Introduction and Research Questions

What is SCADA Systems?
Monitor and remotely control critical infrastructure processes, such as electricity transmission, water supply and distribution, gas pipelines, government facilities and power generation plants.

Aims to develop an assessment framework to measure SCADA Systems security awareness and implementation against cyber-terrorist attacks.

Proposed Theoretical Framework

Vulnerability, Risk and Security Controls Assessments : SCADA Expert Interviews

First Phase
Interview Sessions with 8 SCADA Security Systems Experts from different countries and cross sectors
Objective: To cultivate an Information Security Culture within the SCADA Organisations by measuring the existing security implementations within SCADA Organisations

Firstly, to explore the motivations behind the implementation of security and determine the key security principles
Secondly, to assess the importance of current security control practices, along with the security environment
Schein’s Organizational Culture Model

Vulnerability, Risk and Security Controls Assessments : SCADA Practitioners Survey

Second Phase
Surveys from 101 SCADA Systems Practitioners from different sectors and country.

Secondly, to determine the actual implementation of security

Key findings from the survey with SCADA Practitioners:
1. Most SCADA organisations are aware of the need to implement security policies in their organisation
2. In terms of the actual implementation of security
   - Most organisations are not fully managing the security risks
   - Most organisations are not fully implementing internal security controls within their organisations
3. Some organisations are still using default configurations due to complexity

Pilot Study
Pilot study seeks to answer the following questions;
Q1: Are the organisations aware of the security risks and standards?
Q2: Do the organisations comply with and assess security risk management?
Q3: Are appropriate measures being implemented by the organisations?

Research Methods:
- Preliminary interviews with 2 experts different countries and Survey for 104 practitioners. Result were analysed and tested according to the Integrated System Theory (Hong, 2003)

- Key findings from the Pilot Study:
  Q1 – Most organisations are aware of the importance of controlling and monitoring security of critical infrastructures. However, the survey results show several organisations do not implement adequate security training and awareness.
  Q2 – Varies from sectors, in different countries. There are no mandatory assessments in both countries, but experts believed that this should be the next step.
  Q3 – 1/3 of the survey participants believe their organisation have not implemented adequate controls.

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