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Supporting Documentation

A Data Science application

As mentioned already in my other application documents, by becoming a member of the Monash Data Futures Institute and joining Newgate Research as a Data Scientist (second-in-command), I was able to compose research reports that are seen by the top decision makers of Australia. Aside from the aforementioned reports, which required a great deal of statistical modelling, I was also responsible with the development of a wide variety of tools, ranging from machine learning algorithms for text analytics applications (e.g. sentiment analysis and topic/theme identification) to creative data visualization processes. The aim of this document is to display a test case of a recent real world application which incorporates a variety of the aforementioned solutions.

For this purpose, we are going to focus on the field of Social Network Analysis and use Twitter Data collected in the Data window: 1 – 15 February, 2021, for one of the most impactful Australian business analytics issues of the time, the investigation results regarding Crown Casinos.

After analyzing the data imported from Twitter through the combined lens of sentiment analysis and thematic analysis from machine learning algorithms, an enhanced file is then exported, and a "map" is then constructed such as the one depicted in the following page based on graph theory and topology. Consequently, having this visual map of the landscape of the issue, a wide range of insights can be deduced. For instance, not only can one analyze the most discussed key themes (which is easily monitored with every classical listening tool), but also who is the most influential for a given topic and how this changes over time. The whole process requires a couple of hours of computational time.

For this specific issue, it is clear that 4 main areas of the map need further analysis, specifically the ones colored with red, blue, green and light blue color. To begin with, upon further inspection, the blue parts are mainly discussing the licence issue for Crown Casinos in Sydney, whereas the red part is media driven and presents Packer BEING unsuitable to run the Barangaroo casino, raising concerns about other cities' Crown Casinos operations. On another note, the green areas criticise the Australian government for allowing Crown Casino and banks (Westpac & CommBank) to operate without punishment despite money laundering accusations, and finally the lighter blue areas are lesser-known media, but are directly connecting the illegal drugs trade to Crown Casinos wanting stricter regulations.

Based on the previous brief summary of the wider issue, the obvious question which can be posed and has immediate business implications is the one stemming from Crown Resorts being unable to run the new gambling facility in Sydney and whether the entertainment group is capable of properly operating their casinos in other Australian cities. This creates an opportunity for their other licenses being reviewed.

To conclude, this was verified by the Victorian government's announcement to establish A royal commission into Melbourne's Crown casino not more than 48 hours ago, i.e., a week after this project was complete.

■	packer Crown casino	(23.85%)
■	licence sydney casino	(12.96%)
■	criminal Crown casino	(12.23%)
■	packer sydney casino	(8.83%)
■	corruption Crown casino	(6.2%)
■	money laundering sydney casino	(3.89%)
■	licence Crown casino	(3.42%)
■	money laundering Crown casino	(3.38%)
■	drug Crown casino	(2.64%)
■	packer Barangaroo casino	(2.22%)
■	licence Crown sydney	(2.16%)
■	resign Crown casino	(2.06%)
■	criminal sydney casino	(1.99%)
■	inquiry Crown casino	(1.95%)
■	packer Crown sydney	(1.94%)
■	findings Crown casino	(1.58%)
■	inquiry sydney casino	(1.24%)
■	crime Crown casino	(1.06%)
■	resign sydney casino	(0.85%)
■	resigns sydney casino	(0.72%)
■	resigns Crown casino	(0.68%)
■	packer star casino	(0.41%)
■	licence Barangaroo casino	(0.31%)

Antonios Meimaris, February 24, 2021