

SAFETY NET DEMONSTRATION

Melbourne, Australia

Contact:

Phillip Ryan

CEO & Managing Director

Responsible Gaming Networks Pty Ltd

Mobile/Cell: +61 417 313 726

Office: +61 3 9372 0191

Fax: +61 3 9372 0248

email: p_ryan@responsible.com.au

website: www.responsible.com.au

ACN: 140 181 960

CONTENTS

1. Pre-commitment rationale
2. Traditional Player Tracking extended to Pre-Commitment
3. History of Pre-commitment
 - a. Crown Casino:
 - i. Voluntary allocation with no shut-off.
4. Nova Scotia, Canada Trial market research reports:
 - a. Omnifacts Bristol Research:
 - i. Major card sharing issue identified: 37%, half problem gamblers, up to a week, multiple occasions
 - b. University of Nevada, International Gaming Institute, Dr. Bo Bernhard
 - i. Recommended use of biometrics to overcome card sharing
5. Key features of SAFETY NET system:
 - a. **Player Protection Key**
 - i. No central storage of fingerprints
 - ii. Non-exchangeable device
 - iii. Used to activate poker machine thereby providing additional functionality:
 1. Automatically eliminates underage gambling
 2. Provides effective self-exclusion system
 - iv. Voluntary player limit setting:
 1. Money and Time
 2. Daily, weekly, monthly, annual
 - v. Government limit setting (if required)
 - b. **Player Tracking Unit**
 - i. With Player Protection Key input point
 - ii. Display current win/loss over multiple times
 - iii. Displays gambling session times
 - iv. 24 hours automatic self-exclusion button
 - c. **Self-Serve Venue Kiosk & Internet Access**
 - i. Change money and time limits
 - ii. Self exclude from gambling
 - iii. View past gambling history
 - iv. Request hardcopy player statement via email or mail
 - v. Obtain contact details for problem gambling counsellors
 - vi. Self-assessment for problem gambling
6. Application to internet gambling to provide: Age verification, limit setting, regulated suppliers, taxation revenues

7. The SA and Qld trials:
 - a. SA no stoppage, linked to loyalty program for venues
 - b. Queensland voluntary usage, cashless gaming, linked to loyalty program for venues

8. Dr. Robert Williams paper "Pre-commitment as a strategy for minimising gambling-related harm" and the elements of an Effective Pre-commitment regime:
 - a. *Pre-commitment should be available on all EGMs jurisdiction-wide*
 - b. *Pre-commitment is best applied across all forms of gambling*
 - c. *Pre-commitment will be much more effective if it is mandatory*
 - d. *Pre-commitment should offer a range of limit types, values and durations*
 - e. *Pre-commitment parameters should not be exceedable or revocable*
 - f. *A biometric identification system is needed*
 - g. *Central storage of pre-commitment information is less preferable to storage on the player's pre-commitment interface device*
 - h. *Loyalty/Reward cards should not be used for the purposes of pre-commitment*

9. Funding the pre-commitment solution: Government, venues or players
 - a. Productivity Commission's reference to consumer funding through 0.2 percentage point reduction in Return to Players.

10. The perspectives of respected overseas academics and influencers

11. An Australian innovation following in the public policy footsteps of being:
 - a. First country in the world to mandate compulsory seat belts
 - b. First country in the world to mandate aircraft Black Box flight recorders

EXPLORING THE LIMITS OF 'RESPONSIBLE GAMBLING': HARM MINIMISATION OR CONSUMER PROTECTION?

Citation: 2003, Proceedings of the 12th. Annual Conference of the National Association for Gambling Studies, Melbourne.

Mark Dickerson

Tattersall's Chair in Psychology, School of Psychology, University of Western Sydney

Postal address: Locked Bag 1797

South Penrith Distribution Centre

NSW 1797

ph:02 9772 6619

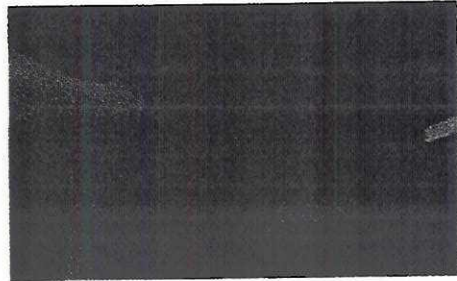
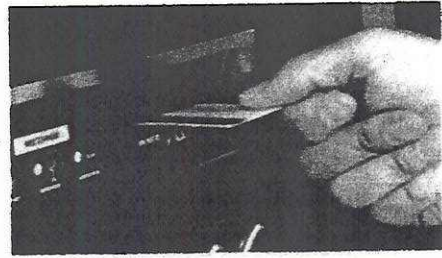
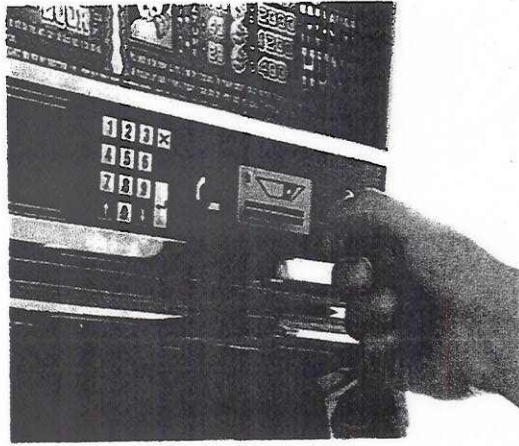
fx:02 9772 6584

email m.dickerson@uws.edu.au

ABSTRACT

In the context of the rapidly developing international interest in responsible gambling the paper presents a brief description of the different definitions of problem gambling and their related methods of measurement: problem gambling defined as a mental disorder, as a harmful impact and as an addictive behaviour. For each of the conceptual approaches the question was posed, "*How can problem gambling (gamblers) be identified from behaviour patterns on the gaming room floor?*" It was concluded that although all approaches may enable an observer to refine probability statements about whether A or B is a problem gambler none permit the sure identification of such a person. Current psychological research does not support the responsible gambling objective of excluding the problem gambler from gambling venues but does have significant implications for consumer protection. The argument presented is that loss of control over expenditure of time and money during a session of play/betting is a common and 'natural' experience for regular players. This sense of loss of control is likely to be an integral part of the pleasurable experience of gambling. It was concluded that the manner in which continuous gambling products are provided to regular gamblers is in direct conflict with responsible gaming strategies, may fail to satisfy the principle of duty of care and may be an issue best resolved in terms of consumer protection.

The Access Device



RESPONSIBLE GAMING NETWORKS

Evolution of Pre-Commitment

- Crown Casino, Melbourne, Australia - 2002:
 - Introduced player pre-commitment money limits on their 2,500 gaming machines (first casino in world to introduce).
 - However, play did not stop when limits reached.
 - Players did not have to carry ID card to play.



RESPONSIBLE GAMING NETWORKS

Nova Scotia Player Card Research Project

STAGE III RESEARCH REPORT

Prepared by Omnifacts Bristol Research



- Players deciding not to obtain a card;
- Borrowing cards from others or from local establishments;
- Contamination of card data by sharing; and,
- Making a conscious choice to play outside the area for some or all of their play.

2) Card Sharing

Strong evidence of card sharing among panelists was most strongly noted in the focus groups conducted in February 2006. This raised concerns about the reliability of the data and challenged the presumption that one card represented one player.

This was factored into the analysis of individual play patterns. In fact, as a result of this finding, Panel Survey #3 was used to validate the overall incidence of card sharing. Also, the survey served as a tool to define those panelists who had complied by using the cards as they were intended, and those who had shared or borrowed cards.

Participants noted several reasons for sharing cards. The first item in the list below was the most common. The other three reasons were less common.

- Sharing when someone had forgotten or lost their own card, did not have their own card, or who were from outside the area;
- Not having own card due to resistance to the card-system and the test in general;
- Not having own card due to concerns about privacy and tracking of data on an individual level. This was related to the concern that government would know how much they were playing; and,
- Not having own card because they did not have a government-issued photo identification card.

Panel Survey #3 showed that just under 20% of the panelists borrowed a card at some point during the test. The likelihood of borrowing increased with PGSI scores. Almost half of the problem gamblers had borrowed a card at some point. Many of those panelists who had borrowed had not done so very often with almost everyone describing it as “one time” or “rarely.”

Almost 30% of panelists said they had lent their card at some point during the test. In most cases, they had lent their card to someone who did not have a card, was from outside the area, or had forgotten or lost their card.

In total, 37% of panelists reported borrowing and/or lending their card.

SHARING OF CARDS

The activity of sharing cards, and the high prevalence of the sharing among players was not expected prior to the commencement of the research. There was, however, an expectation that “bar cards” would exist (cards obtained by bar owners or staff, with the intention of lending them to people who did not want to get a card or use their own card, as a customer service to players) and plans were established in advance of Stage III to identify and remove these cards from the final data set.

Certainly, most players and retailers were aware that sharing of cards defeated the purpose of the card-system, and they recognized that the system was designed to be a one-player one-card system (players themselves noted: otherwise why have the process to obtain a card, why have a PIN, and why have replacement cards replicate the original card?). Even so, focus group participants estimated that as many as 20% to 30% or more of the players were sharing cards. Participants even reported situations where a card would be borrowed for up to a week and the borrower would take the card to several different locations to play.

PARTICIPANTS’ COMMENTS:

- Bars have cards that they give out – seeing lots of it.
- Lots of people didn’t get a card; some stopped playing and some borrowed a card.
- You can just borrow from the bar and also there is sharing amongst players.
- Why lend? What difference [not to lend] does it make?
- Lots of people are using borrowed cards – about 20 out of 50 would be using someone else’s card.

PLAYING OUTSIDE THE TEST AREA

The regular players who did not get a card and those who opted to play exclusively outside of Windsor were not part of the panel or these focus groups so their rationale for not getting a card was offered from third-party sources via the focus group participants. A casual player might simply not want to bother with a card for their limited or infrequent play, but the main reason given for regular players not participating was concern that someone (i.e. the government) would know what they were spending.

PARTICIPANTS’ COMMENTS:

- Concerned about privacy and personal information; why do you need all that information?



st haunts Gillard

Fraud alert on use of PINs

By REID SEXTON

VICTORIANS have been warned to avoid using PINs for eftpos transactions after thousands of people had their bank accounts drained by international crime syndicates in a multimillion-dollar scam.

Police say consumers may be powerless to avoid becoming victims of sophisticated fraud operations that have targeted eftpos machines in at least 50 locations around Victoria so far.

They say the best way to safeguard accounts is to sign for each transaction or use cash when possible.

Up to \$80 million has been drained from Australian accounts during the past 18 months, with police saying Australia is seen as a soft target by the crime organisations which operate out of Britain, Canada and Sri Lanka.

A joint taskforce comprising police from a number of states and the Australia Federal Police has made 40 arrests nationally and charged the same number. In Victoria, 12 suspects have or will be charged. Their roles in the alleged fraud have not been revealed.

The scam works when normal eftpos machines are replaced with compromised ones — often with help of shop staff who are bribed with thousands of dollars or threatened with violence — that record account details, which are then transferred to blank cards.

The PINs are obtained either from pinhole cameras installed near the eftpos machines or through false keypads that record the numbers.

Teams of people then take hundreds of the blank cards to ATMs and drain accounts, with victims unaware of the fraud until they check their bank balance.

Detective Senior Sergeant Bill Nash said the scam, which can leave both credit and bank accounts compromised, had consumed 90 per cent of the fraud squad's time over the past five months.

He said busy places such as service stations, fast-food outlets and cinemas — where there was high staff turnover and less staff supervision — were much more at risk than places with regular hours and staff supervision such as large retail stores.

He urged people to try to hide their PIN whenever they could and said retailers must regularly inspect machines for tampering, secure them to a bench, remove them after hours and check for hidden cameras.

Senior Sergeant Nash said it was not clear whether new cards fitted with chips were vulnerable to scams but cards without chips definitely were.

He said if an eftpos machine had been compromised and

Continued PAGE 2



First appearance at the National Press Club in Canberra since becoming Prime Minister three weeks ago.

PICTURE: ANDREW MEARES

venom rains on new leader's parade



TONY WRIGHT

able hatred between Bob Hawke and Paul Keating could always live up a party, putting such an edge on it that electricity seemed to crackle in the air.

Now the old power surge is crackling clean into the attempt by a new Prime Minister, herself fresh from a knife, to present her party to the electorate as a civilised affair: moving forward, back on track.

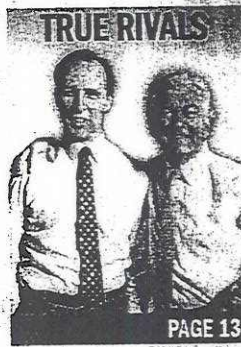
With Keating and Hawke back to the old business of publicly unloading their loathing upon each other, Julia Gillard must surely wish herself somewhere else. Unfortunately, she personally launched the book that started all the latest unpleasantness — Blanche D'Alpuget's updated biography of the ageing Silver Bodgie — and declared Hawke a role model, "the gold standard for any head of government".

"In his commitment to bringing people together and building consensus for reform, he has been a model for all of us," she enthused at the launch.

"Even today on the hustings, Bob can still attract more excitement than probably any of us who sit currently in the Parliament."

Indeed, Hawke's view of Paul Keating, via the loyal Blanche, has inspired more excitement than any new Labor leader heading for an election might wish. Particularly a new leader like Gillard, accused at the National Press Club yesterday of taking about five minutes to renege, Hawke-like, on a last-minute leadership deal with Kevin Rudd — a suggestion that

Continued PAGE 6
Lure of Keating book PAGE 6



PAGE 13

Director cries foul on salary cap report

showed amounts to be paid well in excess of their official contracts.

The report was commissioned by News, which owns Storm and is half-owner of the NRL and pay TV rights holder, Foxtel. News declined to release the full version of Deloitte's findings, instead making public a short summary.

Speaking on behalf of dismissed colleagues Rob Moodie, Petra Fawcett and Gerry Ryan, Mr Maher said he believed News was desperate to stop court

action being taken by the four against the NRL over stripping Storm of its 2007 and 2009 premierships.

"I have no doubt that what's occurred today was a way to stop the bloodletting occurring here and the only way they could do that is by getting rid of us and do everything in their power to circumvent the court action," he said.

The Melbourne businessman called on News to also stand down the two News Ltd-aligned directors — Frank Stanton and

Craig Watt — who should also accept their share of the blame.

Mr Maher was also deeply critical of NRL chief executive David Gallop, who told the media he expected the Deloitte report was "largely accurate", even though it revealed cap breaches that were more than double the amount suspected by league investigators.

"To have someone to make a statement today saying they accept the findings of the Deloitte report without even seeing one page of it absolutely

staggered me," said Mr Maher. "Could you imagine any other code being accepting of that? It's ridiculous."

He said the audit should have been commissioned by the NRL, not News, and called for the game to introduce an AFL-style, independent commission, as being pushed by the clubs. "To compare it to the other code here in Melbourne, it's just

Continued PAGE 2
Vow to keep stars SPORT
BUSINESSDAY
Gallop defends unseen report

ODD SPOT

San Diego authorities say a skateboard-clutching bandit flashed a gun at a bank teller, stuffed money in his back-pack and fled. The robbery fractures covered by a green



INDEX

ARTS PAGES 16, 17
CLASSIFIEDS BUSINESSDAY 15
COMMENT & DEBATE PAGE 15

MINDGAMES PAGES 18
OBITUARIES PAGE 12
SHARES BUSINESSDAY 12, 14

ISSN 0312-6307



SPORT

Cats out of the bag

Mark Thompson has given Brenton Sanderson further food for thought by saying he would not keep him waiting long to take the reins at Geelong. **SPORT 4**



2 DAYS TO GO

RUN Melbourne

GET FIT AND RAISE MONEY FOR CHARITY

- 5km run/walk
- 10km run
- Half-marathon

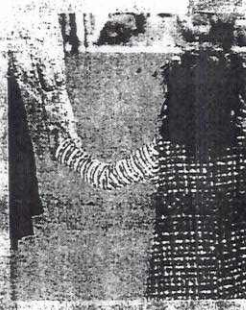
Enter now at runmelbourne.com.au

SUNDAY, JULY 18

NATIONAL TIMES

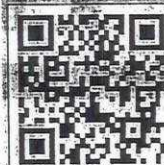
Married with children

We need to get serious about public policy on behalf of children and promote the value of marriage, writes Chris Meney.



theage.com.au

Take a closer look at some rare images of deep sea life as a research team films creatures 1400 metres below sea level at Osprey Reef in Queensland.



ACCESS
 The Age
 from
 your
 mobile
*Carrier data charges may apply

FYI

LOTTERIES

Powerball (Draw 739): 39, 43, 17, 40 and 5. Powerball: 41.
 Wednesday Lotto (Draw 2948) dividends: Division 1, no winners; division 2, \$6614.50; division 3, \$738.15; division 4, \$29.30; division 5, \$16.15.

LAW LIST

View the law list at theage.com.au/lawlist

CORRECTION POLICY It is the policy of The Age to correct all significant errors as soon as possible. The Age is committed to presenting information fairly and accurately.

FOUNDED IN 1854 Published by the Age Company Ltd (ABN 95 004 252 702) of PO Box 257, Melbourne, VIC 3001. Printed by The Age Print Company Pty Ltd (ABN 36096 607 402), Western Avenue, Iullamarine. Paul Ramadge, Editor in Chief, takes responsibility for political editorial comment in this publication. To find out more about The Age, its people, history and services, go to about.theage.com.au

843 243 Newsdesk (03) 8667 2250 Newsdesk Fax (03) 8667 2327 CONTACT Advertising 13 22 43 Photo Sales faxphotos.com The Age Store theageshop.com.au General Inquiries (03) 8667 2000

Storm exceeded the salary cap by \$3.17m between 2006 and 2010.
 On schedule to be \$1.3m over the cap for next year.

BLAMED

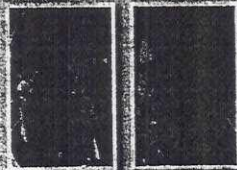
- Brian Walker and Mark Hasson
Former chief executives
- Tim Greysy
Former chief financial officer
- Ross Cameron
Former recruitment chief
- Cameron Wells
Recruitment boss

FALLOUT

DIRECTORS SACKED

- Chairman Rob Moodle
- Peter Fawcett
- Peter Maher
- Gary Ryan

Are taking legal action against the NRL



Rob Moodle Peter Fawcett

WHERE THE MONEY CAME FROM

- Unity Foundation
- Lyco
- The McManus Group

No evidence they were aware the money was being used to fortify the salary cap

THE PLAYERS

- Will Chambers
- Michael Crocker
- Cooper Cronk
- Matt Geyer
- Ryan Hoffman
- Greg Inglis
- Dallas Johnson
- Antonio Leali
- Anthony Quinn
- Billy Slater
- Cameron Smith
- Steve Turner
- Brett White

All received money outside the salary cap, according to the Daily Telegraph report
 No evidence the players were complicit in the cap's fortification

THE COACH

Craig Bellamy exonerated

Alert sounded on \$80m eftpos machine scam

◀ From PAGE 1

fitted with a PIN-recording device — which made up most cases, given the difficulty of installing cameras — any person using it would likely fall victim.

"We reached a point where we had to notify the public," he said.

"I would be saying in all instances to sign and don't use your pin [at Eftpos terminals] ... or use cash wherever possible. Without [the] pin, your account cannot be compromised.

"If [the machine] is capturing your pin and capturing your account, kiss your money goodbye. It will be withdrawn, there's no doubt about it. It's only going to get more sophisticated as time goes on."

Banks will refund the fees of fraud victims.

Senior Sergeant Nash said technology used in Europe had not been introduced here, leaving Australians vulnerable.

"I'm not sure of the extent this has occurred in Europe or overseas," he said.

"My understanding is there

are security measures in place overseas that aren't in Australia and that's why they're targeting Australia and New Zealand. The banks own the cards. There's a certain finance involved in making the cards tamper-proof or counterfeit-proof."

Workers at vulnerable sites, who are often overseas students, have been offered bribes of up to \$40,000 to help install compromised machines.

Senior Sergeant Nash said real threats of violence against them or against relatives in their home country had also been made.

The typical method of the syndicates is to land in Australia, install a compromised machine, withdraw thousands of dollars and then return home within days, disappearing before police are alerted.

A spokeswoman for the Australian Bankers Association did not respond to Senior Sergeant Nash's warning not to use PINs in eftpos transactions, but she said banks issuing MasterCard and Visa cards had started to embed chips in them, increasing security.

Responsible Gaming Device Research Report

International Gaming Institute
University of Nevada, Las Vegas

Bo J. Bernhard, Ph.D.
Anthony F. Lucas, Ph.D.
Dongsuk Jang, Ph.D. (candidate)

Copyright 2006
All rights reserved

Not to be reprinted or reproduced without the permission of the first author.
Please direct all inquiries to bo.bernhard@unlv.edu.



was probably reasonable to expect that the Nova Scotia gamblers would be able to find strategies to get around this responsible gaming system.

In this instance, it appears that the most glaring example of gamblers “beating” the RGD was through substantial card sharing. While this is perhaps to be expected, this reality does render many of our research tools impotent, and we should pursue measures to address this problem. In the future, it may be that biometric devices (that require, for instance, a thumbprint to start play) or facial recognition technology could take care of many of these challenges (in that they could eliminate the step where an identification card is needed).

Of course, as is often the case, solving one challenge leads to new ones – chief among them, perhaps, different kinds of concerns with privacy and security. For the time being, we recommend that a task force consisting of gamblers, policymakers, researchers, and gaming operators convene to discuss steps that can be taken to address card-sharing – the primary hurdle to determining the specific effects that these devices had on specific gamblers.

On a more technical level, responsible gaming features cannot be thoroughly taken advantage of if they are not visible. Participants suggested that as it is currently configured, the device would be especially difficult for those with poor eyesight, and perhaps for older adults. Many of the participants in the focus groups sought larger screens, or at least larger fonts. In the future, we recommend that all of these features might be incorporated directly into the gaming machine (rather than incorporated into a separate RGD attached to the gaming machine.) This not only would enhance usability, it would also further allow those who do not choose to use these features to ignore them, while placing few burdens on those who do.

Of course, there is no “one size fits all” solution to any of the challenges associated with gambling problems. However, in Nova Scotia, the research presented here leads us to recommend the incorporation of this RGD technology as a “cog in the responsible gambling machine” – as a part of a broad and comprehensive responsible gaming policy. While we have some concerns about unintended consequences, we are not of a mind that these are so substantial as to block further implementation and monitoring of these devices.

When we recall that the objective of the Nova Scotia Gaming Corporation was to encourage responsible gambling behaviors, rather than to “solve” gambling problem, it becomes clearer that this device succeeds. Based upon the quantitative evidence we have, it is clear that these features are relatively popular – and especially with heavier gamblers. Future research should explore the relationships between the heavy play associated with RG feature usage, with a special focus on any causal or temporal inferences that can be made (for instance, whether the heavy play or the RGD play “comes first” in the chicken-and-egg equation). As always (and as per Nova Scotia’s tradition), we need to engage in ongoing – and ideally longitudinal – research to evaluate efficacy with gamblers, further unintended consequences, and business impacts. We

Tasmania Leading Australia in Responsible Gambling

The Tasmanian Government today announced a range of measures to further address problem gambling in Tasmania.

The Treasurer, Michael Aird, said the measures, including amendments to the Gaming Control Act 1993, were in response to the findings of the Social and Economic Impact Study and after consultation with key community and industry groups.

"These new measures will ensure Tasmania has the best harm minimisation practices in Australia," Mr Aird said.

"The consumer protection measures are aimed at protecting all gamblers not just problem gamblers.

"The current voluntary code of practice for gambling will be replaced by a mandatory code."

The new measures announced today will:

- enhance restrictions on access to gambling by minors;
- impose mandatory codes to improve gaming environments, including a prohibition on attendant service of alcohol and food in public gaming areas between the hours of 9 pm and close of gaming operations each day;
- place further restrictions on access to cash in gaming venues;
- enhance training requirements for gaming staff in identifying problem gamblers;
- improve information available to players on game rules and returns;
- restrict inducements, such as free food, drinks or games that may lead to problem gambling behaviour;
- align penalties for gaming with those for liquor licensing;
- strengthen the gaming exclusions regime for self-excluded gamblers;
- enhance education for at risk groups;
- review the effectiveness of the gambling support helpline;
- tighten bet limitations on gaming machines from \$10 to \$5 and strengthen other machine-based interventions;
- impose a maximum cash payout amount of \$1 000 for all winnings (Keno and EGM) for all venues; and
- reduce the current cash input limit on EGMs to \$500.

Mr Aird said in developing the measures the State Government had been mindful of the areas that need to be addressed nationally and the Productivity Commission

report into problem gambling due at the end of the year.

"We support the principles behind smart technology and machine intervention strategies," he said.

"I have made no secret of my support of the principles behind smart cards and other player pre-commitment measures, and I will be seeking a national response to this issue.

"Player pre-commitment technology is changing around the world and it can only be dealt with at a national level.

"Even smart card technology has been replaced in some places by a USB player protection key."

Mr Aird said he and the Minister for Human Services, Lin Thorp, would develop a whole-of-government strategy to try to combat problem gambling.

Further information: Tasmanian Government Communications Unit
Phone: (03) 6233 6573



Stealth MXP[®] Bio

Multifactor Data Protection and Digital Identity Portability



SECURED USB
MASS STORAGE
1GB TO 32GB



HARDWARE DATA
ENCRYPTION



STRONG PASSWORD
AND/OR BIOMETRIC
AUTHENTICATION



SAFESHARE



ACCESS ANTIVIRUS
SCANNER OPTIONAL
FEATURE



MALWARE
PROTECTION



DIGITAL IDENTITY &
CRYPTO SERVICES*



MANAGEABILITY†



TAMPER-EVIDENT



DUSTPROOF



WATERPROOF

The Stealth MXP[®] Bio, now in its second generation, offers industry-leading secure portable storage, digital identity features, and hardware-integrated device management. Providing fast and transparent hardware-based encryption, the Stealth MXP Bio is fully portable and manageable across all major computing platforms, with no drivers or software to install.

The Stealth MXP Bio is ideal for secure portable storage, high-security remote access, digital signatures, and user authentication into the cloud. In contrast to common single-factor devices, on-board data is protected with two-factor authentication, and three-factor authentication protects PKI token, RSA SecurID[®], and OATH OTP operations*.

All MXP-series devices offer dedicated key containers, secure X.509 certificate storage via PKCS#11 and/or CAPI, and hardware cryptographic acceleration -- features that make them far superior to devices that store keys and certificates in on-board files, or perform cryptographic functions on the host computer*.

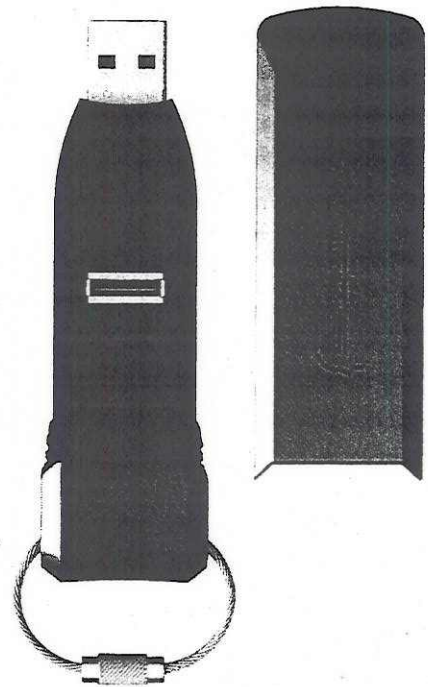
The ACCESS Enterprise™ device management system allows organizations to easily provision, configure, and support any number of Stealth MXP Bio devices. It maximizes the benefits of data protection, portable applications, secure digital identities, and strong user authentication †. For larger organizations, the Stealth MXP Bio can also be managed by McAfee[®] ePO™.

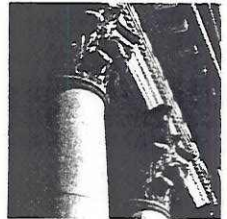
Biometrics are made possible through an ergonomic swipe sensor, with hardware-based matching that is fully isolated from PC-based attacks. Coupled with this is strong password authentication, offering hardware-enforced complexity and usage rules. A state-of-the-art tamper-evident magnesium enclosure acts as an integral case, making the device both waterproof and dustproof.

Secured within is the fast and efficient Bluefly Processor, offering unmatched security in any environment, foreign or familiar. The Bluefly Processor's anti-malware features, including its read-only mode of operation, protect the Stealth MXP Bio from all attackers. With the optional ACCESS Antivirus Scanner, user data and host systems are shielded from all forms of malware.

* Digital identity support through ACCESS Identity™ will be available shortly after Stealth MXP Bio launch.

† Device manageability with ACCESS Enterprise™ will be available shortly after Stealth MXP Bio launch.





Key government customers who trust MXI Security to protect their most valuable data include:

USA

- Departments of Defense, Homeland Security, Justice, Veteran's Administration, Health and Human Services

Canada

- Departments of National Defense, Corrections, Foreign Affairs, Public Safety, Heritage Canada and Justice, RCMP, Privy Council, Senate

Other Countries

- The City of London Police, Australian Federal Police, New Zealand Police

MXI Security's portable solutions exceed key government requirements

- FIPS 140-2 level 2 full product validation (all components and enclosure)
- Section 508 Compliance sections 1194.21 and 1194.25
- OMB Memo M-06-16 – on the fly transparent on-board hardware encryption
- NIST SP 800-53 password complexity
- NIST SP 800-111 centralized management with ACCESS Enterprise™
- Trade Agreements Act for products manufactured in the USA
- HSPD 12 and FIPS 201 Role Segregation
- OMB Circulars A-130 and A-123 Role-based functions for internal controls
- Treasury Board of Canada's Management of Information Technology Security
- EU Directive 95/46/EC
- UK Data Protection Act
- UK Criminal Justice and Immigration Act

Stealth MXP[®] Bio Specifications

General

- Zero software footprint
- Hardware-based AES 256-bit CBC mode encryption
- Manageable with ACCESS Enterprise™
- One year warranty

Authentication

- Strong password
- Biometric with hardware fingerprint matching
- Two-factor for secure portable storage (biometric and password)
- Three-factor for digital identity applications (biometric and password and device)

Usage Policies

- Password complexity rules
- Password lifetime rules
- Failed authentication threshold with optional data destruction
- Configurable biometric security levels
- Configurable partition sizes
- Up to five (5) users on a single device

Cryptographic Services

- Dedicated key containers for symmetric keys, asymmetric keys, and HOTP secret keys
- OATH one time password generation
- AES 256-bit CBC encryption/decryption (FIPS Pub 197)
- SHA-1 and SHA-256 (FIPS Pub 180-1/180-2)
- Keyed HMAC (FIPS Pub 198)
- RSA key generation (X9.31 and PKCS #1)
- 1024/2048/3072 bit RSA Key sizes
- RSA signature and verification (X9.31 and PKCS #1)

- RSA encryption/decryption (PKCS #1)
- Random number generation
- SAML Token generation for WS-Trust

Storage

- General purpose mass storage in flash memory capacities of 1GB, 2GB, 4GB, 8GB, 16GB and 32GB
- Private encrypted user partition
- Read-only portable application partition

Operating Environments

- Microsoft Windows 2000, XP, Vista
- Mac OSX 10.4 and 10.5
- Linux (biometric authentication for secure storage)

Standards and Certifications

- FIPS 140-2 Level 2 validated
- USB 1.1 and 2.0
- FCC
- CE

Physical and Electrical

- Compact and portable
- Retractable USB connector
- Power, data activity, and authentication status LEDs
- Uses USB bus power

Dimensions, Weights and Environmental

- Dimensions when open (H x W x L): 12 x 25.9 x 102 mm (0.475 x 1.02 x 4")
- Dimensions when closed (H x W x L): 12 x 25.9 x 90.2 mm (0.475 x 1.02 x 3.52")
- Weight: Approximately 40g (.08 lbs)
- Operating temperature ~ 0 to 60 °C
- Non operating temperature ~ -20 to 70 °C
- Relative humidity ~ 5 to 95% non-condensing

Contact Us

Technical support:
techsupport@mxisecurity.com
Sales:
sales@mxisecurity.com

Canadian NMSO:
E60QE-08BIOM/001/QE



About MXI Security[®]

MXI Security is the leader in providing superior managed portable security solutions that combine the power of secure storage with identity and access management services. Easy to manage and transparent to the end user, MXI Security solutions satisfy multiple security needs with a single device, facilitating greater mobility without ever compromising security.



For more information, please visit: www.mxisecurity.com

Today's Developments



- Norway :
 - VLTs removed due to concerns with problem gambling.
 - All private owned machines taken over by state-owned Norsk Tipping.
 - Player ID registration introduced.
 - Machines returning with player pre-commitment.
 - Plus Government pre-commitment limits:
(€30/day (K400); €170/month (K2200); cooling off period after 1 hour continuous play).

RESPONSIBLE GAMING NETWORKS

Today's Developments



- State of Queensland Trial of Pre-Commitment:
 - Two venues (clubs) - Redcliffe and Sandgate.
 - Players not required to have ID to play = leakage.
 - ID card loaded with digital cash = problematic.
 - Player losses reduced by \$25/day, possible state-wide rollout
- State of South Australian Trial of Pre-Commitment:
 - Four venues (hotels).
 - Re-configuration of J Card loyalty system.
 - Players not required to have ID to play = leakage.
 - Play does not stop when limits reached = no control.
- Industry attempting to re-position pre-commitment.



RESPONSIBLE GAMING NETWORKS

PRE-COMMITMENT AS A STRATEGY FOR MINIMIZING GAMBLING-RELATED HARM

Dr. Robert Williams

Professor, Faculty of Health Sciences &
Coordinator, Alberta Gaming Research Institute

University of Lethbridge

Lethbridge, Alberta; Canada; T1K 3M4

Robert.williams@uleth.ca

Published on July 8, 2010

Abstract

Pre-commitment is a relatively new harm minimization strategy for problem gambling. To date, its primary use has been in casino self-exclusion programs, a few Internet gambling sites, and to limit land-based EGM play in a few jurisdictions. Empirical research on it is quite limited, but does tend to indicate that it holds significant promise as an additional technique to promote responsible gambling and to limit the harms associated with problem gambling. Drawing on the existing research, as well as lessons of problem gambling prevention research, it is reasonable to surmise that the degree to which pre-commitment is voluntary, revocable, exceedable, of short duration, available for just some EGMs or some Internet sites, available for just some forms of gambling, and does not use biometric ID, is the degree to which the technique is primarily of benefit to non-problem gamblers (which may or may not translate into a decreased future incidence of problem gambling). In contrast, the degree to which all avenues for excessive gambling have been closed, is the degree to which the technique likely has broader utility for problem and non-problem gamblers.

What is Pre-Commitment?

"Pre-commitment" refers to a harm minimization strategy whereby pre-set limits on time, frequency, or money spent gambling are registered prior to the start of play. Pre-commitment usually refers to player-initiated limits, to distinguish it from the limits that may be imposed by the operator, government, or the actual gambling format. Pre-commitment is believed to be a useful harm minimization strategy because it a) allows the player to make more rational decisions about gambling involvement prior to actually engaging in gambling (Parke et al., 2008) and b) obliges the player to keep to these preset limits. Research indicates it is fairly common for regular gamblers (including problem gamblers) to have budgetary limits in mind prior to gambling (McDonnell-Phillips, 2006). However, research

also indicates that these limits are often exceeded (McDonnell-Phillips, 2006).

How is pre-commitment currently being used?

Casino Self-Exclusion

Casino self-exclusion programs represent a form of pre-commitment. Informal self-exclusion programs have been used by various casinos since at least the 1960s. The first formal program was initiated in 1989 in Manitoba, Canada, coincident with the opening of the country's first permanent, year-round casino. Since that time, many casinos and jurisdictions around the world have adopted self-exclusion programs (Nowatzki & Williams, 2002; Responsible Gambling Council, 2008; Williams, West, & Simpson, 2007; 2008).

The features of these programs vary depending on the jurisdiction. The contract may apply to just one casino, or to all casinos in the jurisdiction. In a few jurisdictions, the exclusion extends to other gambling venues such as bingo halls or racetracks. Self-exclusion programs usually require casino operators to remove excludees from mailing lists. The policy may also require casinos to refer to their list of self-excluded persons before issuing new player loyalty cards, cashing cheques, extending credit, or paying out large jackpots. Self-exclusion contracts are usually irrevocable for the time period covered, although a few jurisdictions have a process for agreements to be revoked before they expire. Some jurisdictions offer a fixed time period, whereas others offer a choice of ban length, ranging from 6 months to lifetime. Requirements for re-entry vary, with some jurisdictions having no requirements and others requiring a waiting period, a formal review process, or a gambling education seminar. Most countries¹ require government issued ID at the entrance which is scanned and compared to the digitized self-excluder list. In countries that do not require ID, security personnel are required to identify self-excluders from a book of photographs. In some jurisdictions, people who breach their contracts are simply asked to leave. In other jurisdictions, they may be subject to a trespassing charge and/or fine.

In addition to absolute bans, certain countries (Netherlands, Denmark), offer casino 'visit limitation contracts' (Williams et al., 2008). The requirement to show ID at Dutch casinos gives Holland Casino the ability to track the frequency of casino visitation. If there has been a significant increase in visitation frequency or

¹ For Western countries this includes: Austria, Belgium, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Macedonia, Malta, Moldova, Monaco, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, United Kingdom.

the person has had 20 visits a month over the past 3 months then the person is automatically approached to see whether they would like to sign a visit limitation contract or self-exclusion contract.

Internet Gambling

Pre-commitment has been offered for several years on a small portion of the ~2,300 existing online gambling sites (Wood & Williams, 2009). Here again, the pre-commitment parameters available to the player vary depending on the site. Most common are deposit limits (e.g., daily, weekly, monthly); bet size limits; loss limits (e.g., weekly, monthly, yearly); short-term exclusion from certain game types (e.g., 6 months); and short- total account suspension (e.g., 6 months). For most sites, deposit and loss limits tend to be revocable, but self-exclusion irrevocable.

Some of the voluntary online gaming regulatory bodies (e.g., e-Commerce and Online Gaming Regulation and Assurance (eCOGRA)) require some form of pre-commitment for site accreditation. In the case of eCOGRA, sites are required to allow the player to set a maximum bet limit as well as to self-exclude for periods of time.

Currently, there is no system in operation which links all Internet gambling sites within a jurisdiction, or across jurisdictions, with an integrated self-exclusion or pre-commitment regime.

Plastic/Smart Cards for Land-Based Gambling

Most of us are familiar with simple magnetic strip plastic cards with an associated PIN (Personal Identification Number). A 'smart card' is any pocket-sized plastic card with embedded integrated circuits providing some limited memory and/or microprocessor capabilities when interacting with external card-reading devices. They can be used for identification, authentication, data storage, and

application processing. In gambling, these devices have been most common used as a Player Loyalty/Reward card and/or a debit card for cashless gambling. However, a few jurisdictions have used plastic cards and smart cards that enable gamblers to establish limits on their gambling behaviour.

Australia²

The Crown Casino, in Melbourne, Victoria was the first casino in the world to introduce player pre-commitment monetary limits on their EGMs³ in 2002 using a simple plastic card with a PIN. However, play did not stop when limits were met and players did not have to carry ID to play. Beginning in December 2010 all new "next generation" EGMs in Victoria will have to have a pre-commitment mechanism that allows a player to pre-set time and loss limits. All EGMs in the state of Victoria (i.e., 30,000 in 550 venues) will have to have such a system by 2013. However, use of pre-commitment by players will be voluntary.

Queensland conducted its first trial of voluntary pre-commitment in 2005 at a single venue. In 2008-2009, Queensland conducted another trial of pre-commitment of time and monetary expenditure in two venues using a cashless gaming system. Currently, pre-commitment card-based gambling is operational across 48 gambling venues. However, use by the player and by the venue is voluntary.

In 2008, Worldsmart Technology conducted a trial of smart card time and spending pre-commitment via their loyalty cards in South Australia. However, similar to Victoria, play was allowed to continue after limits had been had

² Further details of the Australian pre-commitment systems are contained in the Productivity Commission (2010).

³ EGMs refers to slot machines, video lottery terminals, electronic keno, poker machines, fruit machines, fixed-odd terminals, etc.

been reached and players were not required to use their loyalty card to play. In 2009, Global Gaming Industries conducted a similar trial using player cards with radio frequency ID tags (RFID) in two venues.

New South Wales has some provision for pre-commitment on loss limits on cashless / card-based gambling.

Nova Scotia, Canada

The Nova Scotia Gaming Corporation (NSGC) piloted the use of pre-commitment smart card between 2005 to 2007. As a result of this research, NSGC is currently in the process of installing an 'Informed Player Choice System' – more recently referred to as 'My-Play' - on all of the province's 2,800 video lottery terminals (VLTs). Players begin by registering with the system using their driver's license or other government-issued ID to obtain a plastic card and an associated PIN.⁴ This information is used to create a unique identifier, with no personally identifying information retained on the central system. The card is then placed into a VLT to use the machine as well as to access player information tools. These tools allow the player to a) determine amount spent in the past day, week, month, or year; b) set daily, weekly, monthly, or yearly limits on spending; c) set daily, weekly, monthly, or yearly limits on amount of time they wish to play; and d) lock themselves out for 1-3 days.

Use of a card is currently voluntary. Limits are irrevocable. NSGC has indicated that Non-problem gamblers are the primary target of this system in an effort to reduce the future incidence of problem gambling.

Sweden

The state owned gambling operator, Svenska Spel, began offering a smart card in 2006 coincident with the launch of its online poker site. This card can now be used for its online

⁴ Venue-assisted enrollment is possible with 2 pieces of ID (e.g., Health Card/Phone Bill).

poker and sports betting; as well as for land-based bingo, lotteries, and sports betting. Card use is mandatory only for online gambling. To use the card, the card number, username and password are required. The card allows players to a) transfer money onto the card from their bank account; b) see a summary of their past 12 months of gambling behaviour; c) set monetary spending limits; d) set time limits; e) exclude themselves for brief periods of time; and f) obtain a risk assessment of their behaviour. 'PlayScan' is the risk assessment tool that compares the player's behaviour against known problematic gambling behaviour. It allegedly can determine whether a player is currently experiencing problematic levels of gambling behavior and/or is at risk for future problems. For online poker, it is mandatory for players to set their own limits regarding day, week, and month money spending, as well as session, day and month time limits. However, there is no maximum time or monetary limit. If the customer wants to increase their limits, they need to wait 24 hours whereas decreased limits take immediate effect. Players are kept informed of how close they are to their limits.

Norway

In 1992 Norway's state owned gambling operator, Norsk Tipping, introduced a magnetic strip player card allowing lottery purchases to be directly made from a person's bank account and any winnings directly deposited. By 2005 all of these cards were replaced with smart cards for enhanced security. Since February 2009 the use of these smart cards has become mandatory for all forms of gambling (online gambling, sports betting, EGMs) except lotteries and instant win tickets. Players can use the cards on their home computers with the use of an accompanying card reader. Because the cards are connected with the player's bank account, money can be put directly onto them. Players can also add money to their card by giving cash to retailers, who then put a credit for that amount onto the card. Norsk Tipping limits the amount that can be put on the card to 400 kroner per day or 2200 Kroner per month.

The card provides play summaries, money and time limit setting (i.e., players can set lower limits than mandated by Norsk Tipping), exclusion for up to 100 days, and risk assessment. For EGMs (called Interactive Video Terminals, IVT) ⁵ players must insert their card, verify their player ID, and then remove the card before they can start playing. After one hour of continuous play, the EGM refuses that player's bets for a 10-minute cooling off period.

New Zealand

The New Zealand online lottery (which commenced in 2008) requires players to set weekly and monthly spending limits, with a maximum of NZ \$150/week and \$300/month. Self-exclusion for certain types of lottery games is also available.

Singapore

The government of Singapore has mandated pre-commitment for all forms of gambling within their two casinos by 2011. The limits that are set also apply across all forms of casino gambling. Singapore also employs casino self-exclusion (with ID checks at the door).

How effective is pre-commitment?

There is very limited research on the effectiveness of casino self-exclusion, and that which exists tends to be of poor quality and conducted in jurisdictions without effective detection systems (Williams & Nowatzki, 2002; Productivity Commission, 2010; Responsible Gambling Council, 2008; Williams, 2010). A full discussion of self-exclusion effectiveness is beyond a scope of this paper. However, suffice to say that evidence tends to indicate that a) only a small portion of at risk and problem gamblers are aware of casino self-exclusion programs and an even smaller percentage ever utilize them; b) most people who self-exclude tend to report that the program was helpful in

⁵ IVTs were privately operated until 2003 and then taken over by Norsk Tipping.

reducing or stopping their gambling for a short period of time (and a small minority for longer periods of time); c) in jurisdictions that do not require ID, a large percentage of people re-enter the casino during their ban without being detected; d) the overall effectiveness of the program is presumed to be much higher in jurisdictions that require ID for entry (Williams & Nowatzki, 2002; Productivity Commission, 2010; Responsible Gambling Council, 2008; Williams, 2010).

Anecdotally, problems have been expressed about the effectiveness of pre-commitment when non-pre-commitment EGMs are also readily available (as is the case in New South Wales (NSW)) (Nisbet, 2005). There is also a concern that because of the significant amount initially put on the card (e.g., \$200 in NSW) gamblers may increase spending, either due to more money being readily available or because they require less embarrassing interactions with cashiers and other gambling venue staff (Parke et al., 2008). That being said, people who have opted to use cards for the purposes of pre-commitment and have agreed to report on their use tend to indicate that the card helped them manage their spending (Nisbet, 2005).

Schrans, Grace and Schellinck (2004) found that a feature allowing players to set a time limit on their VLT play was only effective in influencing one of the six behaviours being targeted for improvement.

Focal Research Consultants (2007) tracked VLT play for a 6 month period in a region of Nova Scotia that only had player-card activated machines available (~51 EGMs in 9 locations played by 1,824 players). Roughly 71% of regular players (i.e., playing once a month or more) opted to try one of the responsible gambling (RG) features these cards permitted (i.e., spending limit, time limit, 2 day exclusion, or playing history). Roughly 65% of these people continued to use one or more RG features in subsequent sessions. A subsample of these RG adopters (n = 122) had a baseline

period of non-RG use that allowed for a pre-post comparison. These individuals were found to have a significant decrease in per session expenditure (\$47 to \$40), an increase in play length (82 min to 98 min), and no change in frequency of play per month (9.3 to 9.3). Examination of individuals with high risk characteristics found no decrease in expenditure for high frequency players (18+ times in 6 months), and a tendency toward decreased per session expenditure that was offset by a tendency toward increased frequency of play for people with Canadian Problem Gambling Index (CPGI) scores of 5 or higher. It was also found that approximately 37% of players swapped cards and/or obtained them from venue staff to circumvent the system, with this being particularly true for people with higher CPGI scores (Bernhard et al., 2006; Omnifacts Bristol Research, 2007).

Preliminary results from the 2009 Worldsmart South Australian (SA) trial showed that less than 1% of loyalty card holders had voluntarily activated the pre-commitment options on their card (Productivity Commission, 2010). For those who did, the most popular options were limits on: daily spending (59% of cards); breaks in play (19%); weekly spending (14%); monthly spending (12%); daily duration of play (10%); monthly duration of play (8%); fortnight spending (6%); weekly duration of play (4%); fortnight duration of play (4%); and spending history (3%). Utilization of pre-commitment features tended to increase with time. Among the 94 individuals with 3 months of baseline data, there was a 25% reduction in daily turnover subsequent to utilization of pre-commitment. However, it is possible these individuals continued to gamble and just decreased use of their voluntary card. There were also 600 instances where players exceeded their pre-established limits (in the SA system, when a limit has been met it can be overridden by venue staff). It is unknown what percentage of pre-commitment breaches this 600 figure represents (Productivity Commission, 2010).

Results from the 2009 Queensland Maxgaming's Simplay system showed that only 15% of Simplay cardholders opted to use pre-commitment, although this percentage may be higher for at-risk groups (Productivity Commission, 2010). The most popular option (used by 45 out of 340 people) was a daily spending limit. No one set playing time limits. Thirty of the 45 people setting spending limits exceeded them on at least one occasion. There was tentative evidence that expenditure may have decreased subsequent to limit setting. However, here again, this assumes that players did not continue playing using cash (i.e., once a limit was exceeded the only consequence was the inability to use the card for cashless gaming). Since the system has been expanded throughout Queensland approximately 14,000 people have opted to use this voluntary system. Of these people, 9% have set spending limits (with this percentage increasing over time).

Results from the Odyssey trial in Queensland were similar, with only 5% of players ($n = 66$) opting into cashless gaming (that would also allow pre-commitment), and 28% of these latter individuals opting to set a daily spending limit. Sixty percent of users reported that pre-commitment was useful, with this percentage being higher for high-risk players. There was also a 40% reduction in spending by players who set limits compared to a 3% reduction in players who did not set limits. However, this reduction might be offset by increased cash-based play, as this option continued to be available (Productivity Commission, 2010).

Because of the mandatory nature of the Swedish and Norwegian systems, a large percentage of the gambling population have obtained smart cards (in 2008 this was roughly 1.3 million Swedes and 1.9 million Norwegians) (Responsible Gambling Council, 2009).

The Internet Poker Committee (2008) (cited in Responsible Gambling Council, 2009) surveyed approximately 3,000 participants of the Swedish

online poker pre-commitment system. Participants reported that a) monetary limits were more useful than time limits; b) 1/3 of players set monetary limits that were excessively high and 40% set time limits that were excessively high (essentially disabling the pre-commitment system); c) for individuals who hit their limits, 37% went to another online site and 32% simply changed their limits; d) 5% of players barred themselves for a period of time, with one week being the most common length (25% of people who barred themselves also began playing online poker at other sites); e) 26% used the risk assessment option and 52% of these individuals found it useful.

Although there is no available empirical research on the effectiveness of the Norwegian system, it is instructive to note that Norway has one of the world's lowest documented rates of problem gambling (significantly lower than other Nordic countries such as Finland and Sweden) (AGRI, 2010).

In summary, the empirical research on the effectiveness of pre-commitment is fairly limited, but that which does exist indicates that it holds promise as a harm-minimization technique. Part of the problem in evaluating pre-commitment concerns the many different ways of implementing it (i.e., mandatory or voluntary; exceedable vs. nonexceedable limits; revocable vs. nonrevocable limits; short vs. long duration of limits; presence on all or just some EGMs; etc.). Similar to research on other problem gambling prevention initiatives, the 'devil is in the details' and the actual effectiveness of a technique is usually very much dependent on how it is applied (Williams et al., 2007; 2008). Drawing on the lessons of problem gambling prevention research (Williams et al., 2007; 2008), it is reasonable to surmise that the degree to which pre-commitment is voluntary, revocable, exceedable, of short duration, available for just some EGMs or some Internet sites, available for just some forms of gambling, and does not use biometric ID, is the degree to which the

technique is of primary benefit to non-problem gamblers (which may or may not translate into a decreased future incidence of problem gambling).⁶ In contrast, the degree to which all avenues for excessive gambling have been closed, is the degree to which the technique likely has broader utility for problem and non-problem gamblers.⁷ Similar to what is found for other products with some risk of harm (alcohol, tobacco, firearms, motor vehicles), the most effective overall harm reduction strategies are ones that unfortunately also tend to constrain and restrict the behaviour of people who are not at risk of developing problems (Williams et al., 2007; 2008).

Elements of an Effective Pre-Commitment Regime (for all gamblers)

1. *Pre-commitment should be available on all EGMs jurisdiction-wide.* EGMs are the most problematic form of gambling in western countries and are the devices where pre-

⁶ With reductions subsequent to limit setting in problem gamblers having more to do with a resolve to decrease gambling, as opposed to any constraints imposed by the self-commitment. This is very similar to the presumed mechanism for reduced gambling seen in casino self-exclusion programs where no effective mechanisms for enforcement of the contract/program exist. In other words, the act of self-exclusion (or pre-commitment) is reflective of a recognition that a problem exists and an intent to do something about it, with the self-exclusion contract (or act of pre-commitment) being a convenient documentation/proclamation of this intent. Hence, the primary driving force behind the reduction in gambling is this new-found motivation and recognition, rather than the imposed constraints (Nowatzki & Williams, 2002).

⁷ One of the defining features of problem gambling is 'impaired control' (Neal et al, 2005). Hence, it is naïve to think that simply providing problem gamblers with information about their gambling and/or 'choice' will be sufficient to curb their gambling.

commitment has the most harm minimization potential. If pre-commitment implementation is not pervasive, problem gamblers will tend to seek out geographic locations or EGMs where their pre-commitment does not apply.

2. *Pre-commitment is best applied across all forms of gambling.* Problem gamblers will seek out less preferred forms of gambling if their limits have been met on EGMs. Pre-commitment is most easily extended to other forms of gambling with existing electronic interfaces (e.g., Internet gambling; casinos that require ID for entry). However, electronic interfaces could potentially be created for other forms of gambling as well. The biometric USB key by Responsible Gaming Networks Pty Ltd is particularly well suited for broad application across gambling formats because of its built in connectivity to the Internet, TV set-top boxes, wagering terminals, lottery terminals, and mobile phones (Productivity Commission, 2010; Responsible Gambling Council, 2009; Ryan, 2010).

3. *Pre-commitment will be much more effective if it is mandatory.* Voluntary use of pre-commitment is likely to be low. Although many people indicate they would utilize pre-commitment if it was available, actual usage when it is available is much lower (Parke et al., 2008). The effort involved initiating it, stigma, privacy concerns, and failure to appreciate the benefits are all contributing factors. Although most gamblers do not need to use pre-commitment, they may find some benefits if they did, particularly at-risk and problem gamblers. On the other hand, it is also true that there is clinical utility in coming to the realization that pre-commitment is needed. If a voluntary or opt-out system is used, it will be important that once a person begins using pre-

commitment that they be obliged to continue using it.⁸

4. *Pre-commitment should offer a range of limit types, values and durations.* Monetary limits appear to be the most important, but there may be a small percentage of people who would benefit from time or frequency limits. A wide range of available limits for money, time, and frequency would accommodate all types of gamblers. This would include the option of setting zero values that would act as a form of exclusion. A recommended duration range for these parameters would be 1 day to 5 years. The shorter durations would give people the opportunity to try different parameters before settling on ones that are best for them. The longer durations would enable problem gamblers to establish more enduring constraints. Similar to casino self-exclusion, most jurisdictions currently only offer a selection of short pre-commitment durations, which sends the wrong message to problem gamblers (the majority of whom will have life-long propensities to gamble excessively and should be establishing long-term constraints).

5. *Pre-commitment parameters should not be exceedable or revocable.* In the case of problem gamblers, pre-commitment is an attempt to put external constraints on behaviour usually after internal limits/constraints have been repeatedly broken. Thus, it defeats the purpose of pre-commitment to have exceedable or revocable limits (otherwise it simply becomes a resolution rather than a commitment).

⁸ The medication disulfiram (Antabuse) is a somewhat analogous harm minimization strategy for alcohol abuse. People who take this medication become ill if they consume alcohol within the next day or two. Hence, a person takes disulfiram as a form of pre-commitment not to use alcohol. However, 50 years of research has demonstrated disulfiram to have very poor clinical efficacy because alcohol abusers have poor resolve to take the medication on a consistent basis (Hughes & Cook, 2006).

6. *A biometric identification system is needed.* Some sort of identification system is needed so that all versions of the gambling format(s) within the jurisdiction recognize the individual and his/her preset limits. It is also important that this identity system be biometric, otherwise some people (particularly problem gamblers) will endeavour to use other identities/cards when their own limits have been met. Smart cards with PINs are an improvement over regular cards, but still do not prevent card swapping, borrowing, or selling. Unless the card is used for other important purposes, then some gamblers (or potentially venue staff) will give away or loan their PIN smart card to other players. A biometric system is also the best protection against underage gambling.

7. *Central storage of pre-commitment information is less preferable to storage on the player's pre-commitment interface device.* Utilization of pre-commitment tends to be fairly low, which is partly related to concerns that one's play is being recorded or monitored by someone else (Bernhard et al., 2006; Omnifacts, 2007; Parke et al., 2008). Significantly greater utilization will occur if the player is confident his/her gambling behavior is confidential. Privacy laws in some jurisdictions will also require this (IGA, 2005). Non-central storage also ensures that the gambling provider does not use this player data for purposes inconsistent with player protection (e.g., marketing).

8. *Loyalty/reward cards should not be used for the purposes of pre-commitment.* These two things are incompatible, in that traditional loyalty/reward cards encourage play, whereas pre-commitment technologies constrain play.⁹

⁹ In general, Loyalty/Reward cards are not conducive to responsible gambling. However, if they are to exist they should be rewarding responsible play, rather than amount of play.

My Background

I am a full professor in the Addiction Counselling Program, Faculty of Health Sciences, University of Lethbridge (Alberta, Canada) as well as a Coordinator for the Alberta Gaming Research Institute. I have published widely in the area of gambling; teach courses on the subject; provide frequent consultation to government, industry, and the media; presented my work at many national and international conferences; and am currently co-editor of *International Gambling Studies*, which is one of the two primary journals in this field. I am one of the world's best funded gambling researchers and also recognized as a leading authority in the areas of: prevention of problem gambling; Internet gambling; the socioeconomic impacts of gambling, the proportion of gambling revenue deriving from problem gamblers; the prevalence and nature of gambling in Aboriginal communities; and the etiology of problem gambling.

References

- Alberta Gaming Research Institute (2010). *Problem Gambling Prevalence: Canada, U.S., International*. http://www.abgaminginstitute.ualberta.ca/library_reference.cfm
- Bernhard, B.J., Lucas, A.F., Jang, D. (2006). *Responsible Gaming Device Research Report*. International Gaming Institute. University of Nevada, Las Vegas.
- Focal Research Consultants. (2007). *Assessment of the behavioural impact of responsible gaming device (RGD) features: Analysis of Nova Scotia player-card data - the Windsor trial*. Report prepared for the Nova Scotia Gaming Corporation. Retrieved November 14, 2007, from <http://www.nsgc.ca/pdf/Focal%20Research%20Report%20 2 .pdf>
- Hughes, J.C. & Cook, C.C.H. (2006). The efficacy of disulfiram: a review of outcome studies. *Addiction*, 92 (4), 381-395.
- Independent Gambling Authority (IGA). (2005). *Inquiry into smartcard technology: Report*. <http://www.iga.sa.gov.au/pubcons/smartcrd/SCTInqRep-final-web.pdf>
- McDonnell-Phillips (2006). *Australian National Survey of Gambler Precommitment Behaviour 2005*. Commissioned by Gambling Research Australia.
- Neal, P., Delfabbro, P., & O'Neil, M. (2005). *Problem gambling and harm: Towards a national definition*. Commissioned for the Ministerial Council on Gambling. Prepared by the SA Centre for Economic Studies with the Department of Psychology, University of Adelaide. November 2005. <http://www.adelaide.edu.au/saces/gambling/publications/ProblemGamblingAndHarmTowardNationalDefinition.pdf>.
- Nisbet, S. (2005). Responsible gambling features of card-based technologies. *International Journal of Mental Health & Addiction*, 3(2), 54-63.
- Nowatzki, N. R., & Williams, R. J. (2002). Casino self-exclusion programmes: A review of the issues. *International Gambling Studies*, 2(1), 3 - 25.

- Omnifacts Bristol Research. (2007). *Nova Scotia player card research project: Stage III research report*. Retrieved May 30, 2007, from <http://www.nsgc.ca/pdf/Omnifacts%20Bristol%20Research%20Report.pdf>
- Parke, J. Rigbye, J., Parke, A. (2008). *Cashless and card-based technologies in gambling: A review of the literature*. December 2008. Commissioned by the U.K. Gambling Commission.
- Productivity Commission (2010). *Australian Government Productivity Commission Inquiry Report*. February 2010.
- Responsible Gambling Council (2008). *From Enforcement to Assistance: Evolving Best Practices in Self-Exclusion*. March 2008. Responsible Gambling Council, Toronto, Ontario.
- Responsible Gambling Council (2009). *Play Information and Management Systems*. Responsible Gambling Council, Toronto, Ontario.
- Ryan, P. (2010). *Recent Global Developments in Player Pre-Commitment Policies to Reduce Problem Gambling*. Presentation at the New Zealand International Gambling Conference 2010. February 26, 2010. Auckland, New Zealand.
- Schrans, T., Grace, J., & Schellinck, T. (2004). *2003 NS VL responsible gaming features evaluation: Final report*. Report prepared by Focal Research Consultants Ltd. for the Nova Scotia Gaming Corporation, Halifax, Nova Scotia, October 2004. Retrieved August 12, 2006 (and URL updated February 26, 2009), from <http://www.nsgc.ca/pdf/RGFeatureEnhancementStudy.pdf>
- Williams, R.J., West, B., and Simpson, R. (2007). Prevention of problem gambling. In G. Smith, D. Hodgins, and R.J. Williams (eds.), *Research and Measurement Issues in Gambling Studies*. pp. 399-435. San Diego, CA: Elsevier. <http://hdl.handle.net/10133/414>
- Williams, R.J., West, B., and Simpson, R. (2008). *Prevention of Problem Gambling: A Comprehensive Review of the Evidence 2008*. Report prepared for the Ontario Problem Gambling Research Centre, Guelph, Ontario, Canada. Dec 1, 2008. <http://hdl.handle.net/10133/414>
- Williams, R.J. (2010). *Peter A. Dennis & Zubin P. Noble versus The Ontario Lottery & Gaming Corporation (OLG)*. (Report on the effectiveness of casino self-exclusion.) Submitted to the Ontario Superior Court of Justice. Court File No.: CV-08-00356378-000. Date heard: Jan 13 – 15, 2010.
- Wood, R.T. & Williams, R.J. (2009). *Internet Gambling: Prevalence, Patterns, Problems, and Policy Options*. Final Report prepared for the Ontario Problem Gambling Research Centre, Guelph, Ontario. January 5, 2009. <http://hdl.handle.net/10133/693>

PRODUCTIVITY COMMISSION DRAFT REPORT: PRE-COMMITMENT 7.39

As a thought-experiment of the magnitude of the effects on price in the Victorian context for a particular cost of modifying machines, suppose:

- that the average costs of machine modification to achieve pre-commitment was \$5000, which implies an annual depreciation cost of around \$1670
- there were 26 800 machines, so that the annual cost was around \$45 million
- the initial rate of return to players was 90 per cent
- total expenditure (player losses) was \$2.5 billion.

In that case, to recover the costs, player losses must increase to \$2.545 billion or by 1.8 per cent. The decrease in the player return that would finance the costs of machine modifications would be 0.179 percentage points (or a new rate of return of 89.8 per cent).



WR

Institute for the Study of Gambling
and Commercial Gaming

William R. Eadington

Director
Professor of Economics

College of Business Administration
Department of Economics/0030
University of Nevada, Reno
Reno, NV 89557-0030
Office: (775) 784-6887
Fax: (775) 784-1057
Email: eadington@prodigy.net
www.unr.edu/gaming

PROFESSOR
SCHOOL OF HEALTH SCIENCES
UNIVERSITY OF LETHBRIDGE
4401 UNIVERSITY DRIVE
LETHBRIDGE, ALBERTA T1K 3M4

ROBERT WILLIAMS NODE COORDINATOR, ALBERTA
GAMING RESEARCH INSTITUTE

PHONE: (403) 382-7128
FAX: (403) 329-2668
E-MAIL: robert.williams@uleth.ca
WEB: www.abgaminginstitute.ualberta.ca



National Council
on Problem Gambling

KEITH S. WHYTE 730 11th Street NW, Suite 601
Executive Director Washington, DC 20001
keithw@ncpgambling.org www.ncpgambling.org

T (202) 547 9204 F (202) 547 9206
National Helpline (800) 522 4700

JOURNAL DES CASINOS

115

LA REVUE PROFESSIONNELLE DU SECTEUR DES CASINOS - SECONDE QUINZAINE DE SEPTEMBRE 2008 - MARDI 7 OCTOBRE 2008 - 10 EUROS

L'EDITO LAS VEGAS

Les Français sont en général peu nombreux à faire le déplacement au salon G2E de Las Vegas. La logique (et la crise que les opérateurs traversent) voudrait qu'ils soient encore moins nombreux cette année.

Et pourtant, un retour aux sources serait souhaitable, un passage par la ville du jeu qui a traversé maintes crises et s'en est toujours relevée plus étonnante, développant de nouveaux concepts, même si l'on ne regarde que les espaces de jeu. Pour moins de 1.000 euros, vous trouverez un billet aller retour avec hôtel sur le Strip. Vous prendrez le pouls de la ville et des idées nouvelles dans les allées du salon. Vous connaîtrez les dernières tendances face à la crise. En participant aux nombreuses conférences, vous écouterez les propositions de nombreux experts sur la situation actuelle. Vous échangerez également les expériences et tests avec des confrères. Vous anticiperez aussi ce qui n'arrivera à Londres qu'en janvier.

Sylvie Leroy

Directeur de la publication

QUESTION DE SURVIE

Lire p. 4

DELEGATION

Lire p. 7

Les casinos de proximité «dindons de la farce» ? ♦

FRÉDÉRIC ABADIE

Dans un mois, les casinos vont clôturer leurs comptes pour l'exercice 2007/2008. Mais les jeux sont déjà faits et ce n'est pas le mois d'octobre qui va permettre de rétablir la tendance de ce qui s'inscrit déjà comme la pire annus horribilis des casinos depuis vingt-deux ans. Tous les établissements sont plus ou moins touchés. Certains ont réussi à se maintenir ou à enregistrer une baisse de 4 ou 5 points du PBJ. Mais pour d'autres, la chute est à deux chiffres et a parfois atteint sur certains mois estivaux les -25%. En tout état de cause, la baisse du PBJ sur 2008, autrement dit depuis l'interdiction de fumer dans les casinos depuis le 1er janvier, évoquée par Casinos de France, en moyenne de 12,6%, à périmètre constant, est alarmante. Peut-elle conduire à des situations dramatiques comme la fermeture d'établissements ? Rien n'est exclu, même si pour l'instant aucun groupe n'a encore annoncé de telles décisions.

Avec des établissements qui perdront au final peut-être jusqu'à 12 à 15% de leur chiffre d'affaires sur l'année, l'Etat doit-il intervenir ? Les casinos sont des sociétés de droit privé mais ont la particularité d'être des collecteurs de taxes au profit des collectivités publiques, Etat et communes. Implantés dans des stations balnéaires ou thermales (plus quelques grandes métropoles régionales), ils contribuent notablement au budget des communes. Pour 6 ou 7% par exemple dans une ville comme Besançon. Mais pour une petite commune de 900 habitants comme Castera-Verduzan, le casino concourt à hauteur de 38% (500.000 euros) au budget de

fonctionnement (hors investissements). C'est parfois aussi le premier employeur privé, avec une cinquantaine d'employés. Quand le casino s'enrhume, c'est la commune qui tousse. Lors du dernier exercice 2006/2007, les casinos ont globalement payé 332,74 millions d'euros aux communes.

L'Etat bénéficie lui aussi largement de l'activité des casinos. Avec un PBJ de 2,788 milliards d'euros, le montant des prélèvements payés par les casinos a contribué l'an dernier à hauteur de 1.017,48 millions d'euros au Budget, sans oublier 72,30 millions au titre de la CRDS et 143,83 millions pour la CSG. Mais si le PBJ diminue, ses recettes également. En cette période de crise qui semble s'installer durablement, le gouvernement a plutôt tendance à vouloir préserver ses recettes qu'à accorder la moindre libéralité à un secteur, fut-il en mauvaise passe. Sous la pression des groupes notamment, le ministère du Budget devrait pourtant lâcher un peu de lest. On attend le décret sur la stabilisation du glissement et la suppression de toute référence au théorique. Mais les syndicats patronaux se battent également pour que soit revu le barème des prélèvements progressifs sur les jeux par rapport à l'inflation, qui sont les mêmes depuis plus de 20 ans.

Georges Tranchant, le 25 septembre, est à son tour monté au créneau, dans un communiqué adressé au Journal des Casinos, pour demander publiquement d'autres décisions, comme la suppression du prélèvement CRDS. Ce « prélèvement social » devait disparaître au bout de

La biométrie à la rescousse ♦ Une nouvelle solution technologique pour lutter contre le jeu excessif, contrôler et taxer le jeu à distance

Société

Responsible Gaming Networks est un consortium de partenaires américains, européens et australiens, « socialement responsables ». Le but de leur démarche est d'éliminer les problèmes liés au jeu, qu'il soient de proximité ou à distance, et ce, grâce à une « Player Protection Key » et son système « Safety Net » qui garantissent un accès identifié et une protection du joueur grâce à un pré-engagement de jeu.

La solution sur Internet

Dans le modèle actuel, les gouvernements ne savent plus trop comment concilier jeu à distance et dommages collatéraux (fiabilité du casino en ligne, garantie sur les flux d'argent, protection du consommateur, contrôle de l'âge ou de l'identité du joueur etc.). Dans son nouveau modèle, Responsible Gaming Networks propose aux gouvernements d'établir une liste de casinos autorisés. Les joueurs ne s'enregistrent qu'une seule fois, définissent leur pré-engagement de jeu et peuvent ensuite jouer dans les casinos en ligne autorisés de leur choix dans un environnement contrôlé. Quant aux gouvernements, ils résolvent les problèmes d'âge, ils réduisent les risques de jeux excessifs plus importants sur Internet et peuvent mettre en place une politique de régulation et de taxes efficace.

Lors de la dernière conférence organisée par l'European Association for the Study of Gambling en juillet, une présentation a particulièrement retenue l'intérêt des chercheurs présents. Une solution innovante capable d'éliminer tout à la fois les problèmes d'âge et de jeu excessif sur Internet comme dans les établissements de jeu. Une équation que personne jusqu'à présent n'avait pu parfaitement résoudre.

Le dispositif appelé « Clé de protection du joueur » (*Player Protection Key*) se compose d'une clé USB biométrique. Les joueurs obtiennent cette clé auprès de leur établissement de jeu (casino, loterie etc.) après avoir montré une pièce d'identité prouvant leur âge et leur identité. Sur cette clé, le joueur peut mémoriser de façon sécurisée ses limites de jeu en terme de dépenses ou de temps de jeu, et ce, par jour, par semaine et par mois. Il scanne l'empreinte de son doigt pour s'assurer que personne d'autre ne peut utiliser cette clé et jouer à sa place. Cette solution conçue et développée en Australie par Responsible Gaming Networks est idéale pour le jeu en ligne sur internet où chaque joueur a forcément une prise USB sur son ordinateur. Elle peut être aussi utilisée sur toute machine de jeu : terminal de loterie, machines à sous, terminal de prise de paris ou télévision interactive.

Phillip Ryan, président de la société, explique : « Cette clé a une gamme d'avantages significatifs face aux cartes plastiques et autres cartes à puce. En particulier sur la question de l'âge et des mineurs. Elle élimine également les échanges de carte entre une personne interdite de jeu et un complice titulaire d'une carte. Et tout cela grâce à son scanner biométrique intégré qui en fait la solution d'auto-exclusion idéale. La clé ne nécessite pas d'équiper les machines ou les ordinateurs d'un lecteur de carte. Elle peut mémoriser jusqu'à 32 gigabits de données comparées aux 64K ou 128K d'une carte. Et elle peut être utilisée tout à la fois dans un environnement avec ou sans monnaie ou jetons. »

M. Ryan a fait le point du développement commercial de cette solution avec le *Journal des Casinos*. Responsible Gaming Networks est en pourparlers avec plusieurs gouvernements en Australie ou en Europe pour l'adoption du système de la Player Protection Key dans les casinos, salles de jeux, point de vente de loterie et internet. Il a également commencé à rencontrer des législateurs américains au Capitole de Washington pour leur mon-

trer combien la clé est la solution idéale pour autoriser aux citoyens américains un jeu responsable sur internet.

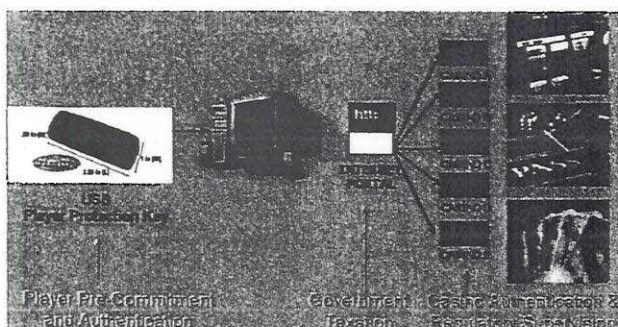
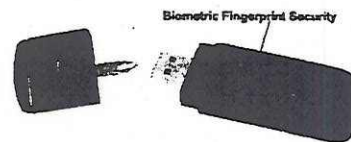
LE PRÉ-ENGAGEMENT DU JOUEUR

Cette Player Protection Key répond aux demandes de plus en plus pressantes de par le monde des gouvernements pour mettre en place des solutions d'engagement préalable de la part du joueur pour maîtriser les problèmes de jeux d'argent. L'engagement préalable permet au joueur de prendre plus de décisions de dépenses rationnelles lorsqu'il n'est pas dans un environnement de jeu. Il est alors moins enclin à céder à la tentation et l'intensité du moment de jeu. Il ne perd alors pas plus d'argent qu'il ne s'était fixé avant de jouer.

Le gouvernement de Singapour a récemment demandé à ses deux opérateurs de casino d'étudier des solutions technologiques de pré-engagements pour tout joueur qui viendrait dans les établissements dès leur ouverture prévue à partir de 2012. En Australie, le gouvernement de l'Etat de Victoria a récemment annoncé que tous les joueurs de video poker et de machines à sous devront utiliser des solutions technologiques de pré-engagement d'ici 2010 et deux autres Etats australiens ont récemment annoncé la mise en place d'essais de telles solutions. Le gouvernement de Norvège a récemment retiré toutes les machines à sous dans les lieux publics. Elles ne seront à nouveau disponibles qu'avec un pré-engagement du joueur. Il a été plus loin que n'importe quel autre gouvernement actuel en demandant un plafond des dépenses « universel », qu'aucun joueur ne pourra dépasser. Là encore, la clé proposée par Responsible Gaming Networks est la solution idéale.

M. Ryan vise, en toute logique, plutôt les gouvernements et pouvoirs publics contrôlant l'activité jeux d'argent que les opérateurs : « Cependant, je dois dire que je deviens de plus en plus surpris par le nombre d'opérateurs du monde entier qui commencent à voir le jeu responsable comme un élément différenciateur par rapport à leurs confrères, et pas seulement avec leurs clients, mais aussi auprès des gouvernements qui émettent ou renouvellent leurs licences ». ♦

Pour en savoir plus : p_ryan@responsible.com.au



Contraintes des technologies existantes

- échange des cartes
- copie de la carte ou de la puce possible
- besoin d'un lecteur de carte
- standards de propriété différents d'une carte à l'autre, avec plusieurs technologies
- capacité de stockage très minime

Atouts de la biométrie

- Caractéristiques uniques du propriétaire
- La clé vérifie régulièrement si le joueur est bien le propriétaire de la carte

- Pas de conservation centralisée des données
- Se connecte facilement sur les prises USB
- Pas besoin d'un lecteur de carte
- Avec microprocesseur : peut servir pour n'importe quel réseau, opérateur, type de jeu etc. et non plus uniquement pour un seul réseau, opérateur ou jeu
- Grande capacité de stockage : 8 Gigabytes
- Déjà compatible avec internet
- Universel

GAMBLING COMMISSION

Cashless and card-based technologies in gambling: A review of the literature

December 2008

Commissioned by the Gambling Commission

Prepared by:

Dr Jonathan Parke

Centre for the Study of Gambling, University of Salford

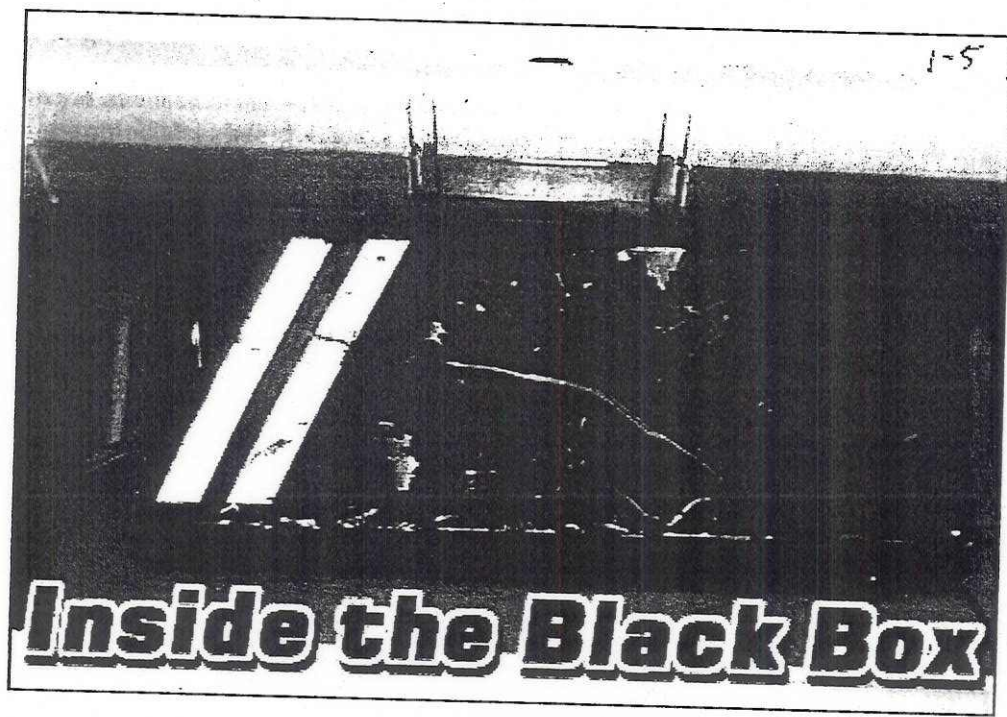
Jane Rigbye

The Gambling Lab Ltd

Dr Adrian Parke

Psychology Department, University of Lincoln

All enquiries to:
E-mail: j.parke@salford.ac.uk
Centre for the Study of Gambling
University of Salford
Salford Crescent M5 4WT



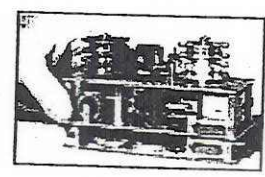
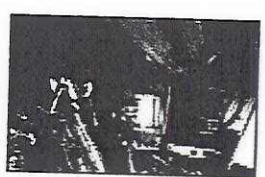
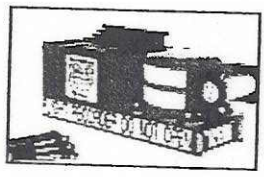
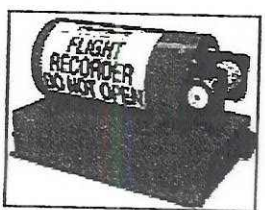
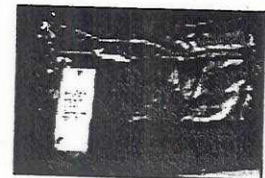
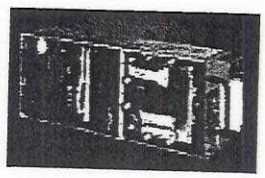
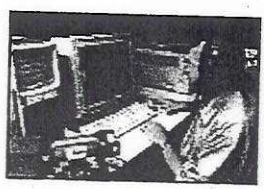
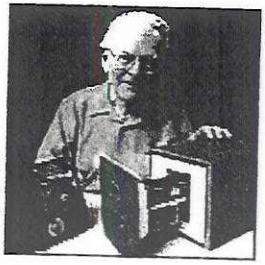
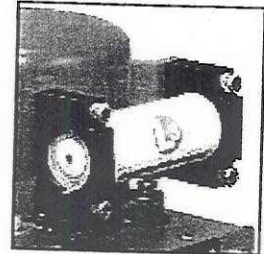
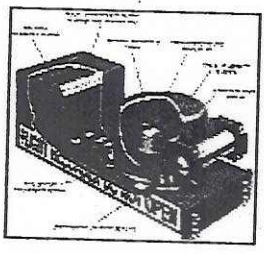
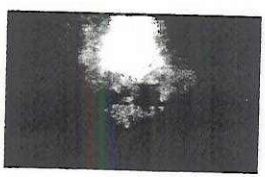
Inside the Black Box

How Flight Data Recorders can live through aircraft crashes.

by Julian Edgar

[Click on pics to view larger images](#)

Advertisement Advertisement



While travelling in large jet aircraft is statistically the safest way of getting from place to place known to humankind, there's still rarely a year that passes without a large jet going down. And off course, the recent terrorist attacks involving aircraft have drawn the attention of the world to terrible pictures of catastrophe. But following all large aircraft crashes a question is always immediately heard - "Have they found the Black Box?" For it's the Black Box which very often provides the definitive clues as to what went wrong.

And invariably - no matter how huge the impact was - the Black Box survives.

So just what do these incredible Black Boxes consist of? How can they retain their recorded information when being subjected to an impact the equivalent of a deceleration from 450 km/h to a standstill - in just 45cm? How do they survive through those fierce jet-fuelled fires that burn for hours, hot enough to soften steel? How can they still work after being plunged into the depths of the ocean, sometimes ending up literally kilometres under water?

We thought that answering those questions might interest you as much as it does us....

The Idea

Firstly, the recorders aren't called 'Black Boxes' anywhere except in the general media. Everywhere else they're known as Flight Data Recorders and Cockpit Voice Recorders - two names, because there are actually two units in each plane.

The Cockpit Voice Recorder records radio transmissions and sounds in the cockpit, such as the pilots' voices and engine noises. The Flight Data Recorder monitors parameters like altitude, airspeed and the direction in which the plane is flying.

Both Flight Data Recorders and Cockpit Voice recorders were once unknown - passenger planes flew with no data recording mechanisms at all. It was the crash of the first commercial passenger carrying jet aircraft - the beautiful British Comet - that started the ball rolling. When one Comet was lost, the aeronautical world was rocked - when another crashed, the situation was serious. Experts around the world gathered to consider what might have caused the crash of the aircraft. One of those consultants was an Australian chemist, Dr David Warren. He was an expert in fuels; it was thought that a fuel explosion might have doomed the aircraft.

However, his contribution to aircraft safety was not to be in his normal area of speciality - instead, as he listened to the discussions of those trying to devise a crash cause, he decided that finding why the Comets had crashed would be helped considerably if the investigators were able to hear what the cockpit crew had been saying just prior to the incident. So why not fit a cockpit voice recorder to all aircraft so that if a crash occurred, these conversations could later be heard?

In 1954 he wrote a report on the idea, and in 1958 organised the building of a working model, using steel wire as the recording medium. This prototype could store four hours of cockpit speech and instrument data. However, the Flight Recorder gained little support - and it's illuminating to hear why. The Royal Australian Airforce suggested that "such a device is not required - the recorder would yield more expletives than explanations", while The Federation of Air Pilots declared that it would be like "a spy flying alongside - no plane would take off with Big Brother listening".

However, an air official from the UK, who was visiting Australia at the time, saw the prototype Flight Recorder and was enthusiastic about the concept. On his return to the UK, authorities started moves to make the fitting of the recorder compulsory, and a UK company went on to develop the recorder as a commercial product. In the US, development had also been proceeding, and on August 1 1958 the first US mandate to fit flight recorders to certain aircraft was issued. In 1967, Australia became the first country to make both flight data and cockpit voice recording compulsory.

Scribing on Foil...

As indicated, the first Cockpit Voice Recorders used stainless steel wire as the recording medium. While magnetic tape was common for recording sound, wire had the advantage of being much more durable in the event of a crash - in fact, it was said to retain its record even when heated red-hot! In addition, at the time, it also took up less room than tape.

In the same period, US-manufactured Flight Data Recorders used metal foil (Incanol Steel) to store the data. The foil was literally scratched by scribes mounted on arms, with the arms attached to moving coil electrical meters and air pressure mechanisms. One single strip of foil was capable of recording 200-400 hours of data, with foil recorders

NOTTINGHAM^{NTU}
TRENT UNIVERSITY

**Internet and remote gambling:
A brief overview**

REPORT BY

PROFESSOR MARK GRIFFITHS

**INTERNATIONAL GAMING
RESEARCH UNIT**

**DIVISION OF PSYCHOLOGY
NOTTINGHAM TRENT UNIVERSITY
BURTON STREET NOTTINGHAM NG1 4BU**

mark.griffiths@ntu.ac.uk

Report prepared for Manchester City Council (September 2007)