



Operational Case Study Examination  
May 2022 - August 2022  
Pre-seen material



**COVID-19 Statement**

*This pre-seen and the case study in general (while aiming to reflect real life), are set in a context where the COVID-19 pandemic has not had an impact.*

*Remember, marks in the exam will be awarded for valid arguments that are relevant to the question asked. Answers that make relevant references to the pandemic or social distancing will, of course, be marked on their merits. In most cases, however, candidates may find it helpful to assume that there are no restrictions to the movement of people, goods or services in place.*

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## Your role

You are a Finance Officer working within the Finance Department of Meals@Home. You are principally involved in the preparation of management accounting information and providing information to managers to assist with decision making. At times you are also expected to assist with the preparation of the financial statements and answer queries regarding financial reporting and other financial matters.

## Introduction

Meals@Home is a company that sells meal-kits direct to customers through a digital subscription service. A meal-kit includes the ingredients for a single meal for a set number of portions of that meal, and a recipe card which gives instructions on how to prepare and cook the meal at home. The company is based in Newland, a country in Europe which has the N\$ as its currency.

Meals@Home was founded in 2012 by friends Ben Jonas and Ravi Smit. In 2010 both were young professionals working in the capital city of Newland: Ben in marketing and Ravi in IT. Working long hours, both Ben and Ravi found themselves eating takeaways and convenience foods. Despite having a keen interest in cooking and eating healthily, they struggled to find time to plan menus and to get to the supermarket. In 2011 they tried a meal-kit service. They liked the convenience but were not impressed with the variety of the meals and the quality of ingredients. After research, they decided to set up their own meal-kit company.




In 2012, Ben and Ravi engaged the services of Henri Lopez, an experienced chef and recipe developer. Together they developed 20 recipes and set up the company's subscription service. The first meal-kits were sold in January 2013 and were available to customers within a 60-kilometre radius of Newland's capital city. In the first year of trading, Meals@Home made a revenue of N\$4,530,000.

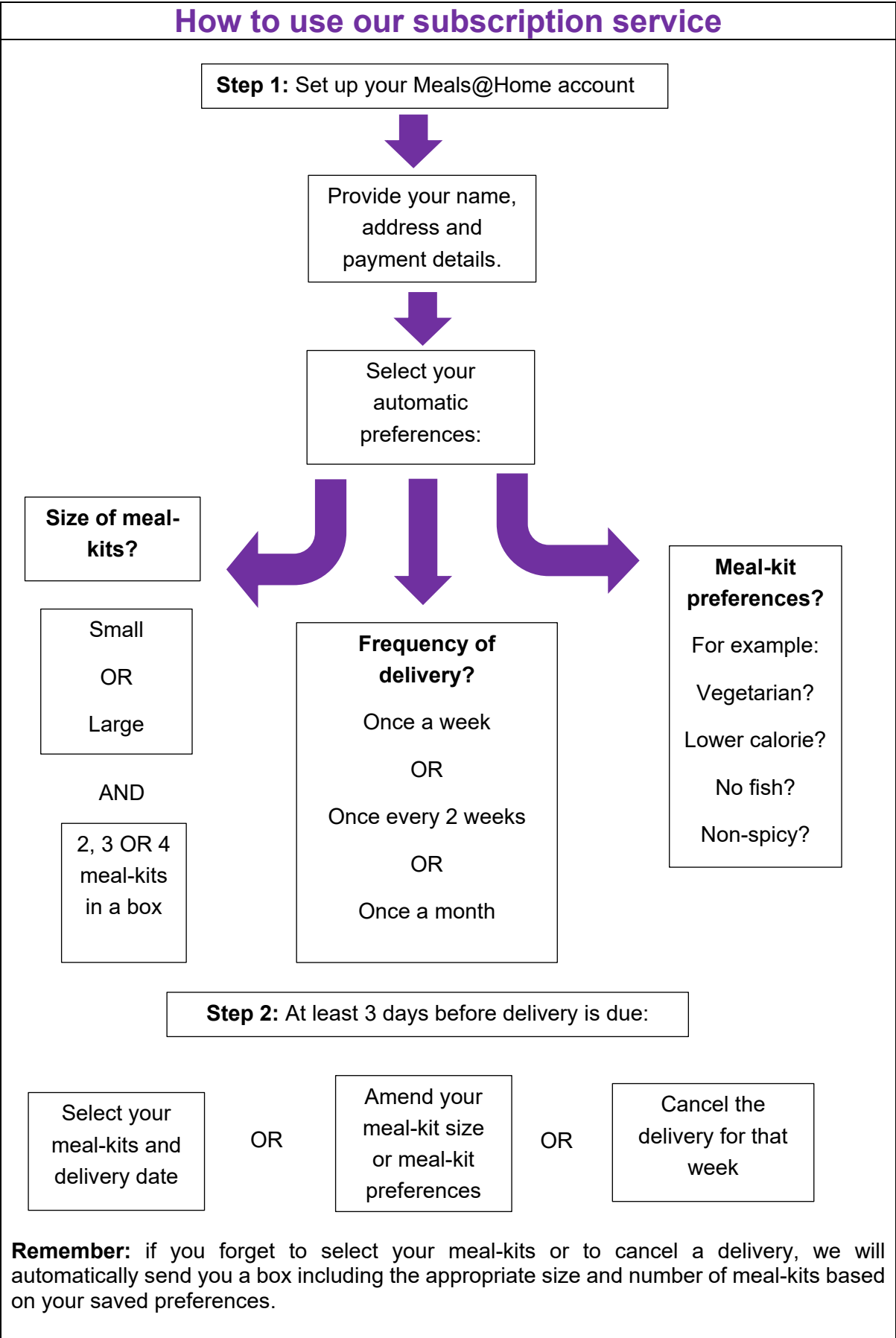
Since then, the company's revenue has grown significantly and from 2016 the company has sold meal-kits throughout Newland. For the year to 31 December 2021 revenue was N\$62.5 million and the operating loss was N\$3.7 million. The budget for the year to 31 December 2022 forecasts revenue of N\$75.8 million and an operating profit of N\$2.1 million (the company's first operating profit). The survival and growth of the company has been made possible by investment and support from venture capitalists and business angels and the slow path to profit is consistent with other meal-kit companies.

The aim of the company is to provide good quality ingredients and clear recipe instructions, so that the customer can prepare and cook healthy and nutritious meals from scratch at home. The company aims that each meal-kit should take a maximum of 45 minutes to prepare and cook. Each recipe is calorie counted and the focus of many recipes is on low carbohydrate but high nutritional value. The company's Head Office is located 40 kilometres outside of Newland's capital city. This is the location of the company's development kitchen where new meal recipes are developed and tested. Within 5 kilometres of the Head Office is the Production Facility where boxes of meal-kits are assembled.

Ben and Ravi consider sustainability to be at the heart of the business. Meal-kits give customers only enough ingredients to prepare that meal and therefore reduce the amount of food waste at home. Ingredients are ethically sourced with food-kilometres a key consideration when selecting suppliers. There are two key sustainability challenges: the amount of packaging and the distribution of meal-kits to customers.

## Extracts from the Meals@Home website:

Why choose Meals@Home?	
	<p><b>Flexible subscription service:</b></p> <p>With our subscription service you can sign up to receive our meal-kits once a week, once a fortnight or once a month. You can choose to receive meal-kits in either a Small size (sufficient for two portions) or a Large size (sufficient for four portions). For each order you place, you will have the option to include 2, 3 or 4 meal-kits. Your meal-kits are delivered to you in a single box.</p> <p>You have the freedom to cancel, pause or amend your subscription at any time, without any additional charge to you.</p>
<p><b>Recipe selection:</b></p> <p>With 50 meal-kits to choose from each week, including 20 vegetarian meal-kits, you will be spoilt for choice. Whether you like spicy food or fish or certain vegetables, our weekly selection of meal-kits will have something for everybody.</p> <p>Our development kitchen works hard to ensure that our recipes are easy to follow, quick to prepare and highly nutritious. All our recipes are calorie counted.</p>	
	<p><b>Ingredients:</b></p> <p>We have great relationships with all our suppliers, meaning that we will only send you the freshest and best quality ingredients.</p> <p>All meat and most of our dairy is sourced from Newland producers. Most of our vegetables and fruit are grown in Newland.</p> <p>We try to source our other ingredients from Newland to limit the kilometres travelled before they reach you.</p>



## What to expect when you receive your order



- ❖ You'll receive a single box with everything you need for your meal-kits.
- ❖ Open the box and you'll find:
  - An inner chill box in which you'll find our eco-chill bag on top of the meat, fish and dairy ingredients required for all of your meal-kits.
  - A meal-kit bag for each meal-kit which contains the tins, packets, herbs & spices mixes required for that meal-kit.
  - And, carefully packed on top of the meal-kit bags, all of the fresh ingredients (short-life baked goods, fruit and vegetables) for all of your meal-kits.
- ❖ All you'll need to do is unpack, store the ingredients in your fridge or your cupboards and be ready to prepare and cook fabulous meals.



## The Directors



**Ben Jonas, Sales & Marketing Director:** Ben has overall responsibility for the company's sales, distribution and marketing. He has been instrumental in creating a distinctive Meals@Home brand and is the inspiration behind all of the company's marketing activities which have driven the company's growth. Ben is keen for the business to expand its product base.



**Ravi Smit, IT Director:** Ravi has overall responsibility for all of the company's IT systems. Ravi was the driving force behind the development of the company's website and subscription app. He is interested in the company making use of artificial intelligence and other emerging technologies.



**Henri Lopez, Recipe Development Director:** Henri has been with the company from the beginning. He is responsible for developing and testing all recipes and is a fully qualified chef with many years of experience in recipe development. Henri is particularly interested in the nutritional value of food.



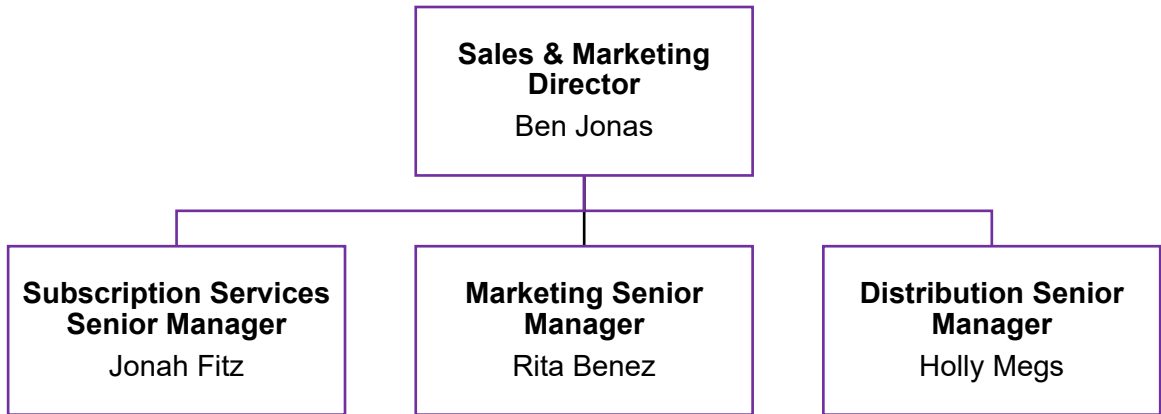
**Greta Beets, Production Director:** Greta has been with the company since 2018 and is responsible for ingredient procurement and all of the activities at the Production Facility. She previously worked as a senior buyer for a supermarket company. Greta is a champion of sustainability.



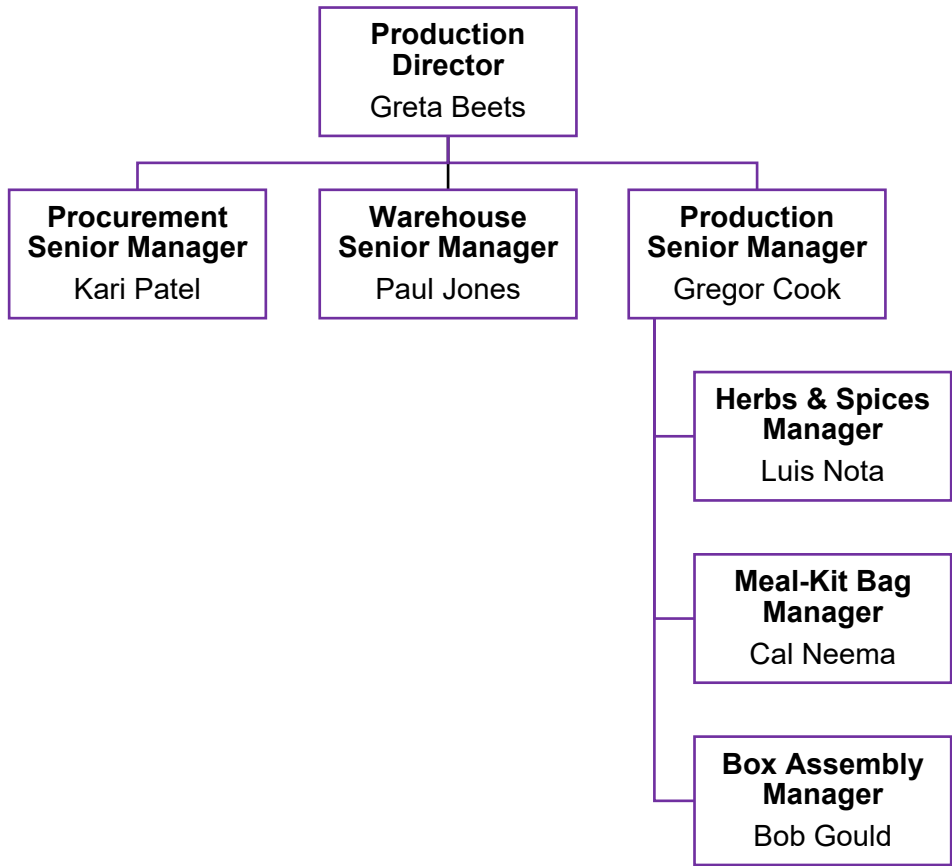
**Jack Quinn, Finance Director:** Jack became a qualified accountant in 2004 and has been with the company since 2014. He is responsible for all finance and human resource issues. He has been instrumental in securing finance from private investors and banks and has built good relationships with financiers.

Sales & Distribution, Production and Finance teams

Sales & Distribution:

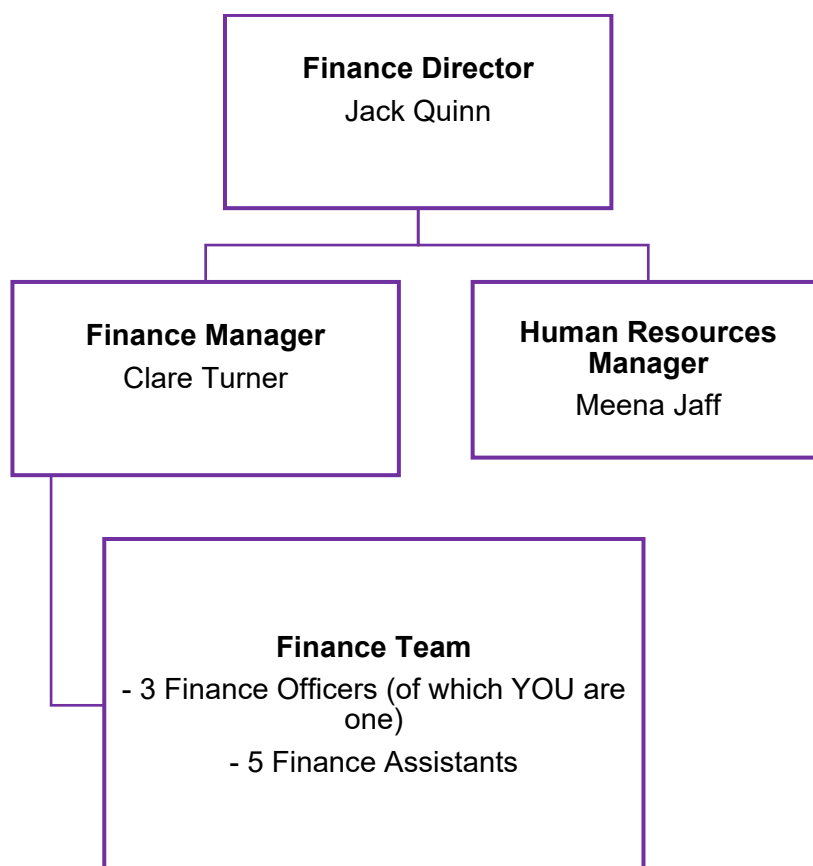


Production:





**Finance:**



## Information about company operations

### Sales market and sales channel

Meals@Home sells meal-kits direct to customers throughout Newland, through the company's subscription service. The company supplies two sizes of meal-kits. A Small meal-kit contains enough ingredients to prepare two portions of a meal. A Large meal-kit contains enough ingredients to prepare four portions of a meal. Orders must be for 2, 3 or 4 meal-kits of the chosen size. The company does not sell individual meal-kits. Irrespective of the number of meal-kits ordered, they will all be delivered in one box.

There are therefore six box options available to customers. Information about each of these options is as follows:

	<b>2 Small meal-kits</b>	<b>3 Small meal-kits</b>	<b>4 Small meal-kits</b>
Selling price*	N\$30.00	N\$35.00	N\$40.00
Total number of portions	4	6	8
Average price per portion	N\$7.50	N\$5.83	N\$5.00

	<b>2 Large meal-kits</b>	<b>3 Large meal-kits</b>	<b>4 Large meal-kits</b>
Selling price*	N\$40.00	N\$50.00	N\$60.00
Total number of portions	8	12	16
Average price per portion	N\$5.00	N\$4.17	N\$3.75

\*This is the full retail selling price of each type of box as advertised on the company website before any promotional discounts.

The company is constantly developing new recipes and improving existing recipes for its meal-kits. There are currently over 300 recipes in the company's portfolio. The recipes available are rotated and changed every 2 weeks, with 50 different recipes available for order each week.

The portfolio of recipes includes a range of meat, fish and vegetarian dishes. There are currently no vegan recipes available. The portfolio includes seasonal recipes which utilise ingredients appropriate for the season and which are more suited for certain times of year (for example, casseroles and stews for cold weather and salads for warmer weather).

Customers need to be members of the subscription service before they can order a box of meal-kits. Membership is free and when the subscription is set up a customer selects whether they would like to receive a box of meal-kits once a week, once every 2 weeks or once a month. Customers also select whether to have Small or Large meal-kits and whether to include 2, 3 or 4 meal-kits in each box. They also select any dietary preferences. Any of these initial preferences can be changed at any time and, when customers order their meal-kits, they can override preferences if, for example, they would prefer an extra meal-kit or Large rather than Small for a particular order.

The customer is required to make their meal-kit selections at least 3 days before the box is due to be delivered. This can be done on the company website or via the Meals@Home app. The customer has the right to pause their subscription at any time without penalty.

However, if a customer forgets to pause or to select their meal-kit preferences, they will receive a box based on their saved preferences or past meal-kit selection and will be charged for this.

The company offers promotional discounts throughout the year to attract new subscribers. A typical promotional discount will be 50% off the first box and 30% off each of the next two boxes.

### **Production Facility**

The Production Facility is where all boxes of meal-kits sold by Meals@Home are produced. The facility includes temperate controlled warehousing for the storage of ingredients and packaging, and a production area where the boxes of meal-kits are assembled.

### **Purchasing and suppliers of ingredients**

Ingredients included in the meal-kits can be categorised as follows:

<b>Category of ingredient</b>	<b>Includes</b>
Long-life	<ul style="list-style-type: none"><li>❖ Tins of, for example, chopped tomatoes, kidney beans or coconut milk.</li><li>❖ Cartons of, for example, tomato sauce or chickpeas.</li><li>❖ Packets of, for example, dried pasta or rice.</li><li>❖ Dried herbs &amp; spices.</li></ul>
Fresh	<ul style="list-style-type: none"><li>❖ Short-life baked goods such as, for example, wraps, bread rolls or naan bread.</li><li>❖ Fruits</li><li>❖ Vegetables</li></ul>
Chilled	<ul style="list-style-type: none"><li>❖ Meat</li><li>❖ Fish</li><li>❖ Dairy such as, for example, yoghurt, crème fraiche or cheese.</li></ul>

Some of the long-life ingredients are used in many of our recipes. These ingredients are purchased in bulk to take advantage of bulk purchase discounts from suppliers. There is therefore always some inventory of these items. Fresh ingredients and chilled ingredients are purchased based on the meal-kit selections made by customers, to minimise wastage. Deliveries of fresh and chilled ingredients occur daily based on the next day's box production. Other than dried herbs & spices, fruit, and vegetables, all ingredients are received from the supplier pre-portioned for either two portions or four portions.

Meals@Home has a wide network of suppliers and has built up excellent relationships with them. Where possible the company seeks to source ingredients from Newland and all meat and most dairy is produced in Newland. Supplier payment terms range from 30 to 60 days.

## Production processes

Within the Production Facility there are three production processes, which are as follows:

### Herbs & spices packets production

- Dried herbs and spices are purchased by Meals@Home in bulk.
- Some meal-kits require the herbs and spices to be portioned individually, others require a mix to be created.
- Via machinery, the appropriate herbs and spices for each meal-kit are portioned to give enough for either a Small or Large meal-kit.
- The meal-kit portions are sealed into packets made of bio-degradeable material.

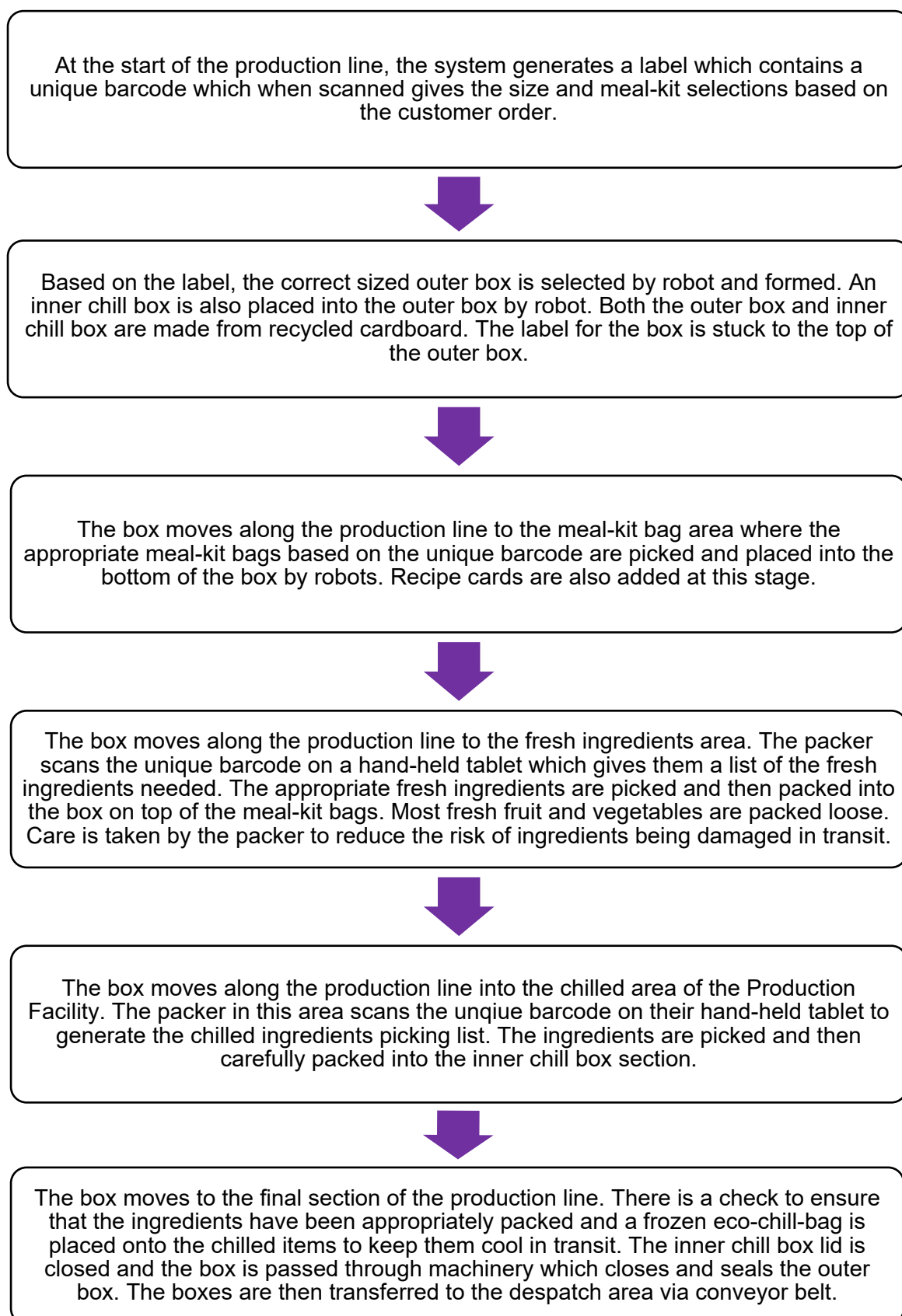
### Meal-kit bag production

- A meal-kit bag contains all of the long-life ingredients for either a Small or Large meal-kit. This includes any dried herbs & spices packets required.
- Meal-kit bags are assembled on an automated production line that operates 20 hours a day, 7 days a week. The production line can deal with multiple meal-kits at the same time.
- Meal-kit bags are usually produced the week before the meal-kits are due for despatch.

### Box packing

- Boxes of meal-kits start to be assembled and packed 4 hours before despatch.
- The packing of ingredients into the box is a largely manual process, which is carried out on a production line that runs through the facility.
- The box packing process is detailed below.

The box packing process is as follows:



## Packaging

Packaging is a significant component of a box of meal-kits. All packaging is purchased from a single supplier. The main elements of packaging purchased by Meals@Home are:

- ❖ The strong outer box, which is made from 100% recycled corrugated cardboard.
- ❖ The inner chill box, which is made from layers of corrugated cardboard which act as insulation. This is also made from 100% recycled cardboard.
- ❖ The eco-chill-bag, which has an inner gel core which can be frozen. The bag can be refrozen and reused by the customer.
- ❖ Meal-kit bags which are made from 100% recycled paper.

The packaging supplier's production facility is located 5 kilometres from Meals@Home's Production Facility. Since 2013, Meals@Home has worked closely with this supplier to develop new ideas for packaging, including the recently launched inner chill box.

Reducing the carbon footprint associated with the packaging used in boxes of meal-kits is a priority of Meals@Home. There have already been significant improvements in the sustainability of packaging since the company started trading. These include:

- ❖ Ensuring that all outer boxes are made from 100% recycled cardboard.
- ❖ Removing packaging from most fruit and vegetables. These are now packed loose in the box.
- ❖ Working with suppliers of ingredients to reduce the non-compostable plastic content in their packaging.
- ❖ Using packets made from bio-degradable material for the dried herbs and spice portions.
- ❖ Introducing the inner chill box and multiple-use eco-chill-bag to replace single-use plastic chill-bags.

## Distribution

Distribution of boxes of meal-kits to customers is outsourced to a major distribution company which delivers anywhere within Newland 7 days a week. The distributor uses a fleet of refrigerated vehicles. Currently, 75% of this fleet is powered by diesel and 25% by electricity or biogas. The distributor aims for 90% of its fleet to be powered by electricity or biogas within 5 years.

## Employees

Meals@Home had the following number of employees on 31 December 2021:

	Number
Production Facility	445
Head Office	62
<b>Total</b>	<b>507</b>



### **Standard costing and budgets**

The company operates a standard absorption costing system using departmental overhead absorption rates based on either direct labour hours or machine hours. The standard cost of the ingredients for each meal-kit is established when the recipe for the meal-kit is developed and is updated for known price changes twice a year. Standards for all other direct inputs (packaging and direct labour) are established per box of meal-kits and are usually updated twice a year for known price changes.

The budgeting process is centrally managed by the Finance Department with limited involvement of middle or lower-level management.

## The meal-kit industry

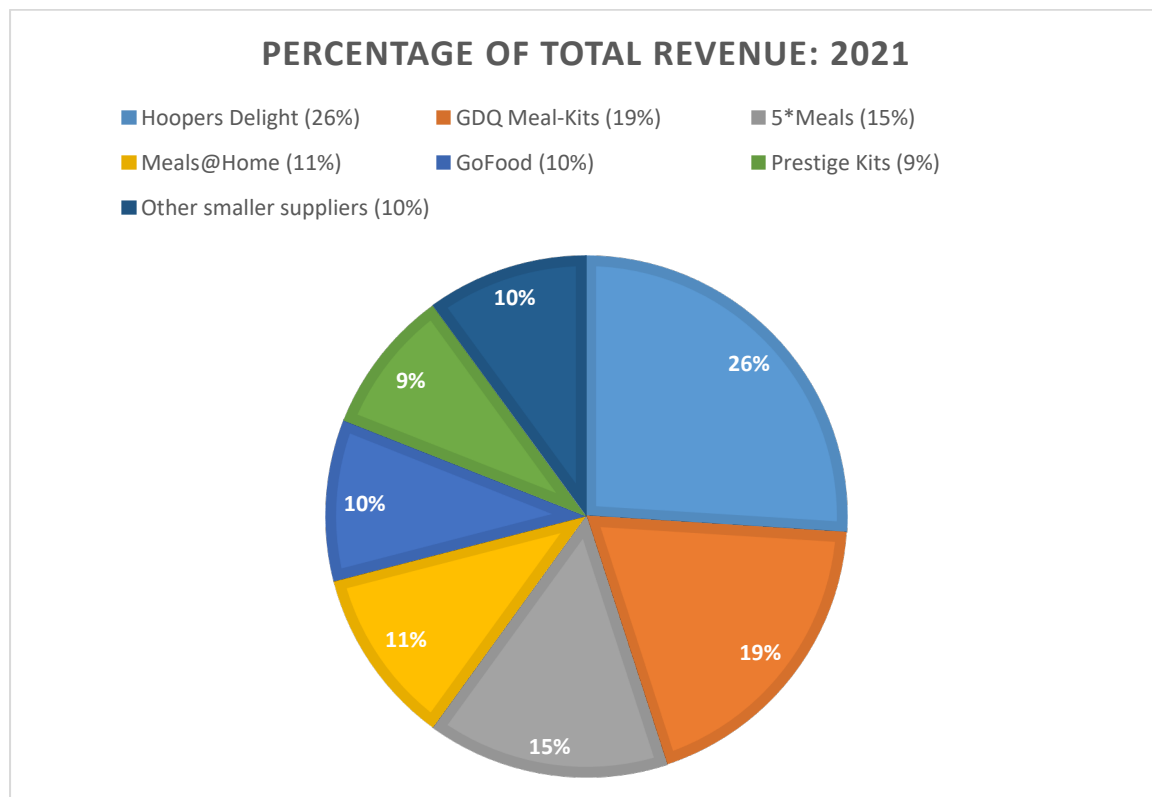
The first company to sell a complete meal-kit (Hoopers Delight) did so in the United States of America in 2008. Sales of meal-kits were initially slow to begin with, but by 2012 there was significant growth throughout the world.

Meal-kits avoid the need to shop for groceries and limit the amount of food waste at home. As such, early meal-kit companies targeted young professionals rather than families. Over the years, this has changed and families now account for the largest share of the market. Busy family life and the desire to eat quick and easy-to-prepare home cooked meals, rather than takeaways or unhealthy convenience foods, has driven this increase.

### The meal-kit industry in Newland

Within Newland there are currently six large companies that sell meal-kits. Each of these six companies generated revenues from the sale of meal-kits in 2021 of more than N\$50 million. Two of these (Hoopers Delight and 5\*Meals) are multi-national companies with worldwide sales, the other four (GDQ Meals-Kits, Meals@Home, GoFood and Prestige Kits) operate and sell meal-kits only in Newland. There are also several smaller companies that sell meal-kits and either operate regionally or offer a bespoke service focused on, for example, party catering or different international cuisines.

For the year ended 31 December 2021, the total revenue from meal-kit sales in Newland was split as follows:



All six of the large companies have seen significant growth in revenue over the past 5 years, averaging 7% per year. Each of these companies has its own unique selling point. For example, Meals@Home focuses on nutritional healthy meals, but others focus on vegetarian and/or vegan meals, organic ingredients or different international cuisines.

The rate of growth in the market has now started to decline and therefore many of the companies in this market have recently started to extend their product ranges. For example, GDQ Meal-Kits has just launched a range of frozen ready meals and Prestige Kits, a range of healthy smoothies, soups and protein bars.

### **Challenges facing the meal-kit industry in Newland**

The following are the key challenges facing companies operating in the meal-kit industry in Newland:

- ❖ Increasingly aggressive price competition within the market.
- ❖ A reduction in customer loyalty as customers switch companies to take advantage of initial promotional offers.
- ❖ Pressure to reduce the amount of packaging.
- ❖ Sustainable sourcing of ingredients and packaging.

## Financial statements for the year ended 31 December 2021

**Meals@Home**

**Statement of profit or loss for the year ended 31 December 2021**

	<b>2021 N\$000</b>	<b>2020 N\$000</b>
Revenue	62,500	50,350
Cost of sales	(33,750)	(28,045)
<b>Gross profit</b>	<b>28,750</b>	<b>22,305</b>
Selling, distribution and marketing costs	(14,375)	(12,600)
Administrative expenses	(18,075)	(17,450)
<b>Operating loss</b>	<b>(3,700)</b>	<b>(7,745)</b>
Finance costs	(396)	(535)
<b>Loss before tax</b>	<b>(4,096)</b>	<b>(8,280)</b>
Income tax on loss	-	-
<b>Loss for the year</b>	<b>(4,096)</b>	<b>(8,280)</b>

**Meals@Home****Statement of financial position at 31 December 2021**

	<b>2021 N\$000</b>	<b>2021 N\$000</b>	<b>2020 N\$000</b>	<b>2020 N\$000</b>
<b>ASSETS</b>				
<b>Non-current assets</b>				
Intangible assets	3,690		3,105	
Property, plant and equipment	5,945		6,840	
		9,635		9,945
<b>Current assets</b>				
Inventory	2,300		1,950	
Other receivables	1,160		1,225	
Cash and cash equivalents	329		-	
		3,789		3,175
<b>Total assets</b>		<b>13,424</b>		<b>13,120</b>
<b>EQUITY AND LIABILITIES</b>				
Issued N\$1 equity share capital		600		500
Share premium		35,300		30,400
Retained earnings		(38,196)		(34,100)
<b>Total equity</b>		<b>(2,296)</b>		<b>(3,200)</b>
<b>Non-current liabilities</b>				
Borrowings		5,600		5,600
<b>Current liabilities</b>				
Overdraft		-		1,240
Trade and other payables		10,120		9,480
<b>Total equity and liabilities</b>		<b>13,424</b>		<b>13,120</b>

**Meals@Home****Statement of cash flows for the year ended 31 December 2021**

	<b>N\$000</b>	<b>N\$000</b>
<b>Cash flows from operating activities</b>		
Loss before tax		(4,096)
<b>Adjustments</b>		
Amortisation of intangible assets	620	
Depreciation for property, plant and equipment	890	
Loss on sale of property, plant and equipment	80	
Finance costs	396	
		1,986
<b>Movements in working capital</b>		
Increase in inventory	(350)	
Decrease in other receivables	65	
Increase in trade and other payables	640	
		355
<b>Cash generated from operations</b>		<b>(1,755)</b>
Tax paid	-	
Interest paid	(396)	(396)
<b>Net cash outflow from operating activities</b>		<b>(2,151)</b>
<b>Cash flows from investing activities</b>		
Purchase of intangible assets	(1,205)	
Purchase of property, plant and equipment	(275)	
Proceeds on disposal of property, plant and equipment	200	
<b>Net cash outflow from investing activities</b>		<b>(1,280)</b>
<b>Cash flows from financing activities</b>		
Issue of share capital	5,000	
<b>Net cash inflow from financing activities</b>		<b>5,000</b>
<b>Net increase in cash and cash equivalents</b>		<b>1,569</b>
Cash and cash equivalents at the start of the year		(1,240)
<b>Cash and cash equivalents at the end of the year</b>		<b>329</b>



## Budget information for the year ending 31 December 2022

### Total budgeted operating profit:

	Boxes of Small meal-kits N\$000	Boxes of Large meal-kits N\$000	Total N\$000
Revenue	30,305	45,505	75,810
Cost of sales:			
Ingredients & packaging	(7,799)	(15,271)	(23,070)
Direct labour	(4,341)	(5,850)	(10,191)
Variable production overhead	(399)	(557)	(956)
Fixed production overhead	(1,892)	(2,652)	(4,544)
<b>Gross profit</b>	<b>15,874</b>	<b>21,175</b>	<b>37,049</b>
Selling, distribution and marketing costs			(15,920)
Administrative expenses			(19,000)
<b>Operating profit</b>			<b>2,129</b>

### Budgeted sales:

#### Boxes of Small meal-kits:

	2 meal-kits	3 meal-kits	4 meal-kits	Total
Product code	S2	S3	S4	
Number of boxes sold	150,000	440,000	300,000	890,000
Selling price* (N\$)	28.50	33.25	38.00	
	<b>N\$000</b>	<b>N\$000</b>	<b>N\$000</b>	<b>N\$000</b>
Revenue	4,275	14,630	11,400	30,305

#### Boxes of Large meal-kits:

	2 meal-kits	3 meal-kits	4 meal-kits	Total
Product code	L2	L3	L4	
Number of boxes sold	110,000	330,000	450,000	890,000
Selling price* (N\$)	38.00	47.50	57.00	
	<b>N\$000</b>	<b>N\$000</b>	<b>N\$000</b>	<b>N\$000</b>
Revenue	4,180	15,675	25,650	45,505

\*This is the selling price after an allowance for expected promotional discounts.

**Budgeted gross profit:****Boxes of Small meal-kits:**

	<b>2 meal-kits N\$000</b>	<b>3 meal-kits N\$000</b>	<b>4 meal-kits N\$000</b>	<b>Total N\$000</b>
Revenue	4,275	14,630	11,400	30,305
Costs of sales:				
Ingredients & packaging	(885)	(3,674)	(3,240)	(7,799)
Direct labour	(495)	(2,046)	(1,800)	(4,341)
Variable production overhead	(44)	(188)	(167)	(399)
Fixed production overhead	(212)	(890)	(790)	(1,892)
<b>Gross profit</b>	<b>2,639</b>	<b>7,832</b>	<b>5,403</b>	<b>15,874</b>
	<b>N\$</b>	<b>N\$</b>	<b>N\$</b>	
Average gross profit per box	17.59	17.80	18.01	
Gross profit margin	61.7%	53.5%	47.4%	52.4%

**Boxes of Large meal-kits:**

	<b>2 meal-kits N\$000</b>	<b>3 meal-kits N\$000</b>	<b>4 meal-kits N\$000</b>	<b>Total N\$000</b>
Revenue	4,180	15,675	25,650	45,505
Costs of sales:				
Ingredients & packaging	(1,144)	(5,082)	(9,045)	(15,271)
Direct labour	(495)	(1,980)	(3,375)	(5,850)
Variable production overhead	(45)	(186)	(326)	(557)
Fixed production overhead	(216)	(890)	(1,546)	(2,652)
<b>Gross profit</b>	<b>2,280</b>	<b>7,537</b>	<b>11,358</b>	<b>21,175</b>
	<b>N\$</b>	<b>N\$</b>	<b>N\$</b>	
Average gross profit per box	20.73	22.84	25.24	
Gross profit margin	54.5%	48.1%	44.3%	46.5%

## Example standard cost card

Large, 2 meal-kit box				
Meal-kits: (A) Vegetable curry and (B) Chicken skewers				
	Number of portions	Standard cost per portion N\$	Standard cost per box N\$	Standard cost per box N\$
<b>Ingredients:</b>				
Ingredients for meal-kit (A)	4	1.08	4.32	
Ingredients for meal-kit (B)	4	1.20	4.80	
				9.12
	Number of units of each input	Standard cost per unit of input N\$		
<b>Packaging &amp; other:</b>				
Recipe cards	2	0.20	0.40	
Outer box	1	0.30	0.30	
Other packaging	1	0.70	0.70	
				1.40
<b>Direct labour:</b>				
Herbs & spices	0.02 labour hours	15.00	0.30	
Meal-kit bags	0.04 labour hours	15.00	0.60	
Box packing	0.24 labour hours	15.00	3.60	
				4.50
<b>Production overheads:</b>				
<b>Variable:</b>				
Herbs & spices	0.05 machine hours	1.62	0.08	
Meal-kit bags	0.10 machine hours	1.18	0.12	
Box packing	0.24 labour hours	0.86	0.21	
				0.41
<b>Fixed:</b>				
Herbs & spices	0.05 machine hours	6.49	0.32	
Meal-kit bags	0.10 machine hours	4.72	0.47	
Box packing	0.24 labour hours	4.85	1.16	
				1.95
<b>Total production cost</b>				<b>17.38</b>

### Notes on standards and budget preparation

1. Standards are usually reviewed and updated twice a year.
2. Each meal-kit has a separate standard cost per portion for the ingredients. This standard cost per portion includes a small allowance for normal wastage of ingredients.
3. All direct labour overtime premium is treated as variable production overhead. Idle time is not budgeted for.
4. Production overheads are allocated and apportioned to cost centres and absorbed based on either direct labour hours or machine hours. There are three production overhead cost centres: herbs & spices production, meal-kit bag production and box packing. Each production cost centre has its own variable and fixed production overhead absorption rates.
5. Budgeted selling prices include an allowance for expected promotional discounts.

## Articles

# Technology Fortnight

April 2022 No. 89

## AI and robotics – meal-kit companies are rushing to embrace the possibilities

Gabriel De Palma - Business Correspondent

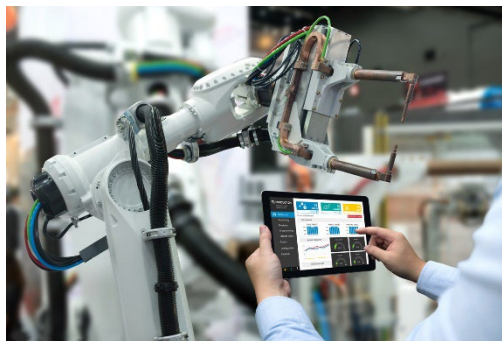
One of the challenges being faced by the growing meal-kit sector is how to manage the unpredictability of the weather. An unexpected wet weather front can drive a surge in demand for warming stews, whilst sunny weather can encourage a last-minute switch to a salad-based kit.

And it's not just a matter of planning ingredients procurement without knowing which menus may suddenly become popular. The weather can also have an impact on box packing and delivery schedules.

In a sudden heatwave, for example, extra ice bags are needed in all the meal boxes. And in inclement weather, traffic congestion increases as more people use their cars, and, in rural areas, flash floods or closed roads may follow – leading to unplanned delays and even missed deliveries.

Artificial intelligence is offering a solution. Advanced weather mapping software uses complex algorithms to combine historic weather information with current data and other regional factors to predict local conditions.

Meal-kit companies can now invest in weather platforms which link to these prediction systems. The platforms inform and support logistics planning across the business – improving forecasts and then updating menu plans, procurement systems,



packing instructions and delivery schedules to take account of the likely weather conditions in each area.

Another area where AI is being integrated into meal-kit production is in the packing plants. Whilst many elements of the kits, such as seasonings and store cupboard staples, can be packed in advance, the fresh ingredients are added at the last minute. And since many items require gentle handling, they are packed by hand.

Enter the robot packer. Programmable, configurable and endlessly gentle, robotic packers are now being used to pick and pack the fruit and vegetables needed to complete each kit. These robotic arms are offering automated quality control and real time traceability of packing systems – and producing labour savings at the same time.

Add to these examples, the increasing use of chatbots to manage customer requests – such as address changes and delivery slots, and the involvement of AI in areas such as factory layout planning – and the picture is of an industry being transformed by new technologies.

# Packaging Gazette

May 2022

## Meals@Home win Newland Sustainable Packaging Award

By: Jess Taylor

It is no secret that the meal-kit industry has seen unprecedented growth in Newland over the past few years and brings with it a myriad of new and existing sustainability, logistic and cost factors for the packaging industry. To break some of those down we caught up with Ben Jonas, Sales & Marketing Director of Meals@Home following its win at the Newland Sustainable Food Business Packaging Awards 2022, to ask him a few questions:

### How important is sustainability in your business model?

“Sustainability is paramount for us, and we want to be able to grow the business whilst making our products and packaging more sustainable. We have also seen our customers become more eco-conscious with sustainability being a key search term when selecting meal-kits. In addition to our expanding plant-based meal-kit options, eco-friendly packaging is of paramount importance to us. We were the first meal-kit company in Newland to introduce compostable packaging. Despite this raising packaging costs by more than 25% to reduce plastic use, we didn’t raise our prices.”

### What is the importance of packaging sustainability to meal-kit deliveries?

“As well as this aim of reducing plastic we have also looked to reduce waste, so for instance delivering vegetables loose in the box rather than wrapped in plastic. As well as this we have developed alternative materials such as recycled cardboard to help in this area.”

### And are there any key payoffs between sustainability and functionality in your context?

“Of course, all businesses should look to use more sustainable practices, however economic factors need to be considered. We were able to absorb the increase in packaging costs with efficiency savings which allowed us to become more sustainable but for some businesses more expensive processes will undoubtedly lead to price increases for customers. However, we are looking to expand our sustainable credentials by using water saving technologies. In addition, we have developed our own energy supplies using air source heat pumps and solar panels. Whilst some measures such as packaging may cost more, others, such as water saving and energy, save costs. And with more consumers turning to eco-conscious businesses and brands we believe that there is a pay-off. In the future I can see this being looked on favourably by finance providers, such as banks, which may lead to lower interest costs for businesses in the future.”



Plastic pollution in our oceans

### In your view, what does the future hold for packaging in your industry?

“Ultimately, we all want to see less plastic clogging up our oceans and damaging our environment. When we first introduced compostable packaging, we hoped that other businesses would follow us. So, in future years we hope to see other companies, not only in our industry, but in others as well, make their packaging more environmentally friendly if not fully compostable. Not only in consumer facing businesses but in all businesses throughout the food production process.”



## Tax regime in Newland

- The corporate income tax rate to be applied to taxable profits is 20%.
- Unless otherwise stated below, accounting rules on recognition and measurement are followed for tax purposes.
- The following expenses are not allowable for tax purposes:
  - accounting depreciation
  - amortisation
  - impairment charges
  - entertaining expenditure
  - donations to political parties
  - taxes paid to other public bodies.
- Tax depreciation allowances are available on all items of plant and equipment (including computer equipment) at a rate of 25% per year on a reducing balance basis. A full year's allowance is available in the year that the asset is acquired. Tax depreciation allowances are not available for property assets.
- Where a business sells a property asset, a chargeable gain or loss will arise. A chargeable gain can be reduced by indexation allowance, but the indexation allowance cannot be used to create a chargeable loss. Chargeable gains are subject to capital tax at a rate of 20%. Chargeable losses can be carried forward indefinitely to offset against future chargeable gains.
- Tax losses can be carried forward indefinitely to offset against future taxable profits from the same business.
- Sales tax is charged on all standard rated goods and services at a rate of 15%. Tax paid on inputs into a business can be netted off against the tax charged on outputs from that business. All businesses are required to settle the amount due on a monthly basis.