

Kai on Wheels – a case study



Aroha is a talented and innovative chef who wants to run her own business. Previously, she worked in the hotel and catering industry and now wants to do something different. She is going to launch Kai on Wheels, a food truck business, at the local night market in [REDACTED]. There is currently no one selling Māori food such as toroi (fresh mussels with pūhā juice).

Aroha is interested to find out the price of toroi as it is unique in the market. She is investigating other things such as bamboo packaging, bamboo plates, bamboo spoons and knives, sign board advertising, technology changes in the food industry, future prices of other would-be competitors, and other Māori food that could be complemented with toroi. Aroha will also be hiring two part-time employees to help run the business.

The average price to produce each toroi is \$3.00

The pūtake of Kai on Wheels aims to provide fresh food from the sea, strive to be socially and environmentally responsible, care about the customers and suppliers, build tikanga (Māori customary practices), reduce landfill waste, and make a profit.



Toroi



Whitebait fritters



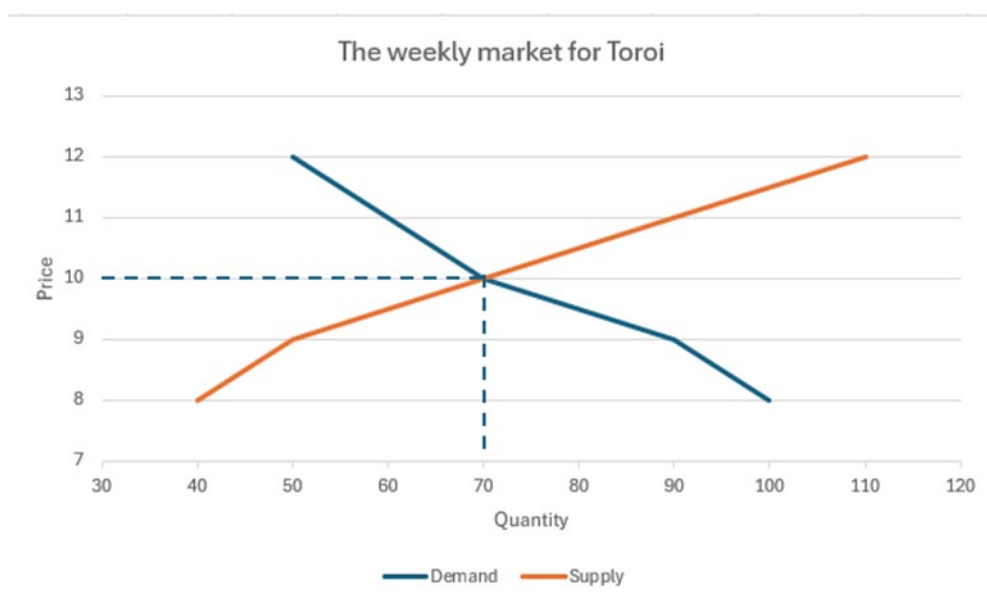
Pipis

Following Aroha's research, she has gathered the data below in the table.

The weekly market for Toroi (fresh mussels with puha juice)		
Price (\$)	Market Demand	Market Supply
8	100	40
9	90	50
10	70	70
11	60	90
12	50	110

Part A: Questions 1-3

- Using the table above, construct the market demand and supply curves on the graph below. Label the equilibrium price (P_e) and the equilibrium quantity (Q_e).



- Determine the price that Aroha should set for her Toroi (fresh mussels with pūhā juice). In your answer you should:
 - Describe the concepts of market demand and market supply
 - Describe the concept of market equilibrium
 - Refer to the model you have constructed above

The price that Aroha should set for her toroi is \$10. The market demand at \$10 is 70 toroi and the amount supplied is also 70 toroi. This is where the quantity supplied and demanded meet, and it is called the equilibrium point. The market supply is the total supply of all the producers in the market. The market demand is the demand of all the consumers in the market. If Aroha set the price at \$11 the amount supplied would be 90 and the amount demanded would be 60 toroi therefore leading to a surplus. If you set the price at \$9 the amount supplied would be 50 and the amount demanded would be 90 leading to a shortage. Therefore, the price should be \$10 so the quantity supplied and the quantity demanded remain constant and meet at the equilibrium point. The law of demand states that as the price increases the quantity decreases, vice versa ceteris paribus. This links into the graph as when the price increases from \$10 the quantity decreases and when the price decreases the quantity increases and when the price and quantity remain constant it reaches the equilibrium point.

- Explain the financial or non-financial information that Kai on Wheels might have available to determine the price of toroi.

FINANCIAL INFORMATION

Financial information is related to the cost of production the sales of the product, the revenue, the price and the profit of the business.

The revenue is the sales that means to calculate it we multiply the price (P) by the quantity (Q). Price x quantity sold = revenue. At \$10 the business is making 70 sales. This means $\$10 \times 70 = \700 revenue.

The cost of production is the average cost multiplied by the quantity sold. So $\$3 \times 70 = \210 for cost of production.

Since Aroha's business is selling toroi at \$10 and supplying 70 per week, the cost of production is \$210, and the revenue is \$700 per week.

To find out the profit we subtract the cost of production from the revenue. So, the profit is $\$700$ (revenue) - $\$210$ (cost of production) = $\$490$ profit.

If the business was to sell toroi at \$9 the revenue would be \$450, and the cost of production would be \$150 so the profit would be $\$450 - \$150 = \$300$ profit.

When the business sells at \$10, they are making a \$490 profit whereas at \$9 they only make \$300 profit. So, selling at \$10 is more efficient to the business as it leads to more profit.

I feel that the business should not sell at \$9 but sell at \$10. I think this because at \$9 there is a shortage (AD-AS) of 40 (90-50). When the business sells at \$10, they make much more profit and will have no shortage or surplus as they are at the market equilibrium. It will be good for her business in the long run as they are operating at a level where the QD=QS.

NON-FINANCIAL INFORMATION

For the business to run smoothly they have to have a good quality of product. A business such as Aroha's selling toroi must be good quality because customers want to have safe and edible food, so they don't get sick and get food poisoning. Also, a good quality product will fetch a good price.

Another point is the advertising. Aroha must network properly to not mislead people to not falsely advertise. If she does falsely advertise her toroi she can run into problems with customers and she may lose them.

The pūtake of Aroha's business is to save the environment. She does this by using bamboo packaging, bamboo plates and bamboo cutlery. This means that they can be disposed of naturally and will not harm the environment like plastic does. This will attract customers as they see that she is making a difference for the benefit of the environment. Her pūtake is to also provide food from the sea while reducing waste and having good relationships with customers and suppliers. She also wants to build up tikanga which is values, rules and how to want to do business. She wants to stick by Māori customary practices.

Tastes and preferences are a big factor as she will want to adapt her toroi to the preference of the customers to draw them in to lead to more of an audience so that customers don't go elsewhere.

She must also have good relationships with the people involved such as customers and suppliers. If she has a good relationship with her supplier for the bamboo products she can be prioritised and get her items faster leading to a smoother process.

Part B: Questions 4-6

Internal factor



Aroha is looking to upgrade her machinery so she can make her toroi faster. Currently, the process is labour-intensive. Aroha opens the fresh mussels by hand and uses lots of kitchen utensils, pots and pans.

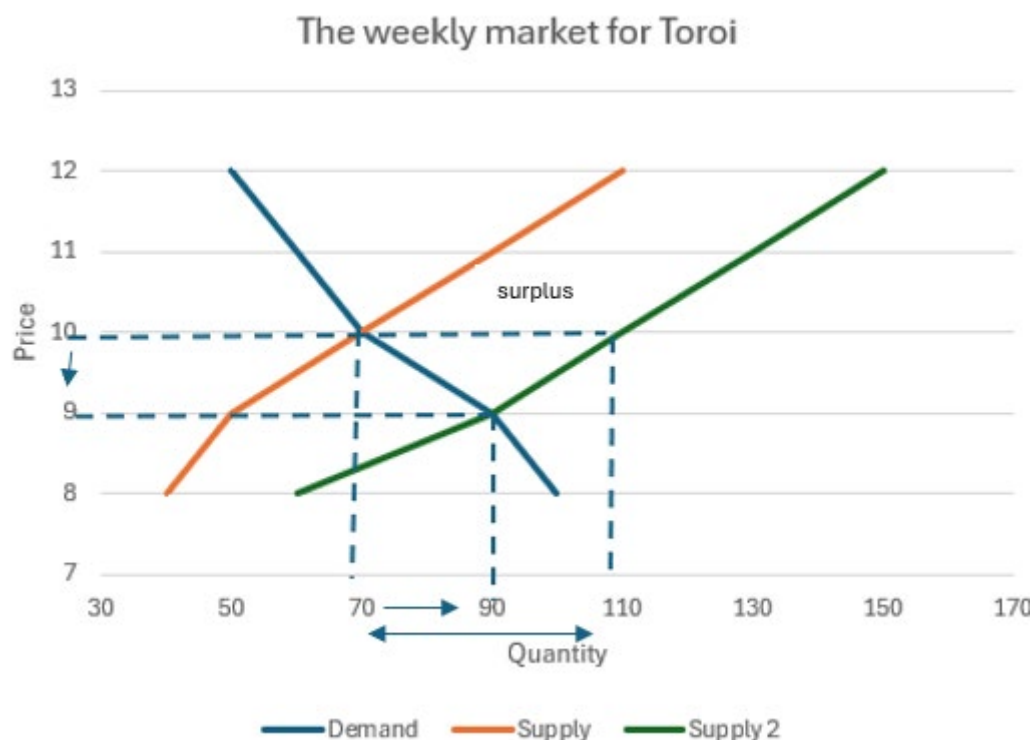


The new machinery will be more capital-intensive. The opening of the fresh mussels will be done on an automated machine allowing Aroha to increase the production process.

Following the upgraded technology, Market Supply has changed

The weekly market for toroi (fresh mussels with pūhā juice)			
Price (\$)	Market Demand	Market Supply 1 (before)	Market Supply 2 (after)
8	100	40	60
9	90	50	90
10	70	70	110
11	60	90	130
12	50	110	150

4. Using the table above, construct the market demand and both market supply curves (before and after technology change) on the graph below.



5. Explain how the price of toroi could be affected by Aroha introducing the new machine (internal factor) to quicken the process of opening the fresh mussels through an automated machine and the impact it will have on her production costs. Refer to the supply and demand model you have created above.

With an increase in new technology Kai on Wheels will increase their production process and overall productivity. Technology is the use of machines in the production process. When Aroha uses this new technology, she will be able to produce more at a lower cost while speeding up her overall process and also increasing her output from S to S2.

The revenue at \$10 is \$700 ($\$10 \times 70$) and at \$9 it is \$810 ($\9×90). The cost at \$10 is \$210 ($70 \times \$3$) and at \$9 it is \$270 ($90 \times \3). The profit at \$10 is \$490 ($700 - 210$) and at \$9 it is \$540 ($810 - 270$).

So overall weekly she will be operating at \$50 per night profit. This is an increase which brings Aroha more income.

Aroha has got the option to bring her price down from (P1) \$10 to (P2) \$9 as shown in the model. If Aroha decides to sell the toroi at \$10 (P1) then the quantity supplied is 110 (S2) and the quantity demanded is 70 toroi, meaning there will be a surplus of 40 toroi. While using the new technology if she comes to a decision to bring the price down to \$9 (P2) the quantity demanded will be 90 toroi and the quantity supplied will also be 90 toroi reaching the market equilibrium where the quantity supplied and demanded meet. This will increase her revenue from \$700 to \$810 (+\$110).

The technology will increase her production process significantly. This will increase her production of toroi. This results in an increase from S to S2. This will help her to be more efficient as it will increase her output overall.

6. Explain the options for changing or not changing the price of toroi using financial and non-financial information.

The options that Aroha has for her toroi is to change the price to \$9 or to keep the price at \$10. If she changes the price to \$9 she will be operating at more of a profit than if she stayed at \$10. Her revenue at \$9 is \$810 but at \$10 it is \$700. So Aroha makes \$110 more in revenue if she sells at \$9. Her costs at \$10 is \$210 and at \$9 is \$270 but since she is making a significantly higher amount of revenue it is alright to have higher costs. Her profit at \$10 is \$490 and at \$9 it is \$540 which is a higher amount leading to a more profitable business. Aroha may want to change the price of her toroi to bring in more customers. If customers see the lower price, they may be more intrigued to buy it knowing its cheaper. If it is \$10 customers will not want to buy it which will reduce interest and not be good for her business in the future.

With the new technology if she sells at \$10, she will have a surplus of toroi as shown in the model with the double headed arrow. This will lead to wastage and then she will have to pay extra to dispose of the wastage which will lead to more costs. Aroha's pūtake is to reduce landfill waste and by selling at \$9 she will have no surplus meaning no extra wastage. If Aroha wants to run a smooth business, she must have good relationships with the people around her. She needs to have a good relationship with her supplier so that she can be prioritised and get all her bamboo plates, spoons and cutlery on time. If she doesn't have those items on time, she will not be able to sell the toroi. She must have a good relationship with customers as she needs to be able to sell her products to them. She also has to have a good relationship with employees as they are the ones that are helping her operate her business. If they work well, she can leave them to run the food truck so she can spend time elsewhere and be efficient.

Aroha has to stick to the pūtake of her business which is to provide fresh food from the sea, strive to be socially and environmentally responsible, care about the customer and suppliers, build tikanga, reduce landfill waste, and make a profit. She can achieve this by building good relationships with all the people around her by using her bamboo products and selling at \$9 to make more of a profit. To stick by her tikanga she must run her business by following Māori rites and values and running her business ethically by showing dignity, integrity and fairness to all those involved.

Part C: Questions 7-8

7. Justify the determined price of toroi by Kai on Wheels through financial and non-financial information, and a supply and demand model.

The finalised price of toroi should be \$9. At \$9 the cost of toroi is \$270 ($\$90 \times 3 = \270), the revenue is \$810 ($\90×9), and the profit is \$540 ($\$810 - \270).

At \$9 Kai on Wheels is making more revenue and profit and that will benefit them in the long run. By making an extra \$50 per week it will boost Aroha's income which she could put into a savings account which can be used for future upgrades.

Totalling all the financial information I think Aroha should make the final price of toroi \$9 as she will have no shortage or surplus as supply and demand are constant.

Aroha should lower her price as it would follow her pūtake of being socially and environmentally friendly and making a profit. She would be able to make good relationships with more people as the price goes down. She would have no wastage which would be saving the environment. She uses bamboo plates and cutlery which decompose easily, and she will be making more of a profit at the lower price.

She will be creating no extra leftovers as the supply and the demand meet at the market equilibrium as shown in the model. This would mean the environment is kept safe. She would be following Māori customary rights as she collects mussels straight from the sea. This is how her ancestors used to collect mussels and that is building good tikanga.

After taking into account the financial, non-financial and the supply and demand model, I personally think Aroha should set her price at \$9 to get the best results out of her business Kai on Wheels in the long run. It will be good in the long run as they are operating when $QD=QS$.

8. Discuss the consequences of the determined price with reference to impacts on:
- (c) Aroha's Kai on Wheels business
 - (c) An internal stakeholder (employees, owners or managers)
 - (c) An external stakeholder (legislation and regulation by the local and central government, competition or suppliers)

AROHA'S BUSINESS

As Aroha lowers her price to the determined price of \$9 she will see an increase in customers and revenue. This increase could lead to her opening another Kai on Wheels food truck. She could open her new truck at a night market like [REDACTED] This would double her revenue. With this added truck she can then expand on her employees. She will be able to also increase her networking as she will have double the customers which means word will spread much faster. She can build her empire of trucks and then even lease a restaurant and display her talents there. Having a new location will be very beneficial to her revenue and will help her be able to upgrade her technology faster.

A negative could be that she gets burnt out and feels tired. Having two trucks would mean double the production which can take a toll on her. As she can't be in two locations at once she would have to pay employees more and even hire a manager to watch over one location. This can lead to increase in costs. Opening a new truck could still be beneficial to her in the long run with increased revenue and marketing.

INTERNAL STAKEHOLDER

An internal stakeholder is an individual or group involved in the business. They are vested in the business. As the price of \$9 caused revenue to go up Aroha may look to increase the hours and wages of her two employees. She may do this to keep them motivated and working to full potential. This can be good for Aroha as she can step back a bit and let the employees run the truck.

A negative effect could be if a competitor opens a truck at the [REDACTED] Night Market. This could mean that they go into a price war which will then lead to less revenue and profits.

This would flow on to Aroha making less revenue in the future which will only lead to problems. She may not be able to upgrade her technology and increase the hours and wages of her employees. It is so crucial that no competitors arise at the [REDACTED] Night Market for Aroha and her business.

EXTERNAL STAKEHOLDER

As Aroha determines her price at \$9 the government will receive more taxes. The government is vested in Kai on Wheels as they receive taxes from the business. The central government receives indirect tax which is GST. They receive 15% of every sale so as Aroha increases her sales the government receives more GST. The government receives these taxes and uses them for the benefit of our country. They can provide budgets and tax relief to those who are struggling in our community. The local government collects city rates. They then use these to upgrade public areas. They can build new roads to speed up traffic. They can build streetlights for better visibility and extra rubbish bins to keep the city clean. They can add these features to the [REDACTED] Night Market which can keep the event flowing and will make it better. The government can upgrade leisure centres and public parks which will benefit the public and that's what the government wants.

A negative could be that the council increases rates for parking and rubbish bins. As Aroha has a mobile vehicle she has to pay for parking. If she has to pay more for parking it will cut into her revenue meaning she will make less. These added costs could impact her business, and she could make less revenue in the future. So, as she makes more revenue from the increase in sales she will be paying more to the government in GST per sale of 15%. She will also be paying more in city rates if the local government decides to increase it, which leads to extra costs for Aroha and Kai on Wheels.