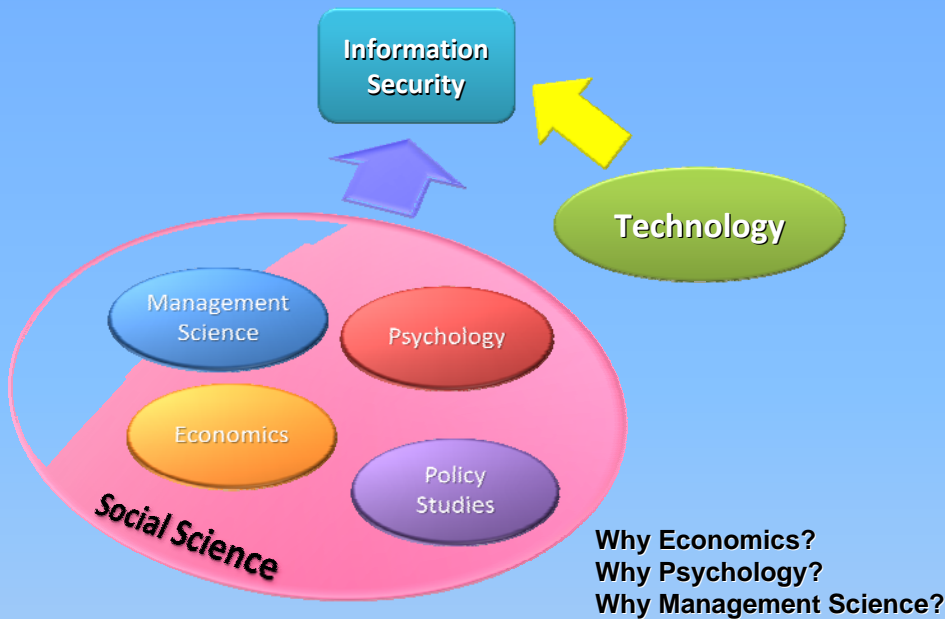


# An Economic Approach to Issues on the Information Security

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## Significance from the Viewpoint of Economics



**Themes**

- Economic Effects on Information Security
  - Economic Loss by Information Security Incidents
  - Positive Effect of Strategic Information Security Investment
  - Incentive Mechanism to Invest in Information Security
- Economic Behavior on Information Security Countermeasures
  - Awareness
  - Communication
- Information Security Management System
  - Information Security Management System
  - Business Continuity Management System
- Economic Impact of Government etc

### ABSTRACT

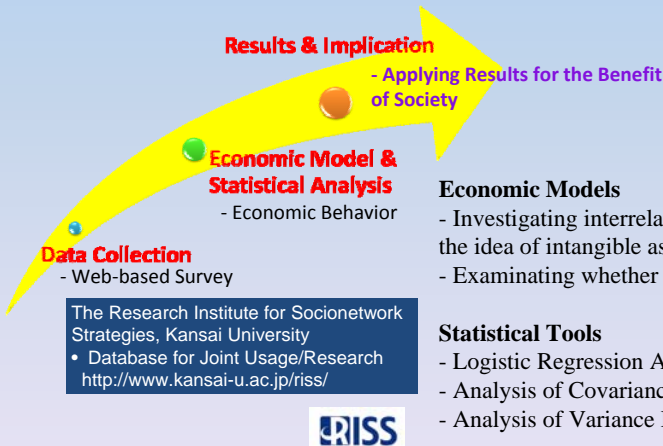
In this work, from the viewpoint of economics, the author analyzes the interrelationship between information security countermeasures and economic activities by statistical methods. The sophisticated micro data set in this work, which includes countermeasures, (psychological) awareness on information security and various other attributes, is collected through a Web-based survey that uses sophisticated social investigation methods.

Takemura, T. (2009) "An Economic Approach to Issues on the Information Security" RCSS Discussion Paper, No.86  
 [URL: [http://www.rcss.kansai-u.ac.jp/DPS/DPS\\_E.html](http://www.rcss.kansai-u.ac.jp/DPS/DPS_E.html)]

Main actors dealing with the information security policy and countermeasures in Japan

	URL	Main Objective
NISC	<a href="http://www.nisc.go.jp/">http://www.nisc.go.jp/</a>	Information security policy
MIC	<a href="http://www.soumu.go.jp/">http://www.soumu.go.jp/</a>	Information security policy
METI	<a href="http://www.meti.go.jp/">http://www.meti.go.jp/</a>	Information security policy
CCC	<a href="https://www.ccc.go.jp/">https://www.ccc.go.jp/</a>	Counter-bot measures
JADAC	<a href="http://www.dekyo.or.jp/">http://www.dekyo.or.jp/</a>	Countermeasures against unsolicited email
IPA	<a href="http://www.ipa.go.jp/">http://www.ipa.go.jp/</a>	Countermeasures against computer viruses
JVN	<a href="http://jvn.jp/">http://jvn.jp/</a>	Provision of information on vulnerabilities
JNSA	<a href="http://www.jnsa.org/">http://www.jnsa.org/</a>	Countermeasures on network security
NPA	<a href="http://www.npa.go.jp/">http://www.npa.go.jp/</a>	Countermeasures against cyber-crimes

### Framework

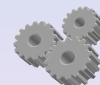


#### Economic Models

- Investigating interrelation between countermeasures and effects that firm improves market value based on the idea of intangible assets in Brynjolfsson et al. (2002)
- Examining whether workers' awareness of information security is different in its attributes or not

#### Statistical Tools

- Logistic Regression Analysis
- Analysis of Covariance Structure
- Analysis of Variance Based on a Non-Parametric Method



### Some Findings

- There are positive relationships between the expected effects and some management countermeasures on information security such as information sharing and education
- Human resources and information sharing are the important two factors regarding the security system in the firm
- Workers' awareness of information security is different in its attributes such as organizational attributes and the education about information security countermeasures

A Keyword is  
**“Education”**