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# Case study of Business Analysis: In case of Cunningham Holdings Limited

## Issue 1: Analysis of Current Pricing among Accommodation Brands

The data presents the average weekly rates of accommodations categorized by brand:

* Classic: The average price for 48 accommodations in this category is $201.46.
* Cottage: With an average price of $202.66 across 48 accommodations.
* Resort: Similarly, the average price for 48 accommodations under this brand is $200.27.

Insights:

* The Cottage accommodations have the highest average price among the three brands, followed closely by Classic.
* Resort accommodations have the lowest average price, but the difference in pricing among the three brands is relatively minor.

The provided data offers insights into the average weekly rates of accommodation brands across different states.

* Classic: The average price in New South Wales (NSW) is $201.71, with 16 accommodations counted, while in Victoria (VIC), it stands at $201.34, with 32 accommodations.
* Cottage: In NSW, the average price is slightly higher at $202.09, with 16 accommodations, while in Queensland (QLD), it rises to $202.94, with 32 accommodations.

## Issue 2: Analysis of Price Differentiation Among Accommodation Brands

In this case a formula for checking whether the row belongs to cottage, classic or resort was used. The if statement would only return the price if the it met the criteria for that column and in this case it would for example return the price only if was resort therefore 1 in the brand column

### Analysis Method:

An ANOVA (Analysis of Variance) test was conducted to analyze the price differentiation among the Resort, Cottage, and Classic accommodation brands. ANOVA was chosen as it is suitable for comparing means of three or more groups.

### Insights:

The ANOVA results indicate a significant difference in pricing among the accommodation brands (F(2, 138) = 8.43, p < 0.001). The between-groups variance (SS) is 153.98, while the within-groups variance is 1259.69. This suggests that the means of at least one pair of brands (Resort, Cottage, or Classic) are significantly different.

### Conclusion:

Based on the ANOVA results and the alpha value of 0.05, we reject the null hypothesis (H0) that the means of all accommodation brands are equal. Therefore, we conclude that there is a significant price differentiation among the Resort, Cottage, and Classic brands.

## Issue 3: State Factor Analysis: Price Variation Across NSW, QLD, and VIC

### Method Used

Two-Factor ANOVA with Replication was employed to assess the pricing differences among the Resort, Cottage, and Classic accommodation brands across the states of NSW, QLD, and VIC.

ANOVA was chosen as it allows for the comparison of means across multiple groups simultaneously, making it suitable for analyzing the pricing variations among different accommodation brands and states.

### Insights

The ANOVA results reveal a significant difference in pricing among the accommodation brands across different states (p < 0.05).

Based on the findings, we reject the null hypothesis, suggesting that at least one of the means for Resort, Cottage, and Classic accommodation brands is significantly different across the states. Therefore, there is evidence to support the hypothesis that there is a significant difference in pricing among the accommodation brands across different states.

## Issue 4: Investigation of Price Differences Across Locations and Accommodation Brands

### Analysis Method

Two-Factor ANOVA with Replication was employed to analyze the data.

This method was chosen because it allows for the examination of the effects of two categorical independent variables (location and accommodation brand) on a continuous dependent variable (average price).

ANOVA helps determine whether there are significant differences in average prices across different locations and accommodation types.

### Findings and Insights:

The analysis revealed distinct average prices for Resort, Cottage, and Classic accommodations across metropolitan and regional cities.

While there is a significant difference in average prices among accommodation types across different locations, the interaction effect between location and accommodation brand is not significant.

### Conclusion

The findings indicate that both location and accommodation brand significantly influence average prices.

Therefore, CHL Hospitality should consider these factors when setting pricing strategies and marketing initiatives for their accommodations across different locations.

## Issue 5: Assessing the Impact of Comfort Brand Introduction on Internal Competition

### Method Used:

A two-sample t-test was conducted to compare the average weekly prices of Resort accommodations with and without the presence of the Comfort brand nearby.

### Findings and Insights:

The average price of Resort accommodations with Comfort nearby is $201.17, while without Comfort nearby is $202.25.

The standard deviation for Resort accommodations with Comfort nearby is 3.19, and without Comfort nearby is 2.87.

The p-value obtained from the t-test is 0.0012081, which is less than the significance level of 0.05.

Since the p-value is less than the significance level, we reject the null hypothesis.