate to sectors targeted for growth?
- **Inventory of knowledge support infrastructures**
 - What instructional tools and technologies are readily in place?
- Scan of existing university-industry knowledge initiatives
- Scan of existing university offerings aimed at professional development

Global stats: individuals & work -> not an automatic match



Data Source: Talent Shortage Survey. Manpower Group, 2008, 2009, 2010, 2011, 2012, 2013

Top 20 most difficult-to-fill job types in USA, 2006-2013

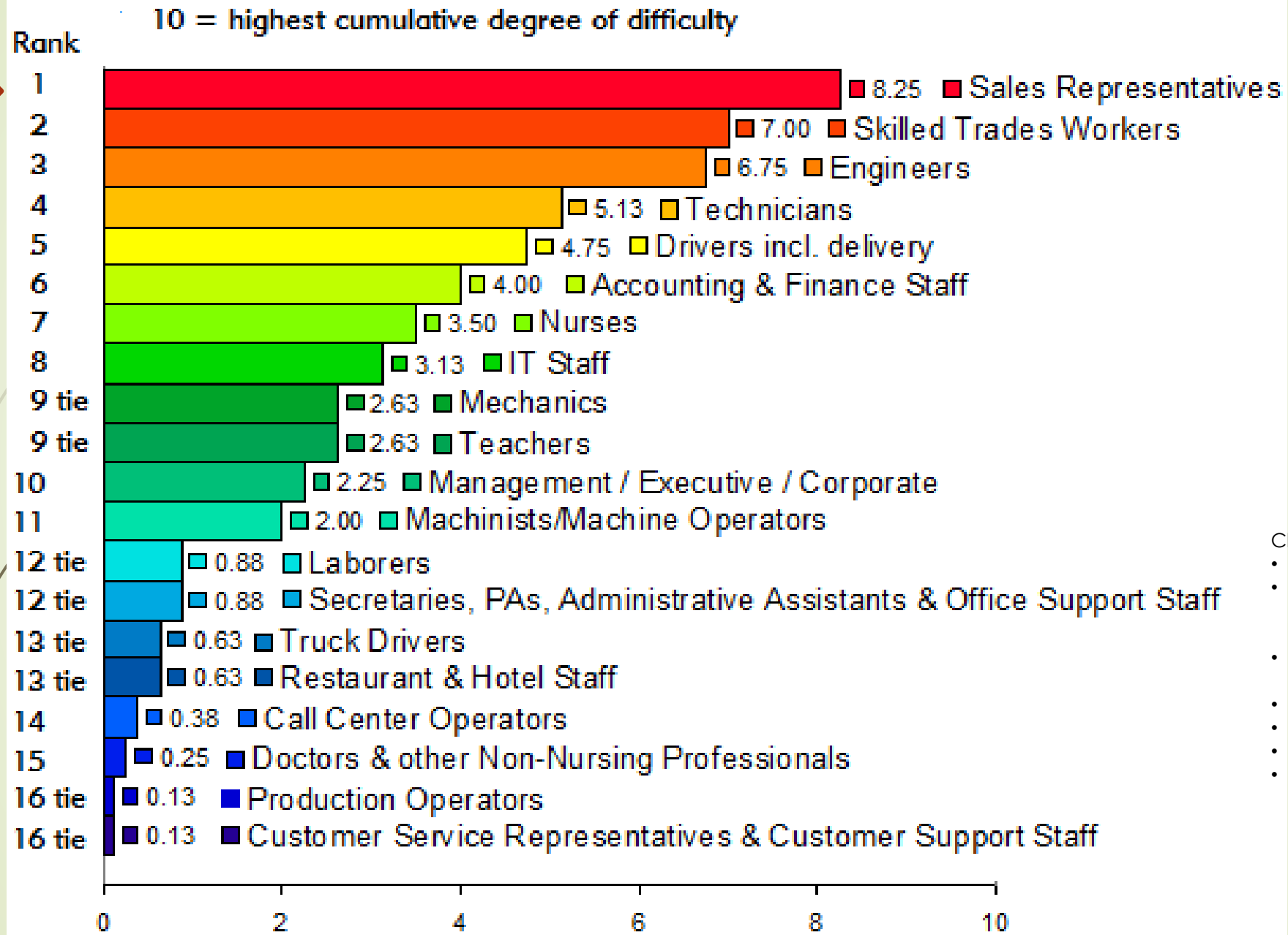


Chart by author.

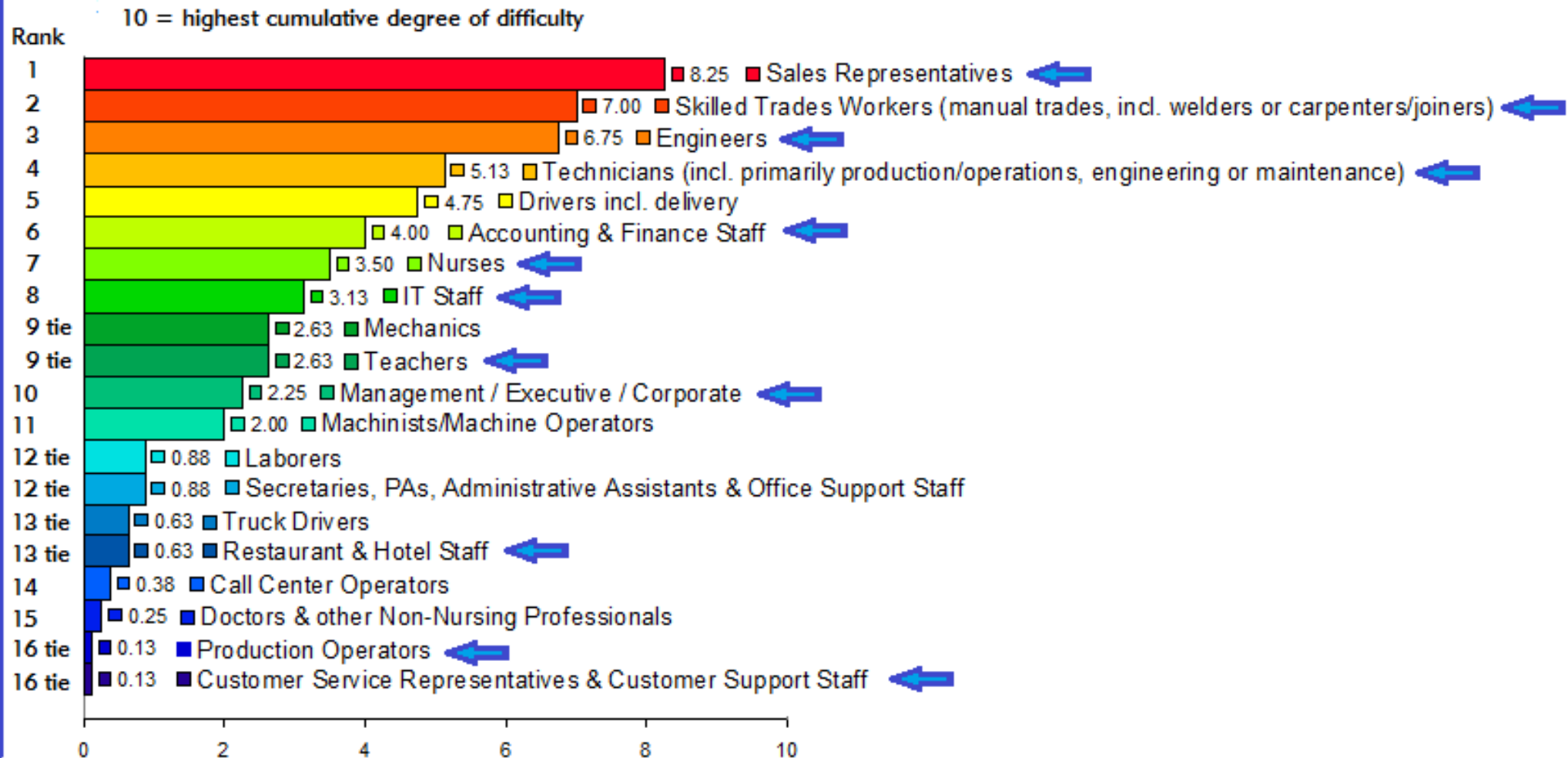
- Compilation of 2006-2013 data.
- Each year, Manpower Group's *Talent Shortage Survey* identifies the top 10 most difficult-to-fill jobs.
- For each year, rank 1=> heat score 10.
- For composite heat score:
 - -> average of all 8 years, 2006-2013
 - -> weighted for consecutive years
 - -> weighted for recent / distant years

Data Source: *Talent Shortage Survey*. Manpower Group, 2008, 2009, 2010, 2011, 2012, 2013

Rock Hill: sectors targeted for growth

- Marketing
- Adv. manufacturing
- Prof svcs, Engr
- Prof svcs, Engr
- Banking, Finance
- Medical
- IT, Software, Web
- Institution-based
- Mgt - all industries
- Hospitality
- Info/Tech, Call ctrs
- Medical

Top 20 most difficult-to-fill job types in USA, 2006-2013



Sources:

Rock Hill growth sectors: Market Assessment: Knowledge Park, Rock Hill, SC / Arnett, Muldrow, & Associates, 2013

USA hiring difficulties: Talent Shortage Survey. Manpower Group, 2008, 2009, 2010, 2011, 2012, 2013

Key skill shortages reported in employer surveys

Number of US employers reporting each skill shortage
Ten surveys of combined total of 8,492 employers



Chart compiled by author.

Data from 10 employer surveys:

- 407 responses from SHRM's *Critical Skill Needs* (2008)
- 328 SC employers (Nagle, 2010)
- 302 US employers (Hart Research Associates, 2010)
- 2,115 employers (P21's *Critical Skills Survey*, 2010)
- 768 employers (AMA's *Critical Skills Survey*, 2012)
- 1,152 NC employers (*Closing the Gap*, 2012)
- 450 US executives (WEF's *Executive Opinion Survey*, 2013)
- 670 US executives ((WEF's *Executive Opinion Survey*, 2012)
- 1,300 US employers (Manpower Group's *Talent Shortage Survey*, 2012)
- 1,000 US employers (Manpower Group's *Talent Shortage Survey*, 2013)

When key skills are in short supply...

- **Negative effects – global findings - business impact:**
- Manpower Group's *Talent Shortage Survey* (2013) – global study
 - 38,000 employers in 42 countries (mostly advanced)
- 34% of employers cite lack of content knowledge, technical competencies, industry certification
- 19% cite lack of professionalism, interpersonal skills, analysis / problem-solving skills
- 43% report reduced ability to serve customers
- 39% report reduced productivity
- 25 % report employee turnover
- 22% report reduced innovation / creativity
- 21% report lower employee morale

key skills in short supply, ctd.

- **Negative effects – global findings – business / social impact:**

- World Economic Forum – global study

 - *Global Competitiveness Report's Executive Opinion Survey (2013):*

- 104,000 executives in 148 countries from least developed to most advanced:

- **Key skill shortages:**

 - Inadequate education

 - Inability to innovate

 - Poor work ethic amongst native populations

- Pose risk to business soundness and national economic health

- **Extreme example:**

- Catastrophic shortage in qualified staff forced several Manila hospitals to close

(Wescott, C. (2008). Realizing professional knowledge exchange: The People's Republic of China and the Philippines. *Comparative Technology Transfer and Society*, 6(3), 187.)

York County at a glance

Education

- ▶ College degree or higher, 2013: 28.5%
- ▶ Some college or associate's degree, 2013: 30.7%
- ▶ High school diploma or higher, 2013: 87.5%
- ▶ High school diploma only, 2013: 28.2%
- ▶ Less than high school diploma, 2013: 12.5%
- ▶ Public school enrollment, 2013: 89%
- ▶ Eligible for school lunch, 2009: 35%
- ▶ Lowest-performing schools: 2

Economy

- ▶ Median household income, 2013: \$54,927
- ▶ Per capita income, 2013: \$26,553
- ▶ Family income change, 1980-2010: +3%
- ▶ Unemployment rate, May 2015: 6.4%
- ▶ Unempl. rate change, Jan.00-Nov.11: -13.3%
- ▶ Labor force participation rate, 2014: 49.16%
- ▶ Workforce % change, 2009-2011: +1.4%
- ▶ Poverty rate, 2013: 12.7%
- ▶ Poverty rate change, 2000-2009: +22.7%

6 Target Industry Sectors for Business Growth in Downtown Rock Hill, SC

Old Town Jobs initiative

- **Marketing & Design Services** (Web Design, Commercial Arts, Marketing & Advertising)
- **Professional Services** (Legal, Engineering, Architecture, Real Estate)
- **Information & Communication Technology** (Software, Telecom, Call Centers)
- **Banking & Financial Services** (Commercial Banking, Insurance, Investment)
- **Advanced Manufacturing** (R&D, Advanced Textiles, Design)
- **Accommodations, Retail, and Hospitality** (Hotel, Restaurants, Destination Retail)



5 Key Growth Sectors in Greater Rock Hill

- ▶ **Professional & Technical Services**
 - ▶ (combines downtown growth sectors of Marketing, Professional Services, Info/Comm.Tech)
- ▶ **Medical Offices** (non-hospital)
- ▶ **Financial & Insurance**
- ▶ **Institutional Based**
- ▶ **Real Estate**

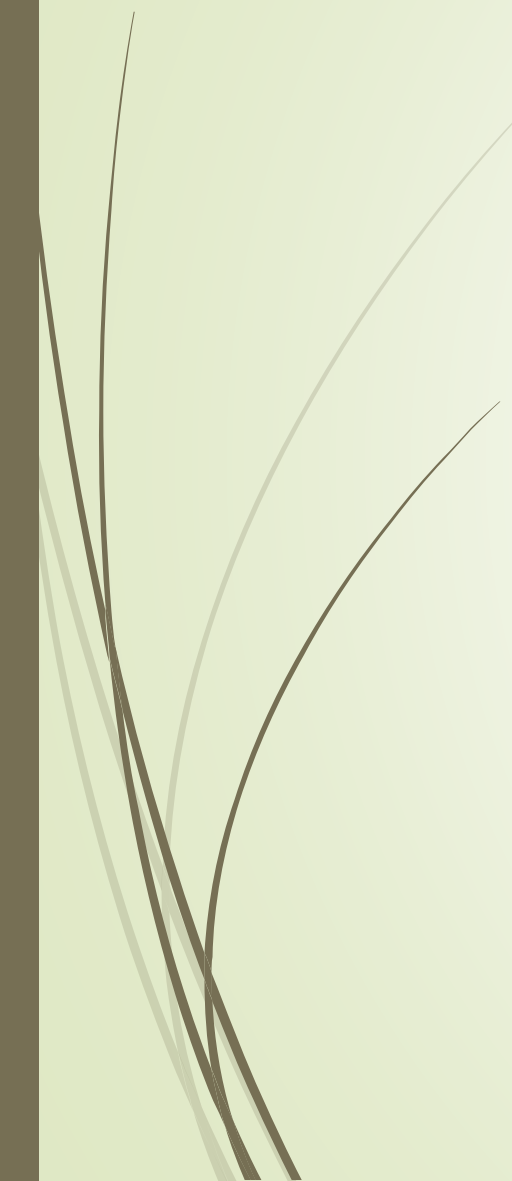
Rock Hill Companies in Target Industries:

Combined Economic Impact

- 2,511 businesses
- Over 21,700 employees
- Over \$2.6 billion in annual sales volume



Target Industries in Detail...

- Rock Hill Companies in numbers
 - Snapshot of Winthrop's matching academic and professional programs at undergraduate and graduate levels
- 



Marketing & Design Services

- ▶ Web Design, Commercial Arts, Marketing & Advertising

Economic impact:

- ▶ 64 businesses
- ▶ over 650 employees
- ▶ over \$110 million annual sales volume.

Source: *Reference USA*



Marketing & Design Services

- ▶ Web Design, Commercial Arts, Marketing & Advertising
 - ▶ **Winthrop Programs:**
 - ▶ Computer Science
 - ▶ Information Design
 - ▶ Graphic Design & Illustration
 - ▶ Integrated Marketing
 - ▶ Business Marketing
- 



Professional Services

- ▶ Legal, Engineering, Architecture, Real Estate

Economic impact:

- ▶ 449 businesses
- ▶ over 2,350 employees
- ▶ over \$150 million in annual sales volume.

Source: *Reference USA*



Professional Services

- Legal, Engineering, Architecture, Real Estate
 - **Winthrop programs:**
 - Political Science
 - Legal Studies
 - Chemistry
 - Physics
 - Geology
 - Mathematics
 - Interior Design
 - Fine Arts
 - Business: Management, Marketing
- 



Information & Communication Technology

- ▶ Software, Telecom, Call Centers

Economic impact:

- ▶ 62 businesses
- ▶ over 1,100 employees
- ▶ over \$260 million annual sales volume

Source: *Reference USA*



Information & Communication Technology

- ▶ Software, Telecom, Call Centers
 - ▶ **Winthrop Programs:**
 - ▶ Computer Science: Software Engineering
 - ▶ Business: Management Information Systems
 - ▶ Business: Management
 - ▶ Design: Information Design
- 



Medical Offices (non-hospital)

Economic impact:

- ▶ 845 businesses
- ▶ over 5,000 employees
- ▶ over \$712 million annual sales volume

Source: *Reference USA*



Medical Offices (non-hospital)

➤ Winthrop Programs

Pre-med areas of study:

- Biology
- Chemistry
- Human Nutrition
- Psychology

Business-related fields of study:

- Management, Marketing, Accounting
- Integrated Marketing
- Computer Science

Banking, Financial, and Insurance

- ▶ Commercial Banking, Insurance, Investment

Economic impact:

- ▶ 352 businesses
- ▶ over 2,400 employees
- ▶ over \$370 million annual sales volume



Banking, Financial, and Insurance

- Commercial Banking, Insurance, Investment

- **Winthrop Programs:**

- Accounting

- Finance

- Economics

- Management





Real Estate

Economic impact:

- ▶ 304 businesses
- ▶ over 1,700 employees
- ▶ over \$250 million annual sales volume

Source: *Reference USA*



Real Estate

- **Winthrop Programs:**
 - Marketing
 - Management
 - Interior Design
- 

Advanced Manufacturing

- ▶ R&D, Advanced Textiles, Design

Economic impact:

- ▶ 160 businesses
- ▶ over 3,900 employees
- ▶ over \$595 million annual sales volume



Advanced Manufacturing

- **R&D, Advanced Textiles, Design**

- **Winthrop Programs:**

- Design

- Pre-Engineering

- Physics

- Chemistry

- Biology

- Mathematics

- Business



Accommodations, Retail, and Hospitality

- ▶ Hotel, Restaurants, Destination Retail

Economic impact:

- ▶ 275 businesses
- ▶ over 5,100 employees
- ▶ over \$235 million annual sales volume

Source: *Reference USA*



Accommodations, Retail, and Hospitality

- **Hotel, Restaurants, Destination Retail**

- **Winthrop Programs:**

- Management

- Marketing

- Integrated Marketing

- Graphic Design & Illustration

- Human Nutrition

- Interior Design



Infrastructures on hand for professional development programs

a very brief inventory of needed supports:

- ▶ **Examples of key supports needed for professional development programs**
- ▶ Distance education software
- ▶ In-house online education expertise
 - ▶ Course design
 - ▶ Content creation
 - ▶ Instructional technologies
- ▶ Library resources to facilitate on- and off-campus learning
 - ▶ Substantial scholarly electronic resources
 - ▶ Reliable off-site user authentication
- ▶ Seamless integration
 - ▶ Online learner communities: asynchronous *and* synchronous
- ▶ **Faculty time**
 - ▶ Course development, learner interactions



University short programs designed for professional development

- ▶ A few examples

- ▶ **Shared traits:**

- ▶ Short duration

- ▶ Targeted content areas

- ▶ Meaningful use of short-term duration

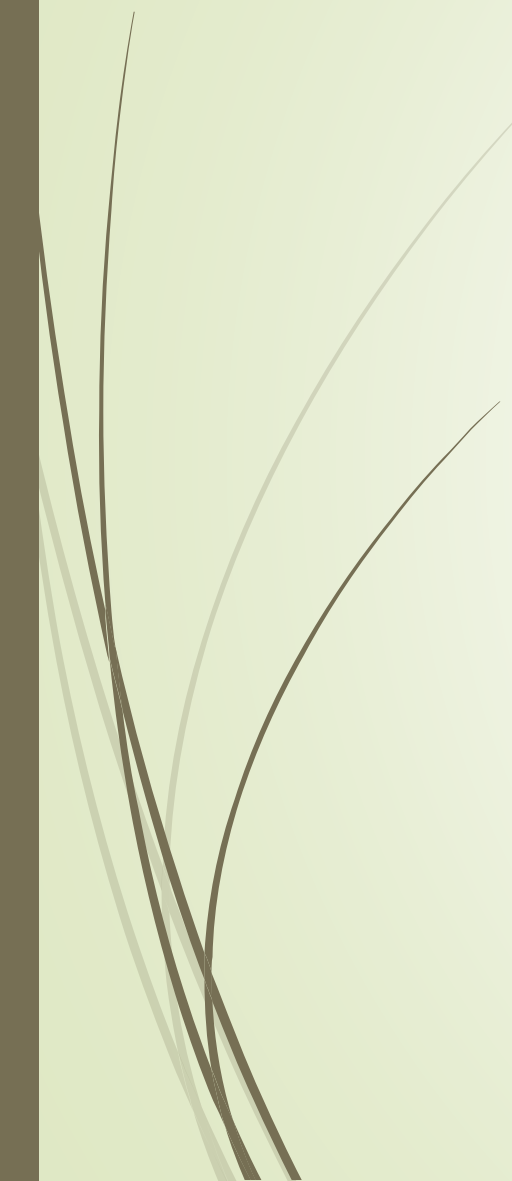

- ▶ Structure and timetable designed around working adults' schedules

- ▶ Distance learning with online communities

- ▶ Hybrid design:

- ▶ limited face-to-face

- ▶ Bulk of the work is done individual and in online communities



**A few examples
from around the
world...**

Thailand: Business English

- ▶ English language for corporate client – 97 staff members participated.
- ▶ 12 weeks
- ▶ Hybrid design
 - ▶ face-to-face activities
 - ▶ Online self-paced and collaborative activities
 - ▶ Intellectual support, boosted learner confidence
- ▶ Outcomes:
 - ▶ considerable growth in language skill
 - ▶ Mutual help, relationship-building
- ▶ Factors conducive to success:
 - ▶ Management support – release time
 - ▶ Management encouragement of lifelong learning
 - ▶ Real promotion pathways within the company

Italy: Medical English

- University of Siena – corporate learning contract with area medical center
- 297 adult professionals – English language
- Duration for all modules: April 2008 through June 2009
- **3 skill tiers:**
 - General English for beginners
 - Intermediate Medical English
 - Advanced Medical English
- **Online and classroom instruction**
 - **Goals:** writing, reading, speaking skills. **Assessment:** Two 4-hour written exams
 - Written communications in target language (chat, synchronous and asynchronuous)
 - Wiki -> peer critique, idea exchange
 - Blog -> reflective writings in target language
- **Outcomes:**
 - Learner confidence, mutual help, constructive critique exchange
 - Final exam pass rates: Basic English 92%, Intermediate: 85%, Advanced: 91%

University of London – professional programs

► Fields:

- Accounting & Finance, Business & Management, Economics
- Agriculture & Environment
- Computing & Information Systems
- Development & Earth Sciences
- Education
- Health
- Humanities
- Law
- Social Sciences
- Veterinary Science

University of London, ctd.

➤ **Structure**

- Undergraduate diploma – 4 courses (sub-baccalaureate)
- Postgraduate diploma – 4 courses (post-baccalaureate)
- Graduate diploma – 4 courses
- Entrance exams – example: Math to enter Economics, Finance, Accounting

➤ **Instructional approaches:**

- Global network of partner institutions
 - Courses at partner institutions, developed by topic-focused colleges within UL
 - (e.g.: London School of Economics, Royal Veterinary College, SOAS)
 - Distance study – independent study – with UL course content
 - Testing: extensive essay exam. Proctored at partner institution

An example in USA: Furman University professional development

- ▶ **Focus:** Professional development, corporate and/or nonprofit fields
- ▶ **Aims:** deepen foundational skills, foster leadership skills
- ▶ **Three areas of study:**
 - ▶ Women's Leadership Institute
 - ▶ Conference format: 4 sessions, January-April)
 - ▶ Corporate sustainability (postgraduate diploma)
 - ▶ Conference format: 5 weekends, February-June
 - ▶ Liberal Arts Leadership
 - ▶ Conference format: Three two-day sections

Lessons Learnt – Best Practices

➤ Define your market:

- Local service or global reach?
- Local: What industries prevail -> what skills are needed?
- Global: Your fields of strength -> global demand?

➤ Consider your capacity

- Is capacity on hand for global reach?
 - Staff time, technical infrastructure
- Faculty time scheduling
 - Avoid mutually exclusive teaching demands
 - What teaching structure makes sense given pre-existing commitments?

➤ Getting started

- Complement, Don't duplicate what others are already doing.
- Start small, don't try to "go big" right away – build-up takes time.
- Pick your focus.
- Collaborate in the business and learning community.

Questions?

