To: Rowan Harris ███████████████████████████████
Cc: Sonja Bauer ███████████████████████████ ; Jason Cremona ███████████████████████ ; Steve Thurston ███████████████████
From: Michelle Fielding ████████████████████████████████
Sent: Mon 4/20/2020 5:40:24 PM (UTC+10:00)
Subject: RE: Sixth Casino Review - Recommendation 8 - follow up enquiries [CM-COMP.FID19075]

Hi Rowan

Please see our responses below. I spoke with Sonja about your research question and she said she'll give you a call tomorrow.

Please let me know if you have any queries or concerns.

Regards
Michelle Fielding| Group General Manager – Regulatory and Compliance | Crown Resorts Limited
t: ███████████ | m: ████████████ | e: ███████████████████████ | w: www.crownmelbourne.com.au

From: Rowan Harris ███████████████████████████
Sent: Tuesday, 31 March 2020 10:40 AM
To: Michelle Fielding
Cc: Sonja Bauer; Jason Cremona; Steve Thurston
Subject: Sixth Casino Review - Recommendation 8 - follow up enquiries

Hi Michelle

I refer to Crown's 30 December 2019 submission and have some follow up enquiries.

Attachment A of the submission: Could you please define 'Model thresholds (ie. 60%, 70% & 80%) ie. what they represent? The 'Model Threshold' refers to the probability threshold, which is how accurate a model has the potential to be. Note in the table referred to in your query (page 2), that adjustments of the Model Threshold result in different outcomes when relating to correctly or incorrectly identifying potential problem gaming behaviour.

• Attachment B of the submission, page 4: *"From the initial model, a sample of randomly selected members from a pool of approx. 200k from the Crown Rewards database (meeting at least one of Table Games or Gaming machines rating in the last 18 months) was obtained"*.

  o What determined the size of this sample? This was determined by the size of the 'active' local patrons in the database at the time, which means, recorded gaming activity, or rating, within the previous 18 month period.

  o What percentage is the sample of the total Crown Reward database? Approximately 10%.

  o Why not the whole Crown Rewards (CR) database? And how many are there in the CR database? The whole Loyalty Program database was not used as only approximately 200,000 of the local members in the database were 'active' at the time, that is, recorded gaming activity within the previous 18 month period. Given our Model tries to predict potential problem gaming behaviour, we find recent gaming activity to be the most relevant, i.e. we are unlikely to have customers self-exclude if they haven't been on site for a number of years. At that time, there were approximately 2,000,000 members in the database.

  o Does the term *'rating* refer to showing an observable sign? No, the term rating refers to a recorded gaming activity.

Crown submission, page 6 under Technology heading, second paragraph. What does *"visualisations"* mean in relation to Splunk? This information, as is referenced, is taken from the Splunk website. Following please see the explanation taken directly from the website today, 31 March 2020. Crown Responsible Gaming currently uses the timeline aspect of this.

'Visualizations make it easier to analyze and interact with data during investigations or within dashboards and reports. The right visual goes a long way to understanding the results of the analysis of your most complex data. With rich visualization you can easily find the right diagram to make your results known across your organization—in the boardroom or in the war room. Splunkbase contains a wide array of Splunk-built visuals, and a development framework that makes it simple for customers and partners to create new visuals and make them available to the community.
The visualizations available for Splunk software run the gamut from simple to complex. They can be as straightforward as a chart or as rich as a punchcard. Whether you want to quickly show at-a-glance indicators and hone in on a current issue, or include geospatial maps in your dashboard to let users anticipate issues and needs, there's a visualization for it.'
https://www.splunk.com/en_us/products/splunk-enterprise/features/visualizations.html

Thanks & regards

Rowan

Ps: I'm working from home

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From: Michelle Fielding [mailto:▮▮▮▮▮▮▮▮▮▮]
Sent: Monday, 24 February 2020 7:42 PM
To: Rowan Harris ▮▮▮▮▮▮▮▮▮▮
Cc: Sonja Bauer ▮▮▮▮▮▮▮▮▮▮ ; Jason Cremona ▮▮▮▮▮▮▮▮▮▮ ; Steve Thurston ▮▮▮▮▮▮▮▮▮▮
Subject: FW: Sixth Casino Review - Recommendation 8 [CM-COMP.FID19075]

Hi Rowan

See our responses below and please let me know if you have any queries or concerns.

Regards

Michelle Fielding| Group General Manager – Regulatory and Compliance | Crown Resorts Limited
t: ▮▮▮▮▮▮ | m: ▮▮▮▮▮▮ | e: ▮▮▮▮▮▮▮▮▮▮ | w: www.crownmelbourne.com.au

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From: Rowan Harris ▮▮▮▮▮▮▮▮▮▮
Sent: Tuesday, 18 February 2020 10:06 AM
To: Michelle Fielding ▮▮▮▮▮▮▮▮▮▮
Cc: Sonja Bauer ▮▮▮▮▮▮▮▮▮▮ ; Jason Cremona ▮▮▮▮▮▮▮▮▮▮ ; Steve Thurston ▮▮▮▮▮▮▮▮▮▮
Subject: Sixth Casino Review - Recommendation 8

Hi Michelle,

Thank you for Crown's 30 December 2019 submission in relation to recommendations 7 and 8.

The VCGLR has the following enquiries:

1. I refer to the last sentence of the first paragraph on page 6 of the covering letter which states *"However, the Crown Model requires additional refinement and any machine learning product such as the Crown Model requires sufficient volumes of data and time to realise the success of the algorithm via validation and the impact an interaction may have"*.

a) How and when does this additional refinement happen? Is it progressively with every reporting period or at the end of the 12 months at the time of the detailed review?

The refinement occurs progressively after each tranche, via meetings held between the Customer Analytics Team and the Responsible Gaming (**RG**) Team.

2. I also refer to the second sentence of second paragraph on page 6 of the covering letter which states *"Crown will continue to run the Crown Model with periodic reports being analysed by the Responsible Gaming and Customer Analytics teams"*.

a) How often are the periodic reports run? (daily, weekly, monthly?) Is there a cycle?

The reports are generated approximately every six weeks. The RG Team have approximately four to five weeks to action the report and the Customer Analytics Team take approximately one week to generate a new report.

b) How soon does Responsible Gaming and the Customer Analytics teams analyse the periodic reports after they are run?

The RG Team analyses the report on receipt, checking for previous interactions, then places each person's member identifier on a pager that alerts the RG Team when the member next uses their card for a gambling service. If the member is able to be interacted with, the discussions are noted on a spreadsheet, which is returned to the Customer Analytics Team for analysis. The Customer Analytics Team then takes approximately one week to digest and generate a new report.

c) How many Customer Analytics teams are there?

There are two Crown Customer Analytics teams in Melbourne, the team that runs this report is the Customer Strategy team.

d) How many staff in each Customer Analytics team are dedicated to analysing the periodic reports? Are they full time equivalents? If not, please specify.

Three employees within the Customer Strategy team are responsible for analysing the periodic reports. They are full time equivalents, but are not solely dedicated to analysing and generating these reports.

e) How many Responsible Gaming staff are dedicated to analysing the periodic reports? Who are they? (Are they the Responsible Gaming Advisors?)

All Responsible Gaming Advisors are tasked with all elements of the report once received. That is, checking for prior history, technology related work such as placing member identifiers on pagers and removing them, the follow up conversations and recording thereof. Analysis occurs on receipt of the report and at the regular meetings, and is completed by up to 2 Responsible Gaming Advisors and RG Management.

f) How many estimated total weekly hours on average are allocated to analysing the periodic reports?

The Customer Analytics Team spends approximately one to two hours per week generating the report. Deep dive analysis (as opposed to the regular catch ups), are performed quarterly, and take approximately two to three days of work. Although the RG Team does not record the time spent on this task, the best estimate would be about one to two hours is spent on the above tasks per person listed on the report. It is estimated that of those tasks, up to three days are spent analysing each report.

The VCGLR requests that Crown provides its responses by COB Tuesday 25 February 2020. This information is

required to assist with preparation of the Commission paper on recommendations 7 and 8.

Happy to discuss.

Regards

Rowan

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