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Bettering your security behaviour

By: Rosie Lombardi

Computer World Canada (26 Apr 2005)

Everyone knows the rules for losing weight: eat less, exercise more. Knowing the rules doesn't inspire people to change their behaviour. Educating people on how to make two simple rules a part of their everyday habits is a complex public health issue. There are parallels in information security awareness programs: the true objective is not just to impart the rules to users, but to change their behaviour.

Unlike weight loss programs, many users don't even know the basic rules of safe computing. According to the ITAA's Global Cyber Security Survey, 46 per cent of workers say they have either no formal training in information security practices or they learned them through informal channels. Nor are schools providing much training to the next generation of workers. Most students participating in a University of Arizona study described themselves as knowledgeable about protecting themselves from viruses, crashes and other nasties. But almost half reported never having received any computer security training, and the vast majority did not follow basic procedures.

So the workplace is where most people will likely be introduced to security requirements and receive some type of training. But the problem with many corporate awareness programs is that they are too simplistic and typically based on do's and don'ts. "Technology changes frequently and we don't know the don'ts. Users are told not to use the web for x, but in six months, another rule is made for some new threat like spyware, and then users are told not to do y," says Paul K.Wing, co-author of Protecting Your Money, Privacy and Identity. Business and technology environments are dynamic, and expectations of blind obedience to shifting rules are unreasonable in today's workplace.

People need context to understand the point of rules. They need to know the business impact of not following security practices. For example, users may be instructed against sending sensitive content via unsecured e-mail. But people can't understand the problem if they're not provided information about the likelihood that the messaging system might be compromised. And information that may appear innocuous to users can be exploited by hackers, for example, posting a message on a usenet group that reveals information about corporate systems.

"People need examples of how a small lapse or piece of information can

lead to a security breach," says Aron Feuer, president of Cygnos IT Security. "Organizations don't offer clear examples of the impact of a security incident that's tuned to the business or the user's specific function."

Awareness problems are further complicated by privacy issues, which are related to security but add a category of user responsibility beyond the organization to its customers.



"What's common is that people lack awareness of the responsibilities required by privacy legislation," says Brendan Seaton, Chief Privacy and Security Officer at the Smart Systems for Health Agency. "Ethical lapses are a problem: the temptation to browse a famous person's health record, or family and friends, is high. Often people just don't know that it's wrong. The reaction is often, 'But it's my mother - what's wrong with looking?'"

The most intractable behavioural problems involve positive social attributes that are needed in the workplace, like trust and altruism. Countering social engineering, which is the most efficient way to breach security, means reprogramming people's attitudes towards social relationships. "When we do social engineering tests, about 25 per cent to 50 per cent of staff will divulge their passwords to our people impersonating unauthorized users. When we follow-up, the vast majority say, 'I felt uncomfortable answering the question, but I felt it was necessary to do so because I was asked directly,'" says Feuer.

An awareness program needs to teach people how to handle these types of social situations politely but firmly. "Senior executives may not appreciate the value of the little things you can do to train users that prevent big problems. The long-term benefit is phenomenal but the ROI isn't immediate," says Yogen Appalaraju, Chief Information Security Officer at Emergis.

A principles-based approach that allows people to develop judgment is more effective in changing behaviour than a rules-based one — it provides the guidelines people need to make the right decisions when they come across something that's not predictable or they haven't encountered before. The principled approach is about getting users to think about how they can behave responsibly in the workplace through the use of customized examples, analogies and what-if scenarios. "We need to bring the values of the real world into the workplace. If you wouldn't give your bank PIN to someone at work, why would you give them your password?" says Wing.

But there are broader organizational issues to consider even in the best of programs. "Assuming awareness training is going to be an effective method without taking a look at the systems you're trying to protect is a set-up for failure. Too much responsibility for security has been moved to users in organizations where systems are too convoluted, complex and interdependent to build a good security posture," argues Feuer.

People who "own" information assets such as finance and HR are responsible for content and held accountable in theory, but in practice

they are not responsible for designing, implementing and maintaining security controls. They may be trained on security practices, but they don't understand the underlying systems or who is responsible for setting data standards.

Says Feuer: "One of the things awareness training should be doing — but doesn't — is to introduce the big-picture security requirements. If it doesn't cover systemic or governance issues, then it's focused on the bottom 20 per cent instead of the top issues. Basic training that doesn't allow users to come back and ask: do we have a policy that tells us how we should use our systems, what method should we use to classify information, and so on — if it doesn't allow users to become managers of their own systems — then from a security perspective, the training is flawed."

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