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IBM Applied Data Science Capstone Report

EVALUATE METROPOLITAN ADELAIDE HOTEL LOCATIONS
BY VENUE RATINGS AND NET GAMING REVENUE

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Introduction

Background

South Australia (abbreviated as SA) is the southern, central state of mainland Australia. It has a total land area of 983,482 square kilometres. The state has a population of more than 1.75 million people, 77% of whom live in Adelaide and surrounding metropolitan areas.

The Australian Bureau of Statistics (ABS), classify hotels as operating in 'accommodation services' industry, rather than the 'pub, tavern and bar' industry. Hotels with gaming machines tend to be larger, earning more revenue and employing more people. In addition to EGMs, these venues tend to offer a variety of bar, bistro/restaurant, retail bottle shop and gaming facilities including TAB and Keno, as well as other forms of entertainment.

To own and operate gaming machines in South Australia you must have a gaming machine licence and hold gaming machine entitlements. Each gaming machine entitlement gives the licence holder the right to own and operate a single gaming machine at their venue.

When a new gaming machine licence is granted, no entitlements will be issued. To operate gaming machines, a licence holder will need to purchase entitlements either through the government's approved trading system or under a contractual agreement with Club One.

Each gaming machine licence specifies the maximum number of gaming machines approved for a venue. The most any venue can have is 40 machines.

A gaming machine licence can't be granted to premises located under the same roof as shops or within shopping complexes.

Business Problem

A hotelier owns and operates a one-hundred-year-old freehold heritage-listed hotel on a significant combined land holding of 6,833sqm

It is located in a quiet suburb next to a park and picturesque views of the city skyline.

The venue has experienced a decline in EGM expenditure and patronage in recent years. A recently refurbished gaming room and new machines failed to reverse a decline in revenue.

Considerable renovation and replacement of HVAC would be required to increase gaming machine approval from 20 to 40 machines.

SWOT Analysis of the hotel identified an opportunity to develop the site into a retirement village.

Presale of the residential development has raised capital for the construction of a new purpose-built Hotel in a more suitable location.

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The new Hotel will utilise smart technology including

- Cashless gaming, to reduce cash handling, eliminate hopper float and hard count labour
- Self Service Cash Redemption Terminals to reduce labour, fraud and reconciliation
- Cloud integrated POS for online food orders
- A General Purpose EFT based Reloadable reward card designed to immediately deliver winnings to customers anytime and anywhere. Transfers from the prepaid card to competitive accounts can be restricted, so withdrawals from partners cannot be used to load funds to a competitor site. Supported by Apple and Google Pay

A breakdown of Business units and projected Income and Expenditure

Business Unit	Income Actual	Income Desired
Sale of liquor and other beverages (on-premises)	14%	10%
Sale of liquor and other beverages (take away)	31%	25%
Accommodation	14%	0%
Net Gaming Revenue (NGR)	18%	52%
Takings from meals and food sales	19%	9%
Other gambling (TAB, Keno, etc)	4%	4%
Total	100%	100%

Hotel Expenditure	Proportion
Labour costs	21.20%
Purchases	43.30%
Gambling taxes and levies	10.50%
Rent, leasing and hiring	6.00%
Other expenses	19.00%
Total	100.00%

Report Objectives

1. Provide one or more locations in Metropolitan Adelaide for hotel, with a focus on high gaming revenue, high population density, proximity to shopping complex or transport hub, competitor proximity and reviews
2. Provide customer demographic for the area including age, gender, income for targeted marketing. A more granular customer segmentation can be obtained from rewards card once in place
3. Suggest a cuisine that will be popular with the neighbourhood demographic

Audience & Stakeholders

The audience for this project is the hotelier, marketers and advisors who make decisions based on data insights. This project explores some of those data insights specific to venue location.

Data

This section describes the data sourced for this project, as well as the data cleansing and preparation for subsequent exploration.

Data Sources

South Australian Government Data Directory (Data.SA)

Liquor and Gaming Licences

A data set containing publically accessible licence details under Liquor and Gaming legislations. This information is provided from Consumer and Business Services

Australian Bureau of Statistics (ABS)

State Suburbs (SSC)

Are an ABS approximation of localities gazetted by the Geographical Place Name authority in each State and Territory. Gazetted Localities are the officially recognised boundaries of suburbs (in cities and larger towns) and localities (outside cities and larger towns)

Local Government Areas (LGAs)

The Australian Statistical Geography Standard (ASGS) Local Government Areas (LGAs) are an ABS approximation of officially gazetted Local Government Areas as defined by each State and Territory Local Government Department

ESRI Shapefile (.shp)

A shapefile stores non-topological geometry and attribute information for the spatial features in a data set. The geometry for a feature is stored as a shape comprising a set of vector coordinates

Australian Tax Office (ATO)

Taxation Statistics

An overview of the income and tax status of Australian individuals, companies, partnerships, trusts and funds

The South Australian Centre for Economic Studies (SACES)

Gambling Database

The South Australian Centre for Economic Studies has developed a Gambling Database that provides regional level data on gaming machine activity in South Australian licensed venues

FourSquare

About

Foursquare City Guide, commonly known as Foursquare, is a local search-and-discovery mobile app developed by Foursquare Labs Inc. The app provides personalized recommendations of places to go near a user's current location based on users' previous browsing history and check-in history.

Places API

Foursquare's underlying technology is used by apps such as Uber and Twitter

Will be used for augmenting hotel details with rich, contextual content including place attributes like venue name, address, ratings, and reviews for millions of points-of-interest (POIs).

Also, be used to identify popular and trending places by tracking changes in foot traffic volume.