D. Detailed Outline

Using the data in Appendix A:

a) **Generate summary descriptive statistics for the delivery times provided by the courier provider. The descriptive statistics should include the following: Mean, Median, Standard Deviation, Maximum, Minimum. Give your comments on any findings you can learn from these indicators. (3 marks)**

THEORY (Refer to the theory table above for the definitions)

Mean

Calculation: Sum of all the data values, then divide by the number of data points in the sample

Excel formula: average()

Note: Each descriptive statistic contains an excel formula

Within the parentheses () the cells of the sample need to be highlighted. e.g., =average(A1:A10)

Median

Calculation: •Order the data from low to high

   o There are "n" observations (values)

   o The position of the median is the data point in the middle (i.e., it's the (n+1)/2 ranked value where "n" is the number of observations in the data)

   o If "n" is an odd number, the median is right in the middle

   o If "n" is an even number, the median is the average of the middle two data points

Excel formula: median()

Standard deviation

Calculation: Calculate the square root of the variance

Excel formula: stdev()

Range

Calculation: Maximum value – minimum value

Excel formula: max() – min()

EXAMPLE:

Mean	-5,059406	AVERAGE(D3:D103)
Median	-2	MEDIAN(D3:D103)
Standard Deviation	46,26442	STDEV(D3:D103)
Maximum	118	MAX(D3:D103)
Minimum	-137	MIN(D3:D103)

-> Evaluate the effectiveness of delivery based on the data just shown

Example: According to the data presented in the table, the Mean and Median negative statistics indicate that the delivery process is consistently efficient as the deviation from the scheduled delivery time is minimal and even sometimes ahead of schedule. This could be advantageous for customers to have their orders delivered early in most cases.

b) Based on your statistics, estimate the maximum interval in minutes that MealKit4U should use to specify the expected delivery time [scheduled delivery time ± interval]. Justify your estimate (2 marks)

Hint: 95% of deliveries should fall in a range of Mean ± 2 x Standard Deviation. Read further to learn this application.

95% of deliveries should fall within the range of:

Mean ± 2 x Standard deviation

To achieve the most efficient interval where 95% of deliveries are completed within that time frame, we can estimate the maximum interval using the formula:

$(|\mu+2\sigma|+|\mu-2\sigma|)/2$
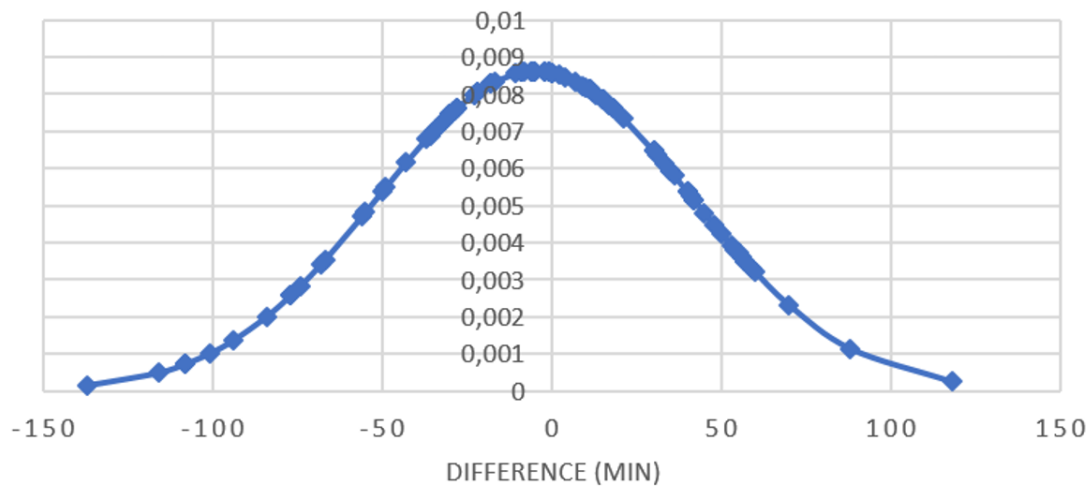
Example:

Figure 2: Normal distribution graph of difference

	(minutes)		
μ+2σ	87,46943142	Mean ± 2 x Standard Deviation	
μ-2σ	-97,5882433	μ: Mean	
		σ: Standard Deviation	
2σ	92,52883736	Maximum interval suggestion	

Figure 3: Calculation of interval estimation

Using the data in Appendix B:

   c) Perform a linear regression analysis to examine how sales relates to the Net Promotor Score (NPS) for the prior month (3 marks)

THEORY (Refer to the theory table above for the definitions)

a linear regression analysis:

Regression analysis output: Summary Output

- Multiple R.
    - 1 means a strong positive relationship
    - -1 means a strong negative relationship
    - 0 means no relationship at all

- R Square. The R^2 value is calculated from the total sum of squares, more precisely, it is the sum of the squared deviations of the original data from the mean.

- Adjusted R Square. You will want to use this value instead of *R square* for multiple regression analysis.

- Standard Error. While R^2 represents the percentage of the dependent variables variance that is explained by the model, Standard Error is an absolute measure that shows the average distance that the data points fall from the regression line.

- Observations. It is simply the number of observations in your model.

Example:

SUMMARY OUTPUT		
Regression Statistics		
Multiple R	0,681931	The closer to 1, the stronger the positive linear relationship
R Square	0,46503	
Adjusted R	0,450572	
Standard E	0,0759	
Observatio	39	

THEORY (Refer to the theory table above for the definitions)

Regression analysis output: ANOVA

- *df* is the number of the degrees of freedom associated with the sources of variance.
- *SS* is the sum of squares. The smaller the Residual SS compared with the Total SS, the better your model fits the data.
- *MS* is the mean square.
- *F* is the F statistic, or F-test for the null hypothesis. It is used to test the overall significance of the model.
- *Significance F* is the P-value of F.

Example:

ANOVA					
	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	0,185285	0,185285	32,1628	1,75E-06
Residual	37	0,213151	0,005761		
Total	38	0,398436			

THEORY (Refer to the theory table above for the definitions)

Regression analysis output: coefficients

The most useful component in this section is Coefficients. It enables you to build a linear regression equation in Excel:

y = bx + a

For our data set, where y is the number of umbrellas sold and x is an average monthly rainfall, our linear regression formula goes as follows:

Y = Rainfall Coefficient * x + Intercept

Example:

	Coefficients	andard Errc	t Stat	P-value	Lower 95%	Upper 95%	ower 95,0%	Jpper 95,0%
Intercept	-0,04908	0,045353	-1,08226	0,28614	-0,14098	0,042811	-0,14098	0,042811
Rainfall	0,001302	0,00023	5,671225	1,75E-06	0,000837	0,001767	0,000837	0,001767

d) Discuss your findings in part (c) with reference to the linear trendline and the correlation coefficient. (3 marks)

THEORY

The linear trendline:

Sales ($'000)

y = 369,09x + 116,28
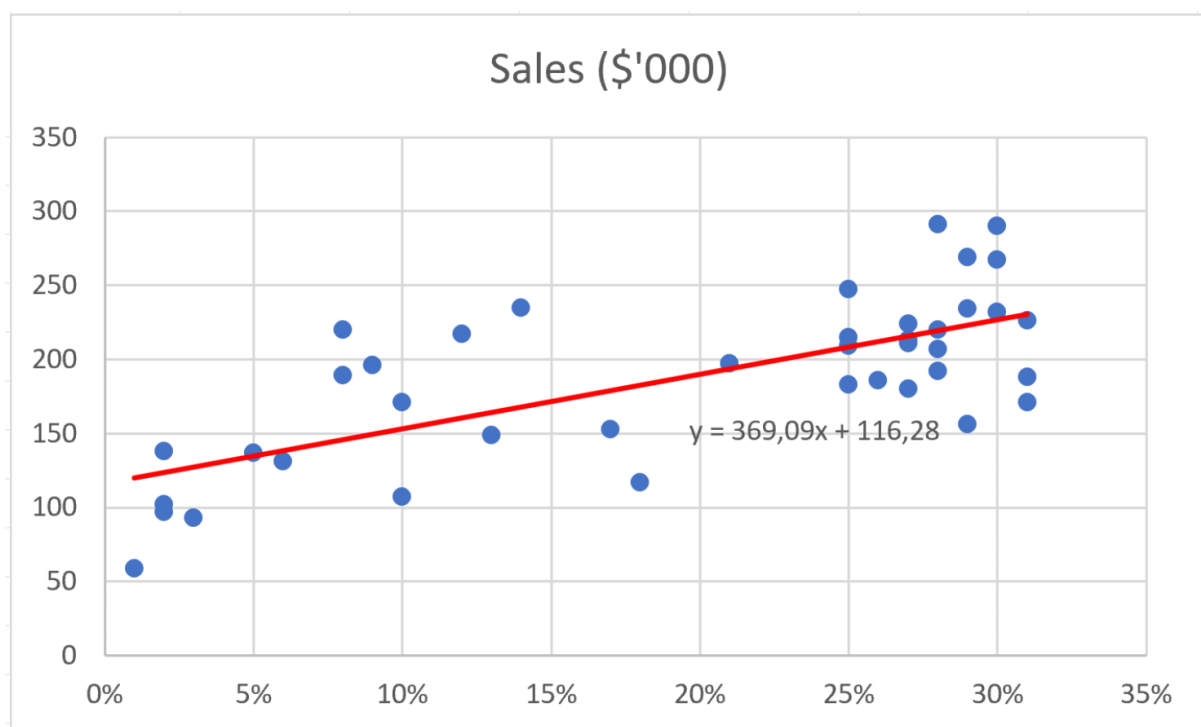
The correlation coefficient

Regression Statistics	
Multiple R	0,681931

The **closer to 1**, the **stronger the positive linear relationship**

DISCUSS:

- Examine the linear trend line depicted in the chart to show the changing direction of sales and Net Promoter Score (NPS).

- Compare the correlation coefficient R to 1 to make an argument about the correlation between sales and net promoter scores.
- Evaluate the R-squared value to show how much of a difference in sales could be created by a difference in Net Promoter Score.
- Explains the importance of NPS and points out other factors that can also influence sales.

Example:

In section (c), a linear regression analysis was conducted to elucidate the relationship between sales and the Net Promoter Score (NPS) on a monthly basis for MealKit4U. Within the dataset provided in the Excel file, the focus will be placed on discussing specific coefficients of significance that have the potential to reveal valuable business insights. These insights can play a pivotal role in enhancing the overall business situation.

To begin with, examining the linear trendline depicted in the graph reveals that sales have a tendency to rise alongside an increase in the Net Promoter Score (NPS). Moreover, the correlation coefficient (R) is observed to be approximately 0.7. Given the proximity of R to 1, it is reasonable to assert that a robust correlation exists between sales and the net promoter score. This observation aligns with the logic that word of mouth serves as a marketing strategy that, not only comes at no cost, but also proves exceedingly effective. Generally, people place more trust in recommendations and suggestions from friends and family compared to other forms of advertising.

This trend provides businesses with the ability to make predictions and identify factors that can positively influence their revenue. In the case of MealKit4U, it becomes imperative to enhance service quality and ensure customer satisfaction to bolster the NPS. Additionally, the R-squared value merits careful consideration. From the provided data, the computed R-squared value is approximately 0.46. This figure signifies that around 46% of the variance in sales can be elucidated by the variations in Net Promoter Scores. Furthermore, the Adjusted R-squared index registers at approximately 0.45, a moderately low value indicating the presence of other contributing factors that affect sales. In light of this, the company might contemplate conducting a regression analysis with additional predictors to attain more accurate outcomes.

Using the data in Appendix C:

   e) Perform a trend analysis and vertical analysis on the income statement data.
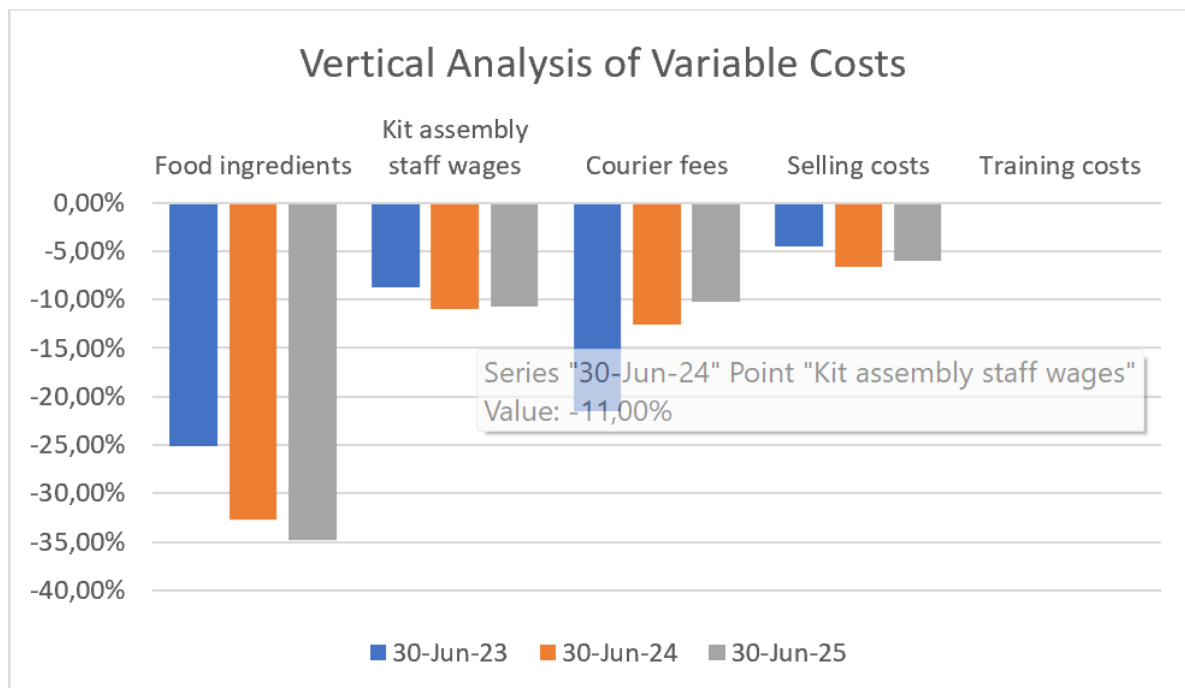
Income Statement analysis:

MealKit4U

Income Statement		Set B			Horizontal Trend Analysis				Vertical Trend Analysis			
	Year ending	30-Jun-23	30-Jun-24	30-Jun-25	Year ending	30-Jun-23	30-Jun-24	30-Jun-25	Year ending	30-Jun-23	30-Jun-24	30-Jun-25
Sales revenue		1,835,230	1,758,197	2,086,995		1.00	0.96	1.14		100%	100%	100%
LESS variable costs												
Food ingredients		(460,224)	(575,235)	(726,172)		1.00	1.25	1.58		-25.08%	-32.72%	-34.80%
Kit assembly staff wages		(160,740)	(193,360)	(224,589)		1.00	1.20	1.40		-8.76%	-11.00%	-10.76%
Courier fees		(394,800)	(220,186)	(214,314)		1.00	0.56	0.54		-21.51%	-12.52%	-10.27%
Selling costs		(83,840)	(115,367)	(124,909)		1.00	1.38	1.49		-4.57%	-6.56%	-5.99%
Training costs		(2,100)	(3,600)	(3,600)		1.00	1.71	1.71		-0.11%	-0.20%	-0.17%
Contribution margin		733,526	650,449	793,411		1.00	0.89	1.08		39.97%	37.00%	38.02%
LESS other expenses												
Electricity		(169,200)	(167,508)	(175,883)		1.00	0.99	1.04		-9.22%	-9.53%	-8.43%
Administration staff wages		(70,000)	(120,000)	(120,000)		1.00	1.71	1.71		-3.81%	-6.83%	-5.75%
Repairs & maintenance		(8,419)	(7,926)	(9,751)		1.00	0.94	1.16		-0.46%	-0.45%	-0.47%
NPS program costs		(10,342)	(9,953)	(10,935)		1.00	0.96	1.06		-0.56%	-0.57%	-0.52%
Advertising costs		(9,372)	(9,426)	(8,563)		1.00	1.01	0.91		-0.51%	-0.54%	-0.41%
Rent		(100,000)	(100,000)	(100,000)		1.00	1.00	1.00		-5.45%	-5.69%	-4.79%
Insurance		(36,000)	(36,000)	(36,000)		1.00	1.00	1.00		-1.96%	-2.05%	-1.72%
Professional development		(6,922)	(9,401)	(10,338)		1.00	1.36	1.49		-0.38%	-0.53%	-0.50%
Research and recipe developmen		(70,000)	(180,000)	(180,000)		1.00	2.57	2.57		-3.81%	-10.24%	-8.62%
Miscellaneous expenses		(2,453)	(1,342)	(2,830)		1.00	0.55	1.15		-0.13%	-0.08%	-0.14%
Operating profit / (loss)		250,818	8,893	139,111		1.00	0.04	0.55		13.67%	0.51%	6.67%

Sales revenue, cost, and operating profit analysis:
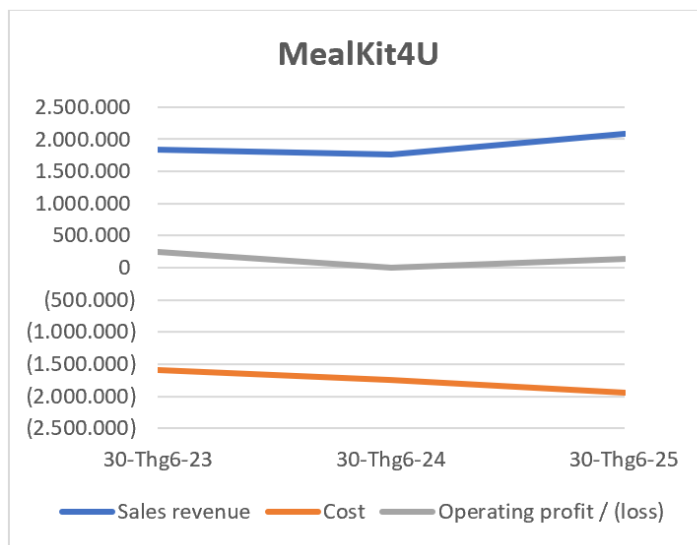
Vertical Analysis:
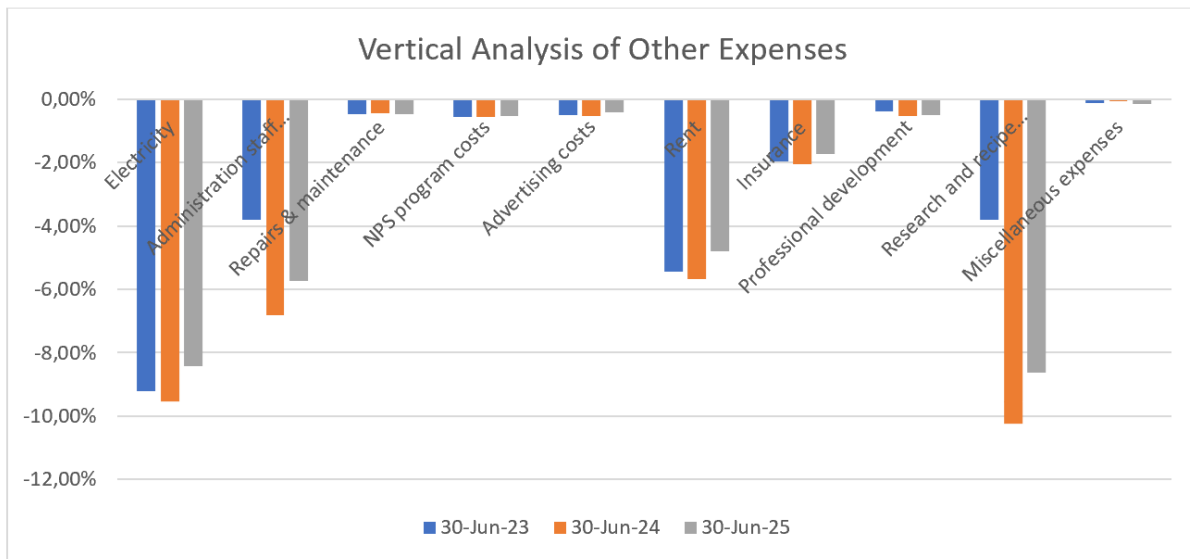
Figure 7: Vertical Analysis of Other Expenses in Income Statement.

f) Critically evaluate the results obtained from your analysis in part (e) above and comment on at least two points. (3 marks)

- Shows the changing trend of profits and costs.
- Indicate the types of costs that record significant changes.
- Compare two types of costs (fix cost and variable cost) with business revenue.
- Identify potential causes of variation in costs.
- Evaluate the impact of those changes on business operations.

Example:

From Figure 1, the profit decreases sharply and halved to that of the base year, whereas the cost continues to rise. Explanations for this are Figure 2 and Figure 3: food ingredients, kit assembly staff wages, and courier fees were the main drivers. Thanks to the new delivery structure, meals per delivery increased and resulted in halved courier fees, and it sustains around 10% of the total avenue. Ingredients cost, however, increases significantly over time and relative to the sales avenue. MealKit4U needs to identify the cause to reduce the ingredients cost's spike in the future. Staff wages climb moderately (Figure 6), but herald a rising cost in internal operation.

Research & recipe development and electricity are the two additional expenses of increasing cost (Figure 4). NPS program cost is marginal compared to the sales revenue. Lastly, allocations of training cost and professional development cost are far below the usual benchmark of 2-2.5% of sales revenue (Andriotis 2017), which indicates underspending of employee training.

g) Present your team's findings in an informative and engaging dashboard or infographic chart such as Piktochart. You should incorporate the data visualisation techniques discussed/presented in class. Make sure your visualisation is clear and can be easily understood by the Board. (4 marks)

Example:

BUSINESS ANALYSIS

scheduled delivery times & actual delivery time

Mean	Median	Standard Deviation	Max	Min
-5,06	-2	46,26	118	-137

A LINEAR REGRESSION ANALYSIS

Multiple R	0,681931
R Square	0,465030
Adjusted R Square	0,450571

30 Jun 2023

Variable costs (60.2%)   Other expenses (26.4%)
Operating profit (13.4%)

30 Jun 2025

Variable costs (64.5%)   Other expenses (32.6%)
Operating profit (2.9%)

Sales revenue   Variable costs   Operating profit

1	2	3	4
Variable costs take	Other expenses increase by	The Operating profit drops by	Sales revenue increase by
60% of revenue	11%	10.5%	9.5%

Question 2:

a) **Following your team's financial evaluation (NPV) of Proposal 1 (winery in China) and Proposal 2 (luxury resort), which project would you recommend? Show your calculations by replacing the following unfilled screenshot with your completed Excel spreadsheet screenshots - one for Proposal 1 and another one for Proposal 2 below. (1 + 3 = 4 marks)**

THEORY:

NPV: net present value

NPV = PV of future cash flows – Initial Investment

To better understand the idea, let's dig a little deeper into the math.

For a single cash flow, present value (PV) is calculated with this formula:

$$PV = \frac{Future\ Value}{(1+r)^i}$$

Where:

1. r – discount or interest rate
2. i – the cash flow period

Example:

Acquisition of a fully integrated wine company in China												Home Page
years after start of project		0	1	2	3	4	5	6	7	8	9	10
calendar year		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	rate	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000
operations												
sales revenue		3,991	3,991	3,991	4,191	4,400	4,928	5,667	7,084	8,855	11,954	16,139
cost of goods sold (COGS)												
cost of vineyard operations		(1,118)	(1,207)	(1,304)	(1,356)	(1,410)	(1,467)	(1,526)	(1,526)	(1,526)	(1,526)	(1,526)
winemaking and bottling		(1,038)	(1,121)	(1,211)	(1,259)	(1,310)	(1,310)	(1,310)	(1,310)	(1,310)	(1,310)	(1,310)
Total COGS		(2,156)	(2,328)	(2,515)	(2,615)	(2,720)	(2,776)	(2,835)	(2,835)	(2,835)	(2,835)	(2,835)
gross profit		1,835	1,663	1,476	1,575	1,680	2,152	2,832	4,249	6,020	9,119	13,303
operating costs												
utilities		(399)	(411)	(423)	(436)	(449)	(463)	(476)	(505)	(535)	(578)	(624)
marketing, sales and administration		(479)	(527)	(580)	(638)	(701)	(806)	(927)	(1,067)	(1,227)	(1,472)	(1,766)
depreciation & amortisation		(599)	(650)	(650)	(650)	(650)	(650)	(650)	(650)	(650)	(650)	(650)
other (cash expenditure)		(67)	(105)	(105)	(140)	(140)	(145)	(145)	(180)	(180)	(220)	(220)
total operating costs		(1,544)	(1,693)	(1,758)	(1,864)	(1,940)	(2,064)	(2,199)	(2,402)	(2,592)	(2,920)	(3,261)
operating profit		291	(30)	(282)	(288)	(260)	88	633	1,847	3,428	6,199	10,043
income tax	30%	(87)	0	0	0	0	(26)	(190)	(554)	(1,028)	(1,860)	(3,013)
profit after tax		204	(30)	(282)	(288)	(260)	61	443	1,293	2,400	4,340	7,030
add depreciation		599	650	650	650	650	650	650	650	650	650	650
after tax cash flows from operating activities		803	620	368	362	390	711	1,093	1,943	3,050	4,990	7,680
investments												
acquisition of business		(35,000)										
property plant & equipment												
other investments												
termination		0	0	0	0	0	0	0	0	0	0	79,821
net cash flow from investing activities		(35,000)	0	0	0	0	0	0	0	0	0	79,821
relevant cash flow from operating activities			620	368	362	390	711	1,093	1,943	3,050	4,990	7,680
relevant cash flows from investing activities		(35,000)	0	0	0	0	0	0	0	0	0	79,821
relevant net cash flow (IRR)	11.8%	(35,000)	620	368	362	390	711	1,093	1,943	3,050	4,990	87,501
NPV discount rate	10.0%											
relevant discounted net cash flows (NPV)	5,736	(35,000)	563	304	272	266	442	617	997	1,423	2,116	33,735
Sensitivity Analysis	uncertainty			3,500								
	+/-			3,000								

Investment in a portfolio of luxury holiday resorts and hotels

years after start of project	rate	0	1	2	3	4	5	6	7	8	9	10
calendar year		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
		AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000	AUD '000
operations												
sales revenue		5,512	5,677	5,848	6,140	6,447	6,963	7,520	8,648	9,945	11,934	14,321
cost of goods sold (COGS)												
labour costs		(2,481)	(2,481)	(2,481)	(2,407)	(2,334)	(2,194)	(2,063)	(2,228)	(2,406)	(2,598)	(2,806)
Total COGS		(2,481)	(2,481)	(2,481)	(2,407)	(2,334)	(2,194)	(2,063)	(2,228)	(2,406)	(2,598)	(2,806)
gross profit		3,031	3,196	3,367	3,733	4,113	4,769	5,457	6,420	7,539	9,336	11,515
operating costs												
utilities		(331)	(331)	(331)	(348)	(365)	(365)	(365)	(383)	(402)	(427)	(452)
marketing and administration		(794)	(818)	(842)	(893)	(946)	(1,003)	(1,063)	(1,149)	(1,240)	(1,340)	(1,447)
depreciation & amortisation		(441)	(480)	(480)	(480)	(480)	(480)	(480)	(480)	(480)	(480)	(480)
other (cash expenditure)		(992)	(992)	(992)	(1,022)	(1,052)	(1,084)	(1,117)	(1,206)	(1,302)	(1,406)	(1,519)
total operating costs		(2,558)	(2,621)	(2,645)	(2,742)	(2,844)	(2,932)	(3,025)	(3,218)	(3,425)	(3,653)	(3,898)
operating profit		473	576	721	991	1,269	1,836	2,432	3,203	4,114	5,683	7,617
income tax	30%	(142)	(173)	(216)	(297)	(381)	(551)	(730)	(961)	(1,234)	(1,705)	(2,285)
profit after tax		331	403	505	694	888	1,285	1,703	2,242	2,880	3,978	5,332
add depreciation		441	480	480	480	480	480	480	480	480	480	480
after tax cash flows from operating activities		772	883	985	1,174	1,368	1,765	2,183	2,722	3,360	4,458	5,812
investments												
acquisition of business		(36,000)										
property plant & equipment												
other investments												
termination		0	0	0	0	0	0	0	0	0	0	74,845
net cash flow from investing activities		(36,000)	0	0	0	0	0	0	0	0	0	74,845
relevant cash flow from operating activities			883	985	1,174	1,368	1,765	2,183	2,722	3,360	4,458	5,812
relevant cash flows from investing activities		(36,000)	0	0	0	0	0	0	0	0	0	74,845
relevant net cash flow (IRR)	11.8%	(36,000)	883	985	1,174	1,368	1,765	2,183	2,722	3,360	4,458	80,657
NPV discount rate	10.0%											
relevant discounted net cash flows (NPV)	5,713	(36,000)	803	814	882	935	1,096	1,232	1,397	1,567	1,891	31,097

b) Replace the following screenshot with your completed selections in the Strategic Investment Assessment Model. (2 marks)

Strategic Investment Assessment Model

factor		Likert	Acquisition of a fully integrated wine company in China	score	Likert	Investment in a portfolio of luxury holiday resorts and hotels	score	difference
Expected financial returns								
1	Net Present Value (NPV)	1.4	$5.74 million	14.3	1.4	$5.71 million	14.3	(0.1)
2	Payback period	(4.2)	9.2	(21.2)	(4.2)	9.2	(21.1)	0.2
Risk of aquiring the asset								
1	strategic risk	(2.0)	low threat	(20.0)	(3.0)	medium-level threat	(30.0)	(10.0)
2	operational risk	(5.0)	extreme threat	(25.0)	(2.0)	low threat	(10.0)	15.0
3	financial risk	(3.0)	medium-level threat	(15.0)	1.0	very low level opportunities	5.0	20.0
4	regulatory risk	(2.0)	low threat	(10.0)	(4.0)	high-level threat	(20.0)	(10.0)
Corporate Social Responsibility								
1	Social Impact	3.0	medium-level benefit	15.0	4.0	high-level benefit	20.0	5.0
2	Environmental Impact	(2.0)	low-level harm	(10.0)	(3.0)	medium-level harm	(15.0)	(5.0)
Other qualitative factors								
1	alignment with intended strategy	2.0	slighly consistent with intended strategy	20.0	(1.0)	marginally inconsistent with intended strategy	(10.0)	(30.0)
2	impact on firm's reputation	1.0	very low level benefit	10.0	(4.0)	high-level harm	(40.0)	(50.0)
3	alignment with core competencies and capabilities	(3.0)	available with medium cost and delay	(15.0)	3.0	adequate with moderate advantage	15.0	30.0
4	impact of deciding not to invest	3.0	Market is dynamic; competitors move quickly; and similar investment opportunities arise from time to time.	15.0	4.0	Market is highly dynamic; competitors move quickly; and similar investment opportunities are rare.	20.0	5.0
5	feasibility of reversing the decision.	0.0	losses limited to the investment	0.0	2.0	fair portion of investment is recoverable	10.0	10.0
6	track record and ability of personnel involved	(2.0)	moderate doubt	(10.0)	2.0	fair	10.0	20.0
7	competitive advantage	(3.0)	not unique / low market penetration	(30.0)	1.0	competitive product / not market leader	10.0	40.0
	Total Score			(81.9)			(41.8)	#######

c) Following your non-financial evaluation in the previous question, make a recommendation for the selection of Proposal 1 or Proposal 2. Provide reasons for why your team recommended Proposal 1 or Proposal 2. In your answer, you should comment on four (4) non-financial factors (the non-financial factors must be selected from the Excel Spreadsheet). Make sure you comment on both projects in your answer. You should also conduct additional research and draw on real-life information to support your justification. Make sure you fully reference all the sources you have used in your answer. (1+4 =5 marks)

Guideline:

- Assess the challenges likely to appear in each scenario.

- Clarify the impact that challenge can have on the project.
- Evaluate the ability of the business to overcome each scenario, thereby concluding which project is more potential.
- 3 TYPE OF RISK: Operational risks; Regulatory risks; Strategic Risks

Example:

Operational risks

Proposal 1 (investment in a wine company in China) is seen as an extreme threat in terms of operational risks. Ningxia, one of the main agricultural districts in Northwest China, has been and will continue to be severely affected by drought in the coming years, according to Jianping Yang et al (2020). Furthermore, Charmaine Jacob (2023) says that China is in a situation of water scarcity: 90% of China's groundwater and 50% of river water are contaminated for industrial and agricultural use.

About Proposal 2 (Investment in a portfolio of luxury resorts and hotels), the challenge here is probably human resources. According to Insights (2023) and Hotel Technology News (2023), staff scarcity is no longer a new concern, but it remains an important issue for hotels and resorts. Furthermore, because the Philippines and Brazil are both developing countries, high-skilled human resources are limited. However, this problem can be overcome with staff training courses so it can be considered a low threat.

Regulatory risks

In terms of regulatory risks, proposal 1 faces a low threat. Since 2013, China's wine industry has been in a state of upheaval due to constant competitive pressure from imported alcohol and government restrictions on the use of public funds for private parties. In the process of verifying wine quality, it is inevitable that small workshops will exploit gaps in industry standards to produce low-quality or even counterfeit wine, causing price conflicts and market competition (Yang HC, 2008). However, because of the expansion of the upper and middle classes, the trend of wine consumption is expected to remain robust (Zeng L. and Szolnoki, 2017).

Proposal 2 shows a high level of threat, including government regulations that remain unclear and limit the hotel business. Customer needs rise and fall continuously during holidays, also resulting in an incapacity to meet all customer requirements and insufficient revenue to sustain operations (Design Webhotel, 2023). Environmental factors such as cyclones, earthquakes, and climate change can further complicate the investment process, and the increased demand for resorts during periods of economic inflation could also possibly decrease hotel revenue. (Design Webhotel, 2023).

Strategic Risks

In Proposal 1, Ningxia in China is thought to be disadvantageous due to weather conditions and shortage of resources, and limited distribution networks. However, in recent years, Ningxia is claiming its development of infrastructure and technology (Devonshire-Ellis 2010). Famed for the rich culture in alcoholic drinks and substantial demand for wine consumption, the risk is therefore low over the long-term span.

There will be minimal friction in Proposal 2 to operate hotels and resorts as the company's portfolio is already hospitality focused. However, according to Kerr (2018), there are strategic risks in the hotel industry, coming from blooming sharing economy and changing customer demands, especially when the projects are implemented in three different regions. The outset capital for the resort 2 is astronomical, however strategic values may be gained through exclusivity, rental value, and privacy (Kirellos 2022).

In summary, while Proposal 1 has a greater NPV, the difference is not significant, and there is more risk involved. As a result, Proposal 2 will be a better investment.

Question 3: Reflecting on the course material covered from Week 1 to Week 8, please provide comprehensive reflection on your learning experience and suggest improvements to enhance the course:

Guideline:

Week 1 to Week 8 Learning Focus:

- Making business decisions is the primary focus.
- Numerous learning opportunities are provided during this period.

Key Topics Covered:

- Deeper comprehension of the course and practical knowledge.
- Extraction of data information and data analysis are essential concepts.
- Data analysis involves various tools, technologies, and procedures.
- Addresses data-related problems and analyzes customer experience and behavior.
- Aims to find new business opportunities based on prediction and intuitive/theoretical basis.

Risk Management and Capital Budgeting:

- Important topics discussed during this phase.
- Budget analysis and data analysis are highlighted as the most beneficial.

Budget Analysis:

- Utilizes Excel for data analysis.

- Informs the business decision-making process.
- Involves trend analysis and exploring probabilities.
- Recognizes the significance of trend analysis in understanding user search behavior.
- Acknowledges the role of trend analysis in capturing potential needs due to potential disruption events in the future.

Data Analysis:
- Gaining insights from data by accumulating and identifying patterns.
- Used to predict future events.

Example:

From week 1 to week 8, learning how to make business decisions provides the team with many learning opportunities. There are key topics that contribute to a deeper comprehension of the course and practical knowledge that should be known when starting a business that are covered during this process. Two essential concepts in this phase include the extraction of data information from the data and the analysis of data. Data analysis utilizes a variety of tools, technologies, and procedures to address data-related problems. This process familiarizes us with analyzing customer experience and behavior, as well as finding new opportunities to enhance the business based not only on prediction, but also on more intuitive and theoretical basis for making better decisions. Not only that, risk management and capital budgeting were also important topics. However, budget analysis and data analysis were the most beneficial. During the budget analysis, it is important to use Excel to analyze the data and inform the business decision-making process, in addition to conducting trend analysis and exploring the probabilities. Since the world is always changing, trend analysis is extremely important in understanding user search behavior. This is also a potential factor in helping us capture potential needs due to potential disruption events in the future. Besides, data analysis is the process of gaining insight from data by accumulating them, identifying patterns, and using them to predict future events. In task 1, we were introduced to money management skills by making a reasonable budget plan. By learning how to create and maintain a budget plan, it becomes easier to stay in control and prepares us for financial success.