Final Report

Market research around the opportunity to create more vegetable snacking options to quantify market size

Martin Kneebone
Freshlogic Pty Ltd

Project Number: VG14024

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Summary

This document combines the research and analysis on fresh vegetable snacking undertaken for project VG14024. The purpose of this project was to undertake market research around the opportunity to create more vegetable snacking options, and including quantifying market size.

The five components assessed were:

- The Australian snack food market.
- Australian snack food distribution channels.
- International retail snacking range analysis.
- Australian consumer snacking behaviour.
- Quantification of identified vegetable snack food opportunities.

All research and analysis findings generated in the project are included in the five parts of the Output section of this document, including a set of key findings specific to each section. This enables the document to work as a reference source for vegetable growers seeking information on aspects of the snack food market.

The consolidated and summary project key findings are as follows:

1. The demand for snacks is common across 87% of Australian households, and unlikely to change in the near term.

2. The total snack food market has an annual retail value of $9.33b. Most snack foods are processed shelf stable products that are aligned with well supported brands. However, a substantial 40% are viewed as "Healthy snacks", with fresh fruit contributing over half of these sales.

3. Supermarkets dominate the retail distribution of snacks by a substantial amount over other channels.

4. Processed healthy snack foods will be welcomed by many if not most distribution channels. However, the options for fresh or fresh cut snacks are more limited and restricted by distributor and end reseller capacity to handle the fresh product form.

5. Apart from the challenges of handling a perishable product, there are substantial barriers to successfully launching a range of vegetable based snack products into the Australian food market. Most of these barriers are related to the FMCG level of competition these products will encounter.

6. Based on success in global markets, there are apparent opportunities to introduce cut and peeled 'mini' carrots into the Australian market.

7. There is also an apparent opportunity to add a mixed cut vegetable snacking range, which contains the likes of carrots & celery, to the Australian market. These products are being offered globally in both punnet and heal-sealed tray packs.

8. The Australian market has very few products that combine vegetables with fruit, crackers, seasoning or other ingredients. This is an apparent opportunity to directly target vegetable snacking, albeit with the challenges arising from producing a mixed-ingredient fresh prepack.

9. Small sized whole vegetables the likes of tomatoes and cucumbers are the highest volume

fresh vegetable snack foods in Australia. This is a clear signal that the more durable nature of small vegetables in their whole form is an attractive aid to their supply chain handling.

10. New processing technologies such as freeze drying and vacuum frying are offering potential to develop new shelf-stable vegetable snack products for the Australian market, and early developments can be seen in global markets. However, with a good proportion of the existing Australian processed vegetable snack range being imported, domestic producers of processed vegetable snack will need business models that can compete with imported alternatives.

11. The large majority of consumers do not see snacks as an alternative to a meal, indicating the need for snack food portions to be smaller than a meal. Households are most likely to snack during afternoon and morning breaks or in the evening after dinner.

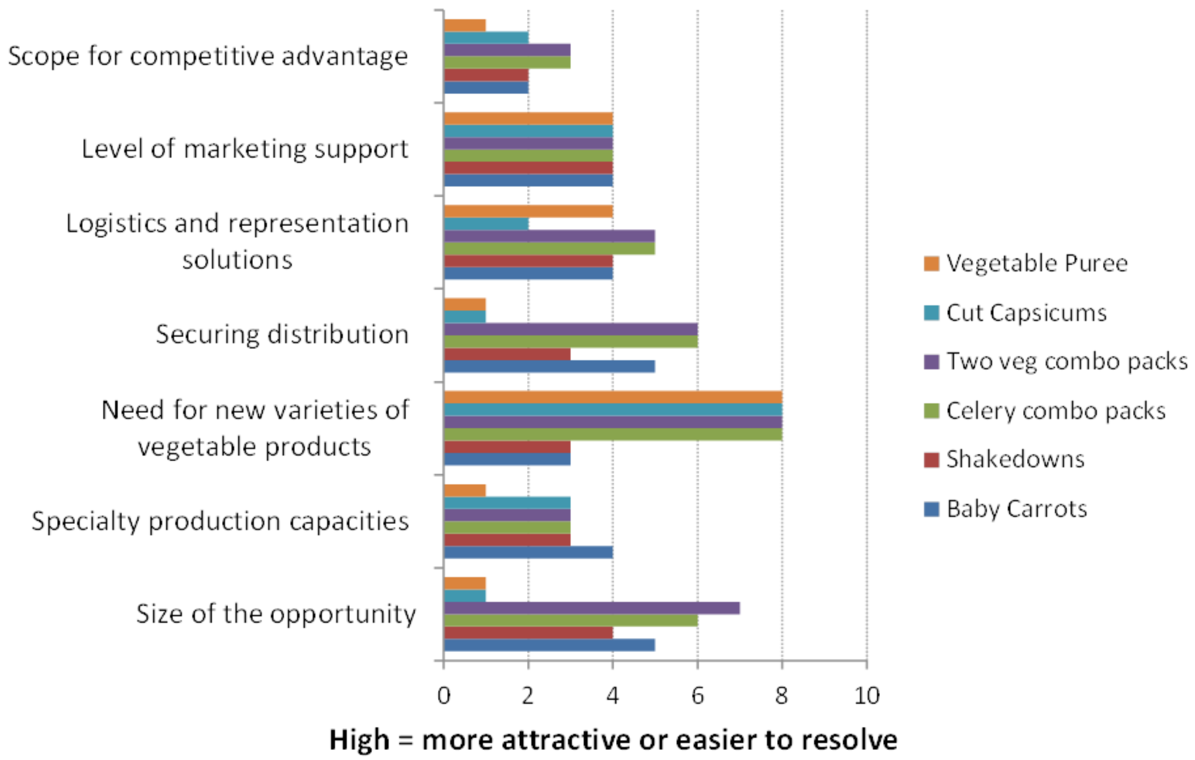
12. Households with children have quite different snacking consumption behaviour and are more likely to snack on fruit and vegetables than households without children.

13. Healthy snacks are consumed more frequently and dominate morning snacking. There is an apparent demand for this product in a "ready to eat form", however the current distribution of these products is largely limited to the supermarkets, which are not always in close proximity to where this snacking occurs.

14. Supermarkets are by far the most frequently used outlet to purchase snacks, with convenience stores and other distribution channels primarily catering to infrequent snack buyers.

15. Six opportunities were identified and assessed against a series of factors that were defined as impacting the servicing of the opportunities. All these factors are included in the chart below.

16. The potential market values of these opportunities range in size from $2.98m to $21.25m. Consumer research indicates they have potential to appeal to shares of consumers from 9% to 37%, spanning the breadth of opportunities from niche market to broad appeal.



Keywords

Snack foods, healthy snacks, snack food, market size, distribution channels, snack food opportunities, processed vegetable snacks

Introduction

This project was undertaken with a goal of determining the size of the opportunity for vegetables in the snack food market, by quantifying the total snack food market and identifying the opportunities for vegetables within it.

The targeted outcome of the project was a greater level of understanding of the current size and state of opportunities in the vegetable snacking market for key stakeholders in the Australian vegetable market supply chain.

This project aligns with the Consumer Alignment Objective in the Vegetable Strategic Investment Plan. It was conceptualised by Horticulture Innovation Australia Limited in response to indications of opportunities for value added vegetable snacking products.

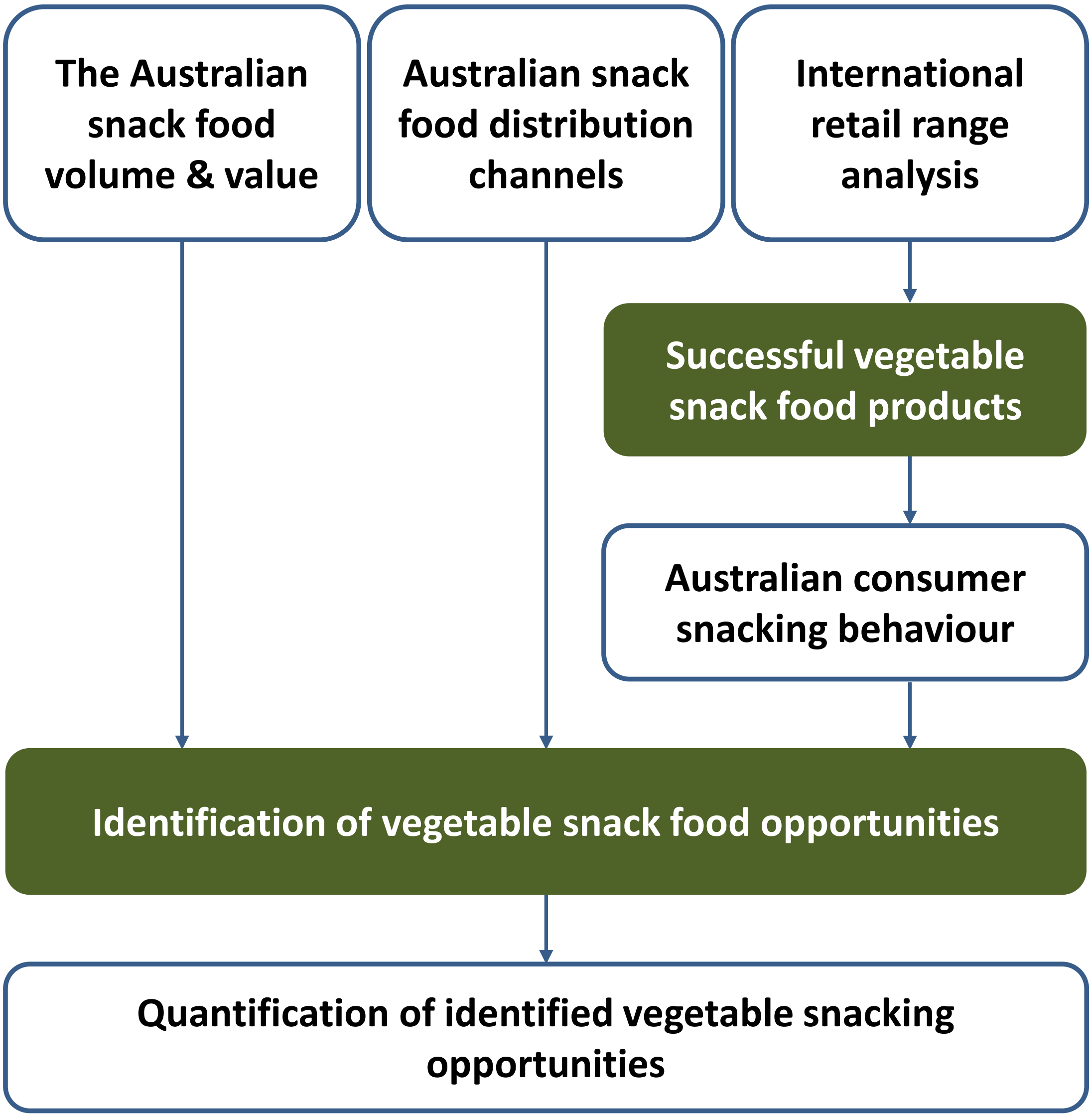
Previous research and development has been undertaken in related areas, and was drawn on for this project. Specific related projects are profiled in the table below. The project also draws on the experience and capacities of specialist food market insights and analysis firm Freshlogic. Freshlogic has developed unique methods for data collection and analytical process that, combined, allow the accurate and effective assessment of a wide range of influences on fresh food markets, and provide relevant and commercial insights.

Previous R & D investments	**Deliverables of relevance to this project**
VG12078: Consumer & Market Program for the Vegetable Industry.	Key metrics at commodity and product level that include penetration and use.
VG12094: Optimum Vegetable Portion Size to Meet Consumer Needs.	The varied demand for portion sizes across products and household segments.
FOODmap: An Analysis of Australian Domestic Market Distribution Channels.	Definition of all the distribution channels in the Australian market and a framework to assess their relative size and value.

Methodology

The method employed for the project was based on identifying successful international vegetable snack products and then establishing the basis to test and quantify opportunities in Australian market. This required gathering market information and analysing into the components required. This framework is profiled in Figure 1 below and also serves as the structure of this document.

Figure 1: Project VG14024 research and analysis framework



The data sets required to undertake the project were gathered through the Freshlogic research tools and enhanced with further analysis. The data gathering included the Mealpulse food consumer panel, which was used to gauge the appeal of the vegetable snack opportunities. The data on the Australian snack food market, distribution channels and international retail ranges was gathered and developed for the project by further analysis. This was the first time the Australian snack food market has been defined in order to frame opportunities for vegetable snacks.

A project reference group that included vegetable growers, distributors and retailers was formed and feedback sought at various project stages.

Outputs

Australian snack food volume and value

Section introduction and overview

This section is an analysis that identifies the types of snack food that is on offer to Australian consumers and defines the market value of each product type. It commences with an analysis of all snack food types and then explores the detail of products that consumers view as fresh snacks, which includes fresh fruit and vegetables. This analysis concludes with a profile of the relative value of the snack food on offer.

Through the analysis key findings of relevance to snack food opportunities for vegetables, are identified and consolidated immediately below this introduction.

Key findings

⇒ **The drivers of snack food demand are now firm food market settings that are unlikely to change in the near term.**

⇒ **The total snack food market has an annual retail value of $9.33b and contributes a substantial 11% of the national food and grocery retail market.**

⇒ **Product viewed as "Healthy snacks" by consumers contribute 40% to the total snack food market.**

⇒ **Most snack foods are processed shelf stable products that are aligned with well supported brands**

⇒ **The high volume of fresh fruit sold as snacks is an encouraging indicator of the potential for vegetable snacks.**

⇒ **Fresh fruit and some nuts are the only snack food products sold by weight (IE per kg) with all other products sold on a per unit basis.**

⇒ **When the relative value of the various snack foods is compared it is clear that fresh fruit snacks offer the strongest value.**

Snack food market settings

The Australian market for snack foods has evolved through periods of change to a more settled state. Over preceding years there has been wider scale change in household make-up, new time pressures as employment patterns have changed and extended trading hours from food retailers have all flowed through to directly impact food buying and consumption behaviour.

These major markets trends of recent years have largely firmed into market settings and the scale of market change has been more settled. Snack food demand is now more stable and serviced to some extent by most food distribution channels, with a wide array of product alternatives.

Convenience has been the core driver, and this has been balanced in the last 5 years by sensitivity to value and stronger, more committed views from consumers as to the source of their food and how it is prepared.

The diversity of the types of snack food products consumed spans from processed to fresh, with the common denominator in these products being their convenience attributes of a ready-to-eat single portion size. It is also clear that consumers aspire to eat healthy snacks whenever they can, but under time pressure eat more processed snack foods than they are comfortable admitting.

The near-term future market influences appear centred on advancements in food processing technology, emerging distribution channels and food provenance. The core demand for convenience is expected to remain the anchor for snack food demand.

Snacking demand drivers

The influences on the demand for snack food have been impacted by a combination of factors including changes in household make up, lifestyle impacts on available time and changes in food consumer buying and consumption behaviours that have combined to create demand for food in this form. The major drivers of these changes include;

- Household makeup has evolved away from the once typical nuclear family to settle over the last 15-20 years. Now 22-25% of all households are occupied by only one person.
- More adults in the household working over the seven days of the week, rather than 8am to 5pm on Mon to Friday, have disrupted individual availability for the conventional meal occasions. This time pressured lifestyle is now the norm.
- Between 20-25% of household food expenditure going on food eaten away from home, with a proportion of this activity unplanned and easily accessible at a diverse array of good quality eating out and takeaway venues. This availability of this ready alternative has further disrupted the tendency to plan, buy and prepare food at home on a consistent basis.
- Household shopping for food for preparation at home has moved to multiple weekly shopping trips, as the home consumption patterns have become less rigid and further fuelled by the extended retail trading hours, which have all but eliminated the need to plan household food shopping.
- In more recent times and triggered by the concerns emanating from the 2008 Global Financial Crisis, consumers have warmed to the aspects of their lives that provide security and comfort. This has sparked a stronger desire to connect with their food and a direct interest in where it originates and how it is produced and prepared.

These issues have led households into patterns of consuming food in different ways. The once normal approach of planned weekly shops for set meal occasions is no longer the norm. Food buying is less structured and more decisions and purchases are now made closer to the meal occasion. These changes have created demand for energy and nutrition in smaller doses and therefore locked in a demand for snack size food products. This is not expected to change in the near term.

⇒ **The drivers of snack food demand are now firm food market settings that are unlikely to change in the near term.**

Snack food market size

The snack food market has been defined and quantified, with a broader definition that encompasses an array of food types that are consumed as snacks generating an annual retail sales value of over $9.33b for the year ending 31 Dec 2014, which is the time period for all market valuation in the analysis. This equates to a substantial 11% of the $90b national retail food and grocery market and signals the strength of demand for food in a form that will meet this need.

Total snack food market

The wider range of snack food includes processed foods like confectionary, biscuits, baked goods, beverages, savoury snacks and group of products referred to as healthy snacks, which includes fresh fruits and vegetables.

The products in this market definition include fresh and processed foods and were selected based on the following criteria:

A. The product can be eaten while mobile or "on the run" without further preparation and
B. The product is in a portion size suitable for individual consumption but provides less substance than a standard meal.

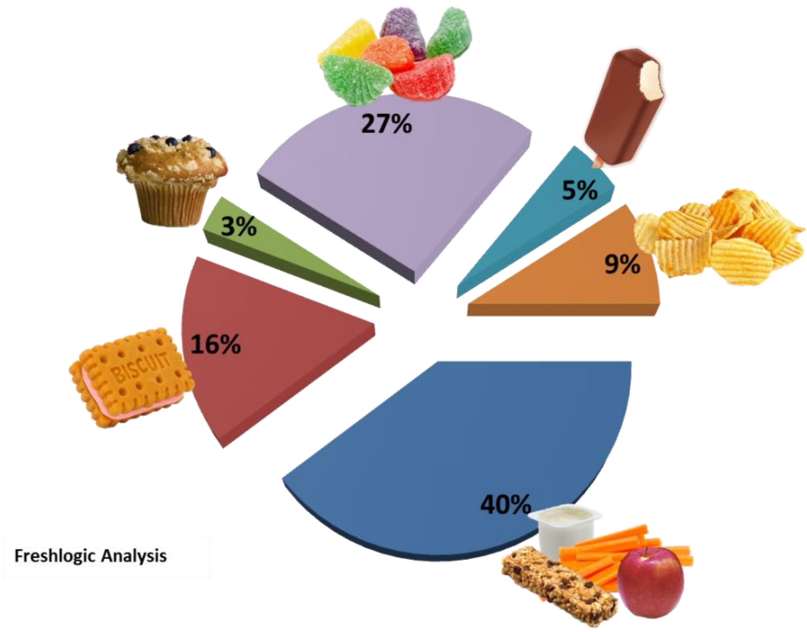
This led to including the following product grouping definitions. They include all product snack food forms that met these criteria, with the exception of fresh bread and beverages, which are excluded as snacking is not the dominant consumption occasions for these products.

Group name	Symbol	Types of products and characteristics
Healthy snacks 40%		• Whole fruit led by apples and bananas but including some proportion of all whole fruits. Mostly sold on a per kg basis. Selected high pedestrian traffic locations retail fruit by the each. • Vegetables for snacking, mainly carrots and tomatoes. • Muesli bars and other "health" bars, which are typically branded. • Yoghurts in single serve tubs which are branded. • Nuts & dried fruit in loose and snack size packs.
Biscuits 16%		• Biscuits, whether dry, sweet or iced, Cookies • Savoury crackers. • Dominated by strong brands. • The shelf stable form allows them to be distributed in most food retail and food service channels.
Baked goods 3%		• Muffins, cupcakes, slices of cake and all other baked goods in single portions.
Confectionary 27%		• All types of confectionary and including chocolate bars • Dominated by strong brands. • The shelf stable form allows them to be distributed in most food retail and food service channels.

Ice cream 5%		• Ice cream bars and single serve tubs of ice cream. • Flavoured ice blocks. • Dominated by strong brands. • Frozen form provides shelf stable form buy often requires support in the form of specialist frozen retail fixtures.
Chips 9%		• Crisps in all forms, most of which are potato based. • Dominated by strong brands. • The shelf stable form enables distribution most food retail and food service channels.

The make-up of the wider snack food market is framed by four product groups; Healthy Snacks 40%, Confectionary 27%, Biscuits 16% and Yogurt 9%, that contribute 92% to the total. These proportions are better profiled in the chart below.

Figure 2: Total snack food market value: $9.33b



It is relevant to note that the processed products in this Total Snack food market definition are typically well supported with substantial investments in well supported brands and due to their shelf stable nature can lever off the scale of being able to be distributed through most if not all food distribution channels. This provides a clear set of snack food competitive advantages, anchored on consumer brand loyalty and distribution economies of scale.

It is also relevant to note that the large majority of fresh fruit that sells against this competitive product set is sold on per kg basis, with the exception being selected high pedestrian traffic locations. The highest volume fresh vegetable, being small berry tomatoes are sold on a per pack basis, which is uniformly how all processed snack foods are sold to consumers.

⇒ **The total snack food market has an annual retail value of $9.33b and contributes a substantial 11% of the national food and grocery retail market.**

⇒ **Product viewed as "Healthy snacks" by consumers contribute 40% to the total snack food market.**

⇒ **Most snack foods are processed shelf stable products that are aligned with well supported brands.**

Healthy snack food market

The full range of snack food includes processed foods like confectionary, biscuits, baked goods, beverages, savoury snacks and group of products referred to as healthy snacks, which includes fresh fruits and vegetables.

While the majority of snack foods are clearly processed foods, the Healthy Snacks group of the market definition, generates a substantial $3.69b. This includes many products that are processed foods, as well as the fresh and fresh cut fruit and vegetables eaten as snacking products. The common features of these products are that they are viewed by consumers as being healthier snacking alternatives. These consumer views are shaped by firm consumer beliefs that products like, fruit & vegetables are healthier, and also by the influence of marketing investments, that have gained acknowledgement for product nutritional and energy attributes, as with the likes of muesli bars and yoghurt.

The products in this group meet the wider criteria for snacks and also meet either of the following additional criteria;

A. They are fresh, fresh cut fruit and or vegetables products
B. They have been marketed to the point where they are viewed by consumers as a healthier snack. In this definition the following are included: dried fruit, nuts, muesli bars, shelf stable fruit in single serves, yoghurts in single serves and liquid breakfasts in single serves (i.e. Up & Go).

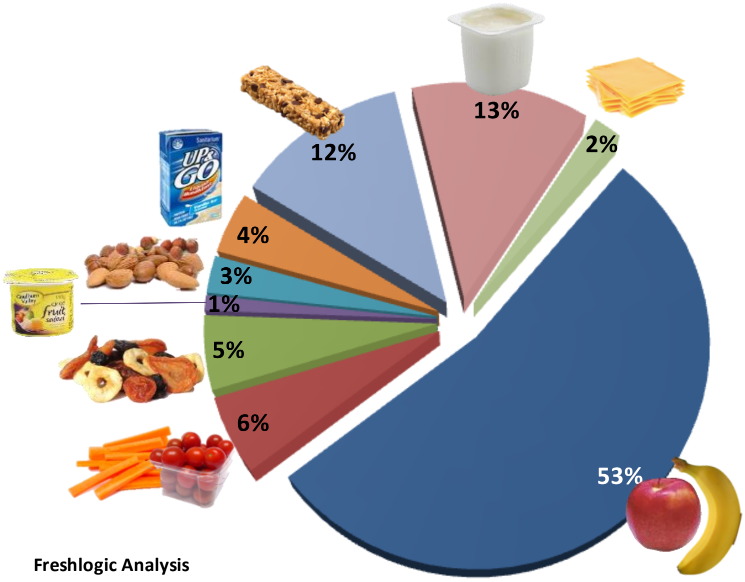
This led to the following product grouping definitions.

Group name	**Symbol**	**Types of products and characteristics**
Fruit 53%		• Fresh fruit including apples, bananas, grapes either sliced or whole. • Varying proportion of all fruit products depending on their use as snacks, including the high growth berry categories that are all sold in small punnets.
Snacking vegetables 6%		• Small fruit tomatoes sold in punnets • Small capsicum and cucumbers, • Sliced vegetables, typically carrots or celery.
Dried fruit 5%		• Dried fruit, including sultanas, raisins and dried apricots.

Health bars 12%		• Muesli and protein bars that have earned their healthy status after marketing investments in brands and exposure with sports sponsorship.
Liquid breakfast 4%		• Dairy based beverage products that have reasonable shelf life and can be eaten on the run.
Nuts 3%		• Nuts for snacking such as almonds, peanuts or cashews, whether salted, roasted or unflavoured.
Yoghurt 13%		• Small tubs of yoghurt, flavoured or unflavoured and at times with fruit. Many of these products are branded.
Other healthy snacks 2%		• Popcorn, cheese slices and other like snacks. • Shelf stable fruit (such as tinned/preserved fruit)

The makeup of this group is better profiled in the chart below. A distinguishing feature in the makeup of this group is the proportion of fresh fruit that is consumed as healthy snacks.

Figure 3: Healthy snacks market: $3.69b



Freshlogic Analysis

Fresh whole and fresh cut fruit eaten as snacks were quantified at $1.93b, making up 53% of this healthy snack group. The other larger groups of products are Muesli Bars 12% and Yoghurt at 13%. Snacking vegetables were quantified as 6% or $210m, with small fruit tomatoes contributing 68% of the snacking vegetables total value.

Clearly the attributes of fresh fruit have won a level of support from consumers and it is considered highly likely their robust portable form is a key enabler. It is relevant to note that the smaller but whole portions of tomatoes, cucumber and capsicum are offering this same attribute. These are indicators of potential for vegetable snacks.

⇒ **The high volume of fresh fruit sold as snacks is an encouraging indicator of the potential for vegetable snacks.**

⇒ **Fresh fruit and some nuts are the only snack food products sold by weight (IE per kg) with all other products sold on a per unit basis.**

Snacking product group retail values

The table below lists the relative value and average price for the various snacking products in Australia.

Group name	Symbol	Retail value ($m)	Average $ price per kg
Healthy snacks		$3,691.8	$5.33 per kg
Biscuits		$1,530.0	$11.36 per kg
Baked goods		$303.8	$9.39 per kg
Confectionary		$2,480.0	$17.57 per kg
Ice cream		$467.4	$19.60 per kg
Chips		$861.1	$15.05 per kg

Source: Freshlogic Analysis

The table below lists the relative value and average price for the various Healthy snacking products in Australia.

Group name	Symbol	Retail value ($m)	Average $ price per kg
Fruit 53%		$1,973.0	$3.93 per kg
Snacking vegetables 6%		$209.9	$9.42 per kg

Dried fruit 5%		$198.2	$10.88 per kg
Health bars 12%		$40.4	$17.63 per kg
Nuts 3%		$99.9	$14.18 per kg
Yoghurt		$472.0	$6.76 per kg
Other healthy snacks		$75.4	$10.22 per kg

Source: Freshlogic Analysis

Comparative value

The retail value of these snack foods is compared in the charts below and reveals the wide variations.

Figure 4: Total snack food market ($9.3b)
Group retail price per kg and share

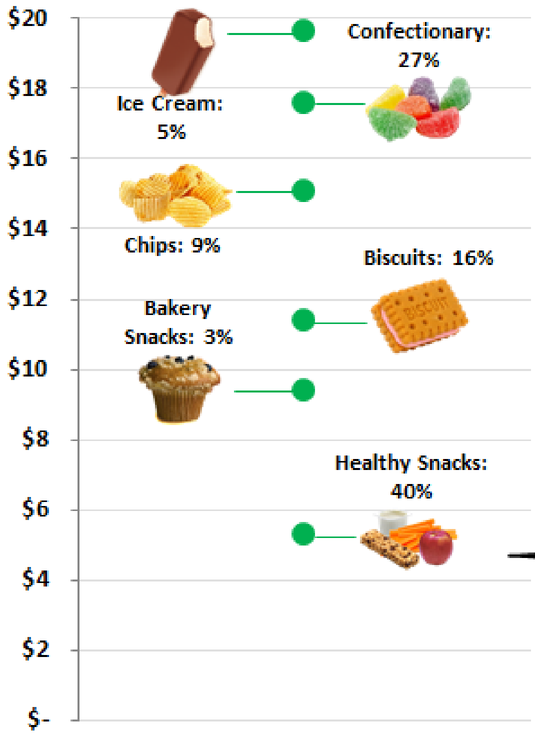
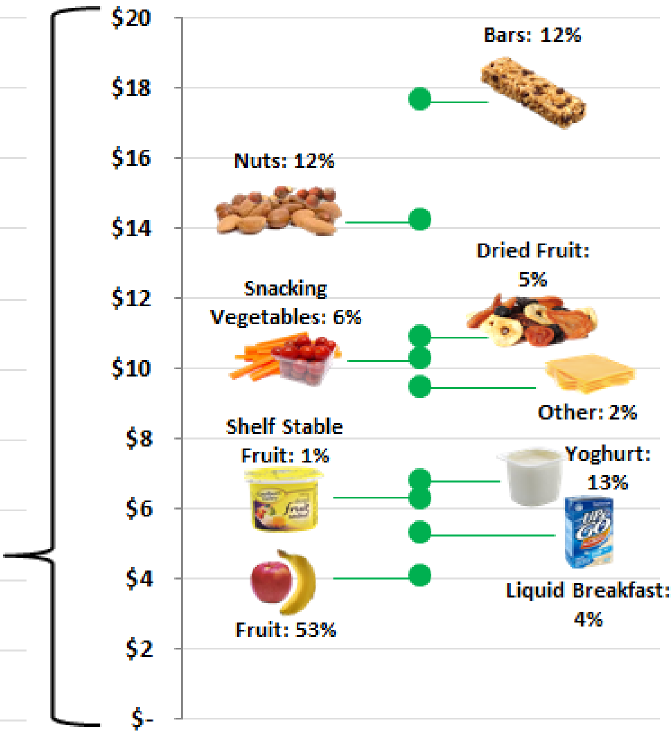


Figure 5: Healthy snack food market ($3.7b)
Group retail price per kg and share



Source: Freshlogic Analysis

⇒ **When the relative value of the range of snacks foods are compared, the value generated by those that enjoy higher marketing investments, is clearly evident.**

Australian snack food distribution channels

Section introduction and overview

This part of the analysis assesses how snack foods are distributed to consumers.

The distribution pathway to consumers is a critical component in ensuring a viable snack food product. A new snack food product that offers strong value and provides attributes consumers are seeking can fail due to inefficient or flawed distribution channels. These risks are compounded in snack food by the high level of competition for retail shelf space and the proportion of heavily supported branded products in that competitive set.

This section identifies the size and shape of the Australian food market and which channels enjoy what level of volumes and share. It then identifies the channels that offer snack food and profiles number of outlets in each sub channel and the nature of that snack food offer.

Through the analysis key findings of relevance are identified and consolidated immediately below this introduction.

Key Findings

⇒ **Supermarkets are the dominant food distribution channel by a substantial amount when compared to other channels in the Australian market.**

⇒ **There are three types of channels, Retail Food Service & Online, and within them several sub channels and numerous outlets servicing the snack food demands of the Australian food consumer.**

⇒ **Clearly there is a strong need to understand and target the channels and outlets that can viably distribute vegetable based snack food products.**

⇒ **There are a number of distribution channel options with the capacity to sell healthy snack food products into the Australian market. However, this does not mean they will all support ranging new snack food products.**

⇒ **Processed healthy snack foods, in a shelf stable form, will be welcomed by many if not most channels. However, the options for fresh or fresh cut snacks are more limited and restricted by distributor and end reseller capacity with the fresh product form.**

⇒ **Apart from the challenges of handling a perishable product, there are substantial barriers to successfully launching a range of vegetable based snack products into the Australian food market. Most of these barriers are related to the FMCG level of competition these products will encounter.**

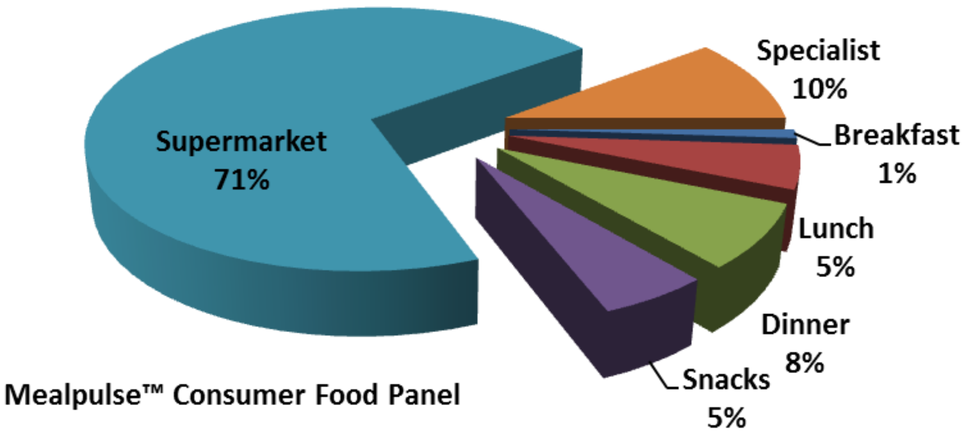
Food Market Settings

In this Australian market the range of different channels have varied capacities and scale, and through that offer varied platforms for distribution.

The Australian food market is serviced primarily by enterprises in food retail and foodservice channels, plus a high level of volume going through a series of emerging online distribution channels that are distinguished by not being linked to physical retail locations.

The proportion of total household food expenditure grouped by retail channel or by the out of home meal occasion is profiled in the chart below. This reflects that supermarkets capture 71% of household food spend, and when combined with specialist retailers (greengrocers, butchers, bakeries, convenience stores etc) it reflects that 81% of household expenditure is on food through retailers, leaving 19% being spent on foodservice channels.

Figure 6: Household food spend by outlet or 'out of home' meal occasion



This analysis profiles that 5% of household food spend is on snacks, as a separate consumption occasion to breakfast, lunch or dinner. Note that this is 'snacks eaten on the run' and does include all snack food purchased. The most significant portion of snack foods are purchased through the retail food distribution channels of supermarkets and specialist retailers. Therefore the mainstream supermarkets dominate the sale of snack foods. It is relevant to note that supermarkets also sell snack foods in multi-packs and are not just selling snacks in singles for immediate consumption.

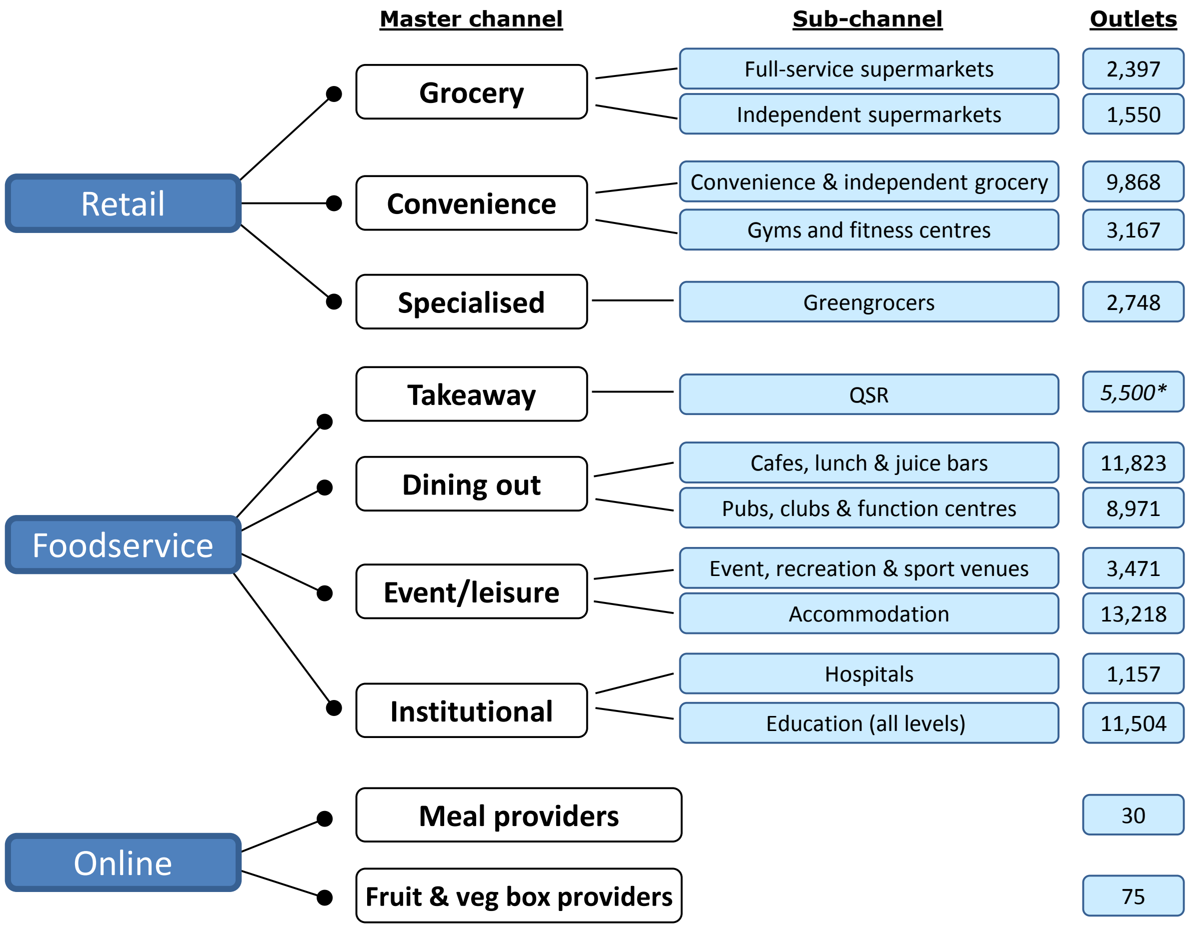
⇒ **Supermarkets are the dominant food distribution channel by a substantial amount when compared to other channels in the Australian market.**

It is also evident there are other lower volume distribution channel options, including convenience stores, cafes, lunch and juice bars, plus a set of emerging channels that include online retailing, home and business delivery, vending machines and gymnasiums that are worthy of consideration. Clearly some channels are better suited to some types of products.

Distribution channels and the number of outlets

The number of outlets in each channel and the productivity of those outlets are the metrics that frame the sales potential. All food distribution channels across retail, foodservice and emerging channels has been assessed as to their capacity to distribute snack foods. This definition is summarised below in a structure that extends down to three levels to quantify outlets at sub-channel level.

Figure 7: Australian snack food distribution channels



** Provisional outlet number to be confirmed*
Source: Australian Bureau of Statistics, Freshlogic Analysis

⇒ **There are three types of channels and within them several sub channels and numerous outlets servicing the snack food demands of the Australian food consumer.**

⇒ **Clearly there is a strong need to understand and target the channels that can viably distribute vegetable based snack food products.**

The sub channel characteristics, their snack food offers, current supply pathways and likely reception to new snack food products are as follows.

Sub channel	Snack food offer
Full service supermarkets **2,397 outlets**	• The dominant retail food distribution channel where all types of fresh and processed snack foods are on offer. • Enterprises include Woolworths, Coles, Aldi and a select number of Super IGA, which are the larger IGA format and FoodWorks outlets. • The limited range offered by Aldi will limit their scope to range all types of snack food product. • All these enterprises operate their own buying teams and manage all aspects of their physical product distribution. • Clearly an option to distribute all new snack food products.
Independent supermarkets **1,550 outlets**	• Medium and smaller format supermarkets. • The large majority of these enterprises will source supply through the Metcash wholesale system, but some will buy independently and receive direct into store. This is more prevalent with fresh food and it requires either the involvement of another wholesaler or some additional logistics service from the supplier. • Will range most if not all snack food products available.
Convenience store & independent grocery stores **9,868 outlets** 	• Convenience stores that are stand alone and annexed to fuel sales forecourts and the smallest corner grocery stores. • Product range more limited to single portion option that can be immediately consumed or suited to buying in a top up shop. • More challenged to manage fresh products, due to limited logistics, lower turnover volumes and less specialised merchandising equipment. • Larger convenience store networks are operating their own distribution centre facilities in a cross dock mode, which receives and despatched stock with hours. This capacity has provided that platform for fresh foods to be distributed. Other enterprises are serviced by the Metcash wholesale operation and plus a number of snack and beverage suppliers operating direct to store deliveries. This distribution method and the typically smaller outlets they service are referred to as the route trade.
Gyms and fitness centres **3,167 outlets**	• Selling food is new but expanding in the form of casual cafes in these outlets. In many respects the health and wellbeing offer from these providers enables credible extension into food, and that is most likely to be healthier food.

	• There are signs of consolidation in this sector with group ownership now expanding and with that ranging, buying and distribution systems becoming more common and gaining scale. • These outlets have low food retailing expertise but enjoy the services of foodservice distributors such as Bidvest, PFD, Nationwide and NAFDA. • They will likely require support, especially with fresh snack food products. • This channel is an option for a well-designed and supported vending offer.
Greengrocer **2,728 outlets** 	• These outlets sell fresh fruit, vegetables and nuts and do offer snacking options of those products. • They are viewed by consumers as the experts and providers of best quality, widest range available and surprisingly the good value. • They are adverse to a profusion of packaging and prefer to convey they are providers of natural fresh fruit & vegetables. • Greengrocers clearly are an option to offer new fresh vegetable snacks.
Quick Service Restaurants (QSRs) ***5,500* outlets (number to be confirmed)** 	• These outlets sell prepared food and some sell a limited selection of snacks. • It includes the top tier operators; Subway, McDonalds, KFC, Dominos, Pizza Hut, Hungry Jacks, Red Rooster, Donut King and with national networks. It also includes the second tier operators with emerging networks including the likes of Aporto, Eagle Boys, Nando's and Pizza Capers. • There are 5,500 of these outlets and they sell high volumes of limited defined product ranges. All responding to rising consumer preferences for healthier food. • These outlets work with highly structured assembly processes supported by the supply of specified ingredients. • Only a limited number of these enterprises cater for all the three day parts, especially breakfast, which means it is only these outlets that can cater for the mid-morning snack. • They will consider new snack food options provided they complement their menu, which may be in the form of further credentialing the nutrition their menus provide. This will be subject these snack foods being easily accommodated in their supply chains and are do not complicate their instore assembly operations. • Services by contracted logistics provides than are either part of a major supplier or operate a cross docking

	operation to combine all deliveries.
Café, lunch & juice bars **13,218 outlets**	• These outlets are predominantly independently owned with a limited number of café and juice bar operators, including the likes of Gloria Jeans, Coffee Club, Hudsons and Boost, operating corporate strictures and medium size networks. • Importantly they cater for the morning and lunch day parts are therefore in a stronger position to sell snack food quantities of food. • The corporate entities will look at snack good options with similar criteria to that used by Quick Service Resturants. Healthy snacks will have stronger appeal to those who have centred their offer on this type of food. • Most of these outlets are services by the foodservice distributors the like of Bidvest, PFD, Nationwide and NAFDA.
Pubs, clubs and function centres **8,971 outlets**	• These outlets provide venues for entertainment and dining which has them providing more meals then snacks. However, in and around these activities, particularly with beverages some snacks are consumed. Currently these snacks are mostly processed foods and often the likes of crisps and nuts. • As with other food channels these outlets can see the increased awareness for healthier food and would welcome a processed snack food product that is derived from vegetables. They would also consider the merit of a fresh snack product, provided it was designed to be easily managed through their operating systems. • Most of these outlets are services by the Foodservice distributors the like of Bidvest, PFD, Nationwide and NAFDA. • This channel is an option for a well-designed and supported vending offer, which could suit shelf stable products like vegetable crisps.
Events, recreation, sporting venues & travel **3,471 outlets** 	• These outlets and venues provide food as a complement to other events. The situation of the attendees requires the food to be easy to prepare and also easy to consume. • Typically this event food is tailored to suit the attending audience, and where demanded the 'footy pie' is offered to the footy fans. Some of these foods are closer to a meal and fall outside the snack definition in this analysis, but some are clearly snacks that provide the portability and portion size that suits the time pressure of a short break. • There are indications of demand for better quality and healthier food alternatives at these sorts of outlets and in

Events, recreation, sporting venues & travel **3,471 outlets**  	these venues, and where this has been provided it has been welcomed. • As with pubs and clubs these outlets can see the increased awareness for healthier food and would welcome a processed snack food product that is derived from vegetables. They would also consider the merit of a fresh snack product, provided it was designed to be easily managed through their operating systems and suit their customer's needs. • These outlets are serviced by the facilities management providers the likes of Spotless, Compass and Sodexo or the foodservice distributors the likes of Bidvest, PFD, Nationwide and NAFDA. • The travel outlets in this channel are the limited number of catering operations that service the airlines. The airlines have clear needs for smaller single portions and are highly sensitive to the image impact of the foods they offer. These outlets have capacities to manage fresh chilled product and have supported healthier snacking options where available. It is envisaged they would welcome snack food derived from vegetable products. • This channel is an option for a well-designed and supported vending offer, which could suit shelf stable products like vegetable crisps.
Accommodation **13,218 outlets** 	• These outlets provide overnight accommodation and in that accommodation invariably provide some snack foods. • All these products are in snack size portions and typically include the likes of crisps and nuts. • These outlets also invariably have refrigeration available for storage which could allow fresh chilled snack products to be made available. • It is envisaged a processed food snack product would be assessed positively by those operating these outlets. It is also expected that fresh snack products would be limited to those operating higher priced accommodation with higher room turnover to ensure stock rotation and freshness. • These outlets are serviced the foodservice distributors the likes of Bidvest, PFD, Nationwide and NAFDA. • This channel is an option for a well-designed and supported vending offer, which could suit shelf stable products like vegetable crisps.
Hospitals **1,157 outlets**	• These outlets require the support of a scratch cooking commissary type facility, which they can own and operate or subcontract to an external provider. This is because they are required to provide three main meals and 2-3 snacks to each patient daily.

	• They are highly sensitive to the costs and yet have to balance that with an obligation to provide healthy nutritious food. • Hospitals will assess an offer of healthier snack food with due acknowledgement of nutritional properties, but strong consideration for the cost. • This channel is an option for a well-designed and supported vending offer, which could suit shelf stable products like vegetable crisps.
Education **11,504 outlets** 	• These outlets include all education institution and facilities includes; day care, primary school, secondary school and tertiary education facilities. • The food required by the students and others who work in these outlets, is centred on snacks for short breaks and lunch. • Servicing a typical school lunch bar with food is challenged by strong preferences for healthy food but low volume turnover and short unpredictable demand windows. These dynamics tend to limit the scope for fresh products but confirm the strength of demand for healthier processed snacks that are shelf stable. • The secondary schools with higher student numbers and tertiary institutes have the scale to manage these pressures and have typically outsourced their catering to facilities providers the likes of Spotless, Compass and Sodexo. • These larger outlets in this channel are options to distribute new snack foods options. • This channel is an option for a well-designed and supported vending offer, which could suit shelf stable products like vegetable crisps.
Meal Providers **On line interface**	• This is an emerging channel where enterprises are using online interfaces to market food directly to consumers. While volumes of online food and grocery are currently low, and estimated at 1.5-2% grocery market share, the growth rates are high at 15-20%. Food market analysts are forecasting this channel will continue to capture share of food sold by those operating retail networks. • These enterprises are offering value in the convenience of the product in a meal ready form, as well as a shopping experience that does not require a store visit. They sell ready to eat meals and sets of ingredients that can be assembled into meals. They offer weekly meals solutions and with that provide options for snacking between maim meals. • The offers from these providers have evolved past diet plans to now promise convenience and balance nutrition. • These enterprises are high volume traders of fresh fruit

	and also sell selected fresh vegetables as snacks. • The home delivery element is the key challenge for these enterprises. This is typically solved with a mixture of agree delivery windows or outer packaging and cold packs, that will hold contents to a minimum temperature. • The leaders and more visible enterprises in the channel include; Lite N Easy, Hello Fresh, My Food Bag but it should be noted there are also numerous state based operations offering similar services. • This is a competitive space with competition between these new offers, similar meal offers in retail and a foodservice sector that had responses with new levels of casual dining. • These enterprises are already selling fresh healthy snacks and are expected to welcome new healthy snack products that can meet their cost criteria.
Fruit & Veg box providers **On line interface** 	• These enterprises are offering boxes of fruit and vegetables to commercial and household buyers who commit to ongoing weekly purchases. • Barriers to entry to this channel are low and consequently the levels of competition are high. • Those selling to commercial clients have designed their offers as a healthy snack alternative that improves the work environment. These enterprises are expected to welcome new healthy snack products that can meet their cost criteria.

The above outline profiles there are a number of options to distribute food snacks to Australian consumers. However, the breadth of options should also be seen for the varying range of capacities these channels offer and the intermediaries that each option will require to function.

⇒ **There are a number of distribution channel options with the capacity to sell healthy snack food products into the Australian market. However, this does not mean they will all support ranging new snack food products.**

⇒ **Processed healthy snack foods, in a shelf stable form, will be welcomed by many if not most channels. However, the options for fresh or fresh cut snacks are more limited and restricted by distributor and end reseller capacity with the fresh product form.**

Apparent barriers for vegetables capturing snack food market share.

Some barriers to entry have already been identified and are largely associated with new products being launched into highly competitive food markets. They are centred on winning retailer or distributor acceptance and finding supply chains that will maintain product integrity, especially if a product requires fresh or fresh chilled handling conditions.

Three other potential barriers, specifically related to vegetable snacks, have been identified as:

- The need to gain acknowledgement for the value of Australian-produced vegetable products. This is highly relevant for vegetable snack products that may be part processed vegetables or utilising part processed vegetable ingredients.
- The scale required to justify investments in new food processing technologies to manufacture processed vegetable snacks.
- The risks of investing heavily in marketing to gain consumer acknowledgement for product attributes that enhance product value.

⇒ **Apart from the challenges of handling a perishable product, there are substantial barriers to successfully launching a range of vegetable based snack products into the Australian food market. Most of these barriers are related to the FMCG level of competition these products will encounter.**

International retail range analysis

Section introduction and overview

This section is an analysis of the available retail range of vegetable snacking products in global markets. It has identified a number of distinct product groups, which can be categorised by their ingredients, product formats and packaging. These individual groups appear to target specific consumption occasions or consumer types, and the combinations of product attributes they offer reflect that targeting. These groups are listed below and profiled in this section.

- Baby carrots
- Small salads
- Small whole vegetables
- Cut vegetables
- Snacking tomatoes
- Cut and whole vegetables with accompaniments
- Processed vegetables

Vegetable snacking products in the global retail range were identified according to several criteria, which included the ability to eat the ingredients as they were offered in the pack without additional preparation, and that were either in single-serve pack sizes (250g or below) or were bulk packs of product clearly intended for snacking use, which would then be separated out into individual servings at home.

The majority of products that met these criteria were not exclusively marketed as a snacking product. Many were not targeted specifically at snacking, and it appeared a primary use would be as an ingredient in a cooked dish or salad. Fresh vegetable retail ranges globally are shifting towards smaller portions, more convenient prepared product forms, and a higher use of packaging, and as this trend continues some products are likely to become 'dual use' products suitable as both meal ingredients and snacking.

This analysis focuses on the global retail profile, and products that are offered for sale in key fresh food retailers in the UK, US and New Zealand markets, and compared to the Australian market. Supermarkets in the Singaporean market were also assessed to provide an insight into the retail presence of vegetable snacking in a developed Asian market, however the range on offer was minimal and individual product types were better represented in other markets.

This profile of what is on offer in supermarkets provides a view of products that have had sufficient commercial success, without assigning undue weight to 'concept' or trial products promoted by suppliers that have not yet validated market demand through sales.

Through the analysis key findings of relevance to snack food opportunities for vegetables, are identified and consolidated immediately below this introduction.

Key Findings

- ⇒ **There is an apparent opportunity to add cut and peeled 'mini' carrots into Australia, and this product has proven successful in global markets.**
- ⇒ **Small salads are there in other developed retail markets, however the local market reflect awareness of this demand with smaller salads already ranged. Therefore, there is no apparent opportunity to add this product to the Australian range.**
- ⇒ **The more durable nature of small vegetables in their whole form is an attractive aid to their supply chain handling.**
- ⇒ **Small portion packs are an expanding part of the Australian vegetable retail range, and there is an apparent opportunity to expand their use beyond meal ingredients to also cater for the snacking opportunity.**
- ⇒ **Small pea and bean packs seen in the UK market offer potential as a snacking product if developed in Australia.**
- ⇒ **While small whole tomatoes are the highest volume fresh vegetable snack in Australia this category is mature and opportunities are likely limited to combination packs.**
- ⇒ **Cut capsicums or peppers are a developing offer in global markets, and there is an apparent opportunity to add this product to the Australian range.**
- ⇒ **There is also an apparent opportunity to add a mixed cut vegetable snacking range, which contains the likes of carrots & celery, to the Australian market. These products are being offered globally in both punnet and heal-sealed tray packs.**
- ⇒ **The Australian market has very few products that combine vegetables with fruit, crackers, seasoning or other ingredients. This is an apparent opportunity to directly target vegetable snacking, albeit facing the challenges associated with producing a mixed-ingredient fresh prepack.**
- ⇒ **There is an opportunity in Australia to expand vegetable purees into a snack offer for older children and adults, leveraging off the existing vegetable baby food and adult fruit puree snack categories.**
- ⇒ **New processing technologies such as freeze drying and vacuum frying are offering potential to develop new shelf-stable vegetable snack products for the Australian market, and early developments can be seen in global markets.**
- ⇒ **A good proportion of the existing Australian processed vegetable snack range is supplied by imported products. Producing these processed snack food products will need business models that can compete with processed imported snacks.**

Baby carrots

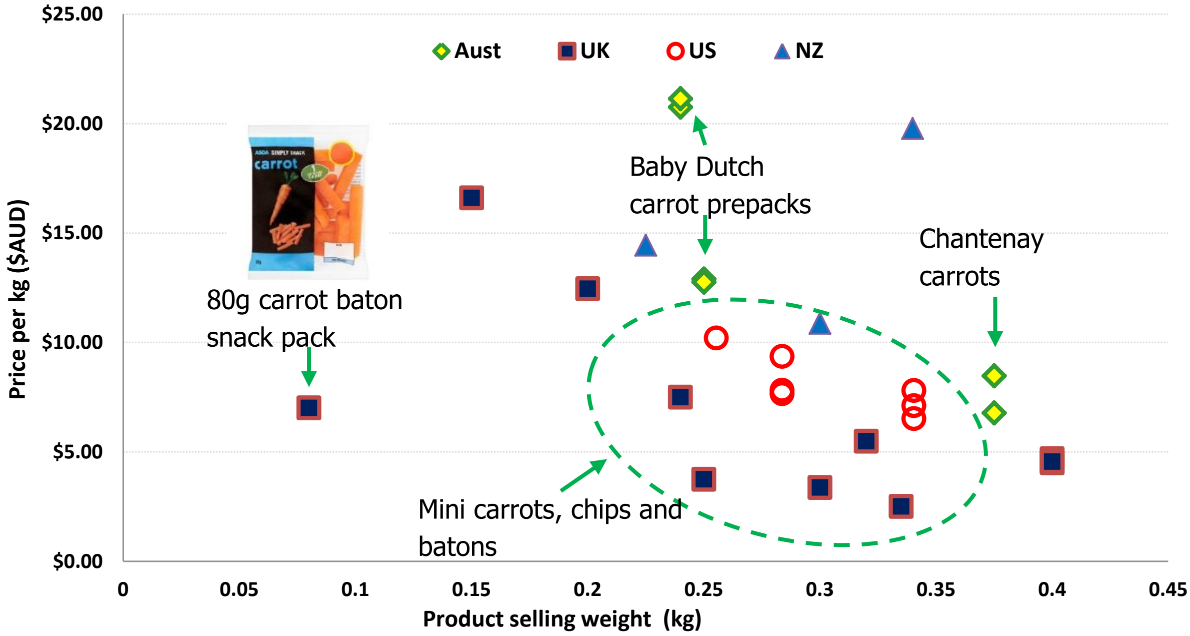
'Baby' or 'mini' carrots are one of the most prominent groups of vegetable snacking products. This is a mature category in the US, where the cut and peeled carrot product was first introduced in the late 1980s. In recent years, the category has been popularised by the 'Eat 'em like junk food' marketing campaign from major US producer Bolthouse Farms.

Mini carrots are available in a broad variety of portion sizes, and are often a key ingredient in snacking packs that mix fresh vegetables with other ingredients (addressed in the following product groups). Packaging is primarily plastic bags, with some stand-up pouches visible in recently-introduced products, and vertical cup punnets for longer peeled carrots. Many include messages about cooking uses as well as snacking use, such as 'peeled and ready to steam, boil or microwave'. 'Ready to use', 'healthy' and 'crunchy' are the most common attributes highlighted on-pack.

Alongside mini carrots, some markets also offer small-portion prepacks of washed 'baby' Dutch-style and Chantenay carrots. These products are different in that they are a whole carrot, are not peeled or trimmed and often have a small amount of leafy top still attached. While these products are less suited to snacking, this is a use highlighted in their on-pack labelling in some markets. The UK and US markets also offer fresh cut carrot chips and batons/sticks. These products are typically retailing for less per kg than peeled mini carrots.

The chart below profiles the range of baby carrots on offer in key retailers in the Australian, UK, US and New Zealand markets. These are products that are offered in small portions suitable for single serves, and in a form that is ready to eat without any further preparation. Not shown on this chart is a Bolthouse Farms 4 x 64g single-serve mini carrot prepack offered in the New Zealand market, which retails at NZ$5.99 a pack each or approximately NZ$23.40 per kg. This global retail range profile provides the best available view of the diversity of products available, the relationship between portion size and price per kg, and the potential gaps in the Australian market. International prices have been converted into Australian dollars for the sake of comparison.

Figure 8: Baby carrots global retail range



Source: Freshlogic Analysis

The UK range is the most diverse, with prices ranging from $2.51 to $16.60 per kg. It appears in all markets that baby Dutch-type carrots earn a price premium, and mini carrots and other chips and batons that are processed from full-size carrots earn a lower price per kg.

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Example 1: Sainsbury Mini Carrots

Price: UK£1.00 per 240g pack (A$8.51 per kg)

Sold at: Sainsbury's (UK)

Description & key attributes:

- "Ready prepared"
- "Washed, simply boil or microwave"

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Example 2: Wegmans Organic Baby Cut Carrots

Price: US$1.59 per 16oz/453g (A$4.95 per kg)

Sold at: Wegmans (US)

Description & key attributes:

- Organic
- Bulk pack for separation at home

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Example 3: Wegmans cleaned and cut triple washed peeled baby carrots Price:US$2.50 per 8oz/225g pack (A$15.70 per kg) Sold at: Wegmans (US) Description & key attributes: • "Microwave right in the bag" • "Cleaned and cut"	

Gaps in the Australian range

The peeled mini carrot product is not offered at any significant level in the Australian retail sector. There is an apparent opportunity to introduce a range of trimmed and peeled baby carrots into the Australian market, aimed at snacking consumption.

This type of product has recently been introduced into the New Zealand market, which now offers baby carrots grown and processed in the US, despite New Zealand having a significant domestic carrot production base. This is a reflection that there is demand for such baby snacking carrots and an ability to earn a premium that is large enough to offset import costs. It may, however, potentially reflect that the cost of suitable processing equipment is a barrier to entry in a smaller market.

⇒ **There is an apparent opportunity to add cut and peeled 'mini' carrots into Australia, and this product has proven successful in global markets.**

Small salads

Small ready to eat salads are an evolving avenue for vegetables to be included in snacking consumption. These products often mix fresh and cooked vegetables with other ingredients such as grains, legumes or proteins (meat, seafood, egg, cheese, tofu etc). These ingredients differentiate the products from other salad ingredients or stand-alone mixed salad products, as while these 'small salads' are designed to be more balanced.

They are also differentiated by their pack type and format. This is typically a pack type suited to mobile consumption, such as a bowl, and includes a fork to eat it with. Their portion size is often at the larger end of what could be considered a snack, and could also be seen as a small meal.

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Example 1: Complete cheddar cheese and apple salad

Price: £2.50 per 155g pack (A$32.99 per kg)

Sold at: Tesco (UK)

Description & key attributes:

- With sliced apple, cheddar cheese and mixed lettuce
- Fork included
- Separate section for cheese and included seasoning sachet
- Part of a range with varying ingredients

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Example 2: Ready Pac Bistro organic Caesar salad

Price: US$3.99 per 156g pack (A$22.80 per kg)

Sold at: Wegmans (US)

Description & key attributes:

- With cos lettuce, chicken meat, parmesan cheese, flat bread chips
- Organic
- Fork included
- Separate section for chicken, flat bread chips, cheese and lettuce, with separate tub for dressing
- Part of a range with varying ingredients

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Gaps in the Australian range

This product group has seen recent introductions into the Australian market, which now offers small salads in a similar format to the examples shown here, in small-portion sizes down to 120g. Reflecting this recent introduction, the Australian range is not as broad and does not offer proteins such as fresh chicken, which present notable logistics and shelf life challenges.

The Australian small salad range does offer a comparable variety of vegetables, however, and on this basis does not have any significant gaps in the small salad range.

⇒ **Small salads are there in other developed retail markets, however the local market reflects awareness of this demand with smaller salads already ranged. Therefore, there is no apparent opportunity to add this product to the Australian range.**

Small whole vegetables

This group consists of products that contain whole fresh vegetables that are offered in small 'bite sized' individual pieces in small-portion pack sizes suitable for single-serve snacking use. It includes 'baby' vegetables other than carrots as well as vegetables that are full sized but appropriately small.

Vegetables in this form enjoy longer shelf life and provide greater handling tolerances than cut vegetable products. This advantage has to be balanced by more challenging production requirements and lower yields than more conventional vegetables.

The portion sizes of these products are suitable for both fresh snacking as well as single-serve use as an ingredient in a fresh or cooked dish. Both ingredient and snacking uses are visible on packaging of products in this group. The vegetable varieties chosen often have their taste attributes highlighted indicating these products are targeting at snacking.

Small cucumbers are the most prominent small portion vegetable product, followed by baby capsicums/peppers, and both products are represented in the Australian market. These two products are more often presented as snacking products in packaging and marketing messaging than varieties such as the sugar snap pea or green bean examples shown below.

The fresh vegetable retail range in developed markets globally is shifting towards smaller portion size, 'ready to use' product formats and greater use of prepacks. As it continues this trend, more products will fall into this group suitable for use both as a vegetable ingredient, and as a stand-alone vegetable snack.

Example 1: ASDA baby cucumbers Price: £1.00 per 6 pieces (A$2.05 per 6 pieces) Sold at: ASDA (UK) Description & key attributes: • "Full of flavour and perfect for snacking"	
Example 2: Seedless baby peppers Price: £1.50 per 120g pack (A$25.56 per kg) Sold at: ASDA (UK) Descriptions and key attributes: • "A specially selected seedless variety that is delightfully sweet"	

Example 3: Waitrose baby sugar snap peas Price: £2.00 per 170g pack (A$23.93 per kg) Sold at: Waitrose (UK) Description & key attributes: • "Super-sweet, crisp, crunchy sugar snaps" • In a portable heat-sealed tray.	
Example 4: ASDA trimmed fine beans Price: £0.49 per 90g pack (A$11.13 per kg) Sold at: ASDA (UK) Description & key attributes: • "Steam 4 mins" • In a small flow-wrap bag.	

Gaps in the Australian range

Baby cucumbers are a mature product in the Australian market, with a range similar to that seen in other developed markets. Baby capsicums/peppers have also been introduced to the Australian market in the last 2-3 years.

In the Australian market, however, vegetables such as beans and peas have not yet been extended to the small portion packs seen particularly in the UK, such as the 90g bean pack shown above. While these products appear to be targeted more at ingredient use, they have clear potential as ready to eat snacking products.

⇒ **The more durable nature of small vegetables in their whole form is an attractive aid to their supply chain handling.**

⇒ **Small portion packs are an expanding part of the Australian vegetable retail range, and there is an apparent opportunity to expand their use beyond meal ingredients to also cater for the snacking opportunity.**

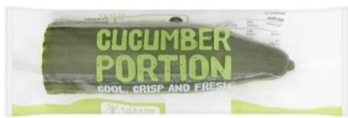
⇒ **Small pea and bean packs seen in the UK market offer potential as a snacking product if developed in Australia.**

Cut vegetables

This group consists of products that contain just fresh vegetables that have been cut or sliced into a more convenient form that goes beyond trimming. These products come in both single-vegetable and mixed-vegetable packs. This group does not include carrot-only products, which are covered in the baby carrot group.

The portion sizes of these products are suitable for both fresh snacking as well as single-serve ingredient use. Snacking is a use highlighted on the packaging of some of these products, however, and the vegetable varieties chosen often have their sweetness highlighted, indicating this group is definitely targeting snacking use.

Cut capsicum and celery are the most prominent sliced vegetables clearly targeted at snacking.

Example 1: Tesco sliced peppers Price: £1.00 per 150g pack (A$13.64 per kg) Sold at: Tesco (UK) Description & key attributes: • "Peel and reseal" • Multi-coloured capsicums in a small snack pack	
Example 2: Carrot and celery sticks Price: US$3.99 per 1lb pack (US$12.45 per kg) Sold at: Amazon Fresh (US) Descriptions and key attributes: • Packed in a clamshell punnet • Peeled and sliced carrot sticks and celery batons	
Example 3: Cucumber portion Price: £0.35 each (A$0.72 each) Sold at: Tesco (UK) Description & key attributes: • Cut cucumber half in flow-wrap • "Cool, crisp and fresh"	

Example 4: Dandy celery snack pack Price: US$2.50 per 12oz pack (A$10.39 per kg) Sold at: Wegmans (US) Description & key attributes: • 4 individual packs contained in outer packaging • "Naturally sweeter & crispier. Washed & ready to eat."	

Gaps in the Australian range

Cut vegetable and mixed vegetable packs intended for snacking have a low market presence in Australia, and only cut celery sticks have a significant representation here. This indicates an opportunity for the Australian range to be extended.

⇒ **Cut capsicums or peppers are a developing offer in global markets, and there is an apparent opportunity to add this product to the Australian range.**

⇒ **There is also an apparent opportunity to add a mixed cut vegetable snacking range, which contains the likes of carrots & celery, to the Australian market. These products are being offered globally in both punnet and heal-sealed tray packs.**

Snacking tomatoes

Tomatoes have been at the forefront of the vegetable snacking growth, with the smaller cherry and grape size tomatoes evolving from a salad ingredient into a snacking product. This shift has been aided by the use of small-portion pack sizes, branding and varieties with a sweet flavour and firm texture. This shift has been the primary driver of the significant value growth the fresh tomato category has experienced globally and in Australia over the last decade.

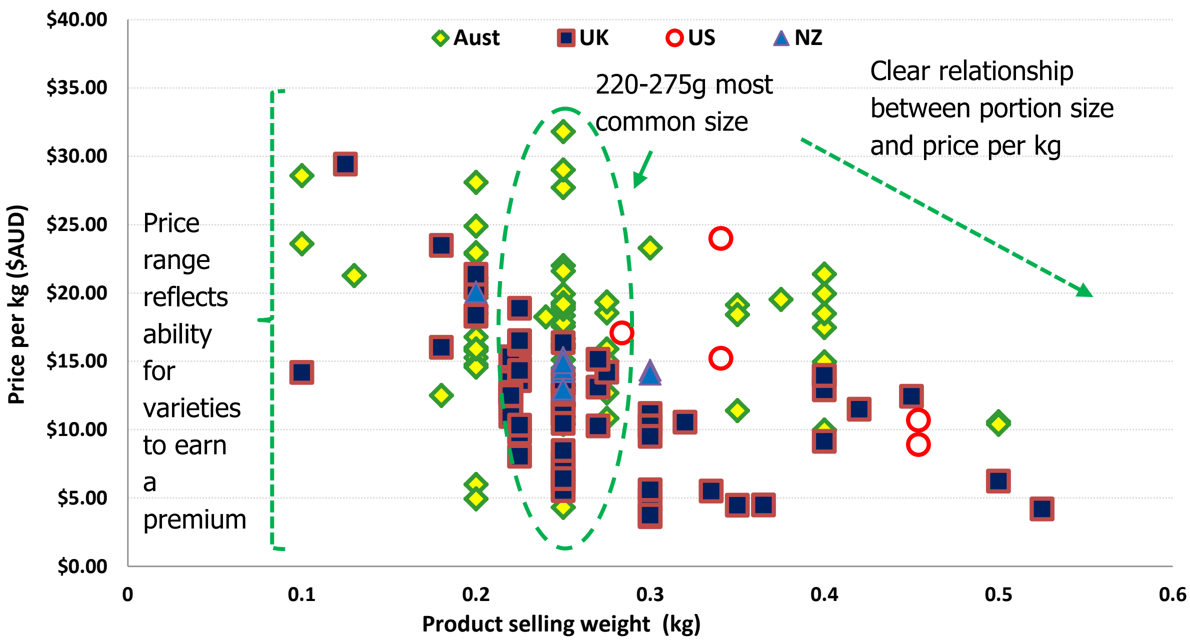
Australia has a mature snacking tomato range, as shown in the chart below, which profiles the global retail range of snacking tomatoes on offer in key retailers in the Australian, UK, US and New Zealand markets. This range includes smaller-portion packs of small tomatoes of the cherry and grape types.

This global retail range profile provides an international view of the diversity of products available, the relationship between portion size and price per kg, and the potential gaps in the Australian market. International prices have been converted into Australian dollars for the sake of comparison.

The Australian market enjoys a very diverse offering of snacking vegetables, with prices ranging from $4.32 to $31.80 per kg, clearly shown in the 250g pack size. This range in pricing is primarily based on variety, with some cherry tomatoes having now shifted to commodity conditions, while some premium branded varieties are earning significant premiums. These higher-value varieties are typically high-colour grape tomatoes.

In Australia, the 250g pack size is the most common, however in the well-served UK market a range of different pack sizes demonstrate both a premium based on variety and product attributes, and a higher average per kg price earned by smaller-portion packs.

Figure 9: Snacking tomatoes global retail range



Source: Freshlogic Analysis

Example 1: Pomodorino tomatoes

Price: £1.75 per 250g pack (A$14.32 per kg)

Sold at: Sainsbury's (UK)

Description & key attributes:

- Baby plum tomatoes
- "Small & sweet, great for snacking"
- In a portable heat-sealed tray

Example 1: Jelly bean tomatoes

Price: NZ$4.99 per 200g pack (A$23.42 per kg)

Sold at: Countdown (NZ)

Description & key attributes:

- "The sweet treats"
- In the same clamshell punnet type used in the berry category

Example 1: Tomberries

Price: £2.00 per 125g pack (A$32.72 per kg)

Sold at: Sainsbury's (UK)

Description & key attributes:

- Very small individual tomatoes
- "Tiny but tasty"
- In a flow-wrapped tray

Example 1: H-E-B Sweet Trio tomatoes

Price: US$6.28 per 12oz/340g pack (A$26.11 per kg)

Sold at: H-E-B (US)

Description & key attributes:

- Brown, yellow and red grape tomatoes in a segmented clamshell punnet
- "Bite-sized and oh so yummy, our H-E-B Sweet Tomatoes are perfect for salads and make an easy, handy snack"

Gaps in the Australian range

There are no significant gaps in the Australian snacking tomato range. However there is scope for tomatoes to be included with other vegetables in combined snack packs.

⇒ **While small whole tomatoes are the highest volume fresh vegetable snack in Australia this category is mature and opportunities are likely limited to combination packs.**

Vegetable cut and whole with accompaniment

This group of products is the most heavily tailored for snacking use, and includes a range of whole and cut vegetables with complementary ingredients that include fruit, crackers, cheese, seasoning or dip. These products are offered in punnet and heat-sealed trays suitable for carrying around in a bag or lunchbox.

Carrots and celery are the most common vegetable ingredients in these packs.

Example 1: Fresh cut snacks whole grain crackers, organic turkey and cut carrots with hummus Price: US$4.50 per 7oz/198grams pack (A$32.11 per kg) Sold at: Wegmans (US) Description & key attributes: • Contains mini carrots, turkey strips, wholegrain crackers and hummus dip • Packed in a heat-sealed tray • Merchandised in-store in checkout lanes Part of a range of fresh cut snacks with vegetable mixes that include: • Sliced capsicum • Jicama sticks • Sugar snap peas • Roasted capsicum dip • Celery sticks • Apple slices • Peanut butter • Rice cakes	   
Example 2: Fruit, vegetables, cheese and pretzels Price: US$2 per 4.3oz/122g pack (A$23.17 per kg) Sold at: Wegmans (US) Description & key attributes: • Contains mini carrots, red grapes, pretzels and cheddar cheese cubes • Packed in a heat-sealed tray	

Example 3: Taylor Farms 'Bursting with Goodness' snack tray Price: US$2.25 per 7oz/200g pack (A$15.90 per kg) Sold at: Walmart (US) Description & key attributes: • A punnet that includes grape tomatoes, peeled 'mini' carrots, broccoli florets, and a small container of ranch dressing • "Quick easy snack, always fresh and convenient" Part of a range of 8 snack trays with mixes that include: • Cheddar cheese • Pretzels • Celery sticks • Almonds • Sugar snap peas • Apple slices	  
Example 4: Bolthouse Farms baby carrot Shakedowns Price: US$0.98 per 2.25oz/64g pack (A$21.64 per kg) Sold at: H-E-B (US) Description & key attributes: • Combined mini carrots with a range of powdered seasonings that includes ranch and chilli-lime • Vertical stand-up bag that suits mobile snacking	

Gaps in the Australian range

The UK has some similar products and the Australian market very few, while the US is clearly well ahead of other markets in developing this specifically snack-focused vegetable category. The highly developed US range shows the potential for offering a range of products that diversify 3-4 core vegetable ingredients with a wide and changing number of complementary products, that can be tailored to appeal to different consumer segments.

The Australian market has very few products that combine vegetables with fruit, crackers, seasoning or other ingredients.

⇒ **The Australian market has very few products that combine vegetables with fruit, crackers, seasoning or other ingredients. This is an apparent opportunity to directly target vegetable snacking, albeit facing the challenges associated with producing a mixed-ingredient fresh prepack.**

Processed vegetables

Processing offers a significant avenue for vegetables to cater to snacking consumption. These products overcome many of the shelf life and logistics challenges associated with fresh vegetable products, as well as enabling the vegetable industry to leverage existing FMCG manufacturing, consumer awareness and distribution networks.

An examination of the global retail range reveals several groups of processed products that are aimed at snacking, and where vegetables are a key ingredient that is highlighted on-pack and in marketing materials.

Dry products

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Example 1: Tyrrell's vegetable crisp range

Price: £2.99 per 125/150g pack (A$40.76-48.92 per kg), or £1.09 per 40g pack (£55.73 per kg)

Sold at: Waitrose (UK)

Description & key attributes:

- Crisps/chips made from sliced hard vegetables
- Vegetables are the primary ingredients, and focus of the product's branding and on-pack messaging

A range of vegetable ingredients that include:

- Sweet potato
- Beetroot
- Parsnip
- Carrot

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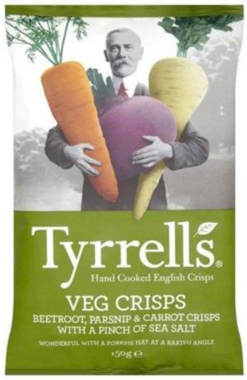

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Example 2: Nothing But vegetable slices

Price: £1.19 per 11g pack (A$221.25 per kg)

Sold at: Whole Foods Market (UK)

Description & key attributes:

- Freeze dried vegetable slices
- Counts as 1 serve of vegetables according to UK dietary guidelines
- No ingredients beyond the vegetables

A range of vegetable combinations that include:

- Sliced beetroot and parsnip
- Peas and sweetcorn
- Snow peas and sliced red capsicum

Wet products

Example 3: Peter Rabbit Organics vegetable snack range Price: US$2.99 (A$4.23) per 4.4oz/125g pouch, or US$18.30-31.49 (A$25.87-44.51) per pack of 10 Sold at: Amazon Fresh (US) Description & key attributes: • Puree made from 100% fruit and vegetables • Offered in mobile, shelf-stable squeezable pouches • Promoted as a snack for both adults and children 6 months and up A range of vegetable combinations that include: • Kale, broccoli and mango • Pumpkin, carrot and apple • Carrot, squash and apple • Sweet potato, corn and apple • Beetroot, carrot and pear • Pea, spinach and apple	 
Example 4: Plum Organics baby food Price: $US1.69 (A$2.39) per 3.5oz/99g or 4oz pouch or US$21.48 per 12 pack (A$25.55 per kg) Sold at: Amazon Fresh (US) Description & key attributes: • Several ranges of purees and yoghurt mixes containing vegetables in combination with fruits, grains, legumes and proteins • Offered in mobile, shelf-stable squeezable pouches • Promoted as baby food A very broad range of vegetable combinations that include: • Kale, sweetcorn and quinoa • Butternut squash, carrot and chickpea • Roasted carrot, spinach and bean • Spinach, pumpkin and chickpea • Quinoa, leeks and chicken • Barley, kale and spinach	

<table>
<tr><td>

- Chickpea, tomato and beef
- Sweetcorn, carrot and turkey
- Sweet potato, blueberries, millet and yoghurt

</td><td>

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<tr><td>

Example 5: Blue Hill yoghurt

Price: US$2.99 per 6oz/170g pot (A$24.85 per kg)

Sold at: Whole Foods Market (US)

Description & key attributes:

- Savoury yoghurts with 30% or more vegetable puree

A range of vegetable ingredients that include:

- Carrots
- Sweet potato
- Beetroot
- Butternut squash
- Tomato
- Parsnip

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</table>

Gaps in the Australian range

In dry products, the Australian vegetable crisp/chip offering has expanded in the last 2-3 years, through a combination of imported products. Notable changes include the market entry of UK based Tyrrells Potato Crisps Ltd, who after a year operating locally have recently purchased Yarra Valley Snack Foods. It is of interest that Tyrrells was started in UK in 2002 by Will Chase, a potato grower who went on to develop a range of premium potato and vegetable snack food products. The international retail markets assessed indicate there is demand for "healthier" processed snacks and these products are most likely to take share off products that are viewed by consumers as less "healthy", like conventional potato crisps.

Freeze dried vegetable snacks, such as Example 2, do not have a significant retail presence in Australia and present an opportunity. These products are recent introductions in global markets as well, however, with a small number of brands involved. As such, their potential in other developed markets hasn't been fully explored.

In wet products, Australia has a more developed range, but one that can still take some lessons from international markets. There are a significant number of brands

offering fruit puree snacks globally, as seen in Examples 3 and 4, and a smaller subset of those offering products that include vegetable ingredients. The majority of these appear to be targeting the baby food market. In Australia the situation appears very similar, and while vegetable puree snack products are available in this market, they are offered as baby food.

There is apparent space to re-focus these vegetable products as a snack for older children and adults. This has already happened in Australia with fruit purees, which have seen a significant expansion in recent years into adult snack products, using an identical format to the existing baby food offer.

Australia already has domestic producers of products such as vegetable-flavoured yoghurt, however while this is a small category, based on international precedents it has potential to grow.

⇒ **There is an opportunity in Australia to expand vegetable purees into a snack offer for older children and adults, leveraging off the existing vegetable baby food and adult fruit puree snack categories.**

⇒ **New processing technologies such as freeze drying and vacuum frying are offering potential to develop new shelf-stable vegetable snack products for the Australian market, and early developments can be seen in global markets.**

⇒ **A good proportion of the existing Australian processed vegetable snack range is supplied by imported products. Producing these processed snack food products will need business models that can compete with processed imported snacks.**

Australian consumer snacking behaviour

Section introduction and overview

This section is an analysis of how Australian households consume and purchase snack foods.

It assesses the current snacking habits of Australian households, identifies the occasions, the types of products consumed as snacks on and their frequency of use.

This research was undertaken using the Mealpulse™ panel, a consumer panel that tracks the spending and consumption habits of Australian households on food. The mix of respondents is managed to ensure results are representative of the Australian population, and is weighted in line with the latest census data.

Panel respondents were asked a series of open and prompted questions about their household snacking habits and the outlet where they purchase snacks. These findings provide a guide for the future assessment of a set of defined vegetable snack food opportunities that has been assessed with a second series of questions.

Through the analysis key findings of relevance are identified and consolidated immediately below this introduction.

Key findings

⇒ **Consumers are most likely to snack during afternoon and morning breaks or in the evening after dinner.**

⇒ **The large majority of consumers do not see snacks as an alternative to a meal, indicating the need for snack food portions to be smaller than a meal.**

⇒ **Many snacking occasions require portable snack food or availability around where snacks are consumed.**

⇒ **Households with children have quite different snacking consumption behaviour.**

⇒ **Healthy snacks are consumed far more frequently than other types of snacks.**

⇒ **Healthy snacks dominate morning snacking.**

⇒ **Other less healthy products are consumed at more infrequent intervals.**

⇒ **Almost all Australian households snack on fresh fruit at least occasionally and this occurs predominantly in the morning and afternoon.**

⇒ **More than 60% of households snack on vegetables at least occasionally. However, the majority of these consumers are not snacking on these products frequently.**

⇒ **Households with children are more likely to snack on fruit and vegetables than households without children.**

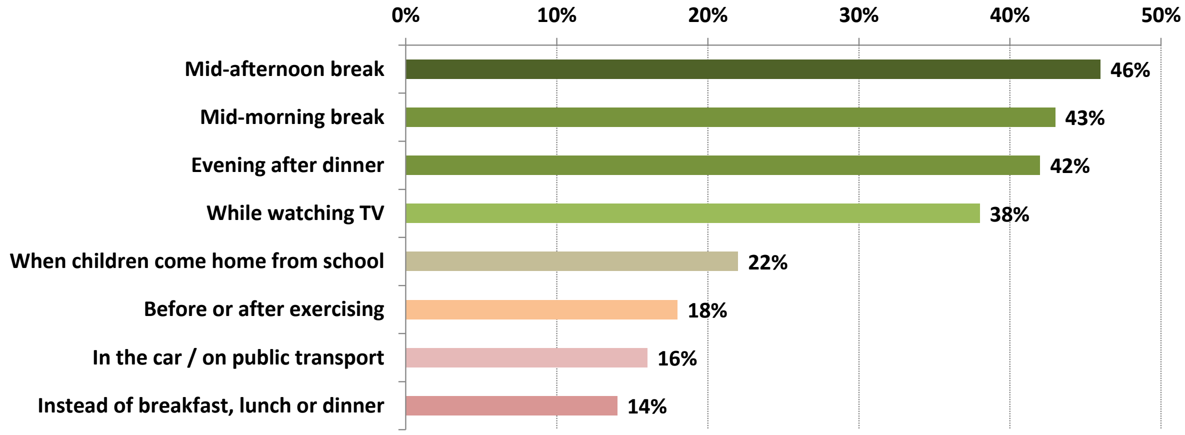
⇒ **The large majority of Australian households consume snacks and differences in consumption patterns are minimal.**

- ⇒ **Supermarkets are by far the most frequently used outlet to purchase snacks.**
- ⇒ **Convenience stores and other distribution channels appear to primarily cater to infrequent snack buyers.**
- ⇒ **The majority of snacks purchased and consumed by Australian households require little to no preparation.**
- ⇒ **Smaller households are more likely to purchase and consume snacks that require less preparation.**
- ⇒ **Given the incidence of snacking on healthy snacks, there is an apparent demand for this product in a ready to eat form, but at the distribution is largely limited to the supermarkets.**

Snacking occasions

Households were asked to rate how likely they were to eat any type of snack during certain occasions. The responses from this question were then used to calculate the likelihood of any member of a typical household consuming a snack product of any kind at various times of the day. The results of this assessment are shown in the chart below.

Figure 10: Incidence of snacking at various occasions



Mealpulse™ Consumer Food Panel

The most common times when typical household members are likely to snack during the day are in mid-morning (43%) and mid-afternoon breaks (46%), as well as in the evening after dinner (42%). Respondents also indicated that snacking while watching television was another common activity when consumers are likely to consume snacking products at 38%.

The amount of respondents who said they would snack instead of a main meal was relatively low at 14%. This confirms that most snacks are not viewed as replacement for as meal and is a signal about optimum snack portion size being smaller than a meal.

Snacking occasions are dominated by the mid-morning and mid-afternoon breaks, some of which occur at home and some away from home. Snacking in the car/on public transport and before/after exercise are all snacking occasions that occur out of home. This indicates that a good proportion of snack food needs to either be portable or readily available in locations to suit these out of home consumption requirements.

When children come home from school (22%) is lower for all households. However, when profiled for households with children, this occasion increased to 43%, making it the leading snacking occasion for these households.

⇒ **Consumers are most likely to snack during afternoon and morning breaks or in the evening after dinner.**

⇒ **The large majority of consumers do not see snacks as an alternative to a meal, indicating the need for snack food portions to be smaller than a meal.**

⇒ **Many snacking occasions require portable snack food or availability around where snacks are consumed.**

⇒ **Households with children have quite different snacking consumption behaviour.**

Products consumed in snacking

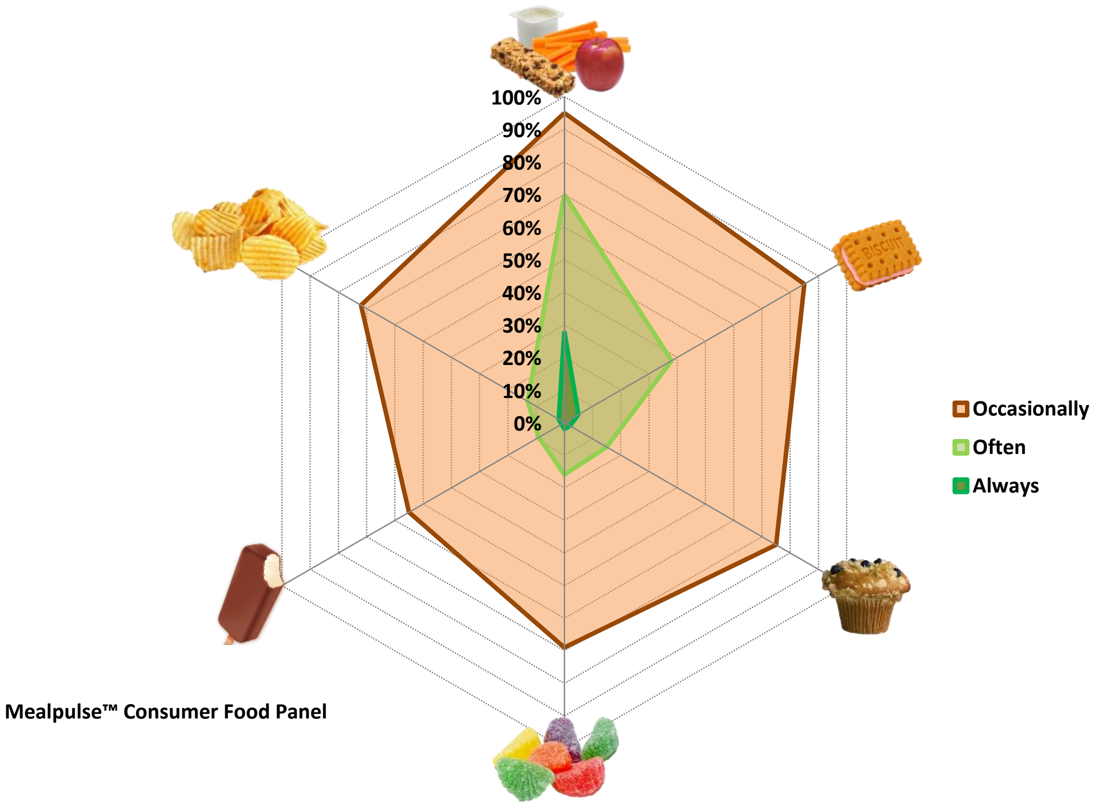
All snack products

Respondents were asked to rate how often their household consumed particular types of snacking products. Responses were collated into groups of products and the frequency of snacking on the product groups, listed below and shown in the chart following.

- Healthy snacks (defined as products consumers view as healthier)
- Biscuits
- Baked snacks
- Confectionary
- Ice cream
- Crisps

This chart shows the proportion of households that consumed these snacks products always, often and occasionally.

Figure 11: Incidence of consumption for snacking products



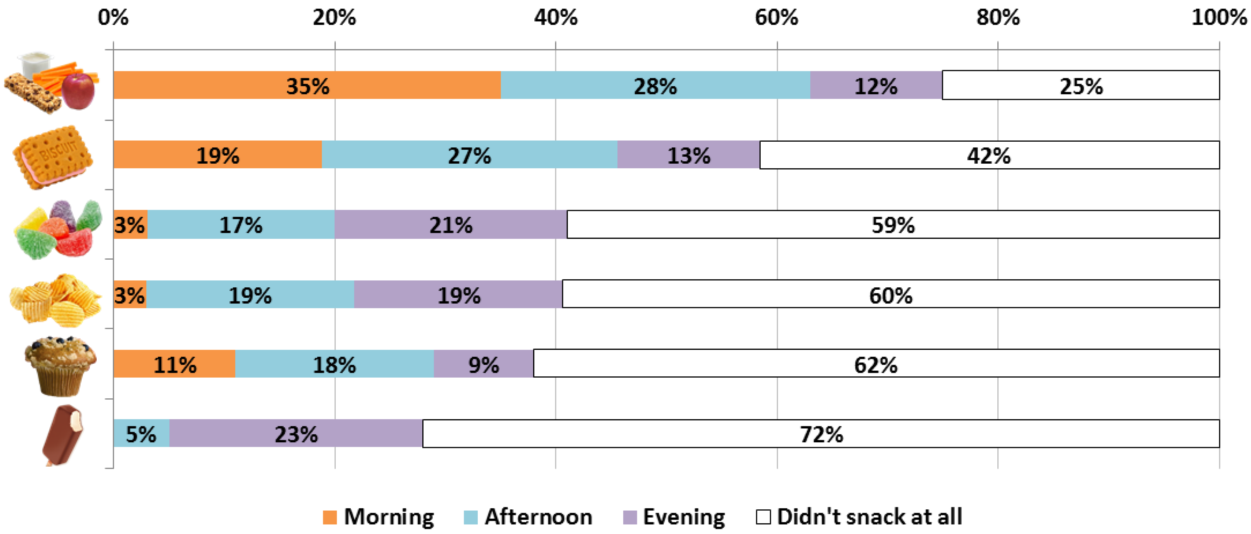
Healthy snacks were the most frequently snacked on group of products, with 95% of households saying they sometimes snack on them, 70% snacking often and 25% stating they always snacked on healthy snacks. The detail of fresh snacks, which includes fresh fruit, yogurt and fresh vegetables, is explained in the following section of this report.

Only 2% of households said they always snacked on less healthy products, such as chips, cakes and muffins, and confectionary such as lollies or chocolate. However, a larger proportion of households said they occasionally snack on these products, with only 25% of households saying they never snack on cakes and muffins, 28% for chips, and 30% for confectionary.

There is some difference to these results when looking at households with children compared to households without children. 97% of households with children said they sometimes snack on healthy snacks, compared to 93% of households without children. However, when it comes to less healthy snacks such as confectionary, 77% of households with children said they sometimes snack on these products, compared to 68% of households without children. In summary there is a stronger inclination towards healthy snacks in households with children.

These links between the patterns of snacking on certain products and the time of day they were consumed were confirmed by respondents advising what they had consumed in the last 7 days. These results are profiled in the chart below. The analysis of responses conveys that more healthy snacks are consumed in the morning and afternoon than other snack types. Consumption of biscuits and baked snacks reflects the most similar profile to healthy snacks, but all other snack food types have low levels of morning consumption.

Figure 12: When in the last 7 days were certain snack products consumed



Source: Mealpulse™ consumer panel

It is relevant to note the likely impact of an 'aspiration' influence on these responses, with respondents drawn toward stating they snack on healthy products more often than they in fact do. To balance this impact the value of the retail markets for these product groups, is quantified in the Snack Food Market Size section of this project, and this provides more direct relative comparison. This analysis concludes that the incidence of snacking for these product groups is a valid reflection of snacking consumption behaviour.

⇒ **Healthy snacks are consumed far more frequently than other types of snacks.**

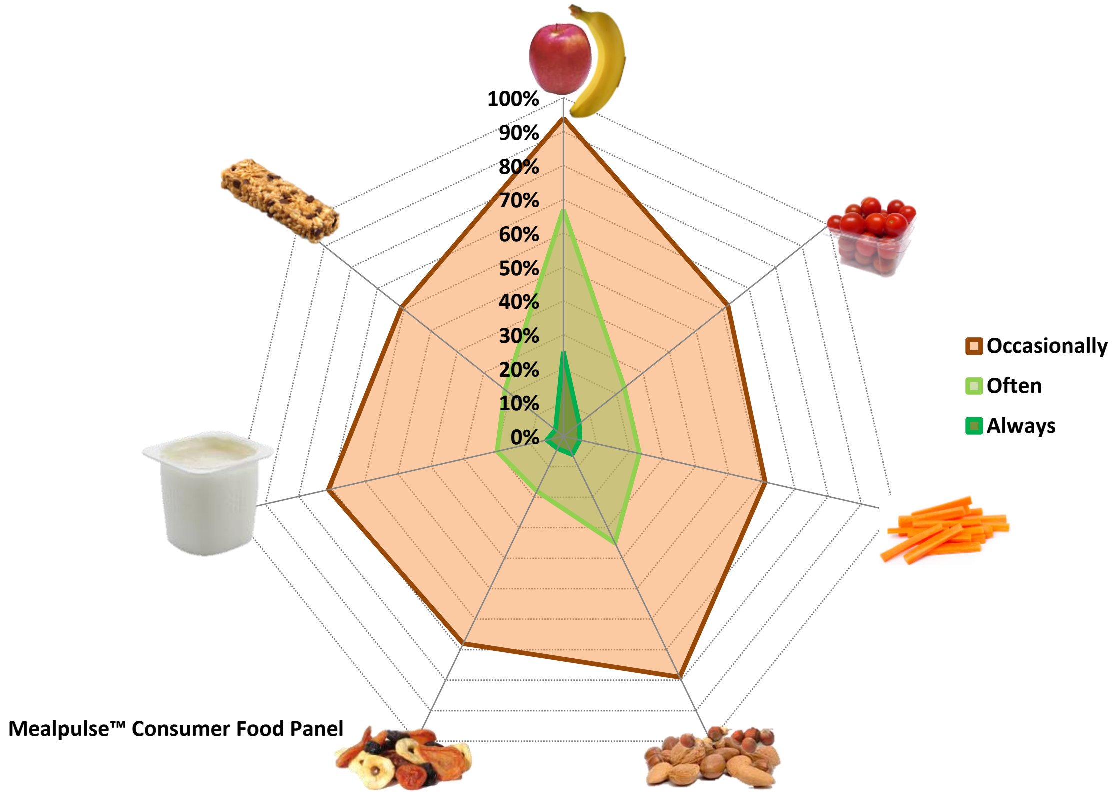
⇒ **Healthy snacks dominate morning snacking.**

⇒ **Other less healthy products are consumed at more infrequent intervals.**

Healthy snack products

Households' responses to the question of how often they consume snacking products was further segmented for the "healthy snacks" product group, into products such as fruit, health bars and sliced vegetables. This information was used to calculate how often households snack on these various product groups, and is shown in the graph below, which profiles the percentage of households that snack on these products at least occasionally.

Figure 13: Incidence of consumption for healthy snacking products



Source: Freshlogic Analysis

Fresh fruit, both whole and sliced, was the most frequently consumed product, with 94% of households saying they sometimes snack on it, and 25% of households saying they always snack on these products. The majority of these consumers are also snacking frequently, with just 27% of respondents saying they only snacked on fruit occasionally.

The number of households who are snacking on vegetables is lower than for fruit, with 62% of households saying they sometimes snack on small tomatoes, and 61% on sliced vegetables. However, 39% of households say they snack on small tomatoes only occasionally, with 38% saying the same for sliced vegetables. This indicates that these products have a larger proportion of consumers who snack only occasionally, and not many "frequent snackers".

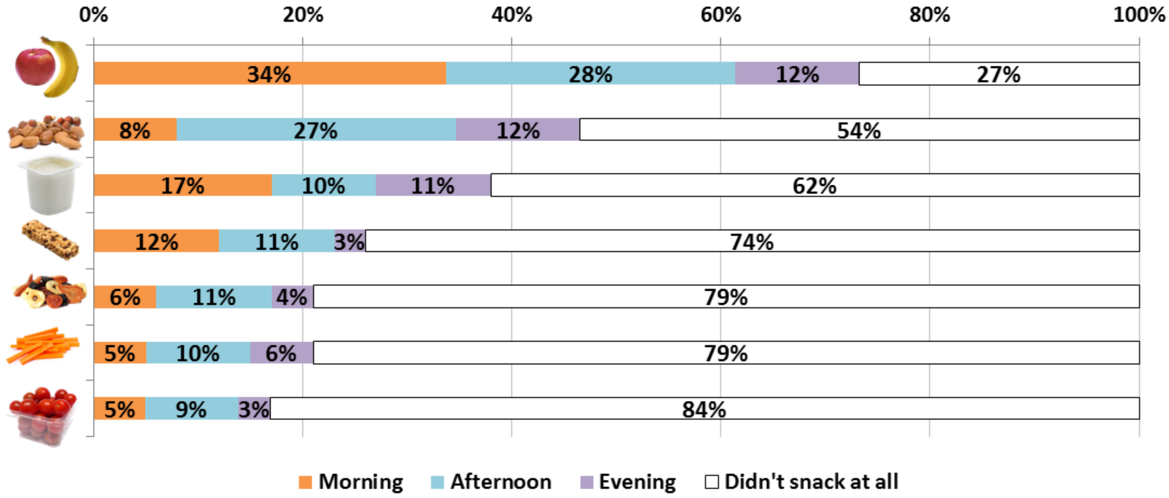
There is some difference to these results when looking at households with children compared to households without children, 70% of households with children said they sometimes snack on small tomatoes, compared to 59% of households without children. Similarly, 80% of households with children said they sometimes snack on sliced vegetables, compared to 54% of households without children. In general these variations show an increased incidence of fresh fruit and vegetable being consumed in households that have children.

These links between the patterns of snacking on certain healthy snack products and the time of day they were consumed were confirmed by respondents advising what they had consumed in the last 7 days. These results are profiled in the chart below and the analysis of responses conveys;

- Fresh fruit dominates morning snack consumption,
- Nuts are mostly consumed in the afternoon, as are dried fruits.
- Yogurt has more even consumption pattern over morning, afternoon and evening.
- Health bars (Muesli) are consumed evenly over the morning and afternoon.
- Fresh cut and whole vegetables are mostly consumed in the afternoon.

Consumption of biscuits and baked snacks reflects the most similar profile to healthy snacks, but all other snack food types have low levels of morning consumption.

Figure 14: When in the last 7 days were certain snacks consumed



Source: Mealpulse™ consumer panel

⇒ **Almost all Australian households snack on fresh fruit at least occasionally and this occurs predominantly in the morning and afternoon.**

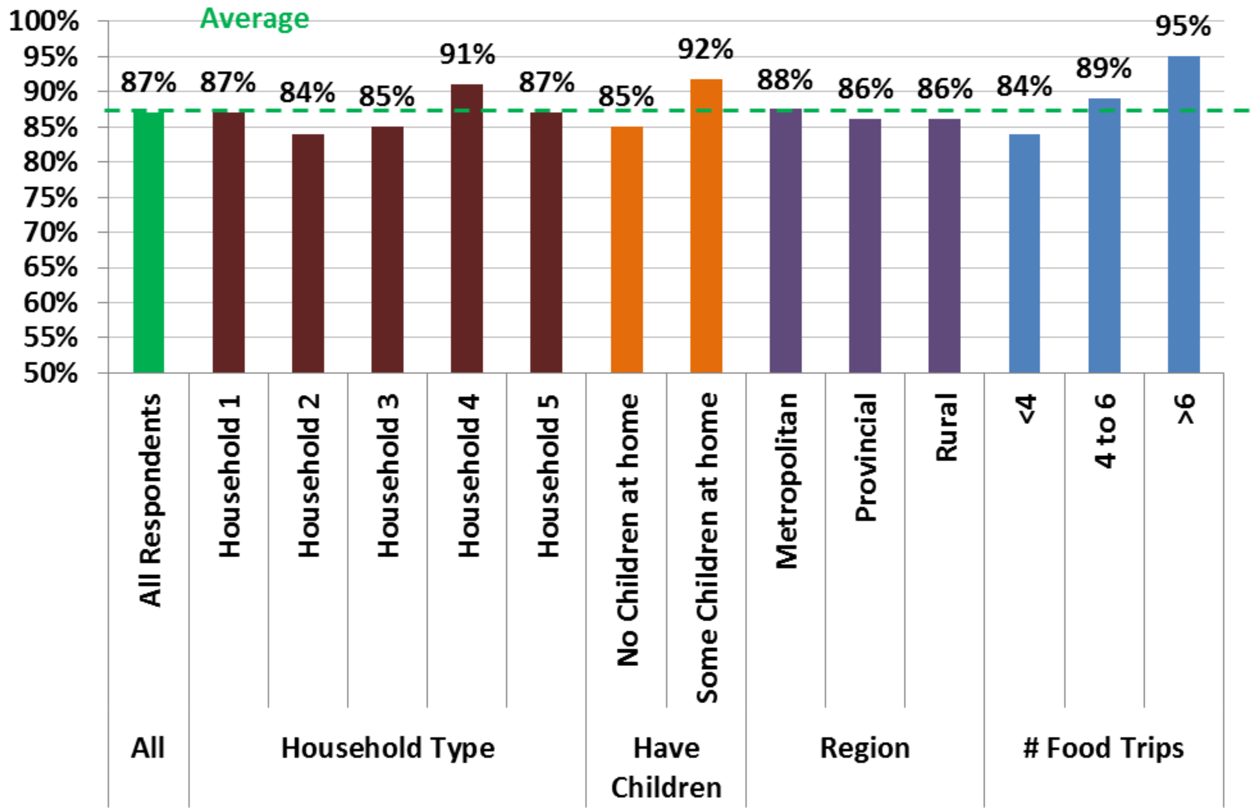
⇒ **More than 60% of households snack on vegetables at least occasionally. However, the majority of these consumers are not snacking on these products frequently.**

⇒ **Households with children are more likely to snack on fruit and vegetables than households without children.**

Other influences on snacking

Other aspects of households were explored to identify other influences on snacking behaviour. This included household type, presence of children, location and frequency of shopping.

Figure 15: Households that consume snacks



Source: Mealpulse™ consumer panel

The key findings are;

- Snacks are consumed by virtually all Australian households, with the lowest level of 84% based on the range of measures identified above.
- The strongest correlations with higher levels snacking were; households with higher income, households with children and households that shop more frequently.

Snacking behaviour was also assessed based on respondent views related to food related issues and behaviours. This was determined according their response to the statements listing under each of the following heading.

Health conscious

- Follow a low-fat diet or is concerned about cholesterol
- Avoid certain foods, dairy or red meat
- Mainly eat vegetarian food
- Avoid buying food with artificial additives

Foodie

- Love to cook
- Like to try out new foods and recipes

Convenience

- Too busy to prepare meals at home
- Buy takeaways to eat at home often
- Buy more ready prepared meals

Ethical

- Buy smaller portions to avoid throwing food out
- Are prepared to pay more for 'ethical' attributes organics, free range or local food
- Try to principally buy organic food

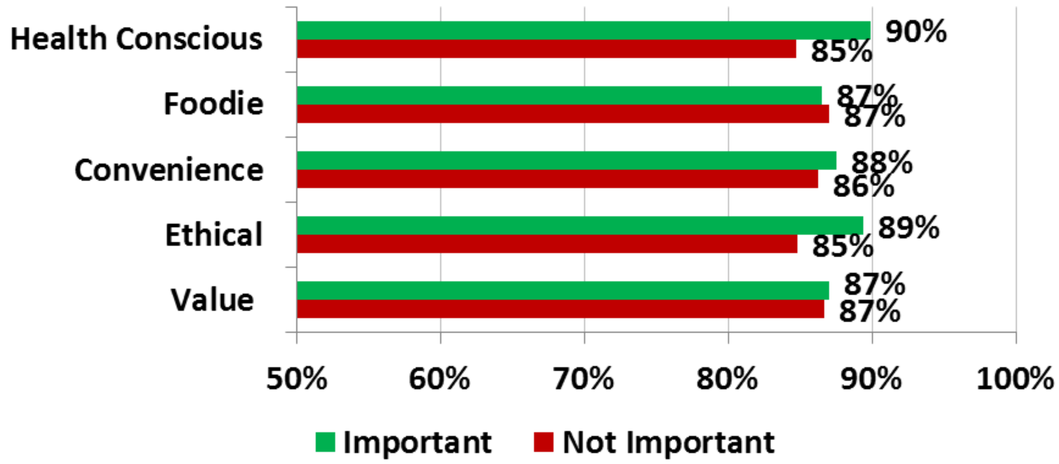
Value

- Watch their food budget carefully
- Change what they eat because of higher prices
- Consider eating out more expensive than eating at home

The chart below summarises responses. It profiles the differences in consuming snacks based on whether the respondent views the various statement as important or not important.

The differences are minimal with the greatest gap, being that 4% more respondents, who view Health Conscious and Ethical, as more important, are consuming more snacks than those who see these issues as not important. The findings confirm the mainstream nature of consuming snacks across Australian households.

Figure 16: Households that consumer snacks - Attitudes



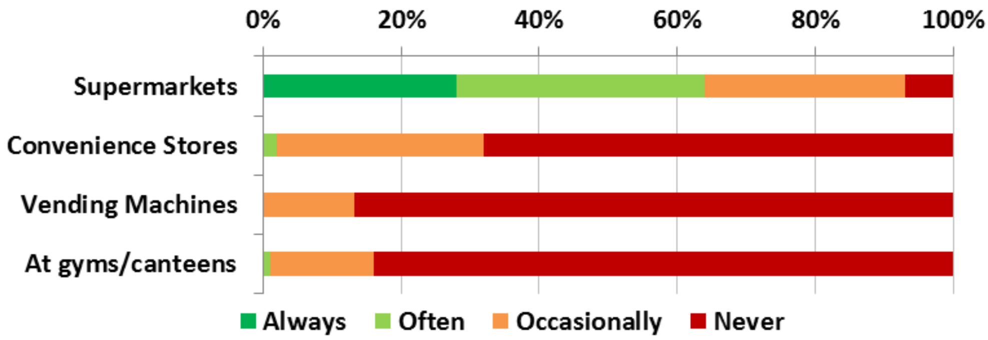
Source: Mealpulse™ consumer panel

⇒ **The large majority of Australian households consume snacks and differences in consumption patterns are minimal.**

Where do consumers typically purchase snacks?

Households were asked how often they purchased snacking products from various outlets. The results are summarised in the graph below.

Figure 17: Frequency of purchasing snacks from certain locations



Source: Mealpulse™ consumer panel

The supermarket is by far the most common place where households purchase their snacks, with 64% of households saying they purchase snacks from there at least often, while only 7% said they never purchased snacks from a supermarket. It is likely that this high frequency of shopping for snacks at supermarkets is influenced by the sales of multi-packs of snacking products, as well as the high incidence of fruit snacking.

Convenience stores are the next most common place where snacks are purchased, with 32% of households saying they purchased snacks from there at least occasionally, while 68% of households said they never purchased snacks from convenience stores.

18% of households purchased snacks from occasionally gyms or canteens and only 13% of households said they occasionally purchased snacks from a vending machine.

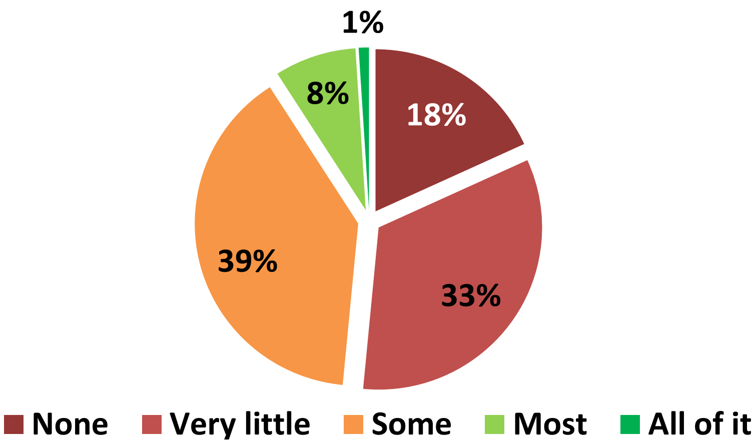
⇒ **Supermarkets are far the most commonly frequently used outlet to purchase snacks.**

⇒ **Convenience stores and other distribution channels appear to primarily cater to infrequent snack buyers.**

How much preparation is involved

Households were asked what proportions of the snacks they eat require preparation before they can be eaten. The results are shown in the graph below.

Figure 18: What portion of snacks require preparation?

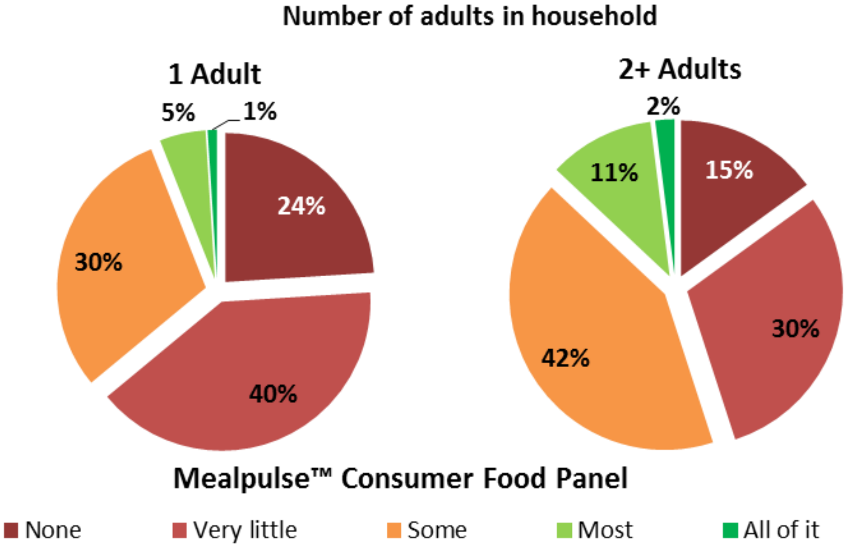


Source: Mealpulse™ consumer panel

The majority of Australian households, or 53%, are buying snacks that do require very little or no preparation. There are, however, 39% of households who are willing to do some preparation for snacks, which has particular relevance to healthy snack products. There is also a small portion of the market that prepares all or most of their snacks themselves from primary ingredients.

There is some difference to these results when looking at households with 1 adult compared to households with 2 or more. The results are shown in the graph below, which compares responses from households with one adult in them to responses from households with two adults in them.

Figure 19: What portion of snacks require preparation?



Source: Mealpulse™ consumer panel

Smaller households with only 1 adult were less likely to buy snacks that require preparation, while households with 2 or more adults were more open to products that required some preparation. ABS data indicates households with 1 adult, currently make up approximately 23% of the total households in Australia.

⇒ **The majority of snacks purchased and consumed by Australian households require little to no preparation.**

⇒ **Smaller households are more likely to purchase and consume snacks that require less preparation.**

⇒ **Given the incidence of snacking on healthy snacks, there is an apparent demand for this product in a ready to eat form, but at the distribution is largely limited to the supermarkets.**

Quantification of vegetable snacking opportunities

The previous stage of this project analysed the available retail range of vegetable snacking products in global markets, and compared it to the range available locally to identify range gaps that may present opportunities to introduce vegetable snacking products into the Australian market.

These range gaps were assessed as potential opportunities according to the scale of their presence and success in global markets. For opportunities identified by this process, consumer research was conducted into test case products that were visible in the global range.

Exploration of these products was intended to test the water for these opportunities, and indicate the potential scale of these opportunities if successfully catered to.

Further examination of these opportunities involved an exploration of the key issues involved in servicing each opportunity, such as potential to sell through different distribution channels and the challenges in establishing a new retail product, as well as investment factors involved in launched a new product to meet this opportunity, such as likely equipment and sourcing requirements.

There are further opportunities for growth identified in the previous stage of this analysis that do not require a new product launch and are not quantified here. These include sales growth of the current vegetable crisp/chip offering (using vegetables other than potatoes), and the marketing extension of existing small-portion vegetable packs like peas and beans to also encourage snacking use.

Market sizes

The results of this research were then extended out to estimate a potential market size for each test case. These potential market sizes can be understood as:

- Dependent on consistent national supply availability.
- Variable based on actual retail pricing.
- Representative of the product type potential as a whole, rather than one individual product.
- Variable based on competing products; these individual market sizes are not cumulative, and are likely to face competition if many products like this are introduced simultaneously.

These market sizes were arrived at by considering the potential total market demand, calculated using the number of consumers likely to buy and how frequently they thought they might consume each product, against the likely exposure of the product through the various distribution channels available in the Australian market for vegetable snack foods.

Distribution channel exposure was determined with consideration for the current availability of like products in each channel, geographical location of suppliers and the logistical constraints and the precedents for ranging fresh chilled product in the Australian market. Important considerations that guided the assumed distribution exposure included;

- These types of product rarely get uniform widespread ranging across all retailers unless they are well supported and branded FMCG products, and therefore levels of uptake across each distribution channel will be limited to some extent.
- The different distribution channels have different levels of sales productivity, which must be accommodated. For instance a full service supermarket that is generating weekly sales of $75,000 in fresh fruit and vegetables is quite a different distribution proposition to a set of vending machines in hotel accommodation.
- Some products will be suitable for supermarkets only, while others are suitable for

supermarkets as well as other channels, meaning some products have a wider distribution scope.

These considerations were then taken out to an average carton throughput per outlet per week and this was then extended out to the annual retail sales values listed in the detail of the analysis below.

Consumer demand

Research conducted using the Freshlogic Mealpulse™ consumer panel presented respondents with these test case products, and asked if they were available locally how likely they were to purchase, how frequently they thought they might consume the product and how much they thought it would be worth.

Respondents that said they were unlikely to purchase a particular product were asked why they did not want to buy, and their responses were analysed to determine common reasons.

Each test case product presented to respondents reflected an unbranded version of the most prevalent type of product that represented each identified vegetable snacking opportunity, as determined by the global retail range analysis conducted in earlier stages of this project.

Consumer responses are also segmented, analysed and presented by:

A. Demographics according to Freshlogic's five household types,
B. Respondent resident local segmented by rural, provincial and urban residential location, and
C. A psychographic profile based on a range of consumer attitudes towards food consumption and purchasing. The attitudes and values that frames these consumer groups are detailed below:

Health conscious

- Follow a low-fat diet or is concerned about cholesterol
- Avoid dairy or red meat
- Mainly eat vegetarian food
- Avoid buying food with artificial additives
- Look for food with high micronutrient content

Foodie

- Love to cook
- Like to try out new foods and recipes

Convenience

- Too busy to prepare meals at home
- Buy takeaways to eat at home often
- Buy more ready prepared meals

Ethical

- Buy smaller portions to avoid throwing food out
- Are prepared to pay more for 'ethical' attributes organics, free range or local food
- Try to principally buy organic food

Value

- Watch their food budget carefully
- Change what they eat because of higher prices
- Consider eating out more expensive than eating at home

Opportunity key findings

Baby carrots 	Potential market value: AU**$10.61-13.26 million pa** Potential market volume: **4.26-5.33m units** Price: $2.49 each Consumers who may buy: **37%** Ease of servicing opportunity: **4.5**
Shake downs 	Potential market value: SAU**$9.66-12.07 million pa** Potential market volume: **3.23-4.04m units** Price: $2.99 each Consumers who may buy: **11%** Ease of servicing opportunity: **3.8**
Celery combination packs 	Potential market value: AU**$14.87-18.59 million pa** Potential market volume: **4.26-5.33m units** Price: $3.49 each Consumers who may buy: **29%** Ease of servicing opportunity: **5.8**
Sliced capsicums 	Potential market value: AU**$2.98-3.73 million pa** Potential market volume: **1.2-1.5m units** Price: $2.49 each Consumers who may buy: **19%** Ease of servicing opportunity: **3.5**
Vegetable puree 	Potential market value: AU**$3.58-4.48 million pa** Potential market volume: **1.2-1.5m units** Price: $2.99 each Consumers who may buy: **9%** Ease of servicing opportunity: **3.3**

<table>
<tr>
<td>Two vegetable combination packs

</td>
<td>Potential market value: AU$17.00-21.25 million

Potential market volume: 4.26-5.33m units

Price: $3.99 each

Consumers who may buy: 29%

Ease of servicing opportunity: 6.0</td>
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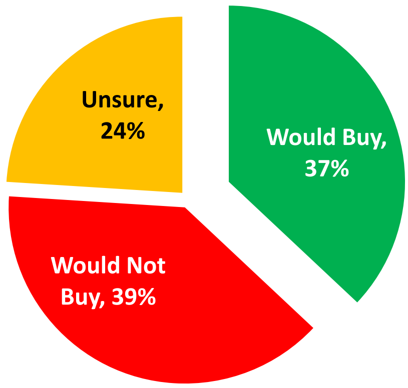
Demand and market size

Opportunity A: Baby Carrots

Figure 20: Baby carrots – likelihood to try



Source: Mealpulse™ consumer panel

Potential market size

37% of respondents said they would be interested in buying this product.

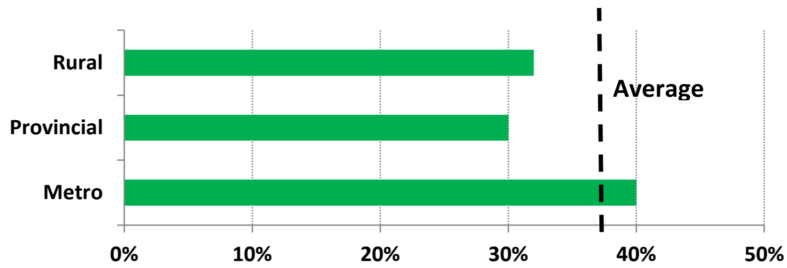
Consumers indicated they would pay an average of $2.84 for this product. This product could therefore expect to receive a recommended retail price of **$2.49 per each**. At a weight of 454g, this is equivalent to **$5.48 per kg**.

Assuming sales of **4.26-5.33 million units** through the supermarkets, independent retailers, cafes and education distribution channels, potential total market size for this product could be **$10.61 million** to **$13.26 million**.

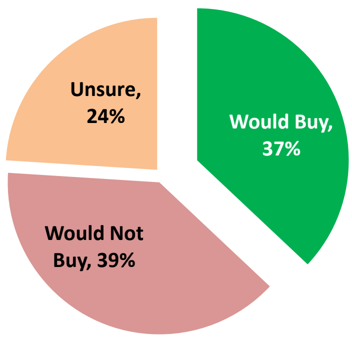
Likely buyer profile

37% of respondents said they would be likely to buy this product. When looking at the profile of respondents who said that they would buy, those in metro areas were the most likely to purchase this product, at **40%**, while people in rural areas were least likely to purchase at 30%.

Figure 21: Baby carrots – % of people who would buy by region

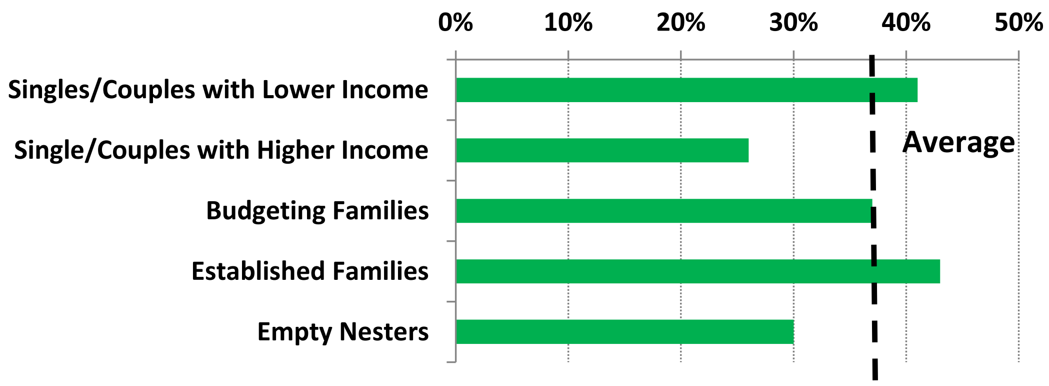


Source: Freshlogic Analysis



The household types most likely to purchase these products were established families at **43%** and Singles and Couples with Lower Income at **41%.** Singles & Couples with a Higher income were the least likely to try this product, at **26%** of respondents.

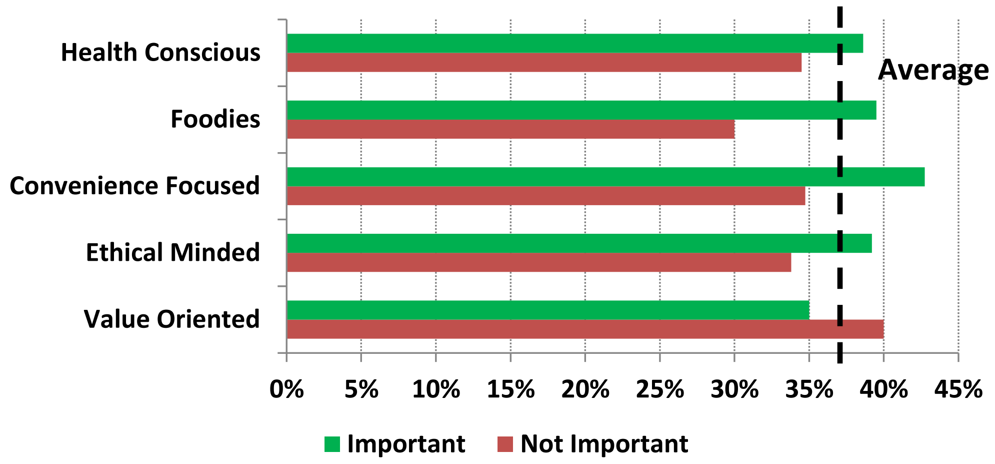
Figure 22: Baby carrots – % of people who would buy by household



Source: Freshlogic Analysis

Respondents that value convenience are most likely to be interested in trying this product (43%, compared to 35% of respondents for whom convenience is not important). Respondents for whom healthy eating is important (**39%**) were more likely to want to try this product than respondents for whom healthy eating is not as important (35%), reflecting an interest in healthy snacking.

Figure 23: Baby carrots – % of people who would buy by attitude



Source: Freshlogic Analysis

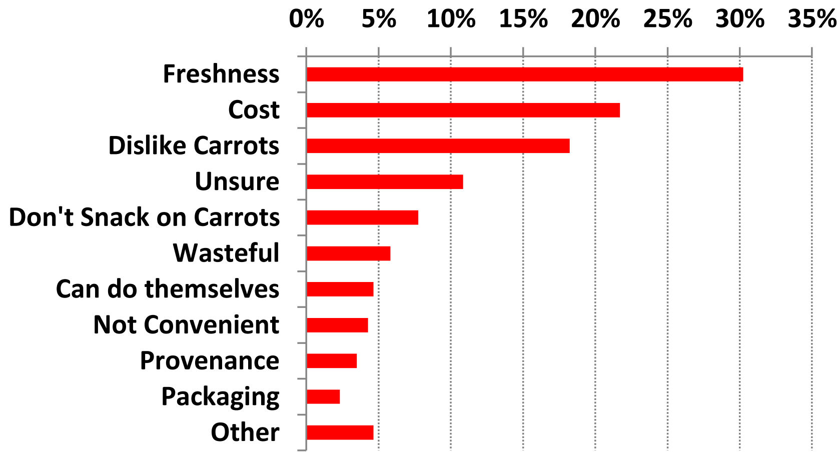
Reasons for not buying

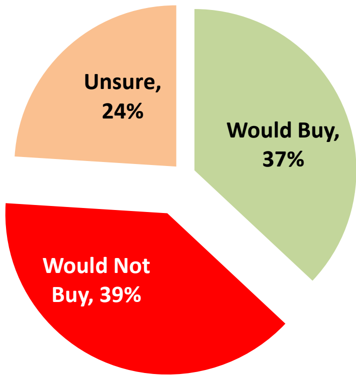
39% of respondents said they would not buy this product.

Respondents who said they would not buy were asked to explain why they were unlikely to try it, and their responses were categorised into certain groupings based on common reasons, with many respondents giving more than one reason.

The main reasons given for not being willing to try this product were concerns about how fresh the product would be (**30%**) and the likely cost of the product (**22%**). There were also a certain number of respondents who indicated they either did not want to snack on carrots (**8%**) or didn't like carrots at all (**18%**).

Figure 24: Baby carrots – reasons for not buying





Source: Freshlogic Analysis

A number of respondents said they thought the product was wasteful (**6%**), and that they could effectively make this product themselves (**5%**). **3%** of respondents indicated they would only purchase the product if they were sure that the carrots were Australian.

> ***"The packaging looks good and convenient, but I'm worried about the price."***
> 25-29 year old woman in metropolitan Victoria – couple with no kids

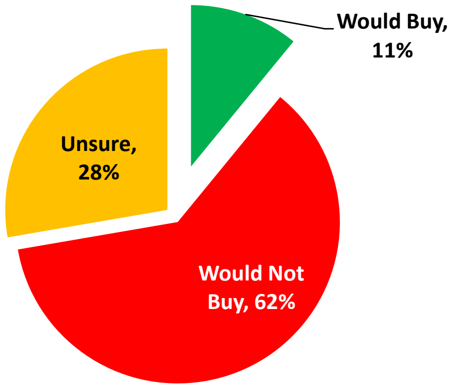
> ***"Not the sort of snack food I would fancy, I might buy them to have as a vegetable though, they look quite attractive."***
> 60-69 year old woman in provincial Queensland – single & living alone

> ***"I'd just buy regular carrots and cut them myself. It looks unhealthy in a chip-like packet. Not appealing."***
> 20-24 year old man in metropolitan Victoria – single & sharing with other adults

> ***"Prefer to buy fresh ones and cut them up myself. Know they haven't been frozen for weeks beforehand then! And probably cheaper."***
> 30-39 year old woman in metropolitan Western Australia – single & sharing with other adults

Opportunity B: Shake Downs

Figure 25: Shakedowns – Likelihood to try



Source: Mealpulse™ consumer panel

Potential market size

11% of respondents said they would be interested in buying this product.

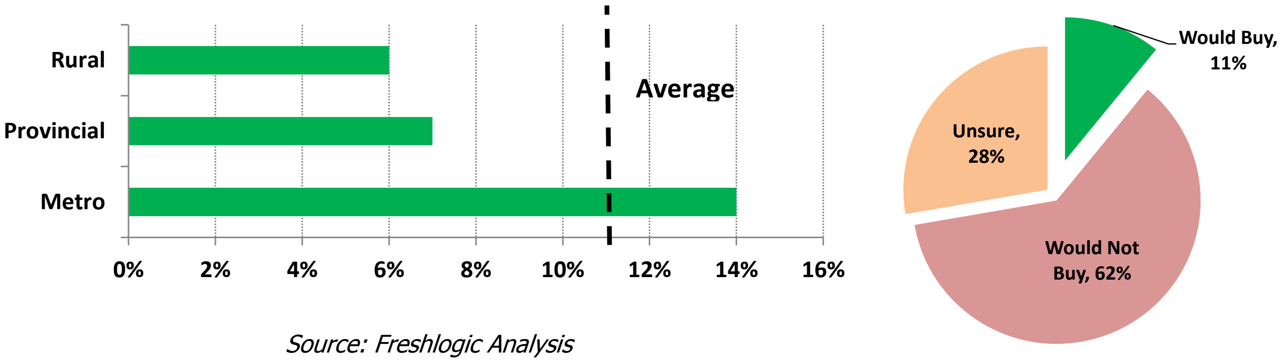
Consumers indicated they would pay an average of $3.31 for this product. This product could therefore expect to receive a recommended retail price of **$2.99 per each**. At a weight of 64g, this would work out to **$46.71 per kg**.

Assuming sales of **3.23-4.04 million units** through the supermarkets, independent retailers and cafes distribution channels, potential total market size for this product could be **$9.66 million** to **$12.07 million**.

Likely buyer profile

11% of respondents said they would be likely to buy this product. When looking at the profile of respondents who said that they would buy, people in metro areas were the most likely to purchase this product, at **12%**, while people in rural areas were least likely to purchase at 6%.

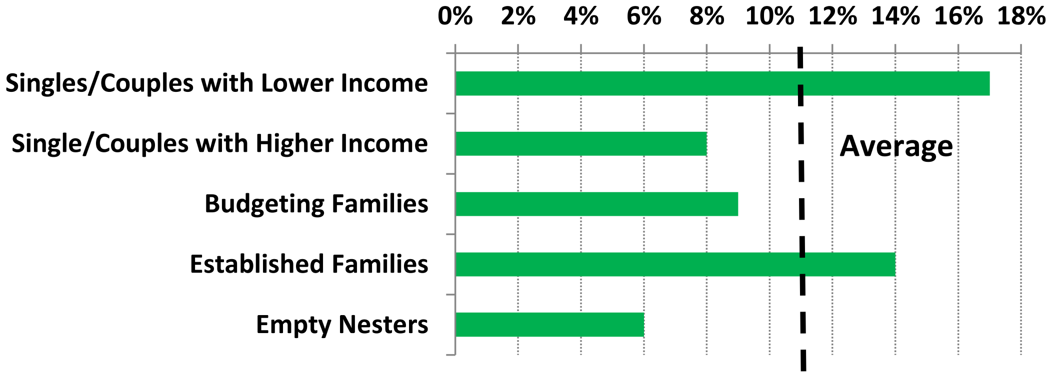
Figure 26: Shakedowns – % of people who would buy by region



Source: Freshlogic Analysis

The household types most likely to purchase these products were Singles and Couples with Lower Income at **17%** and established families at **14%**. Empty Nesters were the least likely to try this product, at **6%** of respondents.

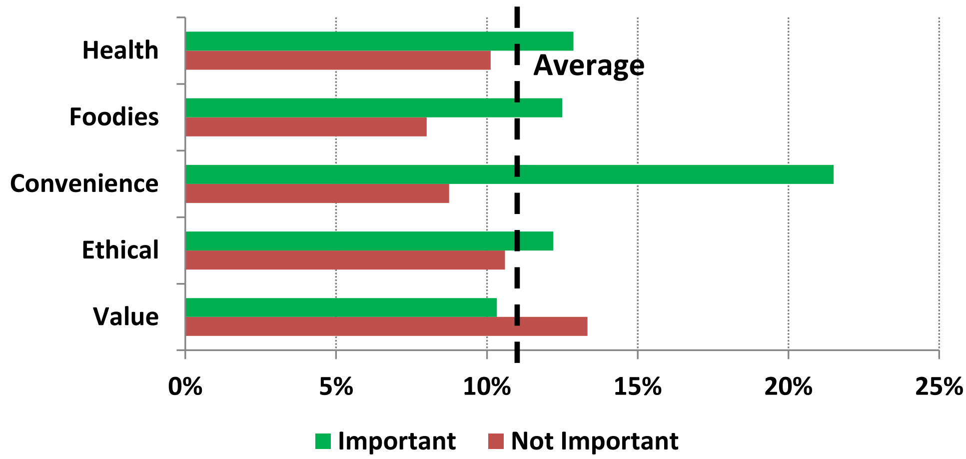
Figure 27: Shakedowns – % of people who would buy by household



Source: Freshlogic Analysis

Respondents that value convenience are most likely to be interested in trying this product (**22%**, compared to **9%** of respondents for whom convenience is not important). Respondents for whom value is important (**10%**) were less likely to want to try this product than respondents for whom value is not as important (**13%**), indicating the product was not seen as a good value for money product.

Figure 28: Shakedowns – % of people who would buy by attitude

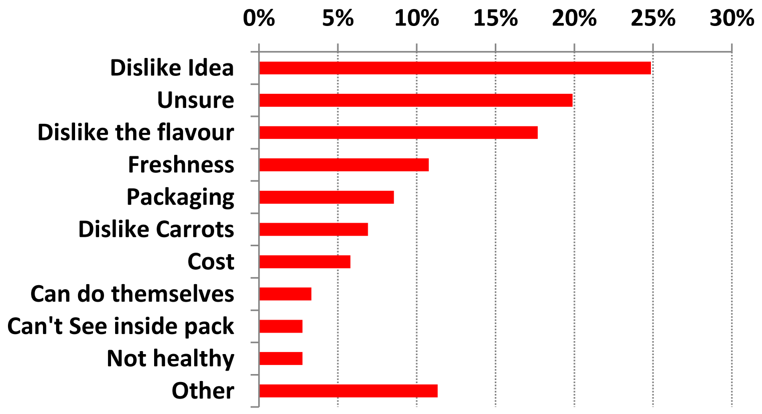


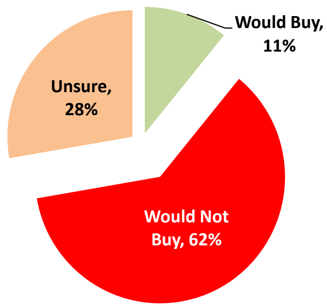
Source: Freshlogic Analysis

Reasons for not buying

62% of respondents said they would not buy this product. Respondents who said they would not try the product were asked to nominate why they would be unlikely to try it, and the responses were categorised into certain groupings (with some respondents giving multiple reasons why they would not purchase the product). The main reason given for not being willing to try this product were people who simply didn't like the concept (**25%**), or were unsure/unconvinced about the product (**25%**). There was a certain number of respondents who indicated they either didn't like carrots (**8%**) or didn't like the seasoning that was included (**18%**). **11%** of respondents expressed concerns about the freshness of the product.

Figure 29: Shakedowns – reasons for not buying





Source: Freshlogic Analysis

The packaging of the product was a common reason respondents indicated why they wouldn't purchase, with **3%** indicating they couldn't see what was inside the packet clearly enough, and **9%** saying they didn't like the packaging, either the look and branding, or the amount of plastic used.

"Often have preservatives. Love the idea though. Husband would eat for sure."
40-49 year old woman in Metropolitan Victoria – Couple with children

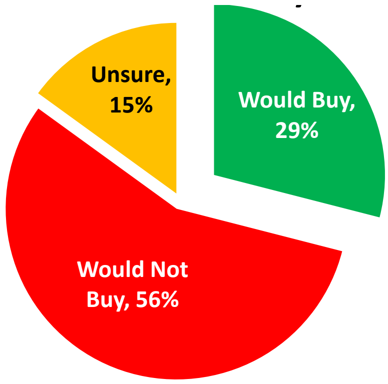
"The presentation doesn't appeal, though that wouldn't worry me if I tried it and it was a super product."
60-69 year old woman in Metropolitan Queensland – Couple with no children left at home

"Carrots come from the ground, not in a packet. Would prefer to prepare my own carrots & dip if I wanted to snack on carrots."
20-24 year old woman in Metropolitan New South Wales – Couple with children

"Don't like packaged veges. I believe inferior products used."
50-59 year old woman in Rural New South Wales – Single & Living alone

Opportunity C: Celery combination packs

igure 30: Celery combo pack – likelihood to try



Source: Freshlogic Analysis

Potential market size

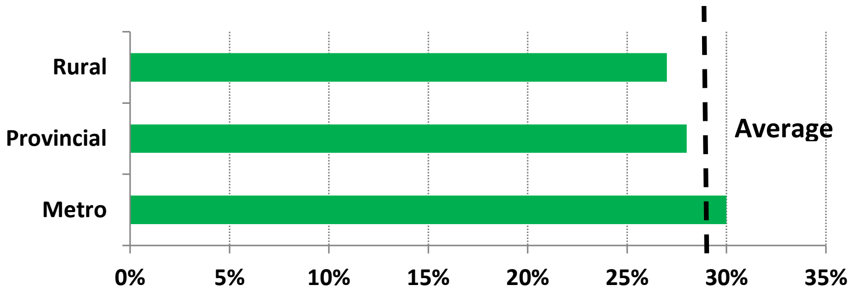
Consumers indicated they would pay an average of $3.98 for this product. This product could therefore expect to receive an average recommended retail price of **$3.49 per each**. At a weight of 170g, this would work out to **$20.53 per kg**.

Assuming sales of **4.26-5.33 million units** through the supermarkets, independent retailers, cafes and education distribution channels, potential total market size for this product could be **$14.87 million** to **$18.59 million**.

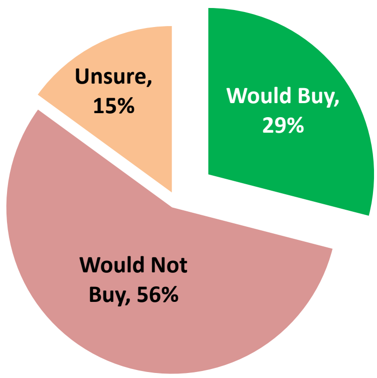
Likely buyer profile

29% of respondents said they would be likely to try this product. When looking at the profile of people who said that they would buy, people in metropolitan areas were the most likely to purchase this product, at **30%**, while people in rural areas were least likely to purchase at 27%.

Figure 31: Celery combo pack – % of people who would buy by region

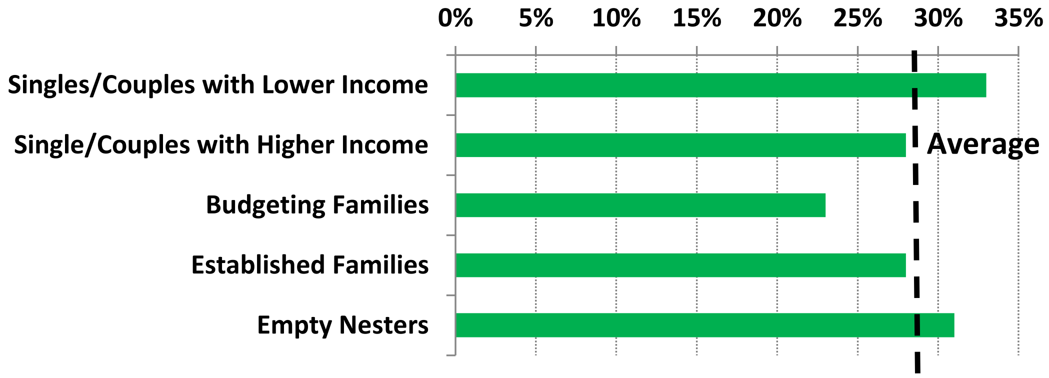


Source: Freshlogic Analysis



The household types most likely to purchase these products were Singles and Couples with Lower Income at **33%** and Empty Nesters at **31%**. Budgeting Families were the least likely to try this product, at **23%** of respondents.

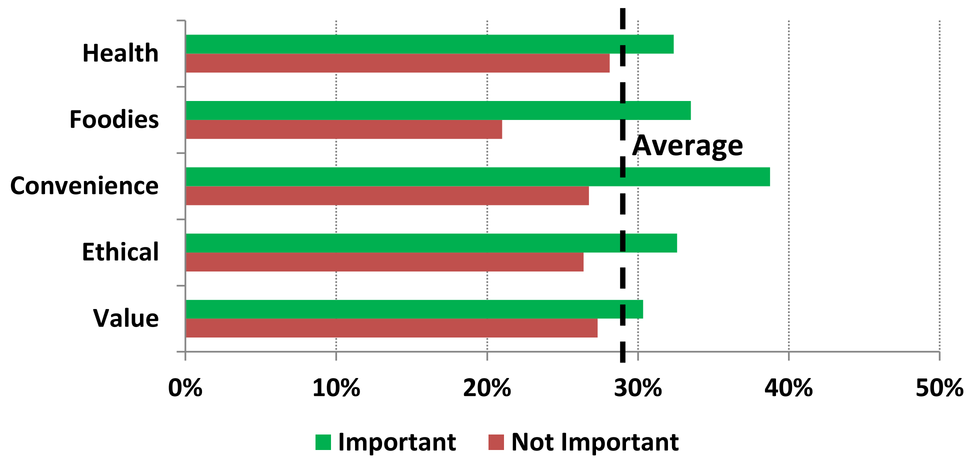
Figure 32: Celery combo pack – % of people who would buy by household



Source: Freshlogic Analysis

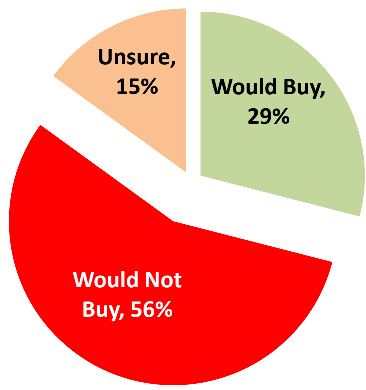
Again, respondents that value convenience are most likely to be interested in trying this product (**39%**, compared to **27%** of respondents for whom convenience is not important). So called "Foody" respondents (those who like cooking and trying new flavours) were more likely to want to try this product (**34%**) than non-foody respondents (**21%**), which would indicate this product was seen as an interesting combination of flavours.

Figure 33: Celery combo pack – % of people who would buy by attitude



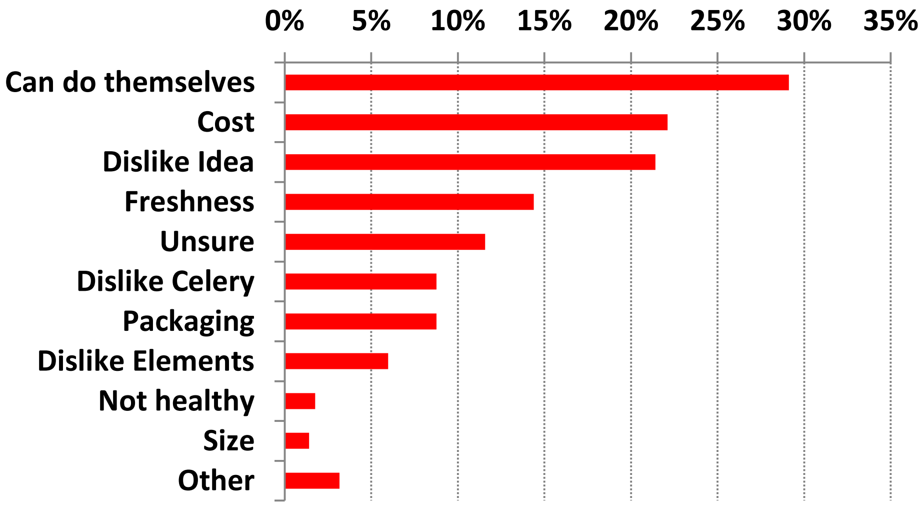
Source: Freshlogic Analysis

Reasons for not buying



56% of respondents said they would not try this product. Respondents who said they would not try the product were asked to nominate why they would be unlikely to try it, and the responses were categorised into certain groupings (with some respondents giving multiple reasons why they would not purchase the product). The main reason given for not being willing to try this product was from people who believed the product was so simple they could just do it themselves (**29%**), with a number of these people disliking the idea for this reason (**21%**). 22% of people said they thought the cost associated with this product would be too high, often for the same reason that they believed they could do it themselves.

Figure 34: Celery combo packs – reasons for not buying



Source: Freshlogic Analysis

15% of respondents were unsure of how fresh the product could be with the combination of the different products. **9%** of respondents said they wouldn't buy because they don't like celery, while **6%** said they don't like one of the other elements in the product.

"I think I'd buy one for the kids to try."
30-39 year old woman in Metropolitan Queensland – Couple with children

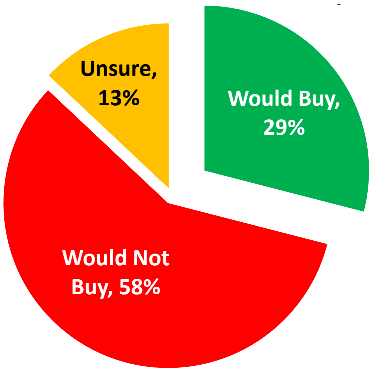
"If the celery was sliced more thinly or there was an alternative option to celery I'd consider it especially if the expiration date and price was reasonable."
25-29 year old woman in Rural New South Wales – Single & Living alone

"The apple would have to be dipped in chemicals to stop it from going brown."
50-59 year old woman in Metropolitan ACT – Single & Living alone

"Although the snack itself is appealing, usually once these type of foods get packaged they are prohibitively expensive and would be a tenth of the cost to prepare myself (although it would take a bit of time out of my day)."
40-49 year old woman in Provincial Queensland – Single with children

Opportunity D: Two Vegetable Combination packs

ure 35: Two vegetable packs – likelihood to try



Source: Freshlogic Analysis

Potential market size

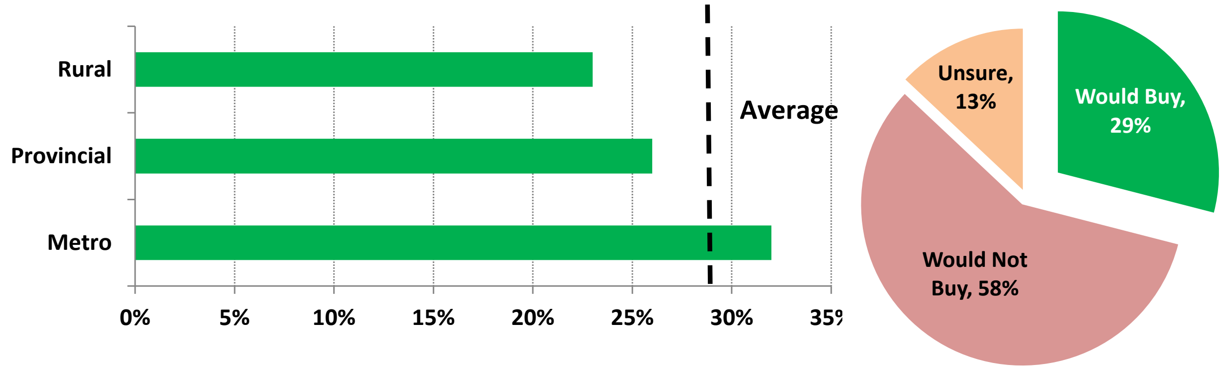
Consumers indicated they would pay an average of $4.04 for this product. This product could therefore expect to receive an average recommended retail price of **$3.99 per each**. At a weight of 170g, this would work out to **$23.47/kg**.

Assuming sales of **4.26-5.33 million units** through the supermarkets, independent retailers, cafes and education distribution channels, potential total market size for this product could be **$17.00 million** to **$21.25 million**.

Likely buyer profile

29% of respondents said they would be likely to try this product. When looking at the profile of people who said that they would buy, people in metropolitan areas were the most likely to purchase this product, at **32%**, while people in rural areas were least likely to purchase at 23%.

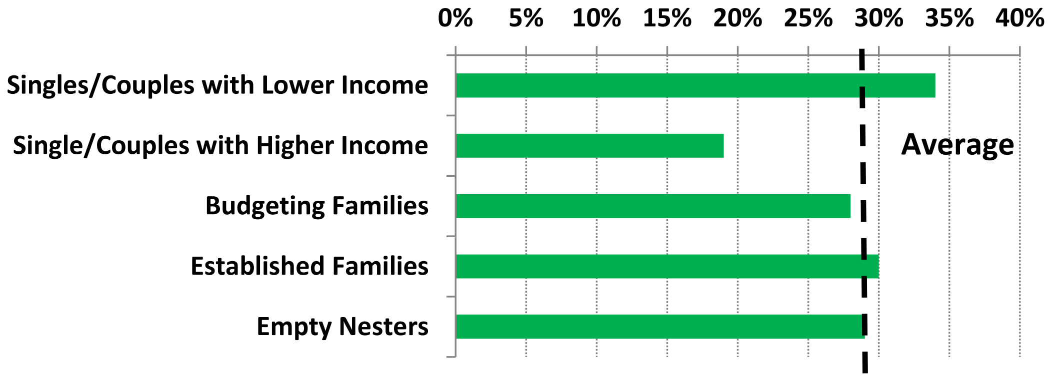
Figure 36: Two vegetable packs – % of people who would buy by region



Source: Freshlogic Analysis

The household types most likely to purchase these products were Singles and Couples with Lower Income at **34%** and Establish Families at **30%**. Single & Couples with a Higher Incomes were the least likely to try this product, at **19%** of respondents.

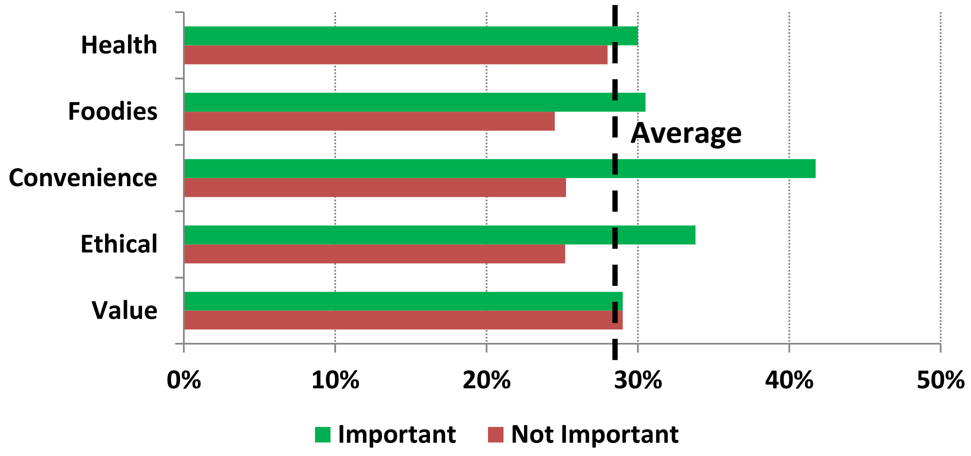
Figure 37: Two vegetable packs – % of people who would buy by household



Source: Freshlogic Analysis

Respondents that value convenience are most likely to be interested in trying this product (**42%**, compared to **25%** of respondents for whom convenience is not important). Respondents for whom value is important were just as likely to want to try this product as respondents for whom value is not as important (**29%** for both), which could indicate that the product was seen as about the right value for money.

Figure 38: Two vegetable packs – % of people who would buy by attitude



Source: Freshlogic Analysis

Reasons for not buying

58% of respondents said they would not try this product. Respondents who said they would not try the product were asked to nominate why they would be unlikely to try it, and the responses were categorised into certain groupings (with some respondents giving multiple reasons why they would not purchase the product). The main reasons given for not being willing to try this product was from people who either didn't like certain elements in the combination (**21%**), or who believed the product was so simple they could just do it themselves (**19%**), with a number of these people disliking the idea for this reason (**20%**). **16%** of people said they thought the cost associated with this product would be too high, often for the same reason that they believed they could do it themselves.

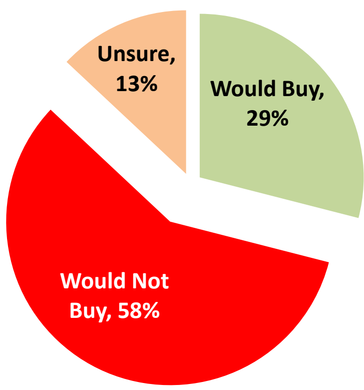
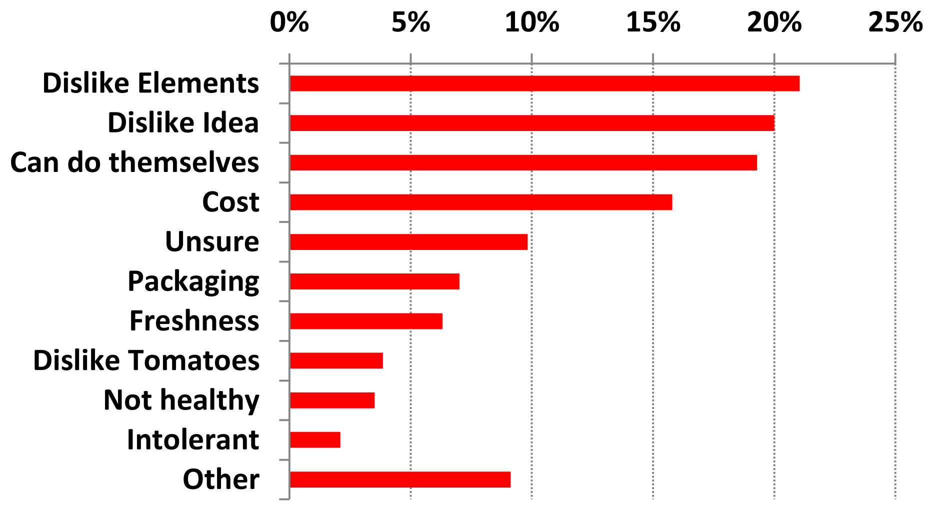


Figure 39: Two vegetable packs – reasons for not buying



Source: Freshlogic Analysis

6% of respondents were unsure of how fresh the product could be with the combination of the different products, with some suggesting that some elements required refrigeration while others didn't. **4%** of respondents said they wouldn't buy because they don't like tomatoes, while **2%** said they couldn't eat it because they were specifically intolerant to one of the elements (gluten or dairy intolerant).

"May be something if I found in a service station & needed something on the run?"
40-49 year old man in Metropolitan New South Wales – Single & Sharing with other Adults

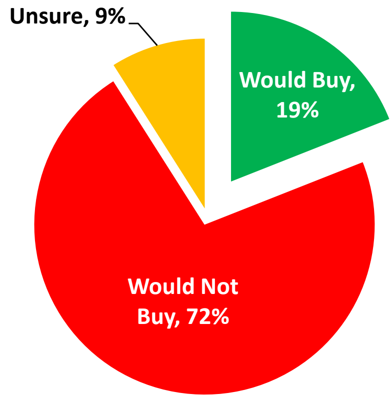
"Not used to buying pre-packaged food, however this is more appealing than the other [options]."
30-39 year old woman in Metropolitan Western Australia – Couple with children

"I have too many allergies - preservatives and gluten dairy free so this is not suitable for me."
40-49 year old woman in Metropolitan Victoria – Couple with children

"I would cut up my own vegies- don't need the rest of the stuff."
40-49 year old woman in Provincial Queensland – Single with children

Opportunity E: Cut Capsicum packs

Figure 40: Cut capsicum packs – likelihood to try



Source: Freshlogic Analysis

Potential market size

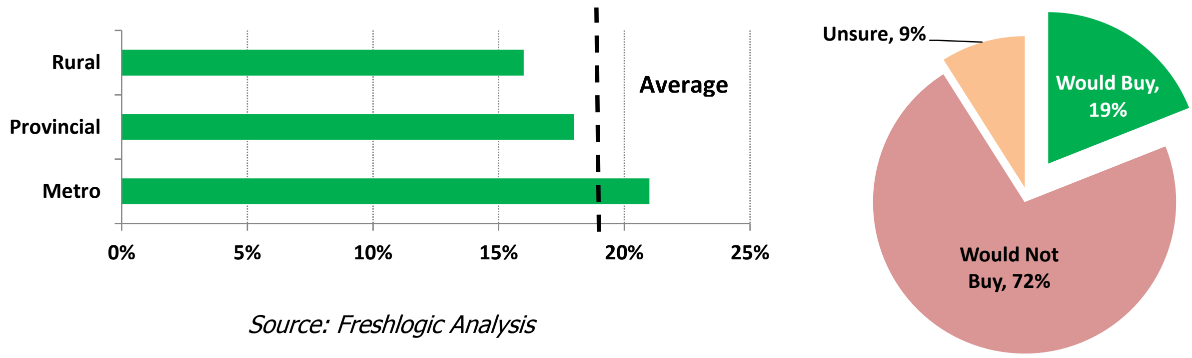
Consumers indicated they would pay an average of $2.53 for this product. This product could therefore expect to receive an average recommended retail price of **$2.49 per each**. At a weight of 150g, this would work out to **$16.60 per kg**.

Assuming sales of **1.2-1.5 million units** through the supermarkets and independent retailers, potential total market size for this product could be **$2.98 million** to **$3.73 million**.

Likely buyer profile

19% of respondents said they would be likely to try this product. When looking at the profile of people who said that they would buy, people in metropolitan areas were the most likely to purchase this product, at **21%**, while people in rural areas were least likely to purchase at 16%.

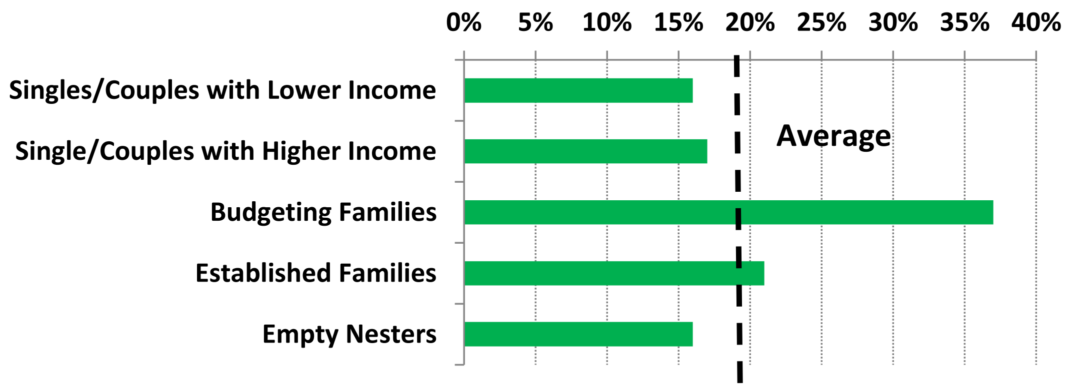
Figure 41: Cut capsicum packs – % of people who would buy by region



Source: Freshlogic Analysis

The household types most likely to purchase these products were Budgeting Families at **37%** and Establish Families at **21%**. Single & Couples with a Lower Income and Empty Nesters were the least likely to try this product, at **16%** each.

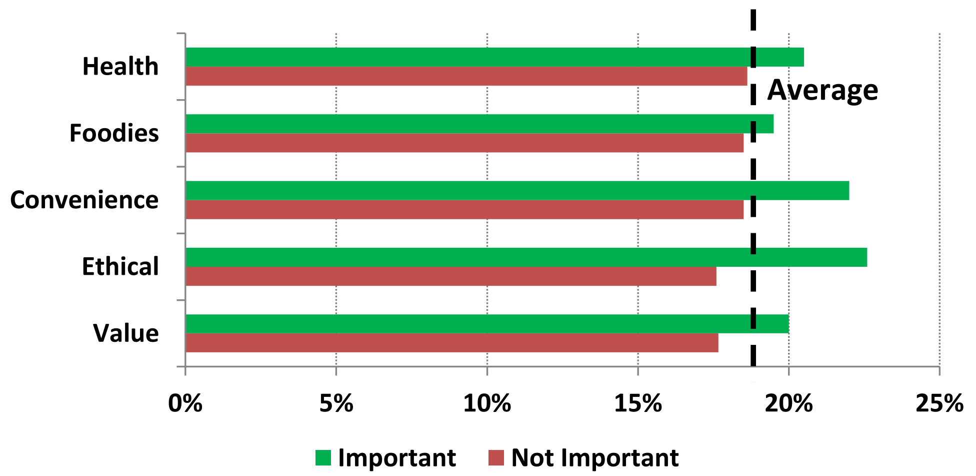
Figure 42: Cut capsicum packs – % of people who would buy by household



Source: Freshlogic Analysis

Respondents that value ethical considerations were the most likely to be interested in trying this product (**23%**, compared to **18%** of respondents for whom convenience is not important). This can possibly be attributed to the fact that the product was seen as having a low level of in home produce waste. Respondents for whom value is important were more likely to want to try this product (**20%**) compared to respondents for whom value is not as important (**18%**), which would indicate that some consumers saw this product as being good value for money.

Figure 43: Cut capsicum packs – % of people who would buy by attitude

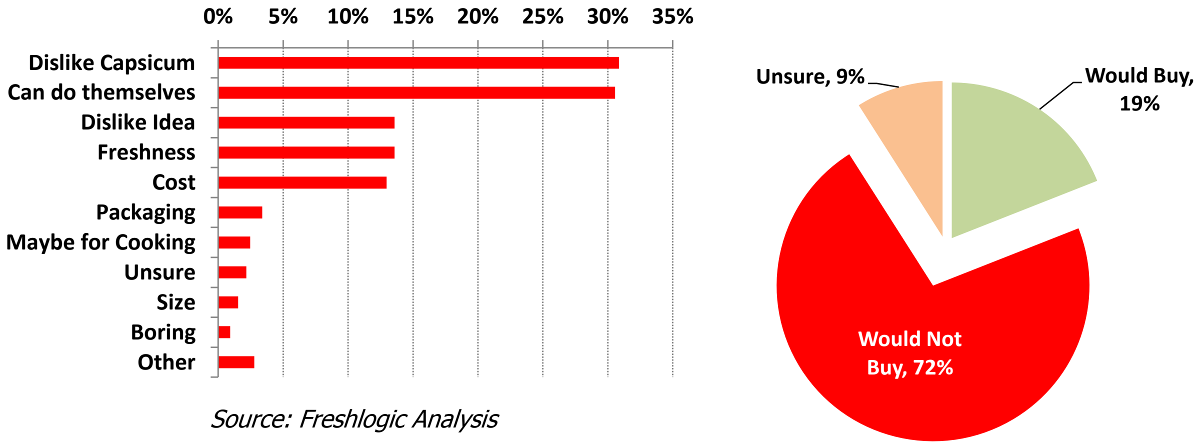


Source: Freshlogic Analysis

Reasons for not buying

72% of respondents said they would not try this product. Respondents who said they would not try the product were asked to nominate why they would be unlikely to try it, and the responses were categorised into certain groupings (with some respondents giving multiple reasons why they would not purchase the product). The main reasons given for not being willing to try this product was from people who either didn't like capsicum (**31%**), or who believed the product was so simple they could just do it themselves (**31%**), with a number of these people disliking the idea for this reason (**14%**). **13%** of people said they thought the cost associated with this product would be too high, often for the same reason that they believed they could do it themselves.

Figure 44: Cut capsicum packs – Reasons for not buying



Source: Freshlogic Analysis

14% of respondents were unsure of how fresh the product could be. **3%** of respondents said they wouldn't buy because they didn't like the idea of the amount of packaging required. **2%** of respondents said they, while they wouldn't choose to snack on the product, they would be interested in purchasing it for their cooking.

"Depends on price. Good mix of varieties for a home cooked meal without waste."
50-59 year old woman in Rural New South Wales – Single with children

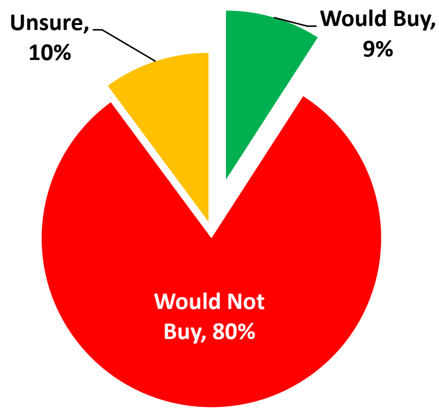
"The sliced capsicums look appealing, I would need to be convinced of their crispness."
50-59 year old woman in Metropolitan Western Australia – Couple with no children at home

"I don't mind capsicum but I'm unsure as to have it as a snack item, entirely on its own merit."
30-39 year old man in Provincial Tasmania – Single & Sharing with other adults

"Been caught out on things like this, usually a 2nd class product."
50-59 year old woman in Provincial South Australia – Couple with no children at home

Opportunity F: Vegetable Puree

Figure 45: Puree – Likelihood to try



Source: Freshlogic Analysis

Potential market size

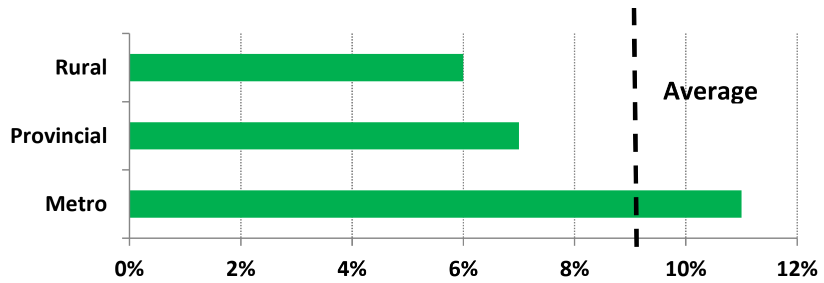
Consumers indicated they would pay an average of $3.05 for this product. This product could therefore expect to receive an average recommended retail price of **$2.99 per each**. At a weight of 125g, this would work out to **$23.92 per kg**.

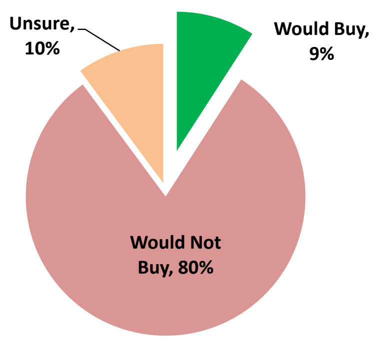
Assuming sales of **1.2-1.5 million units** through the supermarkets and independent retailers, potential total market size for this product could be **$3.58 million** to **$4.48 million**.

Likely buyer profile

9% of respondents said they would be likely to try this product. When looking at the profile of people who said that they would buy, people in metropolitan areas were the most likely to purchase this product, at **11%**, while people in rural areas were least likely to purchase at 6%.

Figure 46: Puree – % of people who would buy by region

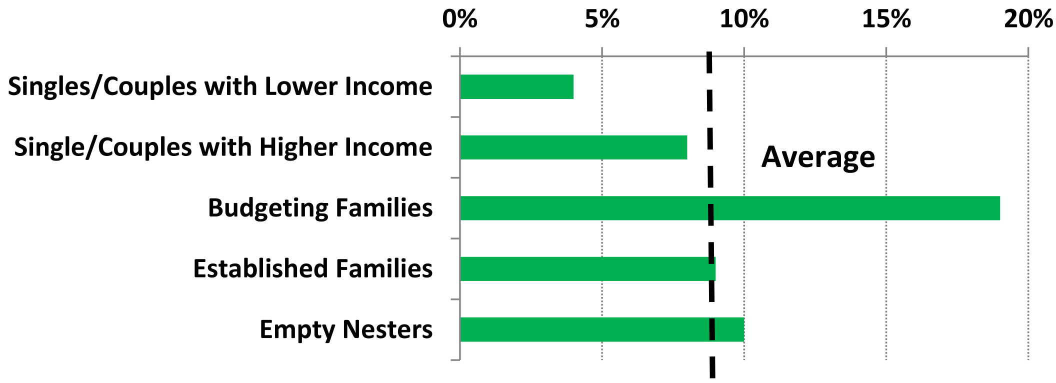




Source: Freshlogic Analysis

The household types most likely to purchase these products were Budgeting Families at **19%** and Empty Nesters at **10%**. Single & Couples with a Lower Income were the least likely to try this product, at **4%**.

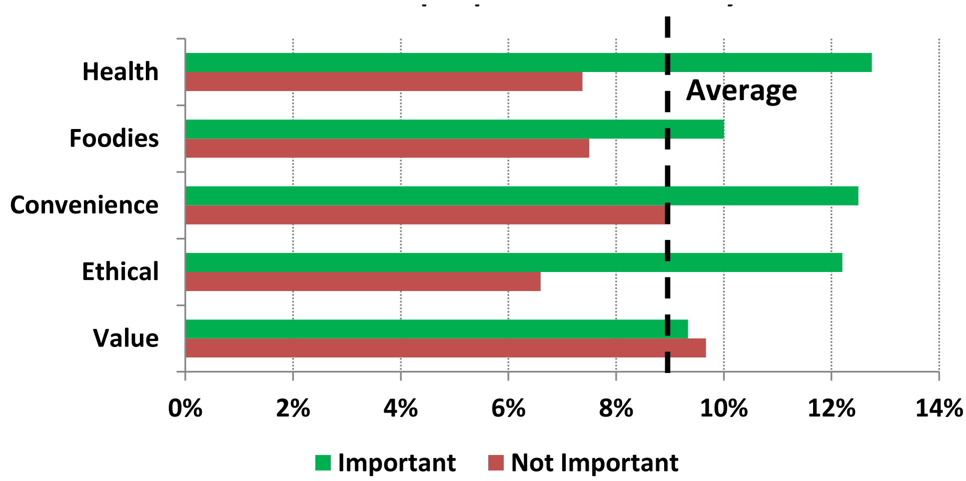
Figure 47: Puree – % of people who would buy by household



Source: Freshlogic Analysis

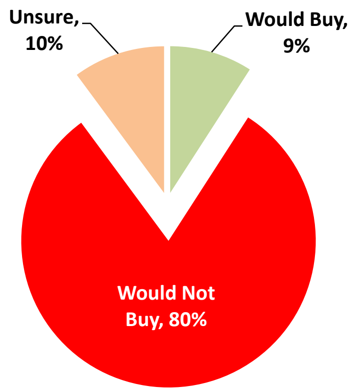
Respondents that value healthy eating were the most likely to be interested in trying this product (**13%**, compared to **7%** of respondents for whom healthy eating is not important). This would indicate that the product was seen as a relatively healthy product. Respondents for whom value is important were actually less likely to want to try this product (**9%**) compared to respondents for whom value is not as important (**10%**), which would indicate that some consumers saw this product as not being good value for money.

Figure 48: Puree – % of people who would buy by attitude



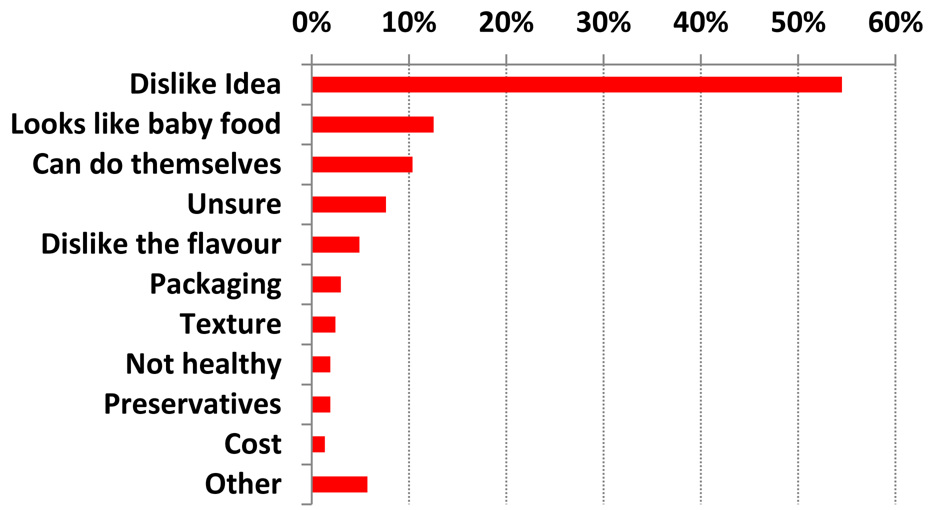
Source: Freshlogic Analysis

Reasons for not buying



80% of respondents said they would not try this product. Respondents who said they would not try the product were asked to nominate why they would be unlikely to try it, and the responses were categorised into certain groupings (with some respondents giving multiple reasons why they would not purchase the product). The main reason given for not being willing to try this product was that there was a significant degree of confusion and in some cases open disgust, at the idea (**54%** of respondents said they didn't like the idea), with many respondents saying they thought it looked too much like baby food (**13%**).

Figure 49: Puree – Reasons for not buying



Source: Freshlogic Analysis

Some respondents said the product was simple enough they could just do it themselves (**10%**), with a number of these people disliking the idea for this reason (**14%**). **8%** of respondents were unsure by the product, and **5%** of respondents said they didn't think they would like the taste.

"I might only as a quick snack when out of the home as I already make my own at home."
50-59 year old woman in Metropolitan Western Australia – Couple with children

"I'm not sure how I feel about eating puree but I would give it a try."
20-29 year old woman in Provincial Queensland – Single & Sharing with other adults

"Is that baby food?"
25-29 year old man in Metropolitan Western Australia – Couple with children

"Because it would have some preservatives of some sort, at the end of the day I prefer food free from additives if I can help it"
20-24 year old woman in Metropolitan New South Wales – Couple with children

Key issues in servicing opportunities

In the course of this project a number of issues and challenges have been identified that must be resolved in order to service identified vegetable snacking opportunities. This section identifies these issues and then profiles what they mean for each of the 6 identified test case opportunities.

These issues are best addressed in the business planning process that should precede investing to service these opportunities. This will require making a serious of assumptions on sales volumes, level of equipment investment and solutions for marketing and distribution. This is a complex assessment and is likely to warrant support from those with specialist skills.

In compiling a plan to launch a new product the services the identified opportunities, the following key issues will need to be addressed:

- **Forecasting the size of the opportunity**, which will be framed in part by the consumer appeal in this analysis, but will then require a more detailed assessment based on the level of distribution that can be secured.
- **Whether specialty production capacities are required** for the new products and if so at what scale, and whether this equipment will be cost efficient. Acquiring equipment is a way to access this capacity; it also may be possible to organise contract packing with others who may have scale in similar products.
- **A need for new varieties** of vegetables to be produced to support ingredients in the new products. Some products may require specialty conditions or some lead time to ensure they can be produced in a particular region.
- **Securing distribution** or ranging with the support and exposure from the range of available distribution channels will mean competing with the strong fast moving consumer goods (FMCG) brands that operate in snack foods. The degree of difficulty in securing distribution is one of the major considerations, and insufficient distribution is an absolute constraint.
- **Logistics and representation solutions** are needed to physically deliver products, and in some channels sell new product propositions and collect orders from stores. It may be possible to do this with internal resources and capacities, but given the diversity of some snack food distribution channels, especially the likes of convenience stores and cafes, an intermediary who is already servicing these outlets is likely to be more efficient.
- **Determining the level of marketing support** the product will require to stimulate demand and win support from distributors. This will be influenced by the type of distribution channels being used; the high volume supermarkets have more mainstream FMCG requirements and a higher marketing spend than the emerging channels like gymnasiums or online food. This will also be influenced by decisions on partnering with retailers and their private label plans, or developing and using supplier-owned brands.
- **Scope for competitive advantage**, which is a key factor for the potential of a new product to be defined and objectively assessed. If investments are made in new product development, there is a need to assess whether others can replicate those products and in doing so erode the scale and pricing required to be viable. There is also a need with part-processed vegetable snacks, to be mindful of launching new products that can be serviced with ingredients produced outside of Australia, which may be available in high volumes at low costs.

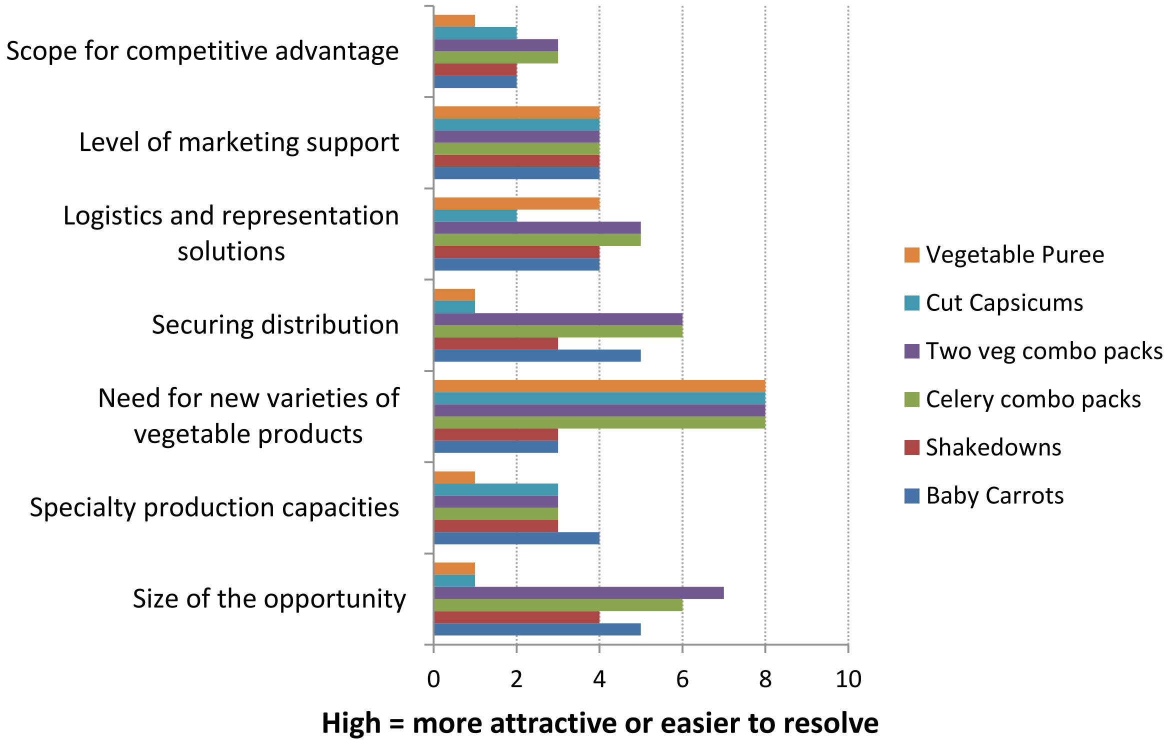
Addressing issues in each opportunity

The status of these issues in relation to the six test case opportunities identified in the analysis was assessed by established ratings for each. This assessment included consideration for;

- Mealpulse™ consumer panel responses
- Distribution channel opportunities
- Specialist equipment requirements
- Precedents for chilled product distribution in Australia
- Precedents in new product launches

The summary results for all opportunities are in the chart below. Note that the higher scores reflect that the status or requirement to resolve an issue is more favourable, and a lower score reflects a greater challenge in addressing these issues.

Figure 50: Key issues in servicing opportunities



The significant findings are the low scope for competitive advantage over competing suppliers, a common level of marketing support requirements and the varied nature of the size of the opportunity.

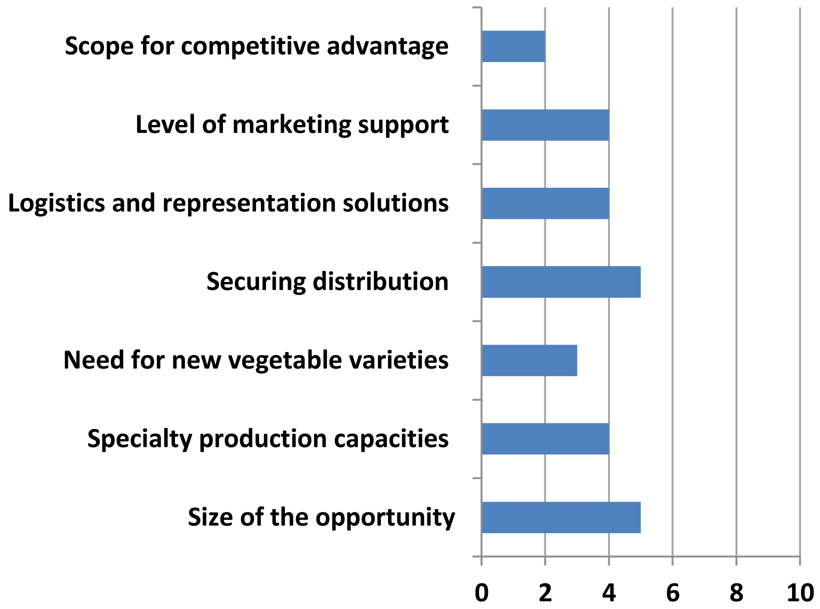
The ratings by each opportunity are outlined on the six charts on the following pages, and confirm the attractiveness of the combination packs, which is largely driven by the stronger demand and scope for wider distribution.

Each is given a score that reflects the average ease of resolving these issues to service each opportunity, identified in a green oval. A higher score means these issues are more easily addressed.

4.5

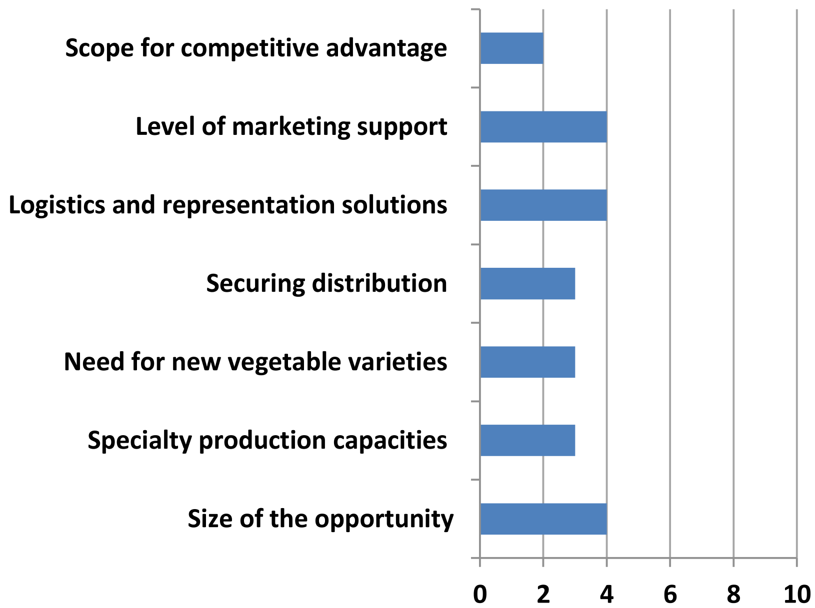
Baby carrots

4.5

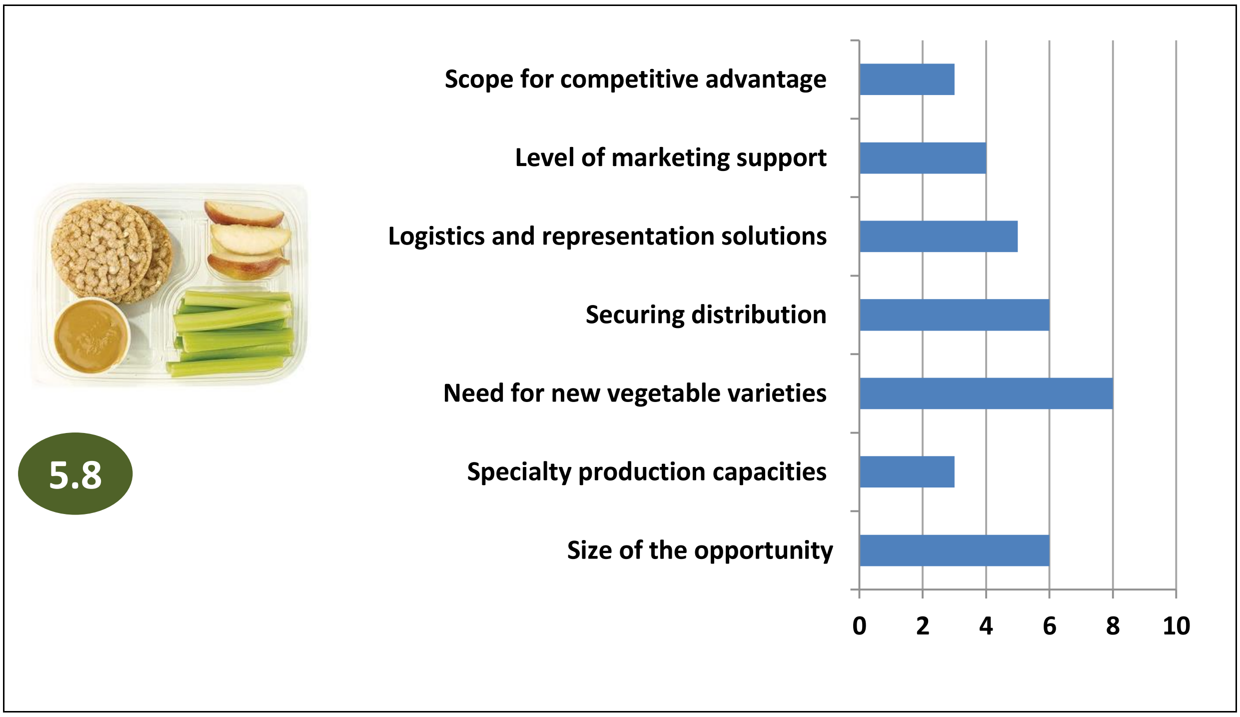


Shakedowns

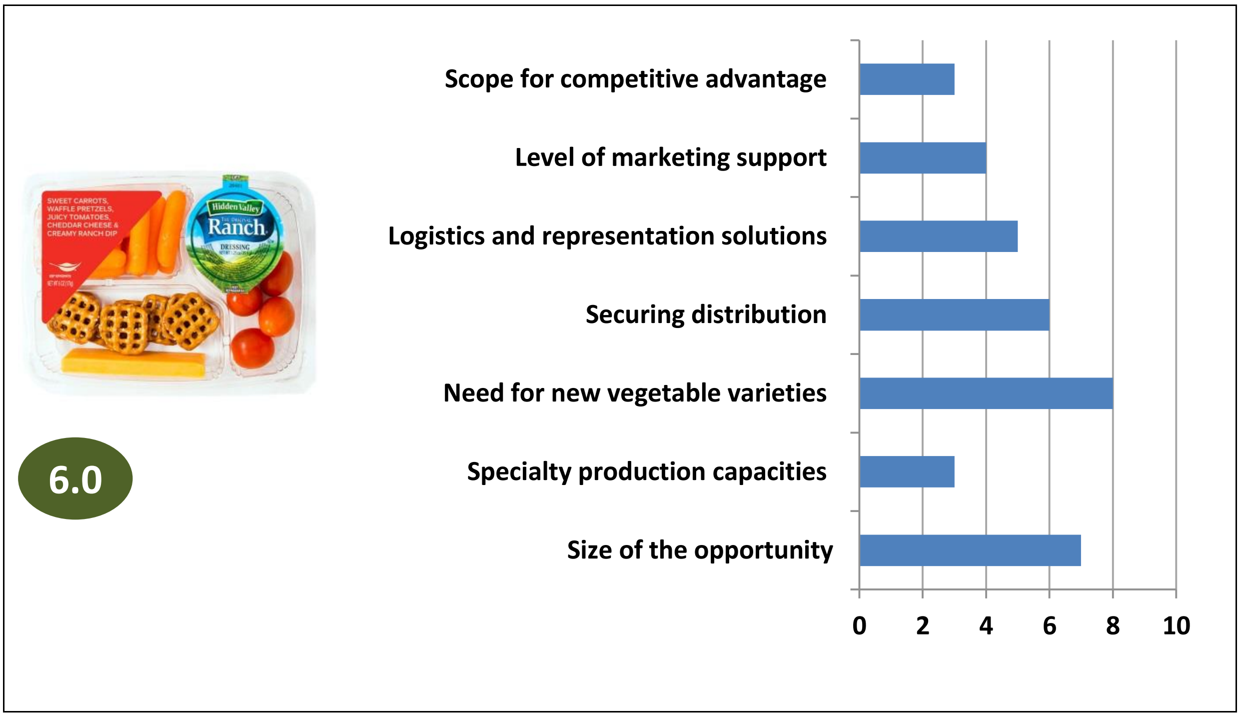
3.8



Celery combination pack

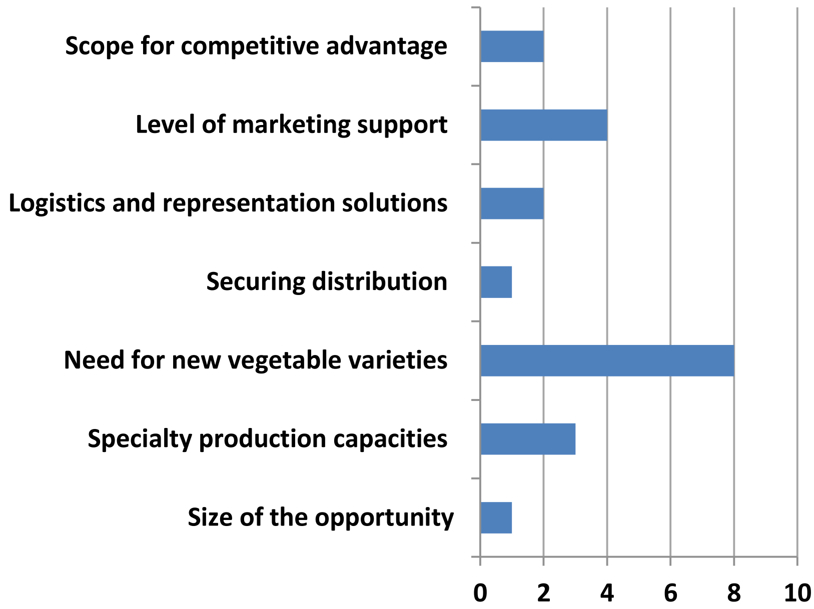


Two vegetable combination pack



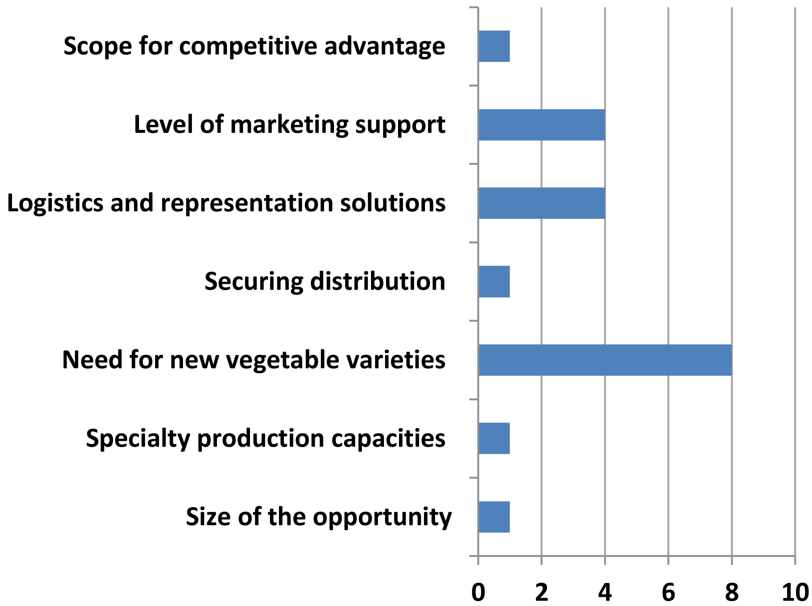
Cut capsicums

3.5



Vegetable puree

3.3



Outcomes

The project confirmed the demand for healthier snack food products and quantified the value of the identified opportunities. However, servicing this demand with fresh vegetable snack food products is challenged by the limited distribution options that can handle the fresh vegetable product form. This situation signals that there is a need and potentially an opportunity; to develop distribution options in tandem with developing fresh vegetable based snack food products.

The demand for healthier snack food invites the development of processed vegetable snacks. However in general this requires competing with heavily supported, branded consumer products. The type of processed product also carries exposure to the risk of imported ingredient substitution. These are key risk and potentially barriers to entry for the viability of this product form.

Vegetable producers are provided with access to information to assess and forecast new snack food product opportunities, making them more capable of managing and contributing to new product developments. This same information and forecasting metrics has potential use in estimating the sales of other vegetable products.

Discussion and evaluation

A range of value chain participants were involved in a project reference group and were consulted at the various stages for feedback and to confirm key forecasting assumptions. This group included growers, food service distributors, fresh cut processors and retailers. The discussions confirmed that snacking is common food consumption behaviour across all households and that there are a mature range of products that currently met this need. The feedback in general indicated challenges with the level of full detail, supported the staged outputs and found the quantified opportunities of commercial use. Other key discussion points included;

- Requests were made for a more concise report and this was accommodated with a key findings summary.
- Guidance on forecasted retail sales levels was sought and provided by those with appropriate expertise.
- A level of concern was raised about the using success in international retail markets as a factor in identifying vegetable snacking opportunities, due to varies Australian market conditions and the logistical pressure caused by travel distances and weather extremes. This concern was accommodated, by using the consumer willingness to purchase the proposed new vegetable snacking products as a measure of sales and stock turn. The approach led to the two lowest potential opportunities being assessed as unviable.

Recommendations

Next steps for the industry are centred on communication of the findings and providing input into future R&D investments.

The key project recommendations are;

- Distribute the high level summary of key findings to growers and levy payers, fuelling the wider interest with the prepared press releases.
- Advise R&D investment decision makers that snacking is a common consumption behaviour that warrants consideration in vegetable new product development agendas. Also highlighting that to succeed such new product investments need to address the challenges of;
    - Limited options for fresh product distribution and
    - High levels of competition and substitution barriers for processed products.

Intellectual Property/Commercialisation

No commercial IP generated.