



Australian Government
Australian Institute of Criminology

Online Identity Fraud

Understanding and responding to consumer scams

Russell G Smith
Principal Criminologist



Introduction

Fraud has existed throughout history

- Dr Samuel Johnson observed in *The Rambler* in 1784:
“Whoever commits a fraud is guilty not only of the particular injury to him whom he deceives, but of the diminution of that confidence which constitutes not only the ease but the existence of society”.

Inspector John Nugent’s “Registry of Flash Men” (1841-44)

- Emily Syster – begging letter imposter (today’s charity fraudster)
- Simon Hunt – false insurance claim (today’s car accident fraudster)
- Mick Bell – advance fee thief (today’s Nigerian email fraudster)

Frauds, scams, tricks, cons, swindles, rooks, flim flams, gyps

- **Fraud:** dishonest or deceitful means to obtain some unjust advantage
- **Scam:** *a fraudulent invitation, request, notification or offer designed to obtain someone’s personal information or money or otherwise to obtain a financial benefit by deceptive means (Aust Bureau of Statistics 2008)*



Scam categories	Scam sub-categories
Advance fee schemes	Pyramid schemes, Ponzi schemes, chain letters, 'Nigerian' emails, business opportunities, prizes and lotteries, dating scams
Non-delivery and defective products and services	Online auctions, internet services, computer products, sexual services, credit and loan scams, health scams, educational qualifications
Unsolicited and unwanted goods and services	Spam, securities and investment fraud, bait advertising, inertia selling
Identity fraud	Phishing, plastic card fraud, card skimming, unauthorised transactions, online banking fraud



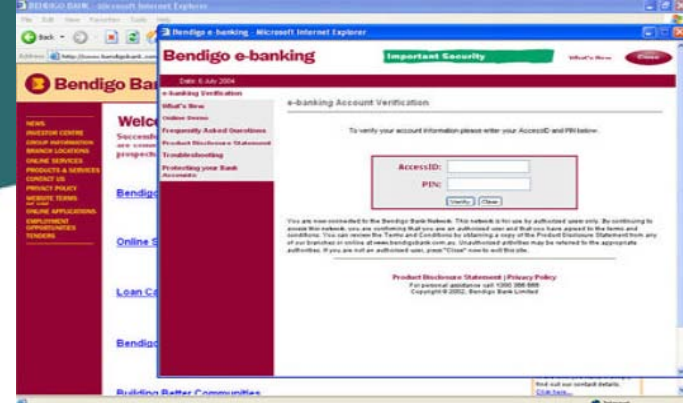
Online identity fraud

Online fraud

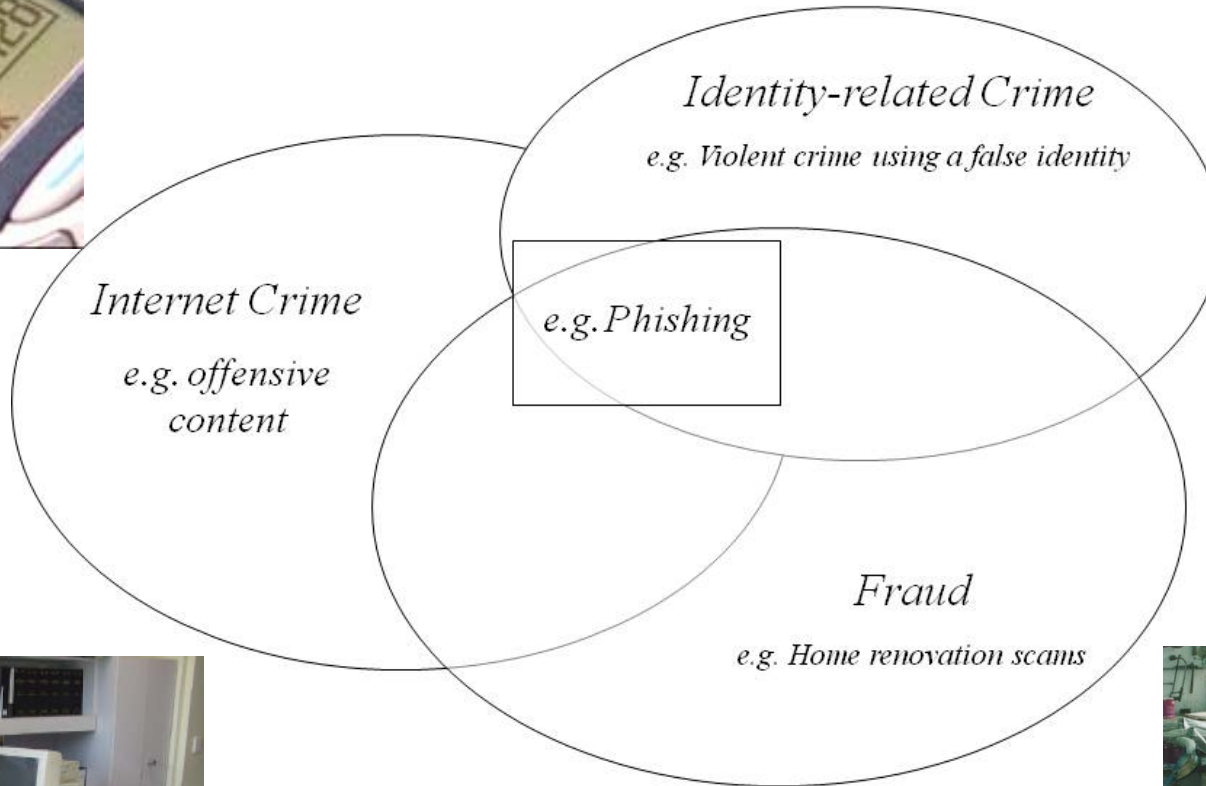
- Dishonest or deceitful means to obtain some unjust advantage, *facilitated through the use of the internet*
- *Syntactic* – exploitation of technical vulnerabilities to commit fraud (e.g. malware, plastic card skimming, illegal funds transfers, Wi-Fi)
- *Semantic* – exploitation of social vulnerabilities to gain information (e.g. scam solicitations, identity-related fraud, auction fraud)
- *Blended* – using technical means to facilitate semantic attacks

Identity crime

- *Identity fraud* – Misuse of personal information to commit fraud
- *Identity theft* – Use of another person's personal information without their knowledge or permission
- *Lent identity* – Knowingly allowing personal information to be used



Inter-related concepts





Understanding the risks

The Internet as a source of personal information

- 1.8 billion global Internet users 31 Dec 2009 – 27% of world population
- 3.5 million Internet users in NZ – 83% of the NZ population
- Facebook and Myspace have 200 million registered users globally

Personal information at risk

- *Life history information* – name, age, address, govt numbers: licence etc
- *Financial information* – bank accounts, card numbers, PINs, passwords

Accidental data leakage cases

- Card Systems Solutions lost details of 40 million accounts
- TJMaxx lost details of 90 million customers over 2 years
- HM Revenue & Customs – 25 million child benefit records lost*
- Driver & Vehicle Licensing Agency – 3 million learner driver details lost*



Understanding the risks

Relevant identity crime types

- Obtaining finance dishonestly; opening bank accounts in false names; money laundering; motor vehicle re-birthing; credit card fraud; tax evasion; obtaining benefits; obtaining licences; avoiding driving demerit points; immigration fraud; terrorism

High risk activities

- Loss of laptops, mobiles and USBs (46% of breaches: Symantec 2007)
- Sharing of personal information online (e.g. social networking sites)
- Ofcom UK – 44% of users allowed others to see personal information; 25% of social networking site users posted personal information openly

Data trafficking via the digital underground economy

- USA *Operation Firewall* – 28 people from 6 countries – buying and selling 1.7 million credit card numbers in 2004



Phishing risks

Phishing attack reports / month

- 23,187 (12/08) to 28,897 (12/09) – 25% increase
- Increase in spear-phishing and whale-phishing (high net-worth targets)

Unique phishing websites / month

- 15,709 (12/08) to 46,190 (12/09) – 194% increase

Industry sectors attacked (Oct-Dec 2009)

- Financial 39%, Payments 33%, Auction 13%, Other 13%, Retail 2%
- Large increase in attacks on social networking sites (incl. in Other)

Banking Trojan / Password stealing crimeware / quarter

- 218,297 (Q4/08) to 3,354,177 (Q4/09) – 1,437% increase

Rogue anti-malware programs detected / month

- 9,287 (12/08) to 122,335 (12/09) – 1,217% increase

Friday, July 29, 2005

[中文 Chinese](#) | [Locations](#) | [Employment](#) | [Contact Us](#) | Search:

GO

BANK OF THE WEST
» [PERSONAL](#)» [SMALL BUSINESS](#)» [COMMERCIAL](#)» [ABOUT US](#)

Online Banking

[Learn More](#) | [Enroll Online](#)
 eTimeBanker® Sign In:
User Name: Password:

SIGN IN

[Forgot Password?](#)

Other Online Services:

Select...

GO



HOME EQUITY

 Get in on the Great Rate Lock-in! [Click here for the key](#)

Locations

State: ZIP code:

LOCATE

CONSUMER ALERT!

Tips on protecting yourself and how to report suspicious activities

[READ MORE](#)

News Bulletin

June 14, 2005 | BancWest Corporation Announces Acquisition of Commercial Federal Corporation by Bank of the West

Personal Banking

Welcome to your community bank.

First job. Last job. New home. College tuition. We're here to help guide your finances through the challenges of every life stage. Stop by a branch to experience our hallmark service for yourself.

[Checking](#)
[Savings & CDs](#)
[Debit & Credit Cards](#)
[Online Banking](#)
[Wealth & Trust](#)
[Consumer Loans](#)
[Private Banking](#)
[More ...](#)

Tennis. Beach Games. Rodeo.

[Join us for summer fun this week only!](#)


Small Business Banking

Taking care of business. Across town. Around the globe.

As you navigate your business through all its cycles, you're not on your own. We assign a dedicated relationship manager to help you make the right financial choices. Give us a call. We pick up the phone!

Business Checking	Loans & Lines
Cash Management	SBA Lending
Merchant Services	More...

Commercial Banking

Your cornerstone of stability and growth.

Middle-market to multi-national, our corporate clients give us high marks for flexible financing, fast local decision-making, and a proactive style



http://www.bankofthewest.com/BOW/home/index.html

Friday, July 29, 2005 中文 Chinese | Locations | Employment | Contact Us | Search: GO



- › PERSONAL
- › SMALL BUSINESS
- › COMMERCIAL
- › ABOUT US



Online Banking

[Learn More](#) | [Enroll Online](#)
eTimeBanker® Sign In:

User Name:

Password:

[Forgot Password?](#)

Other Online Services:

Select...



Locations

State:

ZIP code:

CONSUMER ALERT!
Tips on protecting yourself and how to report suspicious activities
[READ MORE](#) ▶▶

News Bulletin

June 14, 2005 | BancWest Corporation Announces Acquisition of Commercial Federal Corporation by Bank of the West

Personal Banking

Welcome to your community bank.
First job. Last job. New home. College tuition. We're here to help guide your finances through the challenges of every life stage. Stop by a branch to experience our hallmark service for yourself.

- | | |
|--|------------------------------------|
| Checking | Wealth & Trust |
| Savings & CDs | Consumer Loans |
| Debit & Credit Cards | Private Banking |
| Online Banking | More ... |

Tennis. Beach Games. Rodeo.

Join us for summer fun this week only!



Small Business Banking

Taking care of business. Across town. Around the globe.
As you navigate your business through all its cycles, you're not on your own. We assign a dedicated relationship manager to help you make the right financial choices. Give us a call. We pick up the phone!

- | | |
|-----------------------------------|-----------------------------------|
| Business Checking | Loans & Lines |
| Cash Management | SBA Lending |
| Merchant Services | More... |

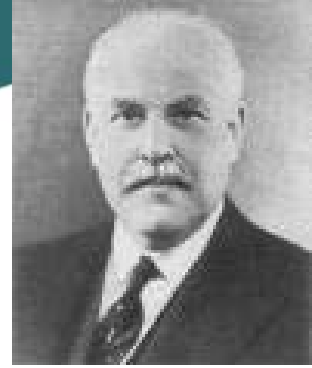
Commercial Banking

Your cornerstone of stability and growth.
Middle-market to multi-national, our corporate clients give us high marks for flexible financing, fast local decision-making, and a proactive style



Australian Government

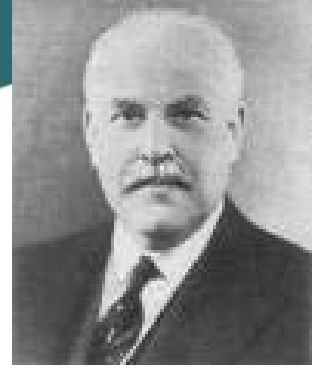
Australian Institute of Criminology



Measuring the extent of the problem

Sir Josiah Stamp “Some Economic Factors in Modern Life”

“The government are very keen on amassing statistics. They collect them, add them, raise them to the n th power, take the cube root, and prepare wonderful diagrams. But you must never forget that every one of these figures comes in the first instance from the village watchman, who just puts down what he damn pleases” (Stamp 1929, pp.158-9)



Measuring the extent of the problem

Sir Josiah Stamp “Some Economic Factors in Modern Life”

“The government are very keen on amassing statistics. They collect them, add them, raise them to the n th power, take the cube root, and prepare wonderful diagrams. But you must never forget that every one of these figures comes in the first instance from the village watchman, who just puts down what he damn pleases” (Stamp 1929, pp.158-9)

NZ – Unravel Research 2006 (1,000 individuals > 15 yrs)

- 48% exposed to scams; 2% exposed to identity theft (1% responded)

Aust – Aust Bureau of Statistics 2008 (14,320 individuals > 15 yrs)

- 36% exposed to scams; 3% victims of identity fraud + 2% other scams
- Total losses 2006-07: A\$977 million; Mean A\$2,156 per person

USA – Javelin Strategy & Research 2008 (5,075 consumers)

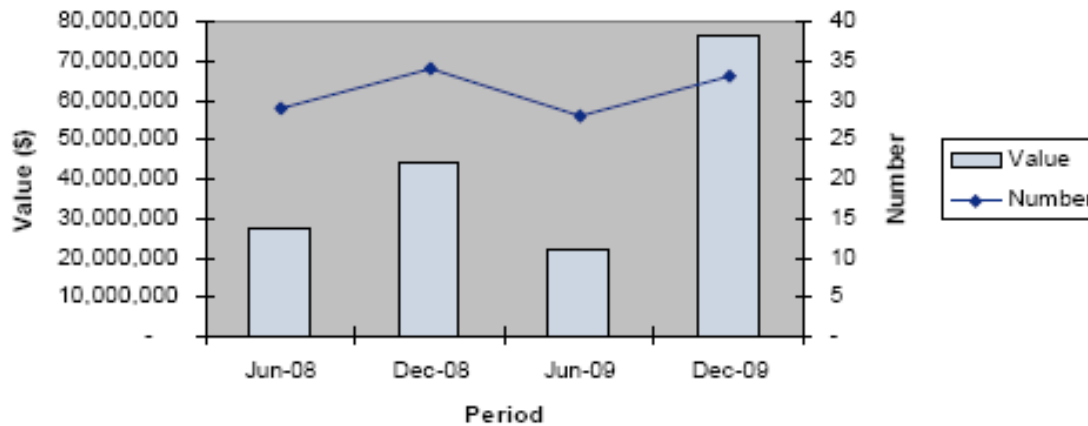
- 8 million victims of ID theft (4% of population) losing US\$45 billion



Business fraud trends

KPMG Fraud Barometer 2009 (New Zealand)

- 38% increase in fraud cases in NZ courts from 2008 to 2009



KPMG Fraud Survey 2008 (Australia & New Zealand)

- Survey of 420 organisations in Australia & New Zealand
- 154,604 cases of credit card fraud using stolen information between February 2006 and January 2008 worth A\$90 million
- Total identity fraud losses of A\$1,231,207 (A\$410,402 mean per case)



Why people respond to scams

Routine activities theory (*Cohen & Felson 1979*)

- Opportunities, motivated offenders, absence of capable guardians
- High internet usage with lax security measures enhances risk

Life-style exposure theory (*Hindelang, Gottfredson & Garofalo 1978*)

- Demographic variables in conjunction with lifestyle relate to risk
- Age, sex, education and income level may be correlated with risk levels
- Negative life events may increase vulnerabilities through a desire to respond to grief or loss by engaging in consumerism or risk-taking

Self-control theory (*Gottfredson & Hirschi 1990*)

- Low self-control and impulsiveness may enhance vulnerabilities
- Desire for immediate gratification increases risk
- Participating in financial risk-taking enhances risk
- Responding to scams without undertaking checks increases risk



Advance fee fraud study

Research team

- Australian Institute of Criminology, University of Melbourne and Victoria Police

Population

- 9,241 Victorians who had transferred funds to Nigeria using Western Union from 1 April 2007 to 31 March 2008 (12 months)
- 7,831 excluded (multiple transactions, non-Victorian, incomplete address information, multiple victims at one address)

Sample / results

- 1,410 individuals sent questionnaire 3 September 2008
- 202 responded (14%); 120 victims (59%); 82 non-victims (41%)
- Dating (36%), assistance (11%), online transactions (9%), lotteries (8%), job offers (7%), other types of advance fee scams (33%)



Significant risk factors (those more likely to be victims)

Demographics

- Older age groups (45-54, >65); Lower income groups (<\$20,000 pa)
- Lower education (secondary schooling or lower); Unemployed

Lifestyle

- Suffered from depression in last five years
- Suffered a personal financial crisis or lost job in last 5 years
- Diagnosed with a serious illness in last five years

Risk-taking

- Likely to trust strangers; Likely to make impulsive decisions
- Unlikely to wait for something due

Computer usage and security

- Likely to use the Internet for longer hours (10-19, >20 hours a week)
- Likely to employ more computer security measures



Policy solutions

Level of risk

- Risks from syntactic attacks continuing to develop
- 1 in 20 household users victimised by scams or identity fraud
- 0.03% of credit card transactions fraudulent, Jan-Dec 2009 (Aust.)
- Problems of lack of knowledge, prevention and behaviour change

Policy directions

- Using multiple solutions rather than one
- Ensuring cooperation between public and private sectors
- Improving education – ACFT; computer driving licence
- Improving victim support – reporting, loss recovery, counselling

Legislation

- Criminalisation of identity fraud and possession of equipment
- Identity fraud court victimisation certificates



Technical solutions

Document security and verification

- Chip/PIN credit card roll-out
- Inter-agency document verification systems

Identity cards?

- BD&M cards; overseas identity cards

Industry responses

- Software solutions to make high risk behaviour impossible
- Anti-skimming devices on card readers e.g. BNZs new software
- Enhanced security of online personal information
- Online transaction monitoring, notification and blocking

Biometrics

- e-passports (facial scanning)
- Online fingerprint scanning and voice recognition





Protecting yourself against scams

Protect your money

- Never respond to an email asking you for your PINs or passwords
- Never send money to someone you don't know or trust
- Only invest with licensed financial services providers

Protect your phone

- Be suspicious of unexpected calls and text messages
- Hang up. Or text 'STOP' to unwanted mobile SMS messages
- Don't give out your number to just anyone

Protect your computer

- Keep your security software up to date, and turn on automatic updates
- Don't respond in any way to unsolicited emails; When in doubt, delete!

Protect your identity

- Never give out your details to someone you don't know or trust
- Don't just bin it—destroy it (old bills, records or expired cards)
- Use strong passwords; check your credit report at least once a year



Australian Government
Australian Institute of Criminology



Russell.Smith@aic.gov.au

Australia's national research and knowledge centre on crime and justice