CIS-481: Introduction to Information Security

In-Class Exercise #3 - Option D

IQ Team: 4
Names of team members: Daniel Kearl, Mohammed Al Madhi, Yuxuan Chen, Joseph Baxter

Logistics

A. Get together with other students on your assigned team in person and virtually.
B. Review the four options available and decide on only one to pursue as a team.
C. Discuss and complete this assignment in a collaborative manner. Don't just assign different problems to each teammate as that defeats the purpose of team-based learning.
D. Choose a scribe to prepare a final document to submit via Blackboard for grading, changing the file name provided to denote the number of your assigned **IQ Team**.

Problem 1
The FBI maintains an extensive site dedicated to cybercrime:

https://www.fbi.gov/investigate/cyber

Related is the FBI's Internet Crime Complaint Center:

https://www.ic3.gov/

1. What are the FBI's key priorities in preventing cybercrime and abuse? *(10 points)*

The FBI lists their two key priorities of prevention as computer and network intrusions and ransomware. They cite staggering impact on both private and public systems *and* national security as two huge reasons for the focus on these priorities, while also showing concern for the increase in complexity of ransomware and the potential consequences of the ever-improving efficacy of these attacks. They recommend users keep their operating system and any preventative software (anti-virus, -malware, -spyware) up to date, utilizing firewalls, and practicing safe internet browsing to prevent these kinds of attacks. In the case of a ransomware attack, the FBI does not support paying a ransom due to the uncertainty of the outcome, and the effect of it "fueling the fire."

2. Review the most recent Annual Report of FBI's Internet Crime Complaint Center. Describe the 5 previous years' complaint statistics. *(5 points)*

Since 2015, the FBI has received a total of just over 1.7 million complaints of cybercrime, evaluating to an average of 340,000 complaints per year. These complaints have amassed approximately $10.2 billion in total losses, $3.5 billion of those in 2019 alone. Some of 2019's hot topics included business email compromise, elder and tech support fraud, and ransomware.

3. Based on these, evaluate the effectiveness of applications of cybersecurity in preventing crime and abuse. *(10 points)*

It seems the effectiveness of cybersecurity applications is simply okay, which may sound odd right after a figure as high as $10.2 billion in losses, but that number could be much worse. Cybersecurity will always be improving, though so will the technologies that make it necessary. Is an average annual complaint count of 340 thousand acceptable? No, it's not even decent, but as with the amount of losses, that number could be much higher. It's also worth noting that as more people are getting into the work environment who grew up with this vast technology, it may become easier to mitigate some of the human error vulnerabilities occurring simply due to ignorance of the technology in systems.