

Attachment C | Crown Melbourne Uncarded Real Time Player Data Analytics – Uncarded Play



Recommendation 8 (b)

for uncarded play (that is, all other player activity), Crown Melbourne will, by 1 January 2019, commence a comprehensive study of all the practical options for a real time player data analytics tool, with a view to reporting in detail (including legal, technical and methodological issues) to the VCGLR by 1 January 2020 and the tool being in operation by 1 July 2022.

Crown Melbourne Limited (**Crown**) refers to its letter dated 24 December 2018 to the Victorian Commission for Gaming and Liquor Regulation (**VCGLR**), 'Sixth Review of the Casino Operator and Licence (Sixth Review) – Recommendation 8 (b)'.

Crown commenced its study on exploring options available to it and has been assessing and analysing information and seeking research reports and expert evidence available, which supports data analytics tools on uncarded play that may enhance Crown's responsible gaming framework.

Research Evidence

Crown has conducted a comprehensive literature search on electronic databases including peer-reviewed articles from primary sources:

- Psychology Databases
- Public Health Databases
- Consumer Health Databases

As well as Google Scholar being used as a more general search engine. Table 1 below represents the scope of the queries undertaken.

Table 1: Result of search for relevant topics involved in strategies to track gambler's behaviour for responsible gambling purpose.

Search terms	Peer Reviewed Journals	Google Scholars
1. gambling player tracking algorithm for un-carded games	0	244
2. gambling behaviour tracking	1,956	17,200
3. gambling behaviour tracking system	1,804	41,900
4. gambling behaviour tracking algorithms	641	19,100
5. gambling behaviour tracking strategies	1,595	25,500
6. gambling player tracking algorithm	345	18,400
7. gambling player tracking system	660	54,100
8. gambling player tracking strategies	588	28,800

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Search results from peer-reviewed journals found no literature available for topics specific to tracking systems for un-carded play. Improved returns were found when the search was broadened to a more general term involving 'gambling player behaviour tracking systems/algorithms/strategies', with the results focusing on on-line gambling.

Overall, review of the literature suggested that there are generally two systems available to help track player's gambling behaviour for responsible gambling intervention purpose. These included:

1. Player Data Tracking Algorithms (**PDTA**), which can be used for carded gaming only; and
2. Tracking players' observable signs that can be used for both carded and un-carded gaming.¹

Limited research has been published in the peer-reviewed literature on these algorithms in general, and no peer-reviewed articles have directly examined their effectiveness for preventing problem gambling. This would be partly due to intellectual property issues, as the peer review process would entail releasing the algorithm itself. There has been no detected research entailing an objective measure of effectiveness and efficacy of algorithms.

Crown is aware that Focal Research is currently focusing on the development of a system that can identify gamblers of interest that are playing uncarded on an Electronic Gaming Machine (**EGM**). To date, no further information is available, however, Crown will continue conversations with the Focal Research team.

A recent article noted that the UK Betting and Gaming Council will introduce Artificial Intelligence technology called the Anonymous Player Awareness System (**APAS**). APAS is a real-time algorithm for gaming machines, which identifies areas of player behaviour that could indicate harmful play. Such behaviour will trigger an alert on-screen and force a break in play or 'cooling-off period'; simultaneously staff will be alerted, allowing for a Responsible Gambling Interaction where appropriate. Mark Griffiths, Professor of Behavioural Addiction at Nottingham Trent University told the BBC: "This is a step in the right direction but obviously needs to be monitored and evaluated. Little is known about this technology". Crown will monitor progress.

Potential Legal Issues

In terms of Legal Issues, Crown's Legal Department noted the following:

- The Privacy Act only applies to the collection and use of personal information of an identified (or identifiable) individual. For un-carded play, Crown would not generally know the identity of the individual and in any event, the purpose of the tool is to pro-actively identify for intervention, customers at risk of harm from gambling. Given that the tool would not be required to collect or use personal information of any identified individual, the *Privacy Act* would not be offended; and
- Crown's Conditions of Entry Signage to the Casino refers to both the use of surveillance and Crown's practice of the responsible service of gaming.

¹ Such as those used by Crown and defined in the Responsible Gambling Code of Conduct, pp. 16 and 17



Crown has further requested external legal advice on the matter, which identified the same issues and came to the same conclusion, this advice is attached at **Appendix (i)**. As such, there are no current known legal impediments to continuing to pursue investigations in the area of uncarded play interventions.

However, consideration must be given to the concept that tracking individuals (who have not elected to be tracked) may have ethical issues and offend some individuals' sense of civil liberties, exposing Crown and the VCGLR to public criticism. Negative public sentiment may also create a number of unintended consequences, for example:

- Patrons may change their behaviours to avoid being tracked, which may result in greater harm;
- An expectation of intervention where patron's stop managing their own behaviour;
- Stigma attached pushes patrons to gamble on line where there can be no interaction and greater harm may result; and
- Any small errors could mean that players be given false labels/diagnoses, also leading to liability and ethical concerns.

The major weakness of PDTA is the near-total lack of peer-reviewed research that directly evaluates the algorithms' effectiveness.

Potential Technical and Methodological Issues

Crown has reviewed how existing technology in use as part of casino operating systems such as Dacom² could be used to overlay a real time data analytics tool as part of the technical solution.

The current use of the Play Periods Program's technical solution, the Splunk program, will be interrogated to establish if this technology can be used in a similar manner for uncarded play.

Focal Research is currently working on a tool to be used to identify gamblers of interest who play uncarded, and Crown will continue to monitor this work.

Furthermore, Crown has commenced investigations with vendors using Artificial Intelligence and tracking persons from a play length perspective (as part of real time monitoring). The first of these is the Israeli based 'Razor Labs'³ company and again, Crown will monitor progress and developments.

Conclusion

After conducting a comprehensive study, Crown has to date not found any peer reviewed research, commercially available program or method that can be considered a real time player data analytics tool to proactively identify for intervention, uncarded customers who may be at risk of harm from gambling.

² Dacom is the Electronic Monitoring System in use for EGMs at Crown

³ <https://www.razor-labs.com/>



Crown will continue to investigate internally based solutions and externally available programs as they develop.

MinterEllison

19 December 2019

BY EMAIL

Ms Michelle Fielding
Group General Manager – Regulatory and Compliance
Crown Resorts Limited
Crown Towers
8 Whiteman Street
Southbank VIC 3006

Dear Michelle

Advice to Crown Resorts Ltd (Crown) on tracking casino users

We refer to our conversation and email exchange.

You have instructed us to advise Crown about the legal implications of tracking patrons using data analytics tools to monitor patrons' activities, in real-time, based on patrons' 'uncarded play'.

1. Background

1.1 We understand that:

- (a) the Victorian Commissioner for Gambling and Liquor Regulation (**VCGLR**) has recommended that Crown develops and implements comprehensive data analytics tools for all patrons, to proactively identify patrons at risk of harm from gambling;
- (b) the data analytics tools would utilise both historical data (with parameters developed from the second player model), and real-time monitoring of play periods;
- (c) Crown has been asked to report to the VCGLR on, amongst other things, the legal issues associated with the use of such tools for uncarded players; and
- (d) 'uncarded player' means patrons that are not using a Crown loyalty card and, as such, Crown is not generally able to identify a particular patron.

1.2 Please let us know if we have misunderstood any of the above, as it may impact our advice.

2. Privacy and surveillance requirements

2.1 We have set out below our advice regarding the possible privacy and surveillance law impacts associated with the proposed use of the data analytics tools for uncarded players.

Privacy Act

2.2 The *Privacy Act 1988* (Cth) (**Privacy Act**) applies to Crown when it collects and holds personal information. 'Personal information' is defined under the Privacy Act as any information or an opinion about an identified individual, or an individual who is reasonably identifiable:

- (a) whether true or not; and
- (b) whether recorded in writing or not.



- 2.3 Where it is not reasonably possible for Crown to identify individual patrons whose information Crown collects (eg an individual's gambling habits), the Privacy Act does not apply.
- 2.4 We understand from your instructions that Crown will not be able to identify patrons through the data analytics tools who play on an 'uncarded' basis because the monitoring activity does not involve visual surveillance of patrons for the purpose of identifying their play, nor is the patron required to provide any information to Crown (and Crown does not otherwise collect any information) that would enable Crown to identify a particular patron. Therefore, the Privacy Act would not apply to the information that would be gathered solely via the data analytics tools.
- 2.5 However, this position could differ in the event that Crown is able to reasonably combine information gathered from its various monitoring tools (including surveillance cameras), and as a result, it is able to reasonably identify individual patrons (even if this did not occur in real-time). Please let us know if this is possible and we can advise further on the privacy impacts of this.

Surveillance Devices Act

- 2.6 The *Surveillance Devices Act 1999 (Vic) (SD Act)* regulates the use of surveillance devices in Victoria. The SD Act applies to the following types of devices:
- (a) listening devices to listen to conversations;
 - (b) optical surveillance devices to visually observe an activity;
 - (c) tracking devices to determine the location of a person; and
 - (d) data surveillance devices that monitor the input into, or output out of, a computer.
- 2.7 You have instructed us that the data analytics tools that would be used to track a patron's activity does not fall within the definition of the surveillance devices listed in paragraphs 2.6(a) - 2.6(c) above. Although the data analytics tools *could* be a data surveillance device, the prohibition on the use of data surveillance devices in the SD Act applies only to law enforcement officers. Therefore, the SD Act will not impact the project specifically.
- 2.8 Finally, as referred to above, we are aware that Crown also uses other means of surveillance throughout the premises (such as optical and audio surveillance devices), and we understand Crown has taken measures to comply with the requirements of the SD Act in respect of the use of those devices.

Please let us know if you would like to discuss the above.

Yours faithfully
MinterEllison



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