2014-09

Cyber retention : How to retain High Value Employees?

Irvine, Cynthia
Monterey, California, Naval Postgraduate School

http://hdl.handle.net/10945/44950
Cyber retention

How to retain High Value Employees?

Dr. Cynthia Irvine
Anita Salem
September 2014
Areas of Examination

1. System Influences
2. Human Influences
3. Key Stakeholders
4. Risks and Unknowns
5. Desired Outcomes
6. Proposed Solutions

Designing the Cyber Workforce using Design Thinking
I. System Influences

Retention factors
• Geopolitics
• Economy
• Diversity
• Leadership
• Technology Use
• Information flow
• Attitude to authority
• Work/Life Balance
• Commitment
• Work Structure
• Work ethos
Environmental Influences on Retention

- Political Instability
- Shifting Networks
- New Economies
- Global Emergencies

- Small Deficit
- Booming Job Market
- Challenges In Recruiting
- Job Competition
- Higher Birthrates

- Military Family
- Religious
- White Males
- Gen X Leaders
- Conservatives

- Cares About Career
- Ship Is More Important Than People
- Inarticulate
- Micromanages

- Grunt Work
- Rote Skills Training
- Outsourcing Of Technical Jobs

- Cloud Computing
- Social Networking
- Integrated Data Systems
- Rich/Big Data Access
- 24 X 7 Connectivity

- Rise Of Asia
- Climate Change
- Privatization Of Space
- Cyber Terrorism

- High Unemployment
- Postponed Retirement
- Shrinking Resources
- Lagging Technology
- Weakened Industrial Base

- New Immigrants
- Secular/Religious
- Females, Gays, Others
- Gen X & Millennial Leaders
- Dem/Rep/Ind

- Cares About People
- Invests Trust
- Decisive
- Delegates
- Mentors

- S T E M Skills
- Technical Fluency
- Gaming
- Unmanned Vehicles
- Artificial Intelligence

- Private Networks
- Control Of Information
- Cyber Protection
- Isolated Systems
- Restricted Connectivity
Personal Influences on Retention

- Likes Following Orders
- Trusting
- Unquestioning
- "Above My Pay Grade"
- Ambitious/Careerist

- Achievement
- Promotion Opportunities
- Skill Acquisition
- Travel

- To Job
- To Mission
- To Unit
- To Navy

- Meaningful Work
- Job Design
- Flexible Schedules
- Open Communication

- Grants More Autonomy
- Meritocracy
- High Self-Esteem
- One-On-One Mentoring

- Questions Orders
- Skeptical/Cynical
- Bucks The System
- Maverick
- Foot Dragger

- Quality Of Life
- Spouse’s Career
- Time With Children
- Delayed Childbearing

- Lack Of Resources
- Bureaucracy
- Lack Of Trust

- Command/Control
- Capability Driven
- Rigid Schedules
- Performance Reviews

- Consensus Building
- Team Oriented
- Democratic
- Flatter Organization

- Work Focus
- Work Balance*
- Family Focus

- Attitudes to Authority*
- Dedication

- Compliant
- Work Ethos*
- Collectivism

- Resistant
- Frustrated

- Self Generated
- Structure*
- Other Generated

- Individualism
- Work Ethos*
- Collectivism

- Dedicated
- Commitment*
- Frustrated

- Family Focus
- Work Balance*
- Work Focus

- Work Ethos*
2. Human Influences

What influences retention?

• Cyber culture is different and should be treated differently
• Military culture has unique impacts
• Industry pulls talent
• Job conditions limit job satisfaction
• Workforce skills need improvement
• Rewards should be tailored
• HR practices impede retention
Cyber Culture is different

• Sees itself as cool
• Overlaps work and fun
• Is competitive, collaborative, and social
• Expects empowerment
  • Self-worth
  • Sense of mission and purpose
  • Involved in development of process
• Expects to have many jobs
  • Typically experience desire to move on to something new within 2-4 years
  • Best people will branch out, leave
Military culture has mixed impact

- Coming from a family with military background increases attraction
- Military values discipline, integrity, loyalty, credibility, and pride
- Military allows a way to legally conduct offensive operations
- Military requirements are more burdensome for this group
  - Physical training
  - Drug testing
- Military can't always select who they want
  - Must make do with what is given
  - Cannot fire poor performers
Industry pulls talent

• Better money
• Silicon Valley is currently a “gold rush”
• Better opportunities
• Faster pace of change
• Higher standards and prerequisites
• Industry is seeding relationships with women
• Shared (product) mission
Job Conditions Limit Satisfaction

Technology

• Inadequate equipment

Work Process

• Limited access to information
• Low level, rote work
• Bureaucracy

Relationships

• Poor communication
• Caste system
  • Operators at the top, support at the bottom, Offense valued, defense belittled
  • Marines value personnel with time in the ‘operating forces’
  • Civilians are not well integrated
Workforce Skills Need Improvement

Cyber worker skills

• Cyber requires specializing
• Cyber employees often don’t have the skills needed
• Lack of diversity—gender, age, enlisted in power

Management Skills

• Transparency
• Technical awareness
• Trust
• Responsibility
• Caring and understanding
Rewards Should be Tailored

### Monetary
- $$$$$
- Benefits

### Non-monetary
- Recognition
- Time off
- Flexible work structures
- Autonomy
- Options in locality
- Education

### Career growth
HR Practices impede retention

Poor recruiting and hiring of skilled or potential Cyber

Policy misalignments

• Extended duty assignments (out of the ‘operating forces’) are not valued in promotions
• Certifications and some policies encourage employees to leave
• Contractor and active pay scales do not align
• Two-year rotations are limiting
• Innovation is not encouraged or rewarded

Practices do not support career growth

• There are a few guidelines for how to progress in your career
• There is no adaptation to shorter military careers and shorter IT job lengths

Antiquated and ineffective HR and Acquisition processes
3. Key Stakeholders

- Core
  - Contractors
  - Reservists
  - Cyber warriors
  - Cyber management
  - Cyber command

- Detailers
- Recruiters
- Service Human Resources
- Chief Information Officers
- Combatant Commanders
- Service Chiefs
- Office of the President
- Legislative affairs
- Intelligence agencies (NSA, CIA, DHS)
- Budget people
- Career counselors
- Co-workers
- Family members
- Educators
- Adversaries
- Security and clearances
- American people
- Foreign nations
- Educators

- Indirect
- Direct

- Service Chiefs
- Service Human Resources
- Industry Human Resources
4. Risks and Unknowns?

What is the real nature of the problem?

What is the cyber manning strategy?

What is the current career flow?
Do we understand the real nature of the problem?

- Details on retention challenges
- The reasons cyber employees leave
- The demographics for retention
- Current status of cyber retention
- Effectiveness of current STEM programs
What exactly is the cyber manning strategy?

- Strategic goals for manning
- Clear definition of cyber roles
- Budget constraints
- Management practices
- High-value cyber employees
How is career flow handled now?

• Certification process—industry vs. military
• Specific job requirements
• The role of STEM in leadership skill set
• Transparency of how assignments are made
• Current practices in utilizing active reserve
• Acceptable ROI for training a cyber warrior
5. Desired Outcomes

Leading Indicators

• Larger pool of skilled cyber professionals
• Increased commitment
• Better fit — employees skills match the need of the organization
• Better morale

Lagging Indicators

• Increased retention
• Increased technological sophistication
• Increased efficiency
• Higher quality products
• Lower training costs
• Mission accomplishment
6. Proposed Solutions

**Career Progression**
“experts are developed”

**Closed System**
“everyone’s a cyber warrior”

**Fluid Careers**
“pathways in and out”

**Common themes**

- Focus on increasing the pool of recruits
- Be transparent in setting expectations
- Hire for “good fit”
- Support progression of skills
- Adapt to changing demographics
- Use flexible incentives
- Support movement in and out of military
- Modernize HR processes
Experts are Developed

adaptable career paths

Attract
- Transparency
- Expectations

Filter
- Knowledge
- Aptitude
- Attitude
- Motivation

Early Career

Certifications
- Skills
- Support
- Offensive Operations
- Defensive Operations

Payback
- Merit

Mid to Late Career

Job Stability
- Competitive Pay
- Family
- Professorships
- Experts
- Management

DoD Assignments
- Industry Assignments
- Education

Sabbatical

Payback
Everyone’s a Cyber Warrior

Compete to be elite

Establish a sustainable supply chain
JROTC
ROTC
Rank & File

Testing

Secret Passage - Experienced

Exercises

Tier 4
Cyber Police

Tier 3
Cyber Pros

Tier 2
Office Gurus

Tier 1
Everyone
Support Career Change
Pathways in and out

Support the Force
- Flexible Work
- Allow exceptions
- Skill growth

Grow the Force
- Support
- Defense
- Attack
- Management
- Innovation

Prep the Package
- Personality
- Aptitude
- Career goals
- Skills
- Knowledge
- Training

Align Jobs with Mission
- Quotas
- Strategic goals
- ROI

Modern recruiting
- Shooter Games
- Puzzles

Seed the Pool

Outreach
- STEM Programs
- Diversity

HR

Detailer

Support Defense

USG

GS & Contractor

Enlisted

Officer

Flexible Work

Allow exceptions

Skill growth

Personality

Aptitude

Career goals

Skills

Knowledge

Training

Modern recruiting
Shooter Games
Puzzles

Outreach
STEM Programs
Diversity

Seed the Pool
Designing the Cyber Workforce using Design Thinking

Innovative

Human-centered

Prototyped

Iterative