IT STAFFING CHALLENGES FOR FINANCIAL INSTITUTIONS

October 10, 2019
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Agenda

• IT staffing challenges
• Effects of staffing challenges
• Managed Services overview
• Non-technical Managed Services
• Your Managed Services strategy
• Next steps
Today vs. tomorrow

The rate of change has never been faster…

…and it will never be this slow again.
IT STAFFING CHALLENGES
The technical skills drought

“Over the next five years...employers will need to hire...more than 600,000 employees with advanced STEM knowledge.”

62% of respondents stated they have a difficult time finding qualified applications for jobs requiring advanced computer and IT knowledge.

84% of respondents said there is currently a skills gap in their organization.

68% of IT leaders did not believe their organization had the skills in-house required to address business needs.

558,000 IT jobs in the United States remained open after 90 days of search.

A lack of expertise and resources overtook security concerns as the #1 obstacle to cloud adoption.

1. Office of the White House Press Secretary, 2016.
3. ATD, 2015.
5. WSJ, 2016.
Skills sufficiency is the top concern of CIOs and CXOs

Respondents were asked to rate the severity of these IT-induced pain points:

- Staff sufficiency, skill, and engagement issues: 54% CIOs, 30% CXOs
- IT limits affecting business innovation and agility: 21% CIOs, 25% CXOs
- Business frustration with IT failure to deliver value: 26% CIOs, 23% CXOs
- Senior management unwilling to sponsor IT: 24% CIOs, 18% CXOs
- IT-related business risk incidents: 14% CIOs, 15% CXOs
- Complex IT operating models: 14% CIOs, 14% CXOs
- Ineffective, late or over budget IT changes: 22% CIOs, 13% CXOs
- Resource waste from duplication: 14% CIOs, 9% CXOs
- Hidden and rogue IT spending: 9% CIOs, 9% CXOs
- Outsourced SLAs not being met: 9% CIOs, 9% CXOs
- Audit-discovered IT issues: 5% CIOs, 5% CXOs
- Failure to meet regulatory requirements: 5% CIOs, 5% CXOs

CIOs and CXOs agree that the top IT-induced pain point is staff sufficiency, skill and engagement.

CIOs feel that pain more than the rest of the executive team.
Employee turnover is expensive and is accelerated by ineffective use of internal skills

Take a strategic view of the skills in your organization to effectively use the skills you have and minimize employee turnover.

Turnover is expensive, especially when needed skills are hard to find. A 2016 study commissioned by the Wall Street Journal found 558,000 IT job postings that remained open after 90 days of search.

A WorldatWork survey estimated turnover costs can range from 50-200% of an employee's salary.
The five trends necessitate new skills and possibly new roles, some of which will be unfamiliar to many organizations.

**Required Skills**

**Mobile**
- Fluent in Java, HTML5, Objective-C
- Transform business requirements into mobile applications
- Collaboration with cross-management

**Cloud**
- Knowledge of all vendor applications in the cloud
- Knowledge of data architecture and systems integration
- Relationship management skills

**Big Data**
- Knowledge of all data and its relationship with business functions
- Expert statistical/analytical techniques
- Database management

**Social**
- Applications of social media to business strategy
- Proficiency in social analytics
- Interpersonal, communication, collaboration skills

**Security**
- Knowledge of business processes
- Collaboration with all departments
- Fluent with company compliance, policies and risk vulnerability
**Infrastructure architecture** rationalizes, standardizes and structures an organization’s IT infrastructure landscape

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**Infrastructure architecture:**

- Is a combination of **hardware, software and telecommunication equipment** that works together to provide the underlying technology foundation to support the organization’s goals and structure.
- Establishes **design principles** that allow infrastructure to meet business requirements and regulatory compliances.
- **Integrates** policy and user requirements from security architecture, data architecture and application architecture.
- **Reviews** and **assesses** the current composition of IT infrastructure, including the hosting format, the delivery channel and all the relevant technology components.
- **Analyzes** and **optimizes** the interaction between the different infrastructure technology components to improve performance.

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**The Bottom Line**

If an organization’s infrastructure is designed poorly and its performance is insufficient to meet business needs, the perception of all other IT technology and services will suffer as well.
IT staffing challenges

- Low unemployment
- Jobless claims at a 50 year low
- 2/3 of middle market had significant or moderate hiring needs
- Large middle market companies – IT roles were the majority of open positions (58%)
- 79% of companies are having difficulty hiring staff
- 74% are competing with employers in their market while 67% are industry competitors

- Increased competition
- Skillset between building and managing on-premises server is different than building in Azure or AWS
- Complexity of IT – Generalist vs. Solution Expert
  - Vmware/Storage
  - Cloud – Azure/AWS
  - Route/Switch/Wireless
  - Firewall/IPS
  - Security
  - Windows
EFFECTS OF IT STAFFING CHALLENGES
Many organizations have been making infrastructure changes based on industry trends. Do not just follow what other organizations are doing; base infrastructure changes on your organization’s situation and direction.

**Reactive Design**
- Changes usually triggered by incidents and major outages.
- Changes made because everyone else is doing it.
- Focus is on short-term solutions only.
- Technology components are managed instead of business needs.
- Infrastructure is upgraded because it reaches end of life and not because it's outlived its usefulness to the business.

**Proactive Design**
- Changes are based on projected business needs and are prepared for any major outages.
- Focus is on long-term solutions.
- Design is proactive, allowing time to make necessary changes.
- Business needs focused instead of silo infrastructure management.
- Current and future business alignment are promoted to always have a supportive infrastructure that drives business value.

Proactive infrastructure architecture is the solution to managing misalignment and change. Start by understanding the corporate strategy to get a holistic view of business and infrastructure.
MANAGED SERVICES
OVERVIEW
When to utilize managed services

- Critical initiative - Internal IT cannot meet the need
  - Strategic, high urgency
- Top down - Specific need isn’t being addressed
  - Cost savings
- Bottom up - Specific area of IT is underperforming and increasing risk
  - IT efficiency and value
Spectrum of services

Management Responsibilities

Traditional on-premise computing

- YOU MANAGE
  - Data
  - Applications
  - Runtime
  - Middleware
  - O/S
  - Virtualization
  - Servers
  - Storage
  - Networking
  - AC/Cooling
  - Facilities

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Co-Location or aka CoLo

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Infrastructure as a Service (IaaS)

- YOU MANAGE
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Private cloud

- YOU MANAGE
  - Data
  - Applications
  - Runtime
  - Middleware
  - O/S
  - Virtualization
  - Servers
  - Storage
  - Networking
  - AC/Cooling
  - Facilities

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  - Applications
  - Runtime
  - Middleware
  - O/S
  - Virtualization
  - Servers
  - Storage
  - Networking
  - AC/Cooling
  - Facilities

Software as a Service (SaaS)

- YOU MANAGE
  - Data
  - Applications
  - Runtime
  - Middleware
  - O/S
  - Virtualization
  - Servers
  - Storage
  - Networking
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  - Facilities
Where is your IT team and/or partner?

Organizations with more mature, high performing areas are more likely to be thriving.

- **Disjointed processes**
- **Legacy apps**
- **Transitionally overburdened**
- **Non existent digital initiatives**

- **Automated basic business needs**
- **Continuous assessment of process and pains**
- **Inconsistent and poorly integrated apps**
- **Digital initiatives executed on a project basis**

- **Automation of key transactional areas**
- **Integration of critical apps**
- **End to end viability to drive performance**
- **Alignment of digital priorities with IT**
- **Finance provides consistent but not innovative products**

- **Digitally enabled product/service experience on a continuous basis**
- **Continuous improvement of digital and functional processes**
- **Ecosystem awareness and feedback continuously pushes innovation**
- **Finance organization supports primarily analytical activities to drive business activities**
Infrastructure as a Service (IaaS)

- In an IaaS model, a cloud provider hosts the infrastructure components traditionally present in an on-premises data center, including servers, storage and networking hardware, as well as the virtualization or hypervisor layer.

- Why?
  - Environmental
  - Eliminate major capital refreshes
  - Agility in growth of needs
  - Resiliency

- Several flavors:
  - Bare metal
  - Single or Multi Tenant
  - Private or Public Cloud

- Examples providers:

<table>
<thead>
<tr>
<th>MS Azure</th>
<th>RSM IaaS</th>
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<tbody>
<tr>
<td>Amazon AWS</td>
<td>Rack Space</td>
</tr>
<tr>
<td>Local/Metro Datacenters</td>
<td>Google Compute Engine</td>
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Backup & recovery services

- Backing up data to a provider over the internet instead of performing backup to another branch or to tapes that must be transported offsite.
- Solution may provide recovery services by leveraging IaaS.
- Backup management could be part of the solution or left to internal team.
- Often a good stepping stone to the cloud as its non-prod workload.
- Example solutions:

<table>
<thead>
<tr>
<th>MS Azure Site Recovery</th>
<th>Veeam Cloud Connect</th>
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<tbody>
<tr>
<td>Datto</td>
<td>Unitrends</td>
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Managed services – patching, monitoring and antivirus

• The process of outsourcing the time-intensive process of installing patches from various vendors such as Adobe, Microsoft, Java, etc.

• Why?
  - Patch management is time intensive
  - Required task that often gets put on the back burner
  - Efficiencies at scale

• Its less about the product and more about the service.

• Flavors - automated vs. engineering-based patching.
Cloud telephony

Providers:

- Cisco
- Microsoft Skype
- Mitel Cloud
- Ring Central
- 8x8
Managed Security Services - IPS

• **Managed IPS** – Vendor monitors all traffic looking for attack signatures and taking corrective action. Almost required in today’s IT security landscape.
  - Centralized deployment on internet edge or deployed across the environment

• Managed Advantage
  - 24x7 NOC monitoring
  - Keeping platform up-to-date
  - AI to focus is on true issues/eliminate the noise
  - True security specialist
  - Vendor solution or off the shelf + third-party management

• Examples:
  - SecureWorks Security on Demand
  - Cisco Firepower+ Palo Alto+
Managed Security Services - SIEM

- **Security Information Event Log Management (SIEM)** - The underlying principle of every SIEM system is to aggregate relevant data from multiple sources, identify deviations from the norm and take appropriate action.
  - Regulators are pushing this currently
  - Minimum deployment – AD, Primary App Servers, Network Edge devices
  - AI analysis on data is key to correlate data
  - MSP partnership is helpful to bring the right expertise on event management
  - Examples:

<table>
<thead>
<tr>
<th>Security on Demand</th>
<th>Manage Engine</th>
</tr>
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<tbody>
<tr>
<td>AT&amp;T Cybersecurity</td>
<td>SolarWinds</td>
</tr>
<tr>
<td>Splunk</td>
<td>LogRhythm</td>
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</table>
Transition from cost reduction to efficiency and risk reduction

• As the proportion of IT budget committed to managed services increases, cost reduction ceases to be a top priority.

• Instead, the value is seen in:
  - Accessing deeper and wider skill sets
  - Providing focus for in-house IT staff, along with career path
  - Improving overall delivery
    - Satisfaction
    - Delivery timetable
    - Product quality
  - Reducing risk
  - Enterprise grade
Additional benefits of managed services

• Scalability
  - Projects
  - Economic changes and uncertainties
  - Merger and acquisitions

• Availability
  - Resources
  - Projects

• Exact expertise

• Allows you to focus on driving business
NON-TECHNICAL
MANAGED SERVICES
CIO/vCIO

- 50,000 foot overview and distant from operational responsibilities
- Strategist vs. technical
  - Effective and strategic IT functions
  - Communication and strategy outweighs technical expertise
- Create business value through technology
- Stop decisions based only on $$
- CIO coaching
  - Prepping people for success
- Implementation of self-service capabilities
- Utilization of cloud and managed services
- BI/Using Data
- Utilization of IT tools to better manage
- IT to address needs of the end-user
- IT focused on needs of the business
- Recognition that IT is a business
Other non-technical managed services

- Project management
- Training
- Governance assistance
  - Information security policy
  - Risk assessments
  - Business continuity planning
  - Exam and audit remediation
  - Vendor management
  - IT steering committee
  - Change management
Sustained success – your combination

Staffing
- Helpdesk
- Business Intelligence
- Application Champion/Improvement
- Digital Banking Mgr.

Managed Services
- Strategic/Regulatory
- Security
- Monitoring, Patching and AV
- System Administration
- Engineering
IT management - Example 1

Financial Institution Facts and Challenges

• $5.2 billion in assets
• Staffing - 6 helpdesk/6 business application (had 5 additional system & network admins)
• Grew at 20% for 10+ years
• IT could not keep up with growth and technology needs
• Multiple siloed systems vs. enterprise system
• IT culture of not servicing the business units
• Had open IT positions for 18 months

Managed Services

• Virtual CIO and IT strategic planning
• Engineering
• Day to day administration
  • Infrastructure
  • Network
  • Security
• Project management
• Monitoring and alerting
• Server and network patching
IT management - Example 2

**Financial Institution Facts and Challenges**

- $407 million in assets
- Had open IT Director and Network Admin positions
- Regulatory and security concerns
- Communication gaps between IT and executive management
- Skillset gaps in previous IT staff and remaining business application position
- Rural Midwest area experiencing IT hiring and retention issues

**Managed Services**

- Virtual CIO and IT Strategic Planning
- Engineering/Projects
- Day-to-day administration
  - Infrastructure (network/servers)
  - Security
- 24/7 Helpdesk support
- Office 365
- Monitoring and alerting
- Server and network patching
- DR/Cloud backup
NEXT STEPS
Establish your future skills needs before you identify current capabilities for better planning outcomes

Base your skills map on the strategic requirements of your business and I&O department.

1. Define your Future State
   - Review your infrastructure roadmap, upcoming I&O initiatives and business strategy. How will planned initiatives change the way your I&O team provides services?
   - Identify skills-related risks to successfully execute on the identified initiatives.

2. Identify Skills Gaps
   - Select new skills to acquire within recommended roles.
   - New skills should support the delivery of projects and initiatives, enable new or changing operating processes, and mitigate skills-related risks in your organization.

3. Decide whether to build or buy skills
   - Take action to address gaps, mitigate risks, and deliver projects and initiatives.
   - Decide whether to build or buy needed skills. Identify whether to train, hire, contract or outsource each skill based on the level of impact across five key skills need factors.

“Investments in service assets such as skill sets and knowledge… are driven by the critical success factors for a given market space.” — ITIL v3, Service Strategy
Next steps

• Develop a digital strategy that aligns with the Bank’s strategy to determine skills needed

• Technology & Digital Strategy Assessment
  - Technology skills gaps/resource alignment
  - Training Opportunities

• Proper 3rd party due diligence

• Start the shift in making decisions based on data
  - Understand current data streams and how you are storing your data
  - Develop an initiative that will drive business intelligence

• Focus on low hanging fruit to free up time for process improvement
  - Managed Services
  - Office 365

• Process improvement – develop a committee and framework
THANK YOU FOR YOUR TIME AND ATTENTION