Business Acumen for the Graduating Cybersecurity / InfoSec Student

National Cybersecurity Student Association
Overview

• Introductions
• Define Business Acumen
• Identify Business Acumen Skills and Behaviors
• Cybersecurity and Business Acumen
• Tying It All Together
• Resources ~ Future Plans
Welcome and Introductions

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Reflection and Journaling

- Purpose
- What’s in it for you?
- How is it done?
- What do we do with it?
#whoami

Introductions

• Name
• Role (student, faculty member, Industry partner, etc.)
• Organization
#think

What happens when you do not see the big picture?

a) Opportunities are focused
b) Opportunities are overlooked
c) Nothing
d) Growth is enhanced
What do most people focus their energy on at work?

a) Big picture
b) Interests
c) Specific roles
d) Company roles
Information Technology Model
What is Business Acumen?
Industry Definitions of Business Acumen

• a keenness and quickness in understanding and dealing with a business situation in a manner that is likely to lead to a good outcome" (Wikipedia, 2012).

• "the ability to make good judgments and quick decisions". (Oxford English Dictionary).

• "the knowledge and understanding of the financial, accounting, marketing and operational functions of an organization.” Society for Human Resource Management (SHRM).
Industry Experts on Business Acumen

“Businessmen must move with the times...the correlation between knowledge and business as the key to success is closer than ever.” – Li Ka Shing

“Know your numbers’ is a fundamental precept of business.” – Bill Gates
“How have you prepared for the first role in your future career? While an education is a great start, understanding the business environment that you will be working in will give you an advantage over others in your field. We spend years preparing for our future career, but recent graduates often underestimate the importance of educating ourselves about our future employer.” - Jessa Gramenz, Director of Communications at National Cybersecurity Student Association

“True business acumen is developed by learning from success and from failure.” – Carl Willis-Ford, Senior Principal at CSRA.org
Business Skills & Behaviors

• Know your Organization
• Communication
• Emotional Intelligence
• Women in the Workplace
• Multi Generations
• Building Connections
• Interviewing Acumen
Understand the Organization’s Story

1. Mission, Vision, Goals
2. Culture
3. Structure
4. Your role and the difference it makes
5. What are some of the challenges with the organizations structure?
Understand the Organization’s Story

• Identify business units and functions within the organization
• Identify key performance indicators and why they are important to you
• Recognize the language, jargon, and financial terms used organization-wide
• Can you describe the organization's competitive advantage?
• HOW does the organization make Money?
Organizational Structure Acumen

Organizational structure determines how the roles, power and responsibilities are assigned, controlled, and coordinated, and how information flows between the different levels of management.

Why is it important to learn about your organization?

While cybersecurity was once relegated to a technical or operational issue handled by IT, a cross-departmental, enterprise-wide approach to cybersecurity is necessary.

http://www.businessdictionary.com/definition/organizational-structure.html
Organizational Structure Acumen

- **IT** owns the tools, such as the firewalls, antivirus software, password controls and mobile device management.

- **Legal** is our partner in terms of consultation, and they approve the data protection policies that we have in place. They also push out the data protection policies and report on compliance for any legal or regulatory obligations.

- **HR** is our change management partner, communicating to the organization in partnership with IT. And they also approve, and are consulted in terms of data protection policies, because they own a significant portion of employee information.

- **Finance** not only provides the funding and the resources around data protection, but they also are consulted with and approve the data protection policies.

Organizational Structure Acumen

SWOT

• How does the organization make money?
• What is the impact on the bottom line?
• What does the organization have to offer?
• What are the threats, risk and vulnerabilities?
• Business impact analysis (BIA)?
  • disruption, privacy, financial, reputation, legal

Organizational Structure Acumen

• How to research about the organization that your going into
  • Website, github => mission, main focus, projects, collaborations
  • Networking on social media
  • How are you fitting in there?
  • Understand departmental and your personal responsibilities

• Conveying your message
  • Describing cyber attacks and steps to mitigation
  • Technical Reporting vs Reporting to Executives
Financial Aspects of Business

• The organizational market
• The management structure
• Clients/customers
• Ownership types
• The age of the business
• Laws and regulations – industry and region
Common Financial Terms

• Cash flow
• Budget
• Asset
• Liabilities
• Capital
• Balance sheet
• Revenue (gross vs. net)
• Expenses
• Return on Investment
Communication

Translation

move or slide in any direction without rotating
Jargon ~ Lingo Examples

• SWOT Analysis
• Plug and Play
• Get your Ducks in a Row
• Band Width
• Bang for your Buck
• Cookie
• Rubber Check
• Picked-Off
• Sweat Equity
• GOHIO
CORPORATE JARGON

Your climb up the corporate ladder is directly related to your ability to get the bandwidth to ping someone to discuss the low hanging fruit and incentivise a sustainable solution by COB for all the business owners in the trenches.
Abbreviations ~ Acronyms

Why is it important to understand your industry abbreviations?

btw - by the way
brb - be right back
Hy l - talk to you later
lol - laugh out loud
day - to day
Your Role

Every Industry uses different terms that build a common thread for those who are employed

CSRF  Cross-Site Request Forgery
CSRF  Control Systems Research Facility

“Somebody have just exploited CSRF!”

Learn the Terminology we use to help tell our stories
Effective Communication

1. Listen
2. Be personal – use names
3. To the point
4. Let others talk
5. Manage your attitude
6. Manage your body language
Emotional Intelligence (EI)

SELF-AWARENESS
- Emotional Self-Awareness
- Awareness of my own strengths and limitations
- Self confidence

SOCIAL AWARENESS
- Empathy
- Organizational Awareness
- Service Orientation

SELF-MANAGEMENT
- Self-control
- Transparency: honesty, integrity
- Adaptability
- Achievement drive
- Initiative

RELATIONSHIP MANAGEMENT
- Leadership and Influence
- Building bonds
- Helping others to develop
- Change management
- Conflict management
Low Emotional Intelligence

Aggressive
Demanding
Egotistical
Bossy
Confrontational

Easily Distracted
Glib
Selfish
Poor Listener
Impulsive

Resistant to Change
Passive
Un-Responsive
Slow
Stubborn

Critical
Picky
Fussy
Hard to Please
Perfectionistic

High Emotional Intelligence

Assertive
Ambitious
Driving
Strong-Willed
Decisive

Warm
Enthusiastic
Sociable
Charming
Persuasive

Patient
Stable
Predictable
Consistent
Good Listener

Detailed
Careful
Meticulous
Systematic
Neat
HOW TO USE EMOTIONAL INTELLIGENCE TO IMPROVE CUSTOMER SERVICE

with IT customer service expert and author Don R. Crawley

www.doncrawley.com
(206) 988-5858
Being a Woman in a Male Dominated Workplace

**Numbers**
Women only make up 11% of our field.

**Perspective**
The glass ceiling is an artificial boundary, don’t just test it... exceed it.

**Type A != Fun**
Put a positive spin on a negative situation

**There are Perks!**
No line for the bathroom
The field is eager for diversity

Multi-Generations in the Workplace

- Veterans, Silent, Tradionalist
- Baby Boomers
- Generation X
  - Gen X
  - Gen Xers
- Generation Y
  - Gen Y
  - Millennial
  - Echo Boomers

1922-1945
1946-1964
1965-1980
1981-2010
AND BEFORE YOU ASK, NO, THE DEFIBRILLATOR IS NOT YET AVAILABLE AS AN iPHONE APP.
Building Connections

- Knowledge
- Collaboration
- Creativity
- Confidence
- Mentorship

https://www.facebook.com/pg/CyberStudents.org/videos/
Finding and Utilizing a Mentor

Step 1: **Find a Mentor**
- Networking, family, friends, instructors, coworkers
- Get their contact information
- Ask if they can commit to mentoring

Step 2: **Study Your Mentor**
- Find out their specialty. Capitalize on their strengths to learn from them

Step 3: **Utilize Your Mentor**
- Understand they will be busy
- Make the process easy for them
- Ask the right questions
Interview Acumen

Intro to interview Acumen

Why is it important?

• Understanding your organization
• Doing research on your company
  • Glassdoor, LinkedIn, Google Search
Mock Interview Questions

• What are some of your most significant accomplishments?
• How would you describe your ideal job?
• If you had to recruit for this position, what are the top things you would look for in a candidate?
• Why do you think manhole covers are round?
• How do you want the work you do to be remembered?
Questions to Ask During the interview

• What exactly are the job responsibilities?
• What would my first project be if I am hired?
• How did this position become available?
• What type of development opportunities does the job and the company offer?
• Are continuing education and professional training stressed?
• How do you see me benefiting the company?
• Who would be my manager if I am hired?
• When will you make a decision on the successful candidate?
• May I contact you if I have other questions?
Written & Unwritten Norms

Know the environment and culture at the company

• What is the culture?
  • How is the hierarchy established?
  • Is there a white glove treatment with high profile employees and clients?
  • How to gauge the professional interactions with coworkers

• What is the dress code?
  • Business casual
  • Business professional
DRESS CODES

WOMEN'S

Business - Formal
Business
Business Casual
Smart Casual
Casual
Reflection TIME

Are you communicating successfully and effectively to influence others or are you just talking?

Listening  Master  Effective  Body  Non-verbal  Business  Language  Well  Good  Message  Active  Empathic  Cultural  Listen
Communication  Cross  Good  Communication  Skills
“Understanding and communicating the business case for cybersecurity is an essential skill for students in our Computer Information Systems program at Cal Poly Pomona.”

- Dr. Dan Manson, Professor and Department Chair in Computer Information Systems
Certification Routes

Entry
• MTA: Microsoft Technology Associate Net|Sec
• CompTIA A+ | Net+ | Sec+ | Linux+ | Cloud+
• GSEC: SANS GIAC Security Essentials
• CCENT: Certified CISCO Entry
• GISF: Information Security Fundamentals
• ISACA: CSX Cybersecurity Fundamentals Certificate

Mid
• CCNA: Certified CISCO Networking Associate
• CEH: Certified Ethical Hacker
• CEH-SA: CEH Security Analyst
• SSCP: Systems Security Certified Practitioner
• CompTIA CSA+: Cybersecurity Analyst

Advanced
• CISSP Associate: Certified Information Systems Security Professional
• CISM: Certified Information Security Manager
• OSCP: Offensive Security Certified Professional
The National Initiative for Cybersecurity Education (NICE) developed the NICE Cybersecurity Workforce Framework (NCWF)

- 7 categories
- 30 specialty areas
- 50 work roles

NATIONAL INITIATIVE FOR CYBERSECURITY EDUCATION (NICE)

PROTECT AND DEFEND

INCIDENT RESPONSE

Responds to crisis or urgent situations within the pertinent domain to mitigate immediate and potential threats. Uses mitigation, preparedness, and response and recovery approaches, as needed, to maximize survival of life, preservation of property, and information security. Investigates and analyzes all relevant response activities.

<table>
<thead>
<tr>
<th>TASK</th>
<th>KSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>Statement</td>
</tr>
<tr>
<td>29</td>
<td>Knowledge of data backup, types of backups (e.g., full, incremental), and recovery concepts and tools</td>
</tr>
<tr>
<td>50</td>
<td>Knowledge of how network services and protocols interact to provide network communications</td>
</tr>
</tbody>
</table>
Cybersecurity Supply/Demand Heat Map

Cybersecurity talent gaps exist across the country. Closing these gaps requires detailed knowledge of the cybersecurity workforce in your region. This interactive heat map provides a granular snapshot of demand and supply data for cybersecurity jobs at the state and metro area levels, and can be used to grasp the challenges and opportunities facing your local cybersecurity workforce.

Arizona

- **Total Cybersecurity Job Openings**: 8,447
- **Total Employed Cybersecurity Workforce**: 14,339
- **Supply of Cybersecurity Workers**: Very Low
- **Geographic Concentration**: High Location Quotient
- **Top Cybersecurity Job Titles**:
  - Cyber Security Analyst / Specialist
  - Cyber Security Engineer
  - Auditor
  - Network Engineer / Architect
  - Systems Administrator
  - Systems Engineer
  - Risk Manager / Analyst
  - Software Developer / Analyst
  - Systems Analyst

Source: http://cyberseek.org
How will your Actions and Behaviors add VALUE?
Resources

- News/technical write-ups: https://www.reddit.com/r/netsec/
- Free IT/CS books (including a set of security books): https://github.com/vhf/free-programming-books/blob/master/free-programming-books.md#professional-development
- Wired threat level: https://www.wired.com/category/security/threatlevel/
- Tech news: http://www.theverge.com/
- Hacker news: https://news.ycombinator.com/
- Security investigations: https://krebsonsecurity.com/
- Podcasts: https://securityweekly.com/podcasts/
- Conferences: http://infosecevents.net/calendar/ (DefCon, DerbyCon, BSides)
- E-books on IT and security: http://www.allitebooks.com/
Wrap up ~ Tying it all together

- Recap
- Planning for future
- A Facebook follow-up Live session
  - Every 1st & 3rd Saturday of month @ 1pm EST
- NCSA’s WiCyS PPTX
  - Cyberstudents.org under Resources
- Time for QUESTIONS?
NATIONAL CYBERSECURITY STUDENT ASSOCIATION

Nation's largest association of cybersecurity students and competitors

LEARN MORE