

**Global Talent Hiring in St. Louis: Current Challenges and
Recommendations to the Region for Retaining International Students Post-Graduation**

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“St. Louis employers tell us the same thing we’re hearing across the nation- there are skill gaps across the entire spectrum of jobs.... It’s hard to find people ready to contribute. Certainly people follow jobs, but jobs also follow people.”

- Joe Reagan, President and CEO, St. Louis Regional Chamber¹

Immigration across the nation is at an all-time high. Approximately 41.3 million immigrants live in the United States, which represents 13% of the total U.S. population (Zong & Batalova, 2015). In the U.S., 26% of science and engineering workers with a college education are foreign-born and almost 30% of foreign-born workers are employed in management, professional and related occupations (Khan, 2014; Zong & Batalova, 2015). Population growth is closely tied to regional economic prosperity and immigration is a leading driver of population growth and economic competitiveness. Immigration has the potential to reverse population decline, expand the workforce and offer benefits to the local community, through job growth, increase in home prices, and expanding the tax base for local services (Strauss, Tranel, & Caddell, 2013; Wilson & Singer, 2011).

In the last four decades, the number of U.S. immigrants more than quadrupled from 4.7% of total U.S. population in 1970, to 13% in 2013. However, in contrast to the national trend, the foreign-born population in St. Louis has steadily declined since 1970s, and its rank dropped from 26th in the nation in 1970 to 42nd in 2010 (Strauss, 2012). In 2012, St. Louis had the 2nd lowest population growth and the lowest immigration growth among the top 20 cities in the U.S. (Strauss, 2012). Population growth facilitates innovation, entrepreneurship, idea creation, and higher wages. Strauss (2012) further delineates the economic benefits St. Louis in particular stands to gain by increasing its foreign-born population. In the executive summary of his report, Strauss concluded, “there is one clear and specific way to simultaneously redress the region’s

¹ As cited in Fifield (2013)

population stagnation, output slump, tepid employment growth, housing weakness and deficit in entrepreneurship: *immigration*.” As stated by Anna Crosslin (2013), President and CEO of the International Institute in St. Louis, “If we want to grow our population, and our economy, we need immigrants.” The local workforce alone is not skilled enough to sustain a globally competitive regional economy (Jacoby, Culver, Daley, Meissner, & Muñana, 2013).

Retaining global talent in St. Louis is key for our regional prosperity. The *State of St. Louis Workforce Report* (2015) suggests a large gap between the supply of and demand for knowledge workers in the region. 57% of the employers surveyed reported *shortage of workers with knowledge or skills* as the major barrier to employment expansion. This is a 19 point increase from the level reported in 2013, attesting to the critical nature of skill shortage in the region. One key group in skilled migration is international students and they may provide an opportunity to retain skilled talent in the region, as well as overturn the trends in population decline. International students are a vital source of the region’s research and innovation initiatives. Studies by organizations such as the World Bank and the U.S. Chamber of Commerce have suggested that the nation gains 62 patent applications for every 100 international students who receive science or engineering PhD degrees from U.S. universities. In addition, on average 2.62 jobs are created for every foreign-born graduate with an advanced degree from a U.S. university, who stays to work in a STEM field. In 2011, at our country’s top research institutions, foreign-born researchers were listed as inventors on more than 5 out of 6 patents in information technology, almost 8 out of 10 patents for pharmaceutical drugs or drug compounds, and 3 out of 4 patents in molecular biology and microbiology fields (The Vilcek Foundation, 2015). As of 2013, there were 9,000 foreign-born, international students physically attending St. Louis colleges and universities, comprising 13% of the total population of post-

secondary students in the region (St. Louis Colleges, Universities). Notably, 80% of the foreign-born students in the region report that they would like to attain full-time employment and settle in St. Louis upon graduation (Strauss et al., 2013).

Most notable is the very high concentration of high-skilled immigrants in St. Louis. The region mainly attracts the *skilled* foreign-born (Hall, Singer, De Jong, & Graefe, 2011). St. Louis has one of the most highly educated immigrant populations nationwide in science, health care, and education. Many of the skilled immigrants who achieve the most success in the U.S. enter the country as students and then obtain permanent residency (i.e., green card) (Jacoby et al., 2013). For St. Louis to remain competitive in the global economy, the region needs to retain a robust share of the skilled international students who are currently in the region. Research suggests that birthplace diversity of skilled immigration relates positively to regional economic development (Alesina, Harnoss, & Rapoport 2013). Retention of skilled international students from emerging economies will deepen the region's global connectivity while also addressing the demand for knowledge workers in the region.

Local job openings increasingly call for applicants with skill sets (such as STEM) that foreign-born students in the region tend to possess (Strauss et al., 2013). 18% of open positions in St. Louis require expertise in at least one STEM (Science, Technology, Engineering, Math) field, and the need for STEM employees is further expected to increase by 12.4% by 2022 (compared to 9.2% for non-STEM jobs) (STEM Labor Demand Analysis; 2014; St. Louis Community College Workforce Solutions Group, 2014). 43% of STEM graduates and 65% of students earning engineering Ph.D. degrees in Missouri are foreign born (Partnership for a New American Economy, 2012). The region attracts highly skilled international students, however retention of foreign-born in the region is very limited, with only less than 5% of St. Louis

Metropolitan Statistical Area² being foreign-born (Strauss, 2012). Foreign-born, skilled university students represent a significant share of the upcoming talent pool to fill the skill gap in the region. The *State of St. Louis Workforce Report* (2014) states that while there were about 23,000 jobs in science, technology, engineering and mathematics advertised for the city of St. Louis, there were only about 2,000 job-seekers in those fields. The combination of their educational suitability for workforce needs in St. Louis (specifically in STEM fields) and their desire to remain in the region indicates that the international student talent pool should be retained in the local economy to complement our home-grown talent.

The *Missouri Workforce 2025* report states “there are significant gaps in quality and relevance of skills in math and science intensive occupations in regions throughout the state” (p. 23). The key to St. Louis’ future economic competitiveness lies in its ability to recruit and retain knowledge workers. In addition to skill shortages in the region, companies report numerous challenges in tapping into the appropriately skilled international talent pool. This particular issue has also been noted by employers in other Midwestern regions, including Chicago and Cleveland (Jacoby et al., 2013; Piiparinen & Russell, 2014). The barriers associated with attracting and retaining foreign-born talent are not unique to St. Louis, however several cities with population sizes smaller than St. Louis, such as Columbus, Raleigh and Salt Lake City are already experiencing significantly higher population growth due to increased immigration (Strauss, 2012). Thus, the region’s failure to attract immigration and retain skilled international students was the impetus behind the current study. This study’s goal was to explore the challenges specific to St. Louis business organizations in hiring international talent to fill existing

² St. Louis Metropolitan Statistical Area includes the city St. Louis, Southern Illinois counties of Bond, Calhoun, Clinton, Jersey, Macoupin, Madison, Monroe, and St. Clair (known collectively as the Metro East); the Missouri counties of Franklin, Jefferson, Lincoln, St. Charles, St. Louis County (separate from and not inclusive of the city of St. Louis), Warren, Washington, and a portion of Crawford County.

knowledge and skill gaps. When we are more informed about the specific challenges, the region should be ready to develop sound talent retention strategies to recruit and retain high- skilled international students post-graduation.

Methodology

This study adopted a qualitative research design and used semi-structured interviews. The questions were open-ended and designed to facilitate discussion (see Appendix A for sample interview questions). We interviewed senior leadership (such as CEOs, HR Executives, and Chief Legal Officers) at 15 companies in the St. Louis region (see Appendix B for a list of participating companies). Supplemental quantitative data (e.g., number of employees with green cards and H1B visas) was also collected from more than half of these companies. The quantitative data collected from nine companies suggest either hiring a large number of foreign-born employees (50 to 400 in the last five years), or very few (e.g., less than 15 in the last five years), which provides a wide range of different challenges in international hiring practices. Nine local universities also provided data (e.g., field of study) on their international student populations, which helps identify the pipeline of skilled international students to mitigate existing skill gaps in the region (See Appendix C for a list of participating universities).

Each company interview began by stating the purpose of the study (i.e., explore the challenges specific to St. Louis business organizations in hiring international talent) and confidentiality of responses was ensured. Consistent with previous research (Jacoby et al., 2013), five broad categories of challenges emerged from the data in the first few interviews. The remaining interviews were structured around these five broad categories to get more in-depth information on challenges and recommendations to the region related to *legal and financial*

challenges, talent management issues, unfamiliarity with the hiring process, cultural fit concerns, and university-industry collaboration.

Results

Tables 1 through 5 provide illustrative quotes by executives on the consistently reported five major challenges in hiring foreign-born talent. The challenges shared by the fifteen companies we interviewed, as well as their recommendations to the region for attracting and retaining skilled foreign-born talent are discussed next.

Legal and Financial Challenges

Legal challenges were the most frequently mentioned barrier in hiring international talent. Companies viewed the current hiring process as “shameful,” “a hassle,” “confusing,” “unpredictable,” “frustrating” and “emotional”. While discussing legal barriers, a few financial barriers emerged within the current legal framework. Among the legal and financial challenges, the most frequently cited barriers were related to the lengthy hiring process, administrative workload, limited H-1B cap numbers, and prevailing wage (see Table 1 for illustrative quotes).

Interview data suggests that companies which are less experienced with the process (employed less than 15 foreign-born employees in the last five years) were more likely to report a wider variety of challenges as compared with companies that routinely hire large numbers of (more than 50 in the last five years) international employees. Two common challenges that all companies shared were related to the lengthy petition process and administrative work involved with H-1B petitions. There were also mentions of financial challenges, specifically on the requirement to pay prevailing wage as a minimum, as well as the legal fees associated with H-1B premium processing.

Table 1: Illustrative Quotes on Legal and Financial Challenges in Hiring Foreign-Born Employees

Concern	Illustrative quotes	Challenge reported by companies hiring more than 50 FBEs*	Challenge reported by companies hiring less than 15 FBEs*
Timeline	“We start the paperwork in January to submit by April 1 st . If approved, they can’t start working until October. The recruitment and hiring process takes over a year.”	X	X
	“Recruitment process is at least 6 months... we have to, on our end, make sure no U.S. applicant is qualified and sometimes this takes too long when we really need to just get someone in a position.”	X	X
	“Greencard is such a long process and business changes during that time and you are tied to these people, you feel responsible, but your staffing needs change ... If there is a major change in job duties, you have to file all the same paperwork again.”		X
Administration	“The legal process is an administrative burden, more of a headache to manage...so we look for exceptional talent. We would only consider an exceptional foreign national to overcome that administrative hurdle.”	X	X
	“No one in HR understands the legal jargon used or all the "hoops" involved in the process of hiring an international person.”		X
	“It’s an emotional process...if we were to eliminate their jobs, we could set somebody back 6-7 years. I’d impact their immigration status, their livelihood, their ability to stay in the country, I’d feel awful.”		X
	“It’s very emotional at times... there’s a lot more turmoil when management feels like it’s not moving fast enough. I can’t control the government. I can’t make them move fast enough.”		X
H-1B cap	“We do not initiate new H-1B petitions. We only hire H-1B transfers. They are not subject to the cap.”		X
Prevailing Wage	“Many in HR do not understand where the prevailing wage numbers come from; often times it is above the average salary.”		X

* in the last five years

Despite legal and financial challenges, companies underscore an increasing need for international talent, specifically in STEM fields. Some companies did not see these legal and financial barriers as more than an irritation. These companies tended to hire large numbers of international employees for STEM positions, they were familiar with the process, and mentioned that they had been fortunate in H-1B lotteries. Companies that benefit from employees with specialized knowledge (specifically in computer related occupations), reported that they were

looking for certain technical skills no matter which country it came from. One interviewee noted, “We are bringing in individuals who grew up in a different place, different ways of approaching things, familiar with different markets we’re trying to get into. It helps you think globally, and it’s a bigger talent pool.”

Legal and Financial Challenges: Recommendations to the Region

All fifteen companies provided recommendations to the region to better manage the legal and financial challenges local companies encounter when hiring international employees. First, companies suggested a significant need for a “user friendly” resource to understand the process and petition timelines and become more informed about the different visa options for their talent needs. One company suggested that the region makes arrangements to provide free legal advice for simple questions, such as submission processes and deadlines. This interviewee mentioned “Some questions may require speaking with an immigration attorney or a legal counsel, but there are some basic topics that can be more readily understood via an online guide.” There were numerous mentions of offering regular workshops for hiring managers to demystify the legal requirements and share best practices during recruitment and petition phases. One interviewee noted “People are scared of visas. There are many different visa names, such as H1 and L1 and this overwhelms people. Make managers more comfortable with visas. Provide regular training sessions on cost and process.”

An overwhelming majority of the companies we interviewed suggested regular workshops in the region to share best practices, discuss available visa options and challenges during the petition process with an immigration attorney. These sessions could be provided regularly by different immigration attorneys on different topics (such as types of different work visas, family members’ status under each visa, duration of different work visas, etc). The region

could collaborate with local Law Schools as facilitators. These sessions could be broadcasted online or held as a workshop at conveniently located training facilities in the region (such as St. Louis Mosaic Project, World Trade Center St. Louis, and University auditoriums).

Additionally, companies mentioned a significant need for human resources managers to be more educated on immigration laws, and recruitment and hiring procedures involving foreign-born employees. A few human resources executives mentioned lack of coursework in immigration laws and regulations in graduate human resources programs in the region and therefore an annual informational seminar, such as an annual regional conference for human resources practitioners in the region led by legal and HR faculty and practitioners is an advisable component to the region's talent retention initiatives, specifically related to retaining international talent in the region.

Talent Management Issues

Unlike legal barriers regulated by federal immigration policies, talent management issues involve challenges that should be more easily managed by regional initiatives. The first talent management barrier that companies noted was work visa restrictions on flexibility in staffing. HR executives note the frequently changing needs of their businesses and the need to hire employees who are able to adapt to those changes. Work visas, specifically H1-B which is the most common work visa category for international students post-graduation, place restrictions on change in job specifications, job titles, and lateral or vertical rotation within the company. Travel constraints during application to permanent residency have also been mentioned by companies, as a barrier in hiring internationals to positions that require frequent international travel (see Table 2 for illustrative quotes).

Another challenge mentioned by companies from both categories, was lack of cultural awareness training HR professionals receive in HR programs in the region. One interviewee noted “CEOs don’t set the tone. You need to focus on entry and mid level HR professionals in recruitment... hiring managers are more important than top management... Is your HR organization comfortable with the process of what it takes, are they comfortable with international diversity?” Another interviewee noted “HR needs to be more open. Interview times will be longer. They need to listen more closely. Make sure you have the right level of HR people trained in screening international applicants.”

One challenge that was specifically mentioned by companies that hire large numbers of internationals, was that foreign-born employees are excellent individual/technical contributors, however they continue to stay technical throughout their careers and not pursue opportunities to go into management ranks. Interviewees suggested that this hesitancy in pursuing leadership opportunities may be due to cultural skill gaps in command of the English language, public speaking, networking, assertiveness, and influence. The majority of the international students in the region come from hierarchically authoritative, paternalistic work cultures (e.g., China, India, Saudi Arabia; see Table 6) (Pellegrini & Scandura, 2008). One interviewee noted “They come from hierarchical cultures where leadership is not influence based, it’s hierarchical. They don’t know how to get things done in a non-hierarchical context”.

Another concern that was specifically mentioned by companies that hire fewer numbers of internationals was related to employee loyalty. These executives stated that foreign-born employees may not remain with the organization long enough to justify the investment of time and financial resources. Interestingly, companies that hire a large number of international employees stated that there was no difference in turnover between local and foreign-born

employees. One interviewee stated, “Many do not realize the drive and energy international employees bring to the table; they know they must do well and be successful to stay in the country and provide for their family and themselves. It is much harder for them to simply find another position, so they have to put in a great deal of effort to make this position work.” One company noted a difference between international students hired from the region (local universities) and foreign-born recruited from outside the region. This executive noted “St. Louis is not a preferred place for internationals. There aren’t many people from their home countries... We use Midwest schools for our hiring needs, because international students from local universities are already familiar with St. Louis. They stay longer, their retention rate is higher.”

Numerous HR executives shared notable time pressure in recruiting and hiring for open positions, and the lengthy timeline leads them to not consider international candidates. However, there was a difference between the two categories of companies. Organizations that hire international talent less frequently noted that the ability to make hiring decisions quickly was very important and that one of the objectives of an efficient HR organization was to reduce the time to fill positions. On the other hand, companies that hire international talent more frequently emphasized the importance of long-term strategic thinking and planning. Hiring managers in these organizations were more willing to wait for an international hire (or any hire) when a particular skill set was required (specifically in technical fields). They reported allowing more time to fill those roles. In addition, a few companies mentioned recruiting foreign-born employees as part of their overall strategy, regardless of the field of work (e.g., technical, marketing, HR). One interviewee noted, “We are a global company. We want our employees to go to China, Japan, India... We want our people to represent our manufacturing foot print.”

The region’s growing need for international knowledge workers and its deepening appreciation of the talent and competitiveness they bring to the regional workforce seem to outweigh the challenges related to talent management issues. All companies we interviewed shared a goal for increased diversity and inclusion in a more global work environment.

Table 2: Illustrative Quotes on Talent Management Issues in Hiring Foreign-Born Employees

Concern	Illustrative quotes	Challenge reported by companies hiring more than 50 FBEs*	Challenge reported by companies hiring less than 15 FBEs*
Restrictions on Flexibility In Staffing	“Our business often changes. We need to move resources as the business evolves. H-1B visas impose restrictions on mobility, title change and job content.”	X	X
Travel Constraints	“If international employees leave the country during the green card application process, they may not be able to return unless we know about the travel need in advance and apply for Advance Parole. This is a hardship for business.”	X	X
Entry-level Recruiters	“Entry level screening is generally done by people who don’t necessarily appreciate international diversity. If an international applicant is not fluent, or has a strong accent, first level screeners will knock them out. They will not go past the initial phone screen.”	X	X
Technical vs. Management Track	“Employees from other cultures are not trained to lead in a U.S. organization - it is more of a "sink or swim" approach.”	X	
	“International employees typically remain as individual contributors. They do not pursue management opportunities.”	X	
Loyalty/Return on Investment	“It’s seen as an investment of time and money. Some of our hiring managers think that a foreign born employee may not remain with the organization long enough to justify the investment.”		X
Time Pressures	“We often need to make hiring decisions quickly. For entry level jobs we try to have them filled in 30 days. Hiring a foreign-born is a much longer process.”		X
	“Reducing time-to-fill is an important goal for recruiters, and filling a position with an international candidate can work against this goal because it takes longer.”		X

* in the last five years

Talent Management Issues: Recommendations to the Region

All fifteen companies provided recommendations to the region to ameliorate talent management concerns local companies encounter when hiring international employees. First, regarding concerns on the restrictions work visas impose on flexibility in staffing, our previous

recommendation to provide workshops on immigration laws and regulations should help alleviate these concerns. Although there is more paperwork involved with changes in job specifications, job location, or job responsibilities of an international employee on H-1B visa, understanding what an H-1B amendment is, when it is needed, and the paperwork required in a new petition should lessen these concerns. Similarly, concerns related to restrictions on travel should also be addressed by these workshops. When hiring managers are more informed about the recruitment and hiring procedures for hiring international students, become more familiar with the legal terminology and have a medium to discuss challenges with a legal counsel, this category should cease being a barrier to hiring international students.

A significant talent management challenge reported by companies that routinely hire internationals is the tendency for foreign-born employees to remain technical and not pursue careers in leadership ranks. Employers noted that this hesitancy is most likely due to cultural skill gaps, influenced by hierarchical cultures in international students' home countries (e.g., China, India). Therefore, we recommend that the region provides regular workshops involving role plays, specifically related to cross-cultural challenges stemming from being raised in a high-power distance society. We recommend leadership skills (e.g., assertiveness, giving feedback) and cultural flexibility training to international students *before* they enter the workforce. These workshops could be provided through partnerships with the International Institute of St. Louis, local Business Schools, and HR professionals on different topics, such as cultural adaptability in the workplace, public speaking, assertiveness, and networking beyond their home country's community. These sessions could be broadcasted online or held as a workshop at conveniently located training facilities in the region (such as St. Louis Mosaic Project and World Trade Center St. Louis). It is important to provide these opportunities to international students *before* they

enter the workforce so they develop these cultural and behavioral skills timely, and be ready for a rewarding employment experience in the U.S. business context, and thus remain in the local economy.

Companies also need convincing information with regard to the turnover rates of international employees as compared with U.S. employees. U.S. employees 25 years or older have an average turnover rate of 5.5 years (U.S. Department of Labor, 2014). This compares to the length of an H-1B visa of 6 years (provided that the employee does not “transfer” the visa to another company). The results from our interview data suggest that turnover rate of international employees is not different than U.S. employees, however, quantitative data is needed to support this conclusion. Future research should examine the average length of tenure for international employees, as well as what factors influence foreign-born employee voluntary turnover.

Including hiring initiatives in the company’s overall strategy has implications for recruitment and selection processes. Organizations may need to reconsider the metrics (e.g., time-to-fill) used to evaluate recruiters’ performance, since hiring an international candidate requires more time. Additionally, the design of the online application form may warrant attention. Some companies noted that one of the first questions on the application form addresses whether or not a candidate requires sponsorship to work in the U.S. While it is certainly advisable to gather this information about candidates, actions should be taken to ensure the inclusion of this question does not unintentionally eliminate international candidates from consideration. It should be clear to entry-level HR specialists that answering “yes” to this question should not preclude one from consideration, perhaps by asking the question in a later stage of the selection process and/or by reinforcing the idea of inclusion to recruiters during initial orientation stages, as part of the company’s overall strategy.

HR executives mention that HR programs in the region lack coursework in cultural awareness, specifically related to working with diverse cultures and populations, creating a global organizational culture, leveraging global competencies for competitive HR advantages, and understanding global labor markets and associated legal and cultural work environments. Society for Human Resource Management delineates global and cultural effectiveness as a key competency in SHRM Certified Professional (SHRM-CPSM) and SHRM Senior Certified Professional (SHRM-SCPSM) certifications. Despite its increasing importance in today's global business environment, HR programs in the region have not yet integrated cultural skills into their curriculum. We propose that the region provides regular workshops to regional HR workforce on HR-specific cultural skills. These workshops may be provided through partnerships with Business Schools, management consultants, or SHRM Certified Professionals on different topics, such as cultural differences in business practices, creating a global work culture, and interviewing foreign-born applicants. These sessions could be broadcasted online or held as a workshop at conveniently located facilities in the region (such as St. Louis Mosaic Project, World Trade Center St. Louis, and University auditoriums).

Unfamiliarity with the Hiring Process

One of the most frequently mentioned barriers to hiring international talent was unrealistic expectations of hiring managers. Interviewees mentioned that some hiring managers are overly optimistic (e.g., believing the process will be simpler and shorter than it is in reality) whereas others are overly pessimistic (e.g., believing the costs, time investments, process duration to be much greater than they are). Overall, organizations reported that many hiring managers do not understand the visa or green card processes to make an informed hiring decision. Companies stated that individuals tend to place undue focus on previous experiences

in the company where an attempt to obtain sponsorship has failed (even if this was an isolated incident). HR executives also noted that hiring managers frequently ask questions regarding the involved risks, policies at the company, the company's experience with international hiring, and the financial impact to the department and the company overall. One interviewee noted, "Managers are often surprised when they learn that sponsoring an international hire will come out of their department's budget." Similar to hiring managers, recruiters also commonly lack sufficient understanding of the sponsorship process and may feel it is an unnecessary burden since they are unable to individually observe how hiring an international applicant may benefit the bottom line.

A majority of the companies mentioned that unfamiliarity increases anxiety about the potential impact of the hiring process on the international candidate's family's immigration status. One interviewee noted, "It's a cumbersome issue. You hire the individual but then comes the spouse and children. You're taking on the family... The hiring managers don't understand this process and they get emotional. This ambiguity creates a turmoil within the company."

Notwithstanding these challenges, employers who frequently hire international talent are significantly more familiar with the process, report fewer challenges in this category, and have been able to successfully overcome the ambiguity barrier. In this category, companies that reported challenges were more likely to be companies employing fewer number of international employees. These companies should build the necessary competencies to alleviate concerns, through the regular workshops on immigration laws and regulations we proposed above.

Table 3: Illustrative Quotes on Unfamiliarity with the Process in Hiring Foreign-Born Employees

Concern	Illustrative quotes	Challenge reported by companies hiring more than 50 FBEs*	Challenge reported by companies hiring less than 15 FBEs*
Unrealistic Expectations	“Some of our hiring managers grossly overestimate the costs and time associated with the process. Others seem to think all that's required is a small fee and candidates can walk in the door.”		X
Ambiguity	“Recruiters must do a lot of extra procedures during recruitment and do things more rigorously than what they would normally do with U.S. employees, but don't necessarily understand why.”		X
	“Managers ask a lot of questions, such as the involved risks, policies at the company and the company's experience with international hiring, and the financial impact to the department and the company.”		X
	“Employers don't understand the process so they don't want to deal with it.”		X
Unfamiliarity	“Some recruiters and hiring managers are unaccustomed to speaking to and evaluating applicants with an accent.”		X
	“We are often reluctant to sponsor a visa if we can't anticipate being able to justify the application for a green card because of the effect it may have on the individual as well as his/her family.”	X	X

* in the last five years

Unfamiliarity with the Hiring Process: Recommendations to the Region

Interviews suggests a need in educating hiring managers about the hiring process and best practices in hiring international talent. As one company stated, “We need to demystify challenges and debunk myths around visas and green cards for employers” which provides further support for our previous suggestion on educating the regional workforce about the hiring process. Specifically, we proposed regular training and education workshops through regional partnerships among local companies, Business Schools, Law Schools, St. Louis Mosaic Project, and World Trade Center St. Louis.

The workshops we had proposed to address industry's concerns, involve immigration laws and regulations for hiring managers, cultural awareness training for HR professionals, and an annual regional conference for HR professionals that provide updates on immigration laws and regulations and best practices in leveraging global competencies for competitive HR

advantages. The common theme in all workshops should be to provide an understanding of the benefits associated with hiring international talent. Recruiters and hiring managers are responsible for the first level screening of candidates, and their perceptions about the hiring process directly influence the international talent pool available in the local workforce.

Cultural Fit Concerns

Challenges related to cultural fit include written and verbal communication, lack of social networks to participate in employee referral programs (ERPs), and cultural skills gaps, such as assertiveness, persuasion, tact and diplomacy. Written and verbal communication concerns included grammar, punctuation, and accuracy in conveying meaning. For example, one company stated that international employees tended to leave out certain words (e.g., “over” there) and this changed the meaning of the sentence in electronic communication. In addition, most organizations employ several acronyms unique to their company or industry. However, the use of acronyms could be country-specific, and this can create confusion in communication. Finally, a few employers noted that accents cause misunderstandings between native and international employees. Concerns related to communication were commonly raised by companies that recruit fewer international employees.

Employee referral programs (ERPs) are used by companies to ensure successful cultural fit, however these programs may limit the diversity of candidates, specifically related to the international talent in the region. Employee referrals typically serve to perpetuate the existing demographics in the firm. One company stated that they rely on employee referrals to greatly reduce concerns of fit, but that they only hire few international employees. Overusing employee referrals in the hiring context may limit an organization’s ability to hire international talent, given international students’ lack of sufficient business networks in the local community.

Cultural skill gaps of foreign-born employees were noted as another challenge in adapting to the organization’s business culture. One company noted that tact and diplomacy skill gap is an issue, and that the company often hires highly exceptional technical talent who commonly lack this skill, which hinders their future career growth in the company. Additionally, lack of assertiveness was noted as a problem. International employees in the local workforce mainly come from hierarchically authoritative work cultures (e.g., China and India) and they may not be accustomed to challenge leadership or assert their opinions on strategic initiatives. One senior leader noted, “They voice their disagreement indirectly to colleagues who then communicate the message to the manager. Sometimes, this feedback is important and time sensitive.”

Table 4: Illustrative Quotes on Cultural Fit Concerns in Hiring Foreign-Born Employees

Concern	Illustrative quotes	Challenge reported by companies hiring more than 50 FBEs*	Challenge reported by companies hiring less than 15 FBEs*
Written & Verbal Communication	“Some international employees tend to leave out certain words, like "over" there, and this changes the meaning in emails.”		X
	“Accents can cause misunderstanding between natives and internationals.”		X
	“The use of technical acronyms can be country-specific.”		X
Employee Referrals	“We like to use employee referrals because applicants tend to fit better with our organization.”	X	X
Cultural Skill Gaps	“Lack of assertiveness is a problem <i>after</i> the employee is hired. International candidates know that the deck is stacked against them and that to obtain work they have to hustle during the application process...Once they’re hired, they’re sponsored by the company and they don’t want to rock the boat and draw unwarranted attention.”	X	
	“There is no willingness to give constructive criticism when there is disagreement ... There is also a tendency to withhold opinions different from leaders.”	X	

* in the last five years

Cultural Fit Concerns: Recommendations to the Region

Companies that employ large numbers of international employees suggest that international employees may benefit from skill training, specifically related to cross-cultural challenges stemming from being raised in hierarchical societies. These companies stated that international students should receive education and training (e.g., self-promotion, assertiveness, networking to be included in ERPs) for how to succeed in the U.S. business context, *before* they enter the workforce. Companies that hire fewer international employees commonly mentioned communication barriers as an observed skill gap. These cultural skill gaps reported by companies in both categories further support our previous suggestions on providing education and training to the international students in the region. In above discussions on talent management, we suggested that high-skilled international students need cultural assistance in transferring their skills to the U.S. market and proposed regular workshops for international students. We view the International Institute of St. Louis, St. Louis Mosaic Project, World Trade Center St. Louis, International Students Offices, Business Schools, and HR change agents in local companies as natural sources of support in these initiatives and propose regional partnerships to retain the skilled international graduates in the local economy.

University-Industry Collaboration

All companies mentioned university-industry collaboration challenges as a major barrier in hiring international students. For companies hiring fewer international employees, this category was their second major barrier after legal and financial challenges. First, companies shared difficulty in reaching the available talent pool graduating from local universities. One executive noted, “If our HR people had a way to have visibility to students in area universities, candidates with good talent, we can start thinking ahead and plan on getting them as interns.”

One interviewee noted, “we don’t know the talent pool, but the sooner we get them the better, if we first hire through internships.” Another interviewee noted, “We have positions in technical areas and we’d sponsor their work visa if we had international students apply... we post the jobs and international students don’t apply.” The technology scene and workforce in St. Louis has been receiving increasing national visibility in recent years. Recently, St. Louis was voted a top-10 city for tech workers (Wallace, 2015). St. Louis has a number of high-STEM industries that are important drivers of the regional economy. Despite industry’s need for expansion, companies in the region are reporting technical skills gaps as a barrier to employment growth. *State of St. Louis STEM Workforce Report* (2014) stated that the shortage of skilled workers in the region may be due to a tighter supply of STEM graduates. However, the data we collected from nine local universities suggest that an overwhelming majority of the international students in the region possess these technical skills. The top majors that international students pursue are Engineering, Business, and Physical and Life Sciences (see Table 7).

Second, companies stressed the importance of work experience for international students. One company noted, “We require some work experience... Internships are fundamentally about building the pipeline. International students don’t have work experience. Internships will give them an edge.” The need for a “stand out factor” is compounded by the limited number of entry level positions available in the region. More than half of the companies interviewed suggested that they do not have many entry level positions available in STEM fields. They stated that they prefer one to two years of work experience, and that they would consider optional practical training (OPT) and curricular practical training (CPT) as relevant work experiences.

Another challenge stated was the lack of international student diversity in the region. Companies noted a restricted talent pool in technical fields and this concern raised by industry

executives is further confirmed with the data we received from universities. As shown in Table 6, the majority of international students in the region come from China, India, and Saudi Arabia. A few organizations noted their need for talent from Latin America and Europe and one company mentioned that they have to go out of the region and recruit international students from universities that actively recruit a more diverse international student population.

Table 5: Illustrative Quotes on University-Industry Collaboration Challenges in Hiring Foreign-Born Employees

Concern	Illustrative quotes	Challenge reported by companies hiring more than 50 FBEs*	Challenge reported by companies hiring less than 15 FBEs*
"Stand out" Factor	"Typically have had better luck obtaining a visa when the person had previous work experience to justify qualification... lack of work experience makes hiring desired recent graduates very very difficult. When international students have knowledge and/or rare specialized experience with software we really try to make the business case to hire them but it would be an easier process if we could hire them first through internships"		X
Practical Experience	"Recently graduated applicants lack experience in the corporate environment; they only have experience in academia and that does not translate to the way work gets done."		X
Lack of International Diversity	"We would like universities to do bold marketing to attract students from regions in addition to China and India."	X	
University Ownership in Partnerships	"We do not have an internship or co-op program, but we (senior leadership) want help from universities to do this."		X

* in the last five years

University-Industry Collaboration: Recommendations to the Region

All companies reported a significant interest in efficient collaborative partnerships with local universities. Specifically, companies would like more cooperation to access the talent pool. One company suggested, "Universities should have open houses... actively solicit local companies to network with and meet candidates." He noted that these networking events could take place at a company or at a university campus. One company noted a higher retention rate with international employees recruited from regional universities because their first company is

the only world they know which eases adaptation and they already have established networks in St. Louis. Thus, local companies are eager to develop new models of efficient partnerships with universities to access the available talent pool in the region and several of these companies stated that they expect universities to own these partnerships and approach companies with suggestions.

Another major concern raised by companies was the limited work experience skilled international students had. A majority of the companies we interviewed are interested in developing partnerships with universities to develop opportunities for international students to gain work experience through OPT and CPT. Companies expect universities to own these partnerships and approach companies with suggestions on internship and co-op programs. Companies noted that they place ownership on the universities to help them navigate the process, but they further noted that these efforts will pay off since they will be more likely to hire the students full-time upon graduation after they have tried out their specialized skills.

Third, employers are interested in developing additional and deeper partnerships with local universities in incorporating additional coursework to reflect the needs of local businesses, such as data science. Universities may work with companies to offer co-ops to these students and thereby allow students to develop a track record with these organizations. As part of these partnership initiatives, organizations stated that they could offer university students in relevant disciplines access to tools often used. For example, one company suggested having experts come into the classroom to teach the skill to the students as part of the coursework.

Another challenge raised by multinational organizations was the lack of international students diversity in the region. Research suggests that birthplace diversity of skilled immigration relates positively to economic development (Alesina et al., 2013). Companies expressed a need for local universities to recruit students from diverse markets, specifically from

Europe and Latin America. Therefore, we recommend that the region develops partnerships with universities to actively recruit from multiple countries. Perhaps, the region could start with partnerships among Universities and the World Trade Center St. Louis and start actively recruiting from St. Louis Sister Cities (e.g., Bologna, Lyon, Samara, Stuttgart) to expand and diversify the international student talent pool in the region.

Overarching Recommendation to the Region

The company interview data suggested five separate, but related categories as major barriers in hiring international students. We offered recommendations to address each challenge, however we view all change agents involved in regional economic development initiatives (e.g., Universities, International Students Offices, Business Schools, Law Schools, Engineering Schools, Companies, HR professionals, St. Louis Mosaic Project, World Trade Center St. Louis, International Institute of St. Louis) as sources of support in these initiatives. We therefore propose a shared, regional talent management information exchange platform to consolidate regional partnerships.

This recommendation involves creating and managing an information fabric with technology investment that would connect company demands with the international student supply in the region and create an information exchange platform. This talent exchange database will consolidate data on the talent pool (e.g., major, technical skills, languages spoken) and also gather demand statistics from local companies to inform and shape universities' international student recruitment strategies. St. Louis Mosaic Project could be the catalyst for this regional talent information exchange platform.

New technologies and business talent needs will prompt new occupations over the next decade. St. Louis' competitiveness will depend on the available talent in the regional workforce,

specifically in STEM fields (*Missouri Workforce 2025*). A regional talent information exchange database may better consolidate efforts that are currently individually managed by different entities under one roof and implement our recommendations as part of a more proactive strategic planning to grow St. Louis economy, the international community, and the resident population.

Conclusion

The purpose of this study was to investigate industry's challenges in hiring international talent and offer recommendations for retaining international students in the local economy post-graduation. We trust that our recommendations will be significant to the St. Louis Mosaic Project Steering Committee toward the regional goal for "St. Louis region to be the fastest growing major metropolitan area for immigration by 2020".

Based on the data we collected through interviews, as well as supplementary quantitative information from participating organizations and local universities, we proposed six major recommendations [(1) workshops for hiring managers on immigration laws and regulations, (2) an annual regional conference for HR professionals that provides updates on immigration laws and share best practices, (3) workshops for HR professionals on cultural and global HR skills, (4) workshops for international students on cultural skill gaps, (5) Industry-University partnerships in internship and co-op programs, (6) active recruitment and marketing by Universities to diversify the international student population in the region] and one overarching recommendation [a shared, regional talent management information exchange platform].

We hope our recommendations will help St. Louis address the existing skill gaps through international student retention initiatives, and create population increase and job growth for both skilled and unskilled work in the region.

Table 6: Top Five Countries of Origin for International Students in St. Louis

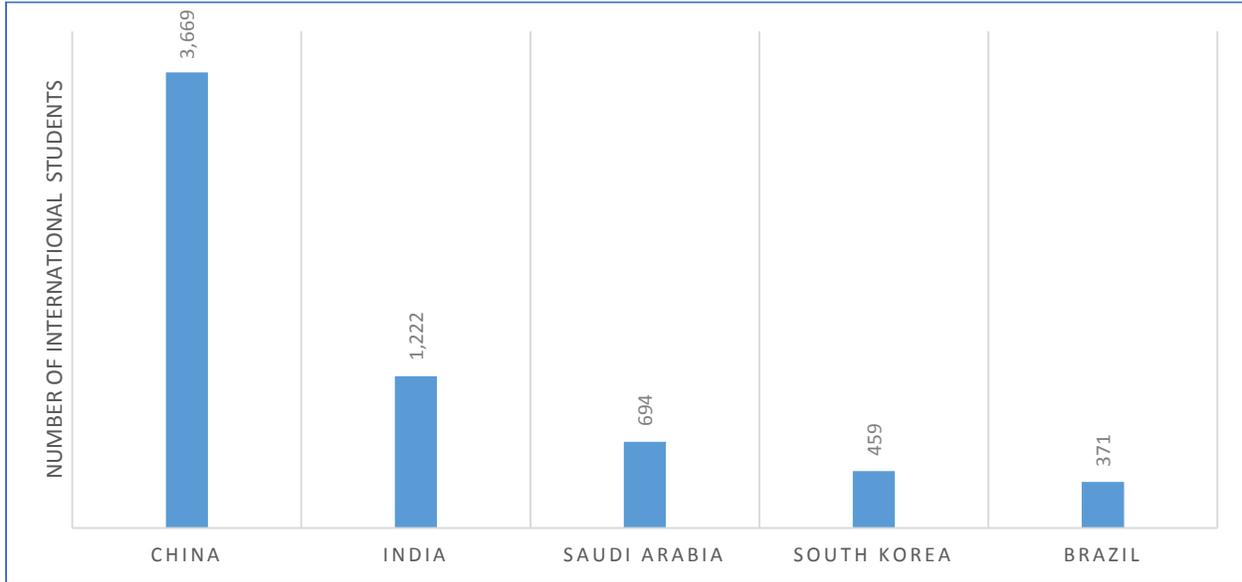
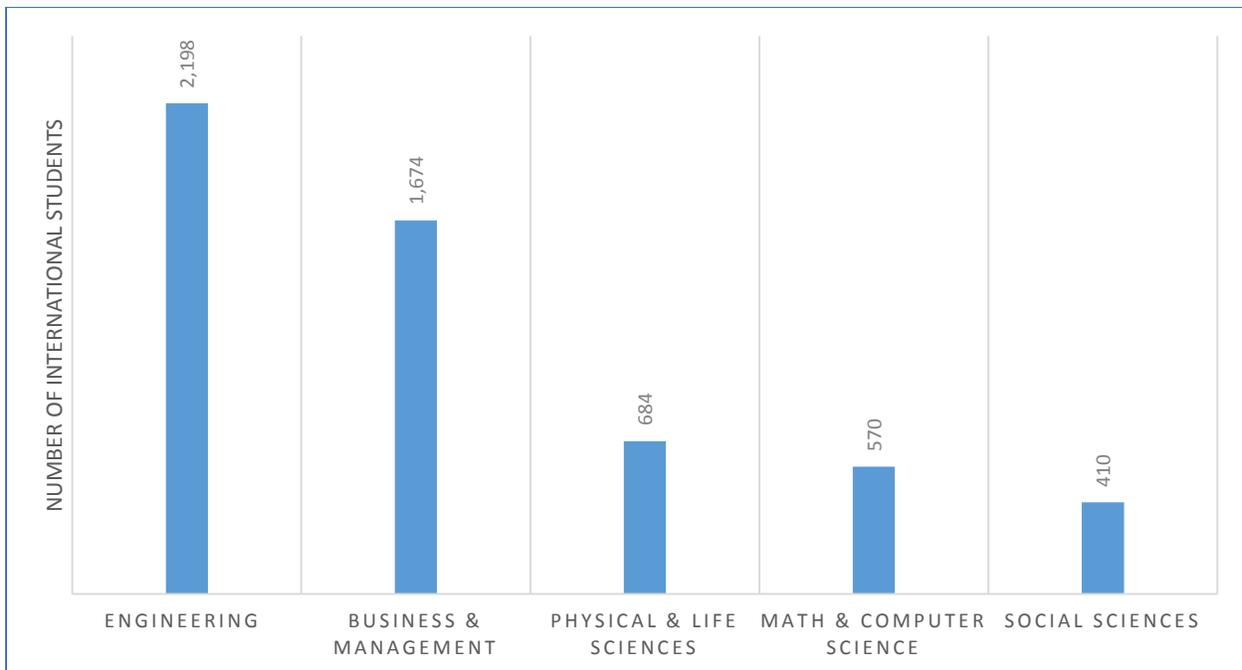


Table 7: Top Five Majors for International Students in St. Louis



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Appendix A

Company Interview Sample Questions

Company Background

- Please tell us about your company's typical hiring needs.
- How many foreign-born employees currently work in your company, with work visas?

Work Visa (e.g., H-1B), Green Card, OPT/CPT

- How many *new* work visas have you applied for over the last five years?
- How many workers have you hired from other companies, with *transfer* H-1B visas over the last five years?
- How many green card applications have you managed over the last five years?
- How many foreign-born students have you hired over the last five years with OPT/CPT?
 - How many of those turned into H-1Bs?

Legal and Financial Challenges

- What are the legal and financial barriers you face in hiring international employees (particularly international students) in St. Louis?
- What recommendations can you offer for how the region could better manage the legal and financial challenges companies encounter when hiring international employees?

Talent Management Issues

- How well do you feel your recruiters and hiring managers understand the process to hire an international employee?
 - How do they find answers when they have questions about the legal process?
- In which departments do international employees typically fill the skill gap for your company?

- Does your company have a hiring strategy (e.g., critical roles, certain times of the year, only hiring those with 2-3 years of experience)? Is it a long-term or short term strategy?
- Which position (e.g., hiring manager, an HR manager) ultimately makes the decision to whether or not to apply for an H-1B visa or a greencard for an employee?
- In terms of career development, how do international employees typically progress through roles in the company?
 - Do they typically go into management/leadership roles? Do they choose to be individual/technical contributors?
- Have you observed any significant soft skill differences in international vs. local talent from St. Louis, that may affect their job performance?
- Have you observed any differences in international vs. local talent from St. Louis, in terms of the level of commitment/loyalty to the organization?
 - (Turnover) What is the turnover rate for international employees (as compared with US citizens) in the same job category/division?
- What recommendations can you offer for how the region could better manage the talent management issues companies encounter in hiring international employees?

Unfamiliarity with the Hiring Process

- How do those in charge of recruiting and hiring deal with the legal challenges in hiring international talent or applying for H-1B or greencard during employment?
- Do you feel that your hiring managers and direct managers have realistic expectations related to the process and the timeline of hiring a foreign-born employee?
- What recommendations can you offer for how the region could help companies better manage the ambiguity and unfamiliarity of the process of hiring international employees?

Cultural Fit Concerns

- Have you observed cultural fit issues with international employees, in adapting to your organizational culture?
- How prepared are international employees (specifically international students you hire from St Louis), to communicate in English?
 - Technical communication?
 - Public speaking?
- Do you observe any cultural skill gaps once an international employee is hired?
- Do you have any vendors or clients that are international? Has employing international talent had any impact on cultivating those business relationships?
- What recommendations can you offer for how the region could help companies better address international employees' cultural fit issues, during and after the hiring process?

University-Industry Collaboration

- What challenges do you face in reaching and hiring international students in the region?
 - While in school (e.g., via co-op, internship programs)?
 - Post-graduation?
- Do you partner with any St. Louis universities for your talent needs? Please tell us about the content and quality of those partnerships.
- What recommendations do you have for local universities in supplying your hiring needs (specifically related to international students)?
 - Coursework?
 - Partnerships?
 - Other suggestions?

Appendix B

List of 15 Participating Companies

Ameren Corporation

Anheuser-Busch InBev

Caleres (formerly known as Brown Shoe Company)

Centene Corporation

Edward Jones Investing

Express-Scripts Holding Company

Fleishman-Hillard, Inc.

Maritz

MasterCard Worldwide

Monsanto Company

Nestlé Purina PetCare Company

Sigma-Aldrich Corporation

SunEdison Semiconductor Limited

Thomson Reuters Corporation

World Wide Technology, Inc.

Appendix C

List of Nine Participating Universities

Lindenwood University

Maryville University

Missouri University of Science and Technology

Saint Louis University

Southern Illinois University- Carbondale

Southern Illinois University- Edwardsville

University of Missouri- Columbia

University of Missouri- St. Louis

Washington University in St. Louis