



Caribbean Internet Cafe Teaching Note

Case Studies in Accounting (University of Ottawa)

Teaching Note

CARIBBEAN INTERNET CAFÉ

Michelle Theobalds prepared this teaching note under the supervision of Professor Murray Bryant as an aid to instructors in the classroom use of the case Caribbean Internet Café, No. 9A98B002. This teaching note should not be used in any way that would prejudice the future use of the case.

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David Grant is planning to open Caribbean Internet Café (CIC) in Kingston, Jamaica. He has gathered data on all the relevant costs: equipment, rent, labour, etc. He has also found a partner in the local telephone company, Jamaica Telecommunications Limited (JTL). JTL has provided equity, and a long-term loan at favourable interest rates. The case introduces fixed, variable and start-up costs, contribution margin, and the concept of break-even.

TEACHING OBJECTIVES

Caribbean Internet Café was designed as an opening case for Managerial Accounting and Control, in the first year of the MBA program. It introduces a number of problem-solving and external reporting issues such as relevant costs, depreciation, and contribution margin. In addition to these concepts, the case raises several issues that are relevant to other courses such as entrepreneurship, capital budgeting, capacity, and the marketing of new products. Issues that the students should understand include:

1. Analysis of a new venture and the competitive environment
2. Identifying relevant costs and types of costs: fixed, variable, start-up
3. The concept of depreciation
4. Contribution margin and break-even
5. Sensitivity analysis

ASSIGNMENT QUESTIONS

1. What managerial issues should David Grant consider before starting the Caribbean Internet Café?
2. Define the fixed, variable and start-up costs in this case.
3. What will be the costs for the very first customer?
4. What is the contribution margin per customer?
5. How many customer visits will CIC need in order for the café to break-even in the first year?
6. How many customer visits will CIC need in order for the café to break-even in year two?
7. Should Grant proceed with this venture?

ANALYSIS

There are many managerial issues that Grant should consider before opening the Internet Café. Some of these issues are:

Profitability

Grant has to consider if the café will be profitable for him and his partner. If the venture is a failure, then Grant may lose his investment of \$500,000 and possibly his business reputation. In the small Jamaican economy, a business failure could result in the former owner/manager being ostracized in business circles. He/she might find it very difficult to start a new venture.

Market and Competition

The total market segment size is only 20,000. The café would have to capture a large portion of this segment (or have repeat visitors) in order to break-even or make a profit. The fact that there is no direct competition does mean that Grant will have the first mover advantage; however, it also means that advertising and marketing expenses may be higher since the café will be attempting to establish a market. Also, it is a natural extension for the current Internet service providers to enter the Internet café market. If they do so, then their cost structure will be less than CIC's, allowing them either to undercut CIC in prices or to make higher profits.

Grant is attempting to introduce two new concepts to the island: the Internet (outside of the office or school environment) and the European café concept. Coffee and coffee products are currently not very popular; hence, heavy marketing may be necessary to overcome this initial hurdle.

Economy

Although no specific information is given in the case about the Jamaican economy, interest rates are very high (mortgage rates at 25 per cent). One can assume that inflation rates are also fairly high (which may affect Grant's estimates), and there may be significant business risk.

Control

David has always wanted to be “his own boss”; however, to source financing, he had to partner with JTL, the local telephone company. Although Grant has 50 per cent ownership of the shares, it is fairly obvious that JTL will be in control since JTL owns the debt. Also, JTL has the money and muscle to buy Grant out of the business; Grant may not have a similar option.

COSTS

The costs that may be identified in this case include:

Fixed costs

These are costs that will not change with changes in the number of customers in the café in the short term. From the case, the annual fixed costs were:

Fixed Costs	Monthly	Annual
Manager's salary	40,000	480,000
Students' wages	28,800	345,600
Rent	30,000	360,000
Utilities	15,000	180,000
Internet link lease	10,000	120,000
Insurance	10,000	120,000
Marketing	10,000	120,000
Miscellaneous	50,000	600,000
Interest	10,417	125,000
Total	204,217	2,450,600

Depreciation is not specifically mentioned in the case; however, an amount should be expensed in order to allocate the cost of the assets over the assets' service life (accrual accounting concept.) There should be some discussion over the estimated life of the assets, residual value, etc. It is important to point out that the computer hardware and software will probably be obsolete in a relatively short time period. China and cutlery usually have a short service life due to breakage and pilferage. The other items will probably depreciate due to physical wear and tear, but will probably have a longer service life. The table below illustrates the assumptions used for this teaching note. These assumptions were arbitrary and were selected for simplicity.

	Amount	Time (yrs)	Annual
Depreciation			
Hardware & software	407,750	3	135,917
China, cutlery, etc.	100,000	3	33,333
Other	918,250	8	114,781
Total	1,426,000		284,031

Adding the given fixed costs to the depreciation, we have total annual fixed costs of \$2,734,631.

In addition to the fixed costs outlined above, there were some additional **one-time fixed costs or start-up costs for the first year:**

One-Time Fixed Costs

Utility deposit	7,000
Marketing	20,000
Legal, etc.	120,000
Total	<u>147,000</u>

Hence, the total fixed costs in year one will be $\$2,734,631 + \$147,000 = \$2,881,631$.

In year two and on, total fixed costs will be \$2,734,631.

It is important to point out to students that the equipment listed in Exhibit 1 of the case is not a fixed cost, only the depreciation on the equipment. For simplicity, students' wages were treated as a fixed cost, although it may be argued that this cost is a **step fixed cost** or a **step variable cost**, since each additional student worker can serve several additional customers.

Variable costs

Variable costs change with the number of customers served in the café. Only three variable costs were identified from the case: Internet service, beverages and food. The variable costs per customer for these items are as follows:

Variable Costs (per customer/per visit)

Internet Service	24.0
Coffee & beverages	50.0
Food	30.0
	<u>104.0</u>

The Internet service variable cost is calculated: $\$60 \text{ per computer/hour} \times 40\% \text{ of customers} = \24

The total variable cost per customer = \$104.

REVENUE

The case provides pricing figures as well as three estimates for customer visits in the first year.

For each customer:

Price per hour for use of the computer = \$120

Percentage of customers using the computer = 40%

Revenue per customer for beverages = \$140

Revenue per customer for food = \$60

Hence, average revenue per customer = $120 \times 0.40 + 140 + 60 = \248

CONTRIBUTION

One of the most important concepts this case illustrates is contribution. The contribution margin is the difference between price or revenue and variable costs. If contribution is exactly equal to the fixed costs, then the venture will **break-even** (no profit or loss).

For each customer, the contribution margin is:

Average revenue per customer – variable cost per customer = $248 - 104 = \$144$ per customer

Using the “realistic” estimate of customers in year one, the total contribution margin would be:

Contribution margin per customer \times total segment size \times percentage of segment \times number of visits per year = $144 \times 20,000 \times 40\% \times 3 = \$3,456,000$

Subtracting year one fixed costs, we have a net profit (before taxes) of:

$$3,456,000 - 2,881,631 = \$574,369$$

The number of customer visits that CIC will need to attract to break-even in the first year is calculated as follows:

$$\frac{\text{Total year one fixed costs}}{\text{contribution margin per customer}} = \frac{2,881,631}{144} = 20,011$$

Hence, CIC will have to serve 20,011 customers in order to break even in the first year of operation. This is equivalent to an average of $20,011/12 = 1,668$ customers per month or $1,668/24 = 70$ customers per day (six days a week).

In the second year, the one-time start up costs will no longer be applicable. Therefore, the break-even number of customers in year two is calculated:

$$\frac{\text{Total year two fixed costs}}{\text{contribution margin per customer}} = \frac{2,734,631}{144} = 18,990$$

In year two, CIC will have to attract 18,990 customers per year to break even. This is equivalent to an average of 66 customers per day.

SENSITIVITY ANALYSIS

At some point during the class, a student may point out that there are two other scenarios for the Internet Café. This is an important point to emphasize and to introduce sensitivity analysis. For the optimistic scenario, the market research firm predicted that 50 per cent of the segment would visit five times per year. Profit calculations for this scenario follow:

$$\begin{aligned}\text{Net Profit (before tax)} &= \text{Contribution margin per customer} \times \text{number of customers} - \text{fixed costs} \\ &= 144 \times 20,000 \times 50\% \times 5 - 2,881,631 \\ &= 4,318,369\end{aligned}$$

A very healthy return!

Under the pessimistic scenario, it was predicted that 30 per cent of the segment would visit twice per year.

$$\begin{aligned}\text{Net Profit/(Loss)} &= \text{Contribution margin per customer} \times \text{number of customers} - \text{fixed costs} \\ &= 144 \times 20,000 \times 30\% \times 2 - 2,881,631 \\ &= (1,153,631)\end{aligned}$$

This scenario results in a net loss.

Further analysis may be done for year two (see Exhibit TN-1.) Further complexity may be added by providing the information that it was expected that annual customer visits would decline by a certain percentage each year.

CONCLUSION

Based on the numbers and other issues, a class discussion on the feasibility of the Internet Café may be initiated. It should be noted that the break-even number of customers in year one is greater than the total segment size of 20,000! Of course, the café may attract frequent repeat customers, especially given the nature of its product. This was suggested by the market research.

Another point to make is the relative “softness” of the calculations. All of these calculations are based on Grant’s estimates of costs and average expenditure by the customer, and the projections of the research firm. With no existing facility in Jamaica to use as a benchmark, how reliable are these estimates? Under the optimistic scenario, profit exceeds \$4 million in the first year. If this scenario materialised, then competitors would surely enter the market and margins would likely fall.

In the final analysis, students should understand from the case:

1. The different types of costs associated with a business: fixed, variable, start-up.
2. Contribution margin
3. Accounting concepts and numbers assist management with decision making; however, several issues should be considered before a final decision is made.

Exhibit TN-1

SENSITIVITY ANALYSIS

Segment Size:	20,000
Fixed costs year one:	2,881,631
Fixed costs year two and on:	2,734,631
Contribution margin per customer:	144

Scenario 1: Realistic

Percentage of segment to visit café	40%
Number of visits per customer per year:	3

	Year 1	Year 2
Total contribution margin	3,456,000	3,456,000
Net profit/(loss) (before taxes)	574,369	721,369

Scenario 2: Optimistic

Percentage of segment to visit café:	50%
Number of visits per customer per year:	5

	Year 1	Year 2
Total contribution margin	7,200,000	7,200,000
Net profit/(loss) (before taxes)	4,318,369	4,465,369

Scenario 3: Pessimistic

Percentage of segment to visit café:	30%
Number of visits per customer per year:	2

	Year 1	Year 2
Total contribution margin	1,728,000	1,728,000
Net profit/(loss) (before taxes)	(1,153,631)	(1,006,631)