SUSTAINABILITY IN SOLVING THE IT SKILLS SHORTAGE

Whitepaper

Eagle Creek Software Services

Sustainability in Solving the IT Skills Shortage Challenge

Companies continue to face tough choices in the development and support of technologies that enable greater customer intimacy, and therefore create competitive edge. While companies of all sizes have begun to leverage technology and seek to continue to make the associated investments, financial caution continues. Companies remain reticent to make full time commitments to expand their domestic work force. They also see shortages of technology skills at home and uncertainty abroad in not only the traditional destination for ITO (India), but more recently the formerly growing market in Eastern Europe. This presents corporate business and technology professionals with an uncertain set of circumstances on which to base their decisions. The key to successful CRM, BI and Application Development processes lies in the ability to take complete advantage of the technologies and resources that are readily available in the U.S. and to be able to deploy them in a consistent, sustainable manner.

Development resources need to be in close proximity to the client organization in order to fully serve the client's needs. However, while there is an increasing demand for IT professionals with CRM, BI and application development expertise, there is a shortage of skilled workers for this market. U.S. businesses need a sustainable model for developing the IT professionals who are needed to address these complex customer-facing (front office) applications. Eagle Creek's unique strategy provides a sustainable model to solve this critical demand.

U.S. companies are facing rising demand for information systems and IT staff to handle mission critical front office projects.

Front office technologies enable a company to better align with the customer's and prospect's behavior providing the opportunity to achieve greater customer intimacy However, this requires utilizing a host of technologies to manage and operate intricate business activities. These critical applications, including the related BI tools, are vital to the success of any business. The need for IT staff knowledgeable in these technologies and concepts is growing due to the increasing growth in online and mobile channels. Unique industry requirements also demand that IT staff have impeccable problem solving and creativity skills along with technical expertise.
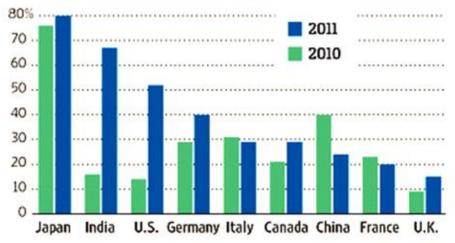
The survey (see charts on following page) featured in an article by *The Wall Street Journal*, shows the increased demand for IT staff, which was not on The Help That's Most Wanted List in 2006.

A study of occupational and career outlooks for MIS majors by the NYU Stern School of Business shows that the demand in the U.S. for technical programming jobs has exceeded the supply. The rising demand for information systems and IT staff is caused by a number of factors. New technologies such as mobile and social media create additional work with cross-channel integration. These technologies are also creating Big Data, which is constantly changing the ways organizations analyze and interact with customers and deliver services. McKinsey Global Institute's latest report on Big Data estimates that by 2018 the U.S. could have a shortage of 140,000 to 190,000 people with deep analytical skills needed to manage and analyze big data.

Where Jobs Go Wanting

Percentage of employers reporting difficulty filling positions by country, 2010 vs. 2011

The Help That's Most Wanted

Hardest jobs for U.S. employers to fill

	2011		2006
1	Skilled trades	1	Sales representatives
2	Sales representatives	2	Engineers
3	Engineers	3	Nurses
4	Drivers	4	Technicians
5	Accounting & finance staff	5	Accountants
6	IT staff	6	Administrative assistants /personal assistants
7	Management/executives	7	Drivers
8	Teachers	8	Call-center operators
9	Secretaries/administrative assistants	9	Machinists
10	Machinists/machine operators	10	Management/executives

Source: ManpowerGroup

A decrease in supply of IT professionals creates expensive consequences and workers without needed skills for businesses.

The current number of MIS graduates is well below the pre-2004 levels. Digest of Education Statistics revealed the number of bachelor degrees in computer and information sciences decreased from almost 60,000 in 2004 to 38,000 in 2009. The demand for IT

staff is growing, but the supply of U.S. MIS graduates has not kept pace. While CIO.com reports that computer science enrollments has increased each of the past four years, the increases have not yet driven enrollment levels to previous heights.

Fewer students elected to pursue MIS degrees for multiple reasons. With tough economic conditions, such as recessions, students perceived that MIS jobs were not in demand and were not as attractive as previously thought. This is in part due to the unpredictable boom/bust cycle associated with the IT industry as well as the threat of the increasing offshoring of technical positions. Sixty percent of students blamed the economy in general as to why enrollment had declined in their institutions, according to Issues in Information Systems. Contrarily, skilled IT graduates are needed desperately by U.S. businesses, especially to manage front office and associated initiatives.

Additionally, a large number of experienced IT professionals are expected to leave the workforce over the coming years as baby boomers enter retirement. Occupational and career outlooks for MIS majors report "about 25 percent of today's labor force will retire in the years 2010-2020" and when applied to the IS field, job growth is expected to be 25 percent higher than suggested.

Corporations are seeing the negative effects from a lack of IT applicants. Without the proper resources to fill these highly skill-specific positions, businesses are forced to consider how they can better balance a global delivery model:

- On site consultants and new hires remain expensive, tough to attract and hard to retain
- Economic, and political conditions continue to deteriorate offshore – alarmingly so in some locations

Organizations are not staffed for major IT implementations and are not training employees.

Today's enterprises are not recruiting and developing their own IT talent. Organizations are not providing necessary training for new hires or ongoing training of employees to address the specific IT skill shortages in the front office. Long-term IT skill shortages must be addressed properly in order to produce employees with the appropriate industry training to support future needs. Most businesses are reluctant to hire young college graduates because of their lack of experience and are unwilling to invest in the necessary training.

How are new graduates getting proper industry training? *The Wall Street Journal's* Peter Cappelli's article on hiring employees states, "There are plenty of people out there who could step into jobs with just a bit of training – even recent graduates who don't have much job experience." The problem is businesses are not willing to invest the time or money to train recent graduates. Companies are unwilling to make a commitment to training that will have long-term payback because of the fear of investing in IT resources that will be quickly recruited away by other organizations as a result of the heightened demand for their skills.

Many businesses believe that IT consulting and technical services have become commodities where plugging in cheaper offshore resources will solve the problem. However, CRM, BI and application development teams require close proximity to clients to be effective. Clients using offshore resources suffer with confusion, miscommunication

and misunderstanding. IT staff must be able to solve problems and come up with creative solutions for customers.

In order for organizations to successfully develop effective customer-driven processes, communication between business and IT teams must be open and IT staff easily accessible. Without proper expertise and training, IT staff cannot properly address these problems. CRM, BI and application development projects require deep domain experience, exposure to specific technology, as well as strong problem solving and communications skills.

Eagle Creek is committed to creating a long-term, sustainable source of CRM, BI and e-Commerce resources to serve the marketplace.

Eagle Creek has built and operates one of the only sustainable models that is bringing new talent into the IT work pool and providing the necessary level of training for IT staff. The Eagle Creek strategy addresses the underlying issue of provisioning a high level, sustainable talent base skilled in CRM, BI implementations and corresponding e-Commerce application development work.

Eagle Creek works with local and state governments in a private-public partnership to recruit and train new IT employees to work in Eagle Creek's project centers to fill these highly skilled jobs. The U.S.-based project centers are housed in more economically competitive communities in North and South Dakota and Minnesota.

The partnership provides equal benefits for all parties. Eagle Creek receives support in recruiting MIS and CS graduates to these locations. The local and state governments benefit from having an increase in young, higher paid professionals to their communities and the resulting growth in revenue base.

Eagle Creek has also created a partnership with local universities to assist with educating local college students in specific skill sets needed for Eagle Creek's clients. Valley City State University, located in Valley City, N.D., has developed special degree programs in CRM-related technologies, which help to train local MIS graduates in specific CRM-related technologies and processes. These training programs teach specific skill sets and technologies for the highly specialized CRM information systems and IT related skills.

In addition, Eagle Creek also provides an extensive career development program for new employees. The training includes a nine month development program to enhance skills in technical and business consulting. After receiving classroom training, highly experienced technical mentors are assigned to offer a collaborative, team-based work environment. These teams work together on specific technologies to prepare new hires for the highly specialized work ahead of them.

Conclusion

In order to overcome the serious skills shortages for IT CRM, BI and application development staff, businesses must create a sustainable business model to support implementation of mission critical front office information systems. Eagle Creek has created a model that has boosted U.S. employment, overcome specific skill shortages, invested in college graduates and delivered superior solutions for its clients with increased ROI.

About Eagle Creek Software Services

Eagle Creek Software Services provides consulting and technical expertise to the Enterprise. The firm focuses on CRM, Information Management (BI) and Applications Development, helping clients increase quality and efficiencies while managing price and risk in software development, deployment, & support.

With over 300 consultants, Eagle Creek Software Services is the largest U.S. based onshore software services company. Eagle Creek is uniquely positioned by combining on site expertise with U.S.-based Technology Centers. The onshore delivery model allows Eagle Creek to achieve consistency, scalability and sustainability in the provisioning of technical and consulting capabilities.

Eagle Creek has expertise in a multitude of industries, and has the experience and know-how to implement, upgrade and maintain enterprise-grade front office technologies, applications and platforms such as Oracle Siebel, Oracle CRM On Demand, Salesforce.com,

For more information on Eagle Creek visit, http://www.eaglecrk.com/