How to effectively Manage Today's IT Challenges

written by Manoj Khanna | November 15, 2013

The Agile Manifesto states:

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and interactions *over processes and tools*

Working software *over comprehensive documentation*

Customer collaboration *over contract negotiation*

Responding to change *over following a plan*

Source: Beck, Kent; et al. (2001) – "Manifesto for Agile Software Development"; Agile Alliance

In addition to managing software/hardware and resources, IT must identify and focus on a myriad of key factors and anticipate obstacles before they occur. Costs, processes, technology changes, and the ability to visualize future opportunities are all critical elements that must be predicted and planned for. The 'top five' areas IT managers should strictly adhere to are:

- Communication
- Planning
- Testing
- Vision
- Maintenance & Support

While there is a myriad of challenges facing IT teams, I want to highlight five of the most crucial challenges that illustrate the need for and use of the top five areas mentioned above.

Top Six IT Challenges

Security

A good example of a network security breach is the US government's healthcare website, which has had its sensitive information compromised because of failures in the website's security. Essentially, systems protecting the customer's (applicant) security and privacy were never tested because of deadline restrictions. In addition to threatening customer security, the security of other agencies including the IRS, the Social Security Administration, and the Department of Veteran's Affairs, which interface with the compromised hub, were also put at risk. That is why strategic project planning and communication must be at the forefront of every project and strict guidelines must be respected and adhered to during each stage of the development process, and testing and retesting of each project component, and then of course providing maintenance of the new system, take preventive measures and eliminate potential problems such as downtime or security breaches, which are unacceptable on any level.

Moving beyond dated or overly complex systems and towards technological innovations also requires IT to address similar concerns and deliver simple, effective solutions to the organization and sharing of an ever-increasing amount of information. Not only must new technologies be introduced, they must seamlessly interact with existing, older ones. More and more companies are recognizing that their customers want to connect with their companies through applications and social media. It is therefore essential to construct technologies to facilitate that communication and interaction with systems while protecting their security and integrity. These systems must also be available to company staff while remaining invisible to outside entities. Any breach will impact not only the company's financial wellness but also client confidence, so appropriate security measures such as encryption, authentication and other standard measures must be fully tested and integrated from the start. With agility in mind, processes and tools are important, yet clear, effective communication among all project participants is vital to the success of every project deployment, as this example illustrates.

Virtualization

Creating virtual processing environments that can be used by a varied assortment of users is not only a must, but one that requires deep knowledge not only of each department's applications environment but how processes connect and communicate with each other. Each user's snapshot of the virtual environment must be current and accurately portray how finished applications will look and behave in the 'real world'. The 'virtualized' IT environment demands larger and sound storage measures. Many organizations IT systems are aging rapidly and must be upgraded to meet new demands. This can present new challenges as the infrastructure may be somewhat piecemeal, which requires careful planning to ensure that new technologies are seamlessly connected to the older systems so that all network components communicate with each other effortlessly. Agile methodologies stress responding to change over following a plan – Which of course doesn't mean that Agile teams ignore planning. Rather, flexible plans allowing for these rapid changes are built-in the software and processes, eliminating costly do-overs and major upgrades.

Cloud Computing Services & Social Media

Cloud computing, while advantageous and useful, present new threats to not only application security but to the entire infrastructure as a whole, and must be planned for and prevented. This requires the rapid development and deployment of new technologies being built into the networks to provide authentication of all users wanting access to company's networks.

Information collected through social media merges with selling and marketing data to provide a valuable bank of information. This in turn necessitates the construction and implementation of assorted data repositories, statistical data, and new tools and processes to distribute and analyze the collected information. Agility recognizes that processes must evolve with industry changes. In the new workplace, companies eschew printed or digitized documentation in favor of information stored and retrieved from the Cloud. Agile stresses that working software is more important that comprehensive documentation, since it is more advantageous for customers to readily obtain information from the Cloud and interact with the network with a single click.

Globalization

Organizing offshore computers on the computational grid is essential for providing unrestricted access to all computers on the grid, regardless of geographical location or system configuration. A global environment requires that the entire infrastructure, including processes, be standardized to facilitate growth and expansion across all departments worldwide and enabling updates and maintenance of software on open-source systems.

Change Management

More than ever, IT professionals must recognize, plan for and manage network and organizational changes. Agile developers especially realize the importance of responding to change, since even the best-laid plans can’t prevent a few glitches. Globalization, constantly developing processes and emerging technologies all require strategic approaches to the successful management of business/technologies change management. What are the changes required, how will they affect the organization as a whole, and what training/mentoring will be required to make the transition smoother? This is especially crucial when adopting newer methodologies like Agile.

Cost (of IT Services)

Sometimes it can be a challenge to convince CFO’s and other financial principals why the client company should do away with recently acquired, conventional systems and processes in lieu of emerging technologies. In this instance, IT should explain why upgrading early will be beneficial to their company and save them money in the long run. Other costs to consider are adding on to existing infrastructures (hardware/software acquisition), technical support, training, etc. In this scenario, vision, planning and communication all have an important part to play in identifying costs and even eliminating non-essential client expenditures. Agile methodologies recognize the value of customer collaboration to project success rates, and cultivate this through allowing one or more customer representatives on the project team. Customer representatives then work closely with developers through each stage in the process, providing critical feedback and ultimately reducing costs.

Summary

Effective strategies for managing IT operations efficiently are a critical part of improving business operations. Recognizing important elements and fostering clear communication of all strategies and processes creates a collaborative vision that translates to success. What are some of your experiences in IT/Agile management? I would enjoy reading your comments, and if you enjoyed this article, feel free to share. In my next blog, I will elaborate more on this topic with real-life experiences, and would like to hear your own as well. You can also read more about IT management and Agile in my books.