Meeting Member's E-Commerce Demands

How to Make It Easy for Your Members to Do Business With Your Credit Union 24/7

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First Principles

- What do your members really want?
  - 24/7/365 access to services
  - BUT!
  - Bunch of implied requirements
    - Transaction integrity
    - Data integrity
    - Non-repudiation
    - Availability
    - Confidentiality
- To be successful, they need confidence that…
  - the transaction performed is correct in every way
  - the transaction is not incorrect in any way
  - the service they think they are asking for is in fact the service that is provided

Challenges

- Present a worry free capability that is imbued with all the trust inherent in a conventional banking experience
  - What worries your customers is not always the same thing that worries your security engineers
  - Designing a security solution is complicated by the fact that you have absolutely no control whatsoever over the home computer environment
- Provide an intuitive interface that is:
  - Easy to learn
  - Easy to remember how to use
  - Easy to navigate
  - Easy to use
  - Useful
- Overcome fear of the unknown
  - Technology interface
  - Process elements

Security

- What is security?
  - Webster's: (http://www.m-w.com/cgi-bin/dictionary Sept 24, 2001)
    - Pronunciation: si-'kyur-&-tE
      - Function: noun
      - Inflected Form(s): plural -ties
      - Date: 15th century
    - 1 : the quality or state of being secure : as
      - a : freedom from danger : SAFETY
      - b : freedom from fear or anxiety
      - c : freedom from the prospect of being laid off <job security>
    - 2 a : something given, deposited, or pledged to make certain the fulfillment of an obligation
      - b : SURETY
    - 3 : an evidence of debt or of ownership (as a stock certificate or bond)
    - 4 a : something that secures : PROTECTION
      - b (1) : measures taken to guard against espionage or sabotage, crime, attack, or escape
      - (2) : an organization or department whose task is security

Information Security

- The practice of information security focuses on each of these elements in various means and applications
  - "the quality or state of being secure"
    - Assessing the risk posture of an environment, to include threats, vulnerabilities, and potential impacts
    - Auditing and monitoring the environment against attacks
  - "something given, deposited, or pledged to make certain the fulfillment of an obligation"
    - Access control and mediation; the principle of least privilege
  - "an evidence of debt or of ownership"
    - Identification and authentication, tokens, digital signatures
  - "something that secures : PROTECTION"
    - Focus on the security attributes of information assets and systems
      - Confidentiality, Integrity, Availability
    - Protecting these attributes with technical and management controls

To Simplify

- Providing security of information assets and systems
  - Cannot be done with technology alone
  - Requires on-going analysis and monitoring of the enterprise environment
  - Must be viewed as a composite of these elements:
    - The Risk inherent in the environment
      - Threats, Vulnerabilities, Impact Estimations, Countermeasures
    - Security attributes of the information assets
      - Confidentiality, Integrity, and Availability
    - Policy aspects of the protection framework
      - What needs to be protected? What doesn't?
      - How much protection is needed? What's overkill?
      - How long must the protection be kept in place? How soon can it be released?
    - The phasing of security activities
      - Protection
      - Detection
      - Reaction and Correction

A Word About Threats

- Threats:
  - Natural
    - Fire, Hurricane, Flood, Tornado, etc
  - Malicious
    - Requires both Capability and Intent
      - If no intent, won't act
      - If no capability, can't act
    - Capability
      - Requires both Access and KSA/Tools
        - » If no Access, can't act
        - » If no KSA/Tools, can't act or actions are limited
- This provides a structured way of controlling threat
  - Target intent as much as possible
  - Limit KSA/Tools as much as possible
  - Focus primary efforts on controlling access
    - Both quantity and quality

Security Solutions

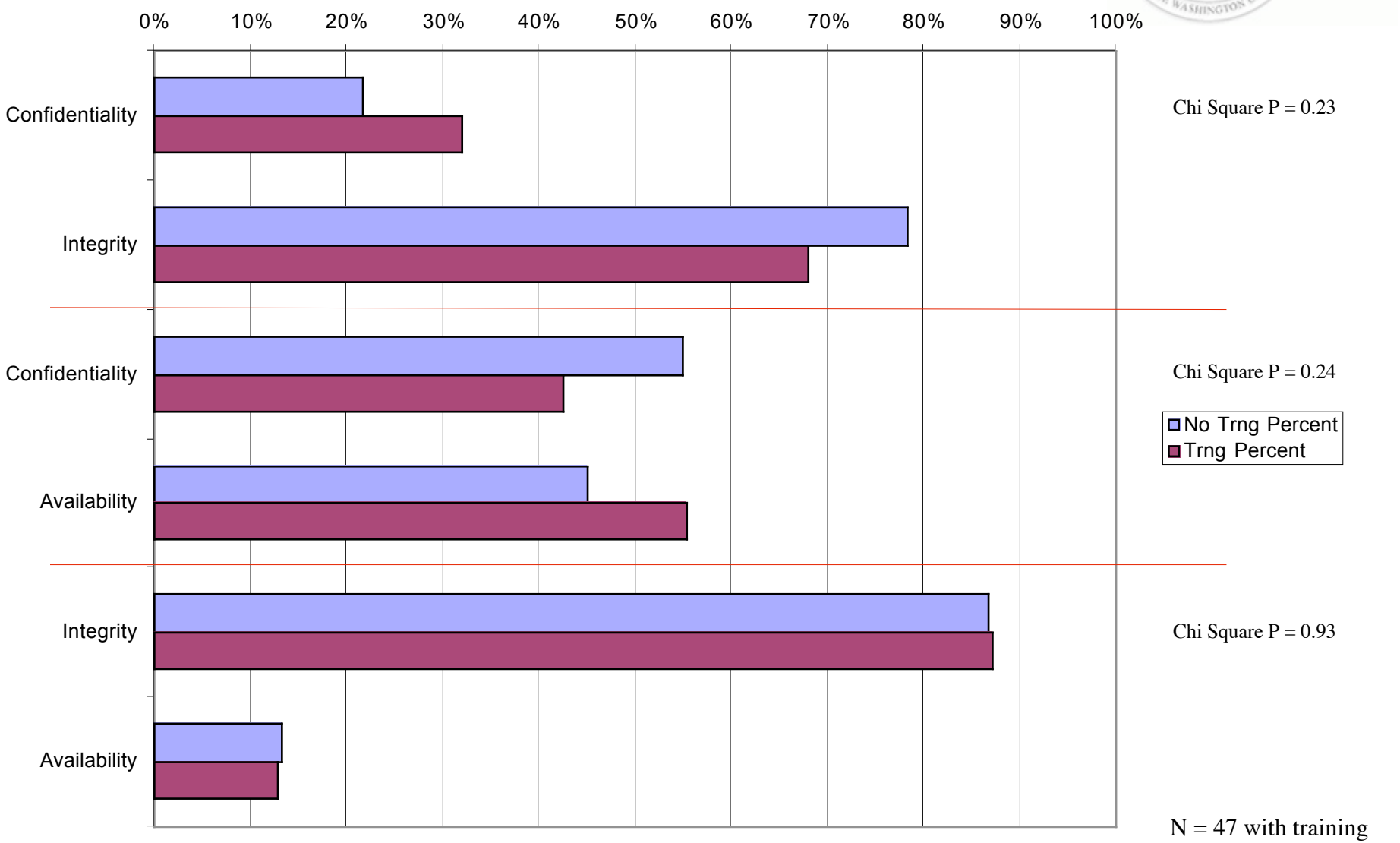
- Security needs to be architected into an environment
  - Architectural approach implies all parts of enterprise environment are considered with regards to the desired solution space
    - Physical security
      - "guards, gates, locks" but also the entire practices of facilities security
    - Computer security
      - Secure computing approaches, configuration management, access control
    - Network security
      - Controlled and monitored networking connections, access control
    - Personnel security
      - Understanding who you are letting into your environment, access control
    - Operational security
      - Holistic security approach to operational environment, processes, procedures
  - Focus is to limit threat access, mitigate vulnerabilities, distribute impact, and manage risk

Worries, Part 1

- Your members don't want to be exposed to insecurity
  - They don't want to be afraid
- Security attributes of the data and the transactions
  - Confidentiality
    - Of the data
    - Of the transactions
  - Integrity
    - Of the data
    - Of the transactions
  - Availability
    - Of data
    - Of transactions

What is Most Important?

Percentages Comparison -- Training Question

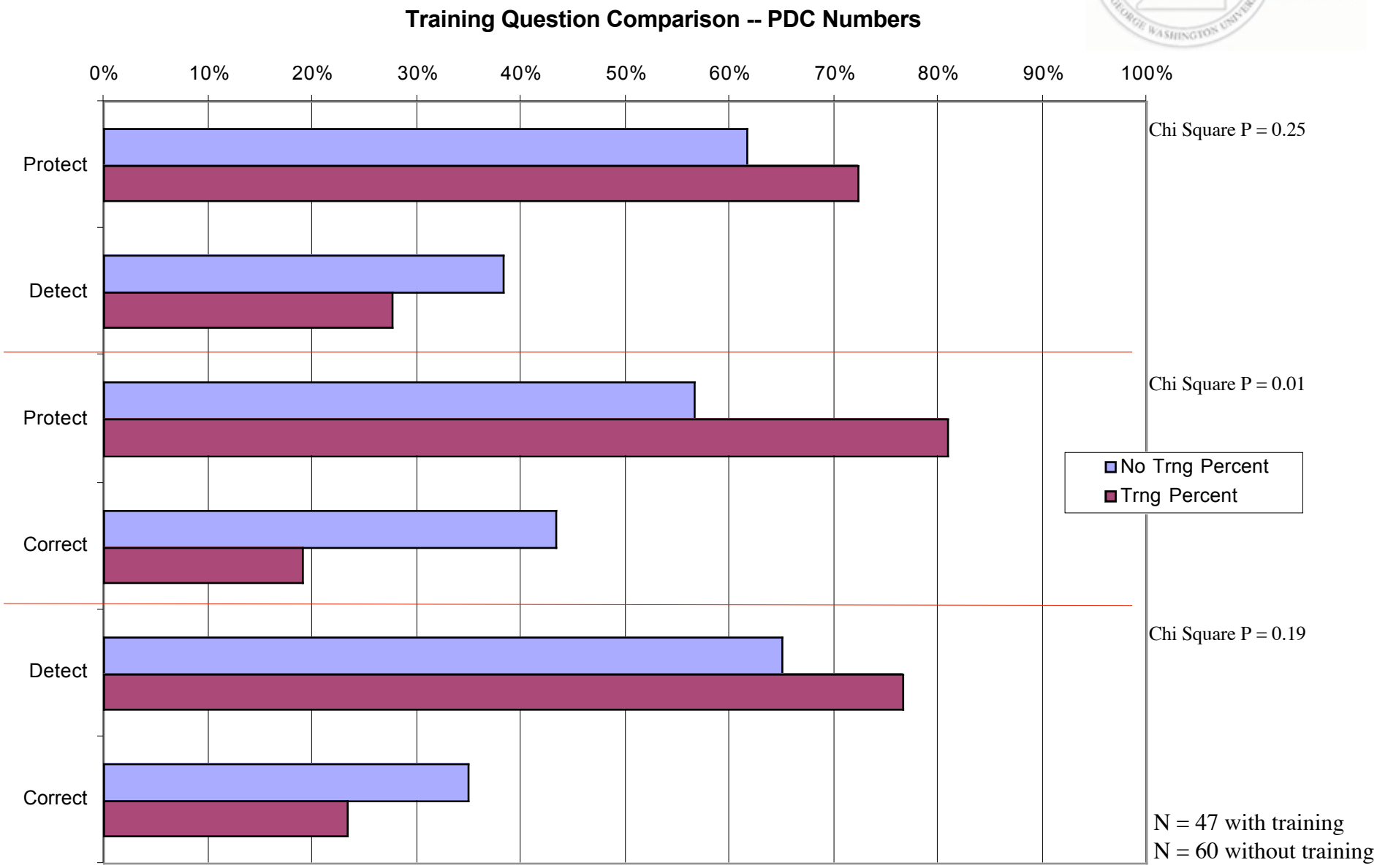


N = 47 with training
N = 60 without training

Worries, Part 2

- Adequate protections
  - For the confidentiality, integrity and availability
  - Of data and transactions
  - With limited resources
- The ability to fix things when they go wrong
  - The ability to detect when problems occur or security mechanisms fail
    - For problems that are protected against
    - For problems that are not protected against
    - For problems that were not considered or known about
    - For malicious activity that is stealthy in nature
  - The resources and capabilities to react and correct any problem situation that occurs
    - With adequate assurance that the reaction is correct
    - In a timely manner
    - With comprehensive solutions

Protect, Detect, Correct



Solution to Worries

- Security managed through limitations on functionality
  - Can't control home computing environment, so therefore must assume malicious end user activity
  - Limiting functionality constrains capabilities of attackers
- Identifying and authenticating end users problematic
  - Passwords are cheap and easy, but a problem waiting to happen
    - Compromised passwords, forgotten passwords, easy to guess passwords
    - How many passwords do you have to how many systems?
  - Consider using a one-time password solution
    - May seem more costly, but life-cycle costs may actually be less depending on the size and complexity of the user population
- Continually reinforce the message of security to your user population
  - Make sure you're doing it right
  - Take away the concerns of your members

The Interface Issue

- Overly complex systems are a barrier to use
  - Human-computer interaction design principles can assist
  - Should be integrated tightly with security engineering goals
- Consider the ATM
  - Extremely limited functionality with narrow range of choices….
  - Anyone ever get confused over which choice to pick?
    - Which type of account?
    - Which account number?
  - Ever go to a different ATM than you normally use and get confused because the interface is different?
- Providing an interface that is easily interpreted, easily manipulated, and easily navigated is absolutely critical
  - For all ages, for all cultures, for all educational backgrounds
  - Colors, symbols, size, font types, etc all have emotional meaning

HCI Engineering

- Interface should have these qualities
  - Easy to learn
  - Easy to remember how to use
  - Easy to navigate
  - Easy to use
  - Useful
- Consider using a metaphor in your interface design
  - Take a physical bank and reproduce it conceptually
  - Make sure you aren't making assumptions about knowledge or expectations
    - Testing on real users helps identify shortcomings in this arena
  - Use "normal" technology interfaces if possible
    - Web-like interface stripped of extraneous capability and enabled by cryptography can provide a comfortable mental experience
  - Train your users by adopting elements of the interface in marketing, promotional, and communications materials

Fear of the Unknown

- Getting customers to adopt a new technology can be difficult
  - Especially if they are afraid of it and what it can do
    - Can they figure it out?
    - Can they use it successfully?
    - Can their accounts be hacked?
    - Can someone steal all their money?
- Integrating the capability into normal operations eases those fears by making the capability familiar
  - Treat it as normal, and very cool
  - Show full confidence in the security features
  - Provide easy to understand user guides
  - Make sure the home computer software installation is absolutely brainless
  - At first, have extra staff on hand to ease the transition
    - Help desk
    - On-site demonstration capabilities

The Bottom Line

- Making it easy for your members requires a lot of up-front engineering and design thought
  - Security engineering
  - Useability engineering
  - Normalization of capabilities
- If you do it right, it will be so easy as to be trivial
  - It will become an expected component that is noticeably by its absence
- If you do it wrong….
  - Low adoption rate of the capability
    - ROI…..
  - Your members will be unhappy
  - Potentially expose the credit union to more risk than necessary

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