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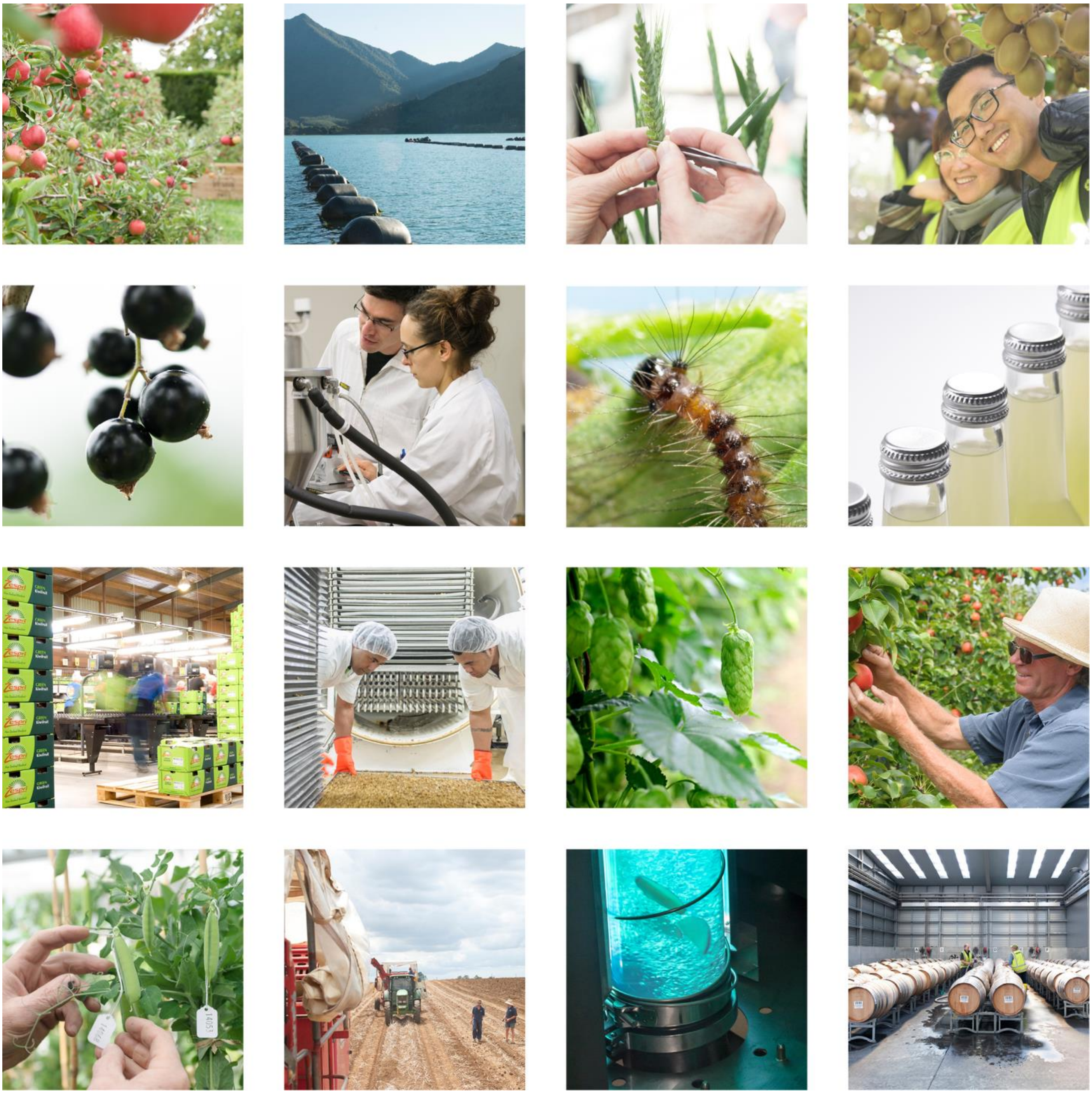
Chinese consumer insights regarding complementary foods and immunity: draft white paper

Harker R, Conroy D

July 2017



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EXECUTIVE SUMMARY

Chinese consumer insights regarding complementary foods and immunity: draft white paper

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July 2017

Consumer insights are needed to help guide and prioritise opportunities for the High-Value Nutrition National Science Challenge. The first phase of consumer research has been completed and focussed on infant nutrition. The project involved New Zealand researchers interviewing Chinese mothers and fathers in their homes about their choices of foods for their babies. We talked to them about their beliefs, attitudes and perceptions regarding the introduction of the first solid foods to babies. Complementary feeding occurs when breast milk alone is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk. It typically covers the period when the baby is between 6 and 24 months old. Complementary foods are a target for a number of New Zealand companies and the High Value Nutrition Science Challenge has an 'immunity-science' target to support companies developing foods that also protect these infants from illness.
Like parents everywhere, Chinese mothers and fathers are very concerned that their babies get good food. Yet for some of them, the memory of the sick infants during the melamine infant formula scandal is still fresh and they prefer to purchase foods sourced from outside China. Once they were confident that complementary food was safe, parents desired that among other benefits the food contributed to: (1) maintenance of overall health and (2) prevention of future illness (immune health). An online survey of 1500 parents from Hong Kong, Guangzhou and Shanghai confirmed that foods that support the immune health of infants were desired.

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1 THE HIGH-VALUE NUTRITION CHALLENGE

High-Value Nutrition is one of 11 New Zealand National Science Challenges. High-Value Nutrition's role is to build the science excellence and knowledge New Zealand needs to create and deliver foods to the world that people choose to stay healthy and well.

The long-term aspirational target for HVN is to support development of additional export revenue to New Zealand of >$1B p.a. in New Zealand origin food and beverages with scientifically validated health benefits based at least in part on HVN funded research and related activities by 2025.

2 INFANT NUTRITION – COMPLEMENTARY FEEDING

Complementary Feeding as defined by WHO is: the process starting when breast milk alone is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk. The transition from exclusive breastfeeding to family foods – referred to as complementary feeding – typically covers the period from 6 to 24 months of age, even though breastfeeding may continue to 2 years of age and beyond.

The HVN Science Plan is developing a research programme with a specific focus on how complementary feeding might improve infants' immunity, enhancing their level of 'protection from future infections'.

3 CONSUMER INSIGHTS ON COMPLEMENTARY FEEDING

To support the direction of the science and understand Chinese consumers beliefs, attitudes and behaviours regarding complementary feeding as well as the market for these products we have undertaken two pieces of research:

- A series of 12 individual interviews and 4 focus groups conducted in Shanghai, China, in April 2017.
- An online survey of 1,500 consumers in Shanghai, Guangzhou and Hong Kong (500 respondents recruited per city) undertaken in April 2017.

The reports from these two studies are appended to this document. The current report does not replace the two studies, but integrates the information from both and interprets them from the context of HVN needs and future opportunities and issues regarding development of complementary foods including those that target support the developing immune system.

4 THE MARKET OPPORTUNITY

The transition from breast/formula feeding to complementary feeding is an important one for parents. Within China decisions regarding brands are important and reflect the complexity of the food environment and the extent that consumers trust local food providers. Overseas brands are seen as being inherently safer products in the aftermath of the Melamine Scandal in which adulterated milk and baby formula was responsible for a large number of babies being hospitalised and the deaths of six. While consumers are aware of the Chinese Government's efforts to improve food safety through regulations and a focus on the social responsibility of food producers, for some consumers their confidence is not yet restored.

Chinese consumers perceive New Zealand as providing safe food (albeit there are many international competitors delivering such a benefit) and New Zealand companies might be able to exploit the brand loyalty as parents transition from feeding their infants formula to complementary foods – both of which have potential to include New Zealand ingredients. Some interviewees claimed that they were unwilling to switch to other brands, while only one showed willingness to try another brand, but only if the other brand provided certain benefits that are more appealing than the current brand.

The types of foods used in complementary feeding do reflect New Zealand core agricultural and seafood sectors, with fruit- and vegetable-based purees ranked second and third in terms of percentage of consumers using them (Figure 1). Furthermore, the investment in complementary foods by parents in Shanghai and Guangzhou was about 720 RMB per month for raw ingredients that were processed in the home (with purchases being made every 6 days on average) and about 590 RMB per month for pre-packaged products (with purchases being made every 3 weeks on average) (see Appendix for details). In Hong Kong, parents tended to spend more on complementary foods.

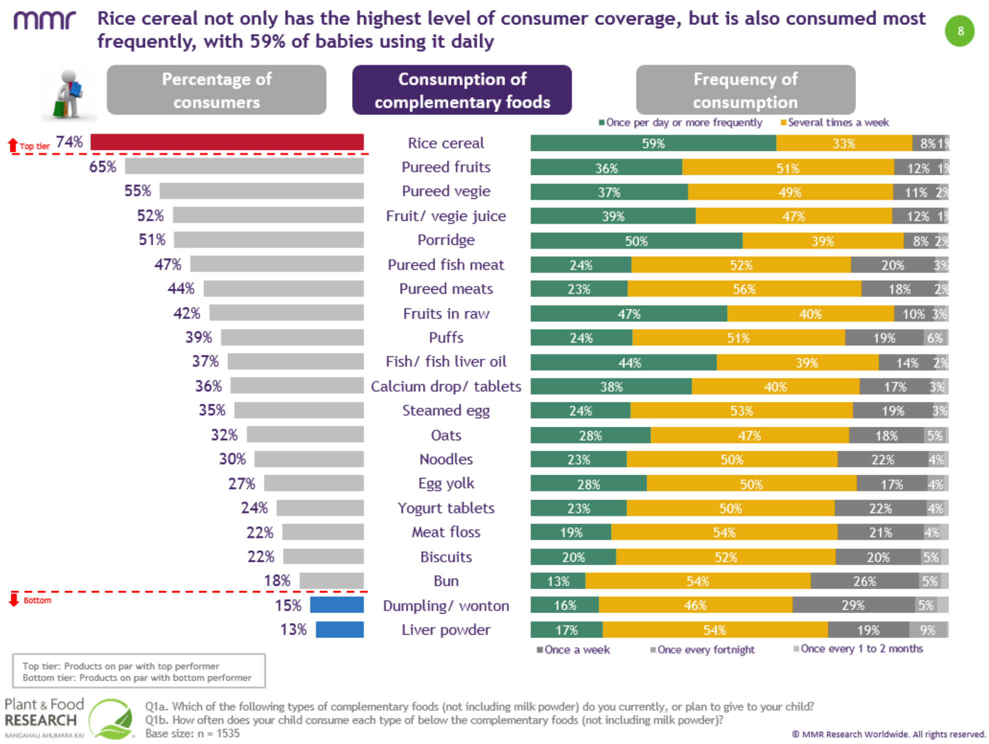

Figure 1. Percentage of consumers using and the frequency of consumption of complementary foods in Hong Kong, Guangzhou and Shanghai (combned).

5 CONSUMERS' KNOWLEDGE AND DECISION-MAKING

In predicting opportunities for longer-term science-based initiatives such as HVN, it is important to benchmark how consumers are making decisions within their current food environment/product space and understand the extent that this may be relevant into the future. Without this information there is a risk that we assume consumers will not change and that the information we collect today is relevant to the future.

Interviews in consumers' homes highlight a level of naivety of some Chinese in their understanding of food and nutrition and this leads to their heuristic decisions on infant nutrition. Although many interviewees stated the significance of nutrition, few showed an in-depth understanding of nutrition and how nutrients may benefit the baby other than some very general knowledge of nutrients like vitamins (mainly Vitamin D), DHA, and trace elements (mainly iron, calcium, and zinc). Furthermore, many interviewees admitted that they have never read the nutrient facts on food packaging. Only some interviewees may read and compare nutrient facts among brands, and only a very few may carefully study and look for specific nutrients in products purposely. We can characterise four types of consumer:

- Self-aware Consumers: These are consumers who may think critically and reflectively in relation to their consumption of baby food products. They have more in-depth knowledge and better understanding on nutritional needs of a baby and therefore may have purposely looked for products and brands that can fulfil their needs and expectations. They may draw on multiple information resources, including experience of others and advice from experts, but they are more relying on scientific and authentic sources such as the American Academy of Paediatrics, and the Chinese Dietary Guidelines. When making decisions, they are more confident in their own investigation and analysis based on their knowledge and the ability of critical and independent think. This type of consumers is self-aware and keen to "know what, know why, and know how", thus they would not easily and blindly follow the mainstream consumption choices, as they have sufficient information and are capable to make their own evaluation and judgement on desirable products and brands, and the purchase channel they choose. However, according to the field work, this type of consumer accounts for only a minor proportion of the whole Chinese consumer group.
- Confused Consumers: This type of consumer has some knowledge of nutrition, but with content that involves superficial understanding. They may frequently seek for opinions from others but do not have adequate capability in evaluating and verifying inconsistent information from multiple sources. Therefore, they may end up being confused and lost. They may have some limited level of critical thinking and reflection but not in-depth, as they do not have the same level of knowledge and skills for dealing with inconsistency as the self-aware consumers. In risk aversion and decision making this type of consumer tends to rely heavily on external trusted sources such as doctors and experienced others among their social network, as these sources may appear to be more trustworthy than others. Independent and critical thinking may not be dominant in their decision making. Therefore, they may be not completely confident in their own decisions, which may result in some level of uncertainty and anxiety. This type of consumer seems to account for a large proportion of the whole group of Chinese consumers.

- Followers/Careless Consumers: These consumers have similar characteristics to confused consumers, except they are more careless, and tend to follow the mainstream to inform their decision making. Furthermore, this type of consumer is less motivated to conduct in-depth investigation and study for a more comprehensive understanding of nutritional needs and baby food product attributes. Rather, they tend to be relatively passive in information seeking and sharing. They have a simplified strategy in risk aversion and decision making. They mainly follow others experience and seldom invoke critical thinking or reflect on their own decisions. They rarely have strong viewpoints of their own, and are comfortable with various forms of external guarantees, which may also simplify their decision-making process. For example, they may be content with well-known brands and assume these brands provide sufficient nutrition for baby growth. This type of consumers also accounts for a large proportion of consumers who have limited knowledge and experience on nutrition and baby feeding.
- Experienced Consumers: This type of consumer portrays experienced parents whose babies are transiting to a normal solid diet. Since they have accumulated more experience in their own feeding practices, and their babies have gone through the most vulnerable period, they are not as cautious and anxious as they were in the early stage of baby feeding. They are content if their babies perform as what they are supposed to be performing at this stage. They may actively engage in information and advice seeking when there is some specific issue regarding baby feeding arises. These experienced consumers do not readily follow trends, but they are also not very independent or critical in thinking and reflection. As the baby grows, many confused and careless parents may evolve into this type of consumers.

Consumers who are the most relevant targets for HVN are those from the ‘self-aware’ category and we should expect that, over time, this group will increase in number and/or their choices of complementary foods will influence consumers in the ‘confused’ and ‘careless’ categories. Alternatively, communication could be targeted towards ‘confused’ and ‘careless’ categories of consumers using tried and tested marketing approaches (e.g. advertising, links with opinion influencers, accessing the right type of retail outlet) with the functional benefits representing a point of difference. Assessment of current complementary feeding needs of consumers via the online survey (Sections 6 & 7) suggests this second approach to communication has considerable valence. However, the levels of understanding of nutrition in each of these groups will need to be considered when developing communication strategies for new products.

It is possible that the differences between cities in consumers’ willingness to pay for HVN immunity-based complementary food concepts uncovered in the on-line survey (Section 7) reflect the sophistication/scepticism with which such concepts are viewed. For example, consumers from Hong Kong would pay less for the concept products than those consumers in Guangzhou or Shanghai (even though incomes are higher in Hong Kong). Speculatively, consumers from Hong Kong may be more sceptical regarding food claims based on their more sophisticated understanding of nutrition and advertising (but this needs further research).

The relevance of this target to HVN is further supported by consumers’ bottom-line views regarding the high value placed on advice from doctors regarding complementary feeding and infant health. Several consumers mentioned finding inconsistencies in the information they acquired from difference sources, which led to confusion. The inconsistency exists between the older generation, experts and professionals, and online interactive social networks. For example, when they were facing an infant health issue, they may firstly look for solutions through website and WeChat groups, and ask for help from the older generation. They would also visit the hospital if necessary. In this context, they may find that solutions and suggestions from different channels would be totally different. It is to note that interviewees realised that even Dr Cui (a well-known, expert paediatrician engaged in promoting infant health information online and offline), provides advice based on his own clinical experiences and his advice was not specifically targeted to them. In terms of the older generation, the consumers said that they respected their parents, but sometimes find their advice lacks enough scientific support and therefore was not be fully convincing. The interviewees agreed that when facing inconsistent advice they prefer to follow the doctors from local hospitals.

Overall, this assessment of consumers reinforces the need for HVN to invest in clinical research regarding infant nutrition outcomes in order to stay ahead of the curve in terms of the increase in consumer knowledge of food and health. Furthermore, those consumers who are less engaged with this knowledge place most weight on advice from their doctors and paediatricians.

6 CURRENT CHINESE CONSUMER NEEDS FOR COMPLEMENTARY FEEDING

On top of safety, which basically means doing no harm to the baby, nutrition plays an essential role in fulfilling the functional benefit of baby food. As food for baby, both baby formula and complementary foods must meet the nutritional needs for baby growth and cognitive development. Interviews with consumers identified two main aims for feeding their supplementary food: (1) health maintenance and (2) prevention of future illness (immune health). Six out of the twelve interviewees believed that supplementary foods are beneficial in maintaining infants' health and that, at different stages of development, their babies nutrition needs will change. For the prevention of future illness, two consumers said that they are using such foods as "medicine" to prevent possible sickness.

The on-line survey put these needs into a quantitative hierarchy (Figure 2 for pre-packaged foods and Appendix for raw foods). Different ways of describing benefits related to supporting immunity seemed to be liked equally by consumers (scoring ~83 out of 100): (1) 'strengthen the immune system', (2) 'enhance the natural protection against infections or illnesses', (3) 'enhance the natural defences against common illnesses or infections', (4) 'enhance the natural defences' and (5) 'support a healthy digestive system'. It is important to note that in presenting this information we do not know how the consumers understand these claims and whether or not they mean the same.

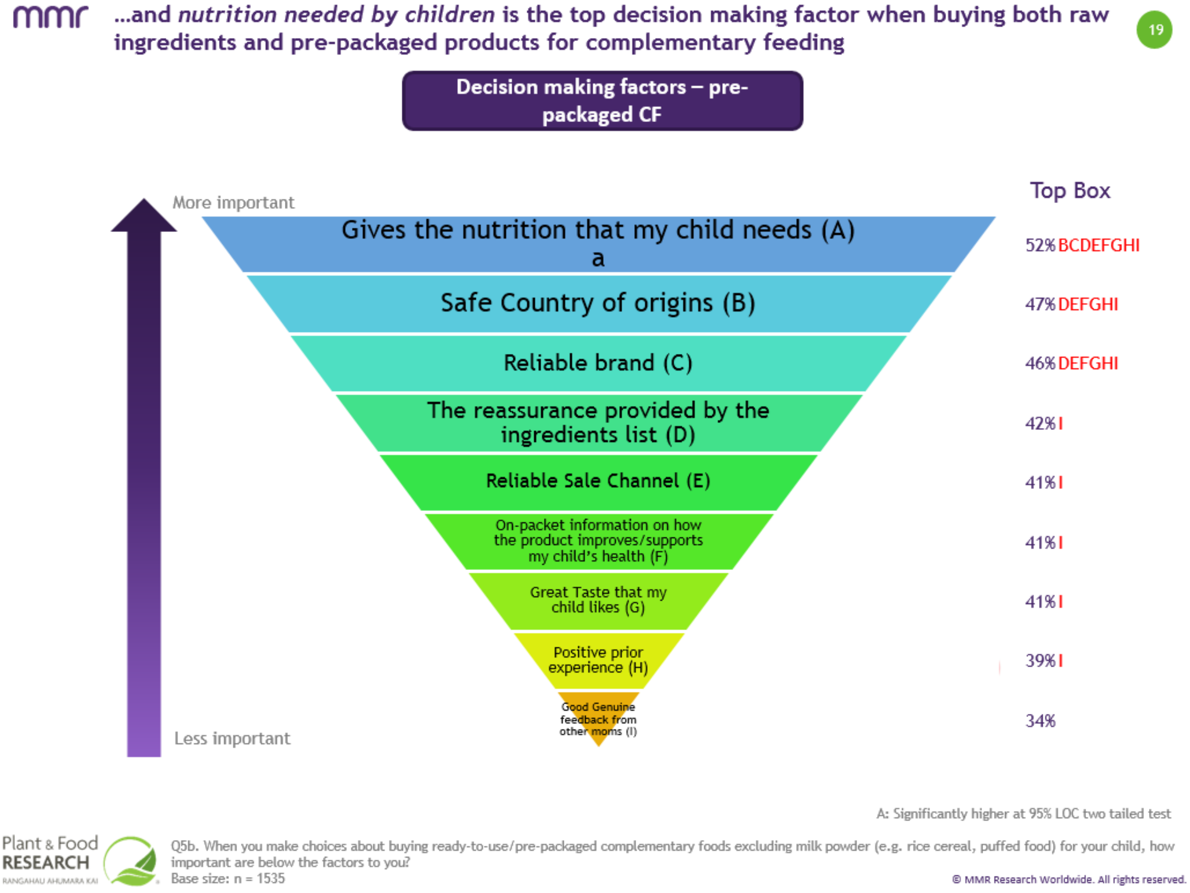

Figure 2. Factors that influence consumers' choices of complementary foods for their infants.

7 CONSUMER EVALUATION OF CONCEPTS AND WHAT IT TELLS US ABOUT COMPLEMENTARY FEEDING

A standard market research approach was used to assess the potential value and differences in value for two sets of concepts. The use of concepts associated with 500 g pre-packet rice products (the most common cited complementary food) and 500 g fresh apples (with pureed fruit being the second most cited complementary food) allows for diverse values associated with processed and raw foods. Generally rice concept complementary foods were valued at 10 RMB more than apple concepts (see Appendix 2).

To understand the stability in consumer responses it was firstly important to consider how differences in the way benefits were described influenced consumers. In all concepts our control was a standard statement that the product was from/grown in New Zealand in order to minimise the impact on value of an overseas product. The first set of concepts relate to value associated with different immunity statements (which may represent the same science outcome):

- Control: This rice cereal was made in New Zealand.
- Treatment 1: This rice cereal was made in New Zealand using ingredients that have been shown to strengthen children’s natural immunity.
- Treatment 3: This rice cereal was made in New Zealand using ingredients that have been shown to strengthen children’s natural protection from illness and infections.

The willingness to buy was the same for ‘strengthen children’s natural immunity’ and ‘strengthen children’s natural protection from illness and infections’, and both concepts provided an 8–12% price premium on average over the control (‘made in New Zealand’). There was variation in average responses from consumers from different cities (see Appendix). This observation provides some confidence that responses to immunity concepts in general were not related to any specific wording.

The second set of concepts was designed to consider the value of an immunity claim relative to a general nutrition claim:

- Control: This apple was grown in New Zealand.
- Treatment 1: This apple was grown in New Zealand and as a pureed complementary food has been shown to strengthen children’s natural immunity.
- Treatment 2: This apple was grown in New Zealand and as a pureed complementary food is a good source of nutrients and minerals.

Again the willingness to buy was the same for ‘strengthen children’s natural immunity’ and ‘a good source of nutrients and minerals’, and both concepts provided a 10–16% price premium on average over the control (‘grown in New Zealand’). There was variation in average responses from consumers from different cities (see Appendix 2), but notably the market we have speculated earlier as being more sophisticated, Hong Kong, responded most strongly to the immunity claim (i.e. in terms of relative increase in value over the standard food). While the monetary values for apples were much lower in Hong Kong than in Guangzhou and Shanghai, the increase in monetary value associated with the immunity claim (30% premium) was much higher than the 6% premium associated with the general nutrient claim.

We urge caution over the stated prices (averages across all consumers in excess of 94 RMB/500 g for rice cereal and 86 RMB/500 g for apples used as complementary foods with immunity claims). These types of study are hypothetical providing scenarios rather than real products at real prices. Even when product and purchases are real as occurs in experimental auctions, we prefer to view the results as indications of consumers' relative interest in the products rather than an absolute price. Nevertheless, consumers at the interviews and focus groups were generally willing to pay 1.2 to 1.5 times more money on the infant complementary food with fortified nutrition than for those without. The price of these foods are very important in China such that higher prices signal better quality while lower prices can often generate suspicion (Appendix 1). One interviewee described purchasing a can of Karicare baby formula from Sam's Club Store at the price of ￥300, and purchased the same product at ￥99/can from a Tmall flagship store. She ended up not daring to consume any from the cheaper can because she was concerned about its genuineness.

Overall these studies demonstrate that Chinese consumers responded positively to claims of functional benefits associated with complementary foods. More specifically they reassure HVN that Chinese consumers respond positively to claims around complementary foods that increase the immunity of infants. Beyond this we are able to speculate that these results have been obtained from a relatively naïve group of consumers and that as information and knowledge of functional foods becomes more widespread the interest and relative value of these types of foods will increase.

8 DESIGNING COMPLEMENTARY FOODS THAT MEET CHINESE CONSUMERS NEEDS

Not all consumers' needs will be met by the same product. This section focuses on Chinese consumers' purchase intentions of packaged supplementary food with fortified nutrition. In the interviews, vegetable puree fortified with calcium was used as a product example to explore interviewees' intention to buy. Four types of consumers are identified according to their different levels of purchase intentions.

- The first type are parents who do not want to buy these complementary food products, mainly for two reasons:
    1. They hold to beliefs that favour the exclusive use of home-made foods (in terms of vegetable, fruit and meat puree, etc.). They believe home-made foods are fresher, convenient to make, and they do not have to worry about food storage as it is made-for-demand.
    2. They are aware of the benefits of fortified nutrition, but prefer to use alternative natural foods which have these nutrients. This also links back to the consumers' feeding beliefs as these consumers prefer the nutrition in its natural form – stored in whole foods. They are concerned about the potential additives and preservatives in the packaged infant food.
- The second type are parents who want to buy the packaged foods only if the fortified nutrients are compatible with that of the food itself. For example, they believe that calcium, iron and protein are supposed to be added to food like red meat, whereas vitamins are supposed to be mixed within food like fruit and vegetables. They are concerned that if the added nutrients are not compatible with one another, there is a chance of causing undesirable consequences for the babies. For example, one of the interviewees said: "I only accept calcium fortified in meat puree and vitamins in fruit puree."
- The third type are parents who purchased before but stopped buying, because the babies have tried these foods but do not like them. This previous purchase behaviour indicates a willingness to purchase and attempt, but the ceased purchase behaviour shows that these mothers put their infants' preference as a priority. This priority is also reflected by many parents when it comes to purchasing baby formula. However, this priority, as many interviewees reported, will always be subject to safety and nutrition concerns. Furthermore, many parents believe that different babies have different food preferences. There is no one-fit-all type of food that satisfies every baby's food preference. For example, some interviewees said that their baby prefers chewy food (e.g. apple) rather than packaged apple puree, while other mothers say the exact opposite – their infants like the soft food texture of soup and puree. Another example reported is that a mother interviewed believes her baby dislikes the packaged food due to the flavour (as she tried one fruit puree herself and thought the flavour is not as good as the original fruit).
- The fourth type of consumers are parents who are willing to purchase. Firstly, their feeding beliefs are to favour packaged food over home-made food. As discussed in the section on feeding beliefs, this is because these consumers think the packaged foods are convenient, especially when they are busy working or when they take their babies for outdoor activities. Secondly, they think that they are not able to add these extra nutrients in homemade supplementary food, and thus they have to buy these products. These

consumers think that some of the fortified nutrition cannot be supplemented in other daily foods, or they are not sure which food sources contain such specific nutrition, therefore they buy the packaged ones with fortified nutrition. Also, these consumers believe that the type and amount of fortified nutrition are chosen by experts or specialists, who are more knowledgeable than they are in the infant food area, so these parents are willing to buy packaged ones.

Serving size is another aspect of the product that should be considered. In the interviews, consumers reported that the size of most infant food products is too large. Sometimes babies just dislike the product after the first feeding, and the large-size product is wasted. Some parents report that this is quite common in their feeding experience. Their current solution of avoiding such wastes is to exchange small samples with their trusted friends or neighbours who have babies of similar age. If the babies like the small sample, then the parents will consider buying it in a whole package.

One of the interviewees mentioned one Japanese brand called Meiji. This brand has its products with small, individual packages, and this interviewee likes this idea of packaging. The same preference for small, individual packages or the wish to have trials of small packages is also reported by many parents in the interviews.

9 NEW ZEALAND'S COMPETITIVE ADVANTAGE

During interviews we found that participants' information and knowledge of New Zealand was mainly from friends who had travelled or studied in New Zealand, TV advertisements, other online information, and some personal experiences with New Zealand products. Not many of these interviewees have any direct experience with New Zealand. Therefore, there was a certain level of vagueness in terms of New Zealand as a country, and two of the interviewees were confused by its location, further underpinned by confusion with Australia. New Zealand products (e.g. Karicare baby formula and Zespri kiwifruit) have a much stronger image than the country itself in the mind of Chinese parents. Nevertheless, New Zealand is perceived as a favourable country with reliable food products and well-developed primary industry. Interviewees considered there to be a high potential for New Zealand products to succeed in the Chinese market as consumers showed high willingness to purchase New Zealand products even with little understanding of it.

Consumer perceptions of New Zealand and other selected countries (Germany, Australia, USA, Japan and China) were compared in the online study. Participants were asked how much they would associate each country with the following statements about complementary foods:

- It would be safe for children to consume
- It contains high nutrition for my child
- It is from a safe origin
- It would be good for my children's health
- It has good quality
- It is a premium product
- It is suitable for my child
- It is organic
- It is great tasting
- My child would love it
- It would be worth paying more for
- It is from high-tech
- It is additive / preservative free
- It is a traditional complementary product.

With the exception of China as perceived by Hong Kong residents, all countries were perceived by consumers as delivering foods that were similarly associated with these comments. In other words, while New Zealand is favourably perceived as a source of complementary foods, we have many potential international competitors in this space. Arguably, unless New Zealand is able to differentiate itself through initiative such as HVN, it risks being lost amongst the large number of western countries positioning themselves to supply food to China.

According to interviews, Germany was one of the most favoured COOs of baby food brands, as it was seen to have a high reputation in advanced industrial techniques, as well as the care and rigor characteristic of German people. Japanese brands were also considered to be reliable and of good quality.

Australia, New Zealand, Ireland, the Netherlands, and Germany were considered as best origins of milk due to the regional climate, green environment, fresh air, and less pollution. The ingredients of other baby food were not as highly noted as baby formula; however, it was a general concept that imported ingredient would be of better quality.

According to the interviewees, Japanese brands have an advantage, being considered as more suitable for Chinese babies by some interviewees because Japanese and Chinese babies are perceived to be more similar than European and Chinese babies. There were some concerns over perceptions that Japanese baby formula was lower in iodine. The nuclear pollution in Japan in 2011 may stop them from buying Japanese brands. One of the interviewees who bought Japanese brands for half a year stopped buying after the nuclear pollution, and another interviewee also reported that she would not choose a Japanese baby formula brand for the same reason. However, another interviewee, who was a regular visitor to Japan, preferred to use Japanese brands of baby food, including baby formula.

10 CONCLUSIONS

10.1 Conclusions from individual reports

Online survey:

- Among the three major Chinese cities, Hong Kong mothers incur the most expenditure on complementary feeding at approximately RMB 1,000/month.
- Roughly 20% more money is spent on raw ingredients used to prepare complementary foods than on ready-to-eat complementary foods.
- Similar to the qualitative findings, rice cereal carries the widest consumer coverage in China and is most frequently consumed, with 59% of children using it on a daily basis.
- Considering the entire complementary feeding period, mums seem to spend the most at the commencement, potentially due to stocking up on foods and getting ready for the new feeding journey.
- Whilst Hong Kong is still likely to spend the highest amount overall on complementary feeding, Shanghai mothers responded most positively to the new HVN concept, for which they are willing to double their current spend on pre-packaged complementary foods.
- Overall, mothers place “gives the nutrition that my child needs” at the top of their decision making hierarchy; Shanghai and Guangzhou mothers would like the nutrition to support the natural protection from infections whilst Hong Kong mothers would prefer it to develop children’s brains.
- Although complementary foods produced in New Zealand are believed by all mothers to be safe, premium, good quality, offering health benefits and high nutrition, they are not as associated with high tech, particularly amongst Hong Kong mothers.
- Among the three cities, Shanghai and Guangzhou are more willing to pay a high premium for HVN complementary foods produced in New Zealand that claim to protect children from infections.

Consumer interviews:

- First, it is suggested that the new parents’ feeding beliefs are partially influenced by Chinese culture and traditions, while the contextual factors play a significant role in their decision-making process. To be more specific, their decision on when to start feeding baby formula depends on three important factors: length of maternity leave, lactation supply, and considerations of nutrients. They would choose homemade or packaged supplementary food based on whether they have time and skills to prepare, their preference for freshness (or non-preservatives/additives), as well as the expected feeding environment (at home or outdoors).
- Second, WOM and the online community have become highly important for Chinese parents to obtain advice on infant-related information and to socialise. Moreover, due to the long-term impact of the past China’s one-child policy, most of these interviewees are first-time parents and only very few of them have done research by themselves to form an independent and critical view on infant products and infant feeding.

- Third, many parents have little understanding of baby formula, especially about nutrient information and why certain components are considered essential for certain aspects of health. The correlation between knowledge and trust was also notable, with the two aims of infant's supplementary food being health maintenance and prevention of future illness (immunity).
- Fourth, Chinese parents' core demand for baby food is safety and quality. The reputation of a brand is highly valued by these parents. Domestic baby food brands, especially baby formula brands, are still not favoured by Chinese consumers due to past baby formula safety incidents. In contrast, well-known foreign brands are considered more trustworthy in both safety and quality. For layman consumers, a well-known brand recommended by trusted others is the guarantee of safety and quality. This obvious preference for foreign brands over domestic brands is not only due to the historical reputation of these brands themselves, but also because foreign countries are recognised as having stricter food regulation, more advanced food processing techniques, and better milk origin.
- Fifth, there are several different purchase channels providing a wide range of baby food products and brands for Chinese parents. Among all channels, overseas "Daigou" ('buying on behalf of') via acquaintances is considered as one of the most trustworthy ways of buying overseas products, yet this channel is only available to those who have reliable overseas contacts. Moreover, disadvantages, such as being time-consuming, concerns with freshness and expensive shipping fees, are concerns for all parents. "Daigou" via strangers is seen as a risky because of potential counterfeits, and therefore is not favoured by most parents. Physical stores, mainly referring to large-scale supermarkets, chained baby stores, and specialised supermarkets, are seen as good choices for many parents who believe that products can only be sold in these places if they have passed quality checks. Many consumers also choose to buy baby food (except for baby formula) via online shopping sites, which they believe to be selling quality products, but the confidence in online shopping sites varies among interviewees. The availability of a purchase channel is highly relevant to Chinese consumers' final decision on baby food products and brands.
- Sixth, there is a strong link between Chinese consumers' purchase intentions of baby formula and infant supplementary foods, and their feeding beliefs. Those who prefer breastfeeding or natural food sources have little intention to buy. Other consumers indicate different levels of purchase intentions. The compatibility between the fortified nutrition and the main food in the product is also viewed as very important for some consumers. The babies' preference (in terms of tastes) also matters when purchasing certain products.
- Seventh, Chinese consumers, in general, are willing to spend on infant foods because the babies are seen to be the hope for their family and also because Chinese consumers are still concerned about food safety issues in China. They believe higher price indicates better quality. Specifically, the ideal price for infant food with fortified nutrition is set 1.2 to 1.5 times higher than those without.
- Additionally, Chinese consumers tend to favour the idea of smaller packages to keep food fresher and to avoid waste. As for the language used on the package, consumers hold different opinions with regards to whether English (or other foreign language) or Chinese should appear on the package. The main reason for this difference lies in their different understandings of Chinese regulations on imported brand and products. Besides, most consumers are reluctant to look at the nutrition information on the

package. Few claim that they check the nutrition information on the package because they want to confirm whether the products have certain nutrients.

- Lastly, in the mind of Chinese consumers, New Zealand is perceived as a favourable country with reliable food products and well-developed primary industry, but with vague country image. However, its authentic products were very well-known with images of high quality and safety, with great potential to succeed in the Chinese market. Interviewees showed high willingness to purchase New Zealand products even with little understanding of the country.

10.2 Overall conclusion

HVNs decision to invest in an infant nutrition research programme targeting immunity is supported by consumer insights collected in China. Consumers responded positively to the concepts that complementary foods that delivered nutrition that protects from infection (and other phrases relating to immune health). There is, in particular, a group of consumers who think critically and reflectively, and responsive the types of information and products that HVN will provide through its research. In developing new complementary foods, New Zealand companies will need to recognise that there exists a diversity of consumer opinions and needs (outlined in this report) and that this information will allow identification of general and niche opportunities.

APPENDIX 1. UNDERSTANDING CHINESE CONSUMERS AND BUYERS OF SUPPLEMENTARY INFANT/TODDLER FOODS: RESEARCH REPORT

Understanding Chinese Consumers and Buyers of Supplementary Infant/toddler Foods

Research Report

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June 2017

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1 Introduction

This report outlines the main findings of the research project “Understanding Chinese consumers and buyers of supplementary infant foods”. It highlights key implications for the New Zealand food industry based on 12 individual interviews and 4 focus group interviews conducted in Shanghai, China, in April 2017. Interviewees were all young professionals and a mix of males and females.

1.1 Report structure

The report is structured as follows.

Section 1 provides overall information and key definitions of the report.

Sections 2–8 address key research findings in the areas of general supplimentary feeding beliefs, information acquisition and dissemination, perception of nutrition in supplimentary food, product and brand selection of supplimentary food, purchase channel of such food, pricing, labelling and packaging of these foods, consumer perceptions of New Zealand and of New Zealand food.

Section 9 offers a summary of the key findings.

Section 10 highlights the key implications derived from research findings.

Appendix: Consumer profiling identifies and describes the general Chinese parents and the four types of consumer segments in relation to their supplementary food consumption practice.

1.2 Key definition

The definitions of words associated with the foods of interest are listed as follows:

Baby food: refers to all forms of food specifically designed for the early years, roughly from childbirth to 3 years old. In this report, baby food is discussed in two categories, namely, baby formula and supplementary food.

Formula: refers to all stages of formula milk, from infant to toddler and special follow-on milk products.

Supplementary food: refers to food other than infant formula, mainly in soft or half-solid, easily-consumed forms, and usually for infants between the ages of 4–6 months and about 3–4 years, before they transition to a normal solid diet.

2 Feeding beliefs

Feeding beliefs play a significant role in parents' decision-making regarding how to feed their infants. According to the interviewees' their infant feeding beliefs are influenced by their personal perceptions, and their knowledge and understanding of infant health, breastmilk, baby formula and supplementary food.

2.1 Healthy baby

Several interviewees mentioned that the older generation (their parents) perceive a healthy baby as having a good appetite, and being 'chubby' – 'the chubbier the better'. However, these interviewees did not fully agree with the older generation. They regarded a good appetite to be a positive sign of good health, but they also followed advice from experts and professionals that only weight that falls into a suggested range can be seen as healthy. They strongly believed that such data have been scientifically and empirically studied and are therefore accurate guidelines. In addition, they were afraid that infants who may be overweight could suffer from potential health risks.

2.2 Breastmilk and baby formula

Interviewees did not have a shared view on breastmilk or baby formula. For those who prefer breastfeeding, they may defer weaning. They believe breastmilk is easy for an infant to digest, and contains all the necessary nutrients that can improve the infant's immune system. In addition, they believe that breastmilk is very safe. In addition they reported that breastfeeding strengthens the bond between the mother and infant.

With respect to those who prefer baby formula, they may introduce formula at an early stage, often from birth, and continue to provide formula until a late stage, possibly when their baby's 3–5 years old. These interviewees asserted that there is a wide range of nutrients included in the formula that could not be provided by breastmilk. Additionally, baby formula was used as a substitute for breastmilk when the mother is sick or away. Formula was also used in addition to breastmilk, with beliefs ranging from 'there is not the right nutrients in either breastmilk or formula, so it is best to use both' to concerns that 'baby does not get enough food with breastmilk alone.' For some parents formula feeding was a necessity, rather than a choice. For example, women do not have access to equal length of maternity leave due to different organisation policies; some interviewees were entitled to 1 year, and others 4–5 months. Once they returned to work they reported finding breastfeeding inconvenient and time-consuming. In the second focus group interview, the interviewees mentioned one of the local traditional beliefs in Shanghai and nearby regions. According to that belief, once the mother has her first menstrual period after giving birth, her breastmilk's nutrition decreases. They acknowledged that it may not be scientifically proven, but it is a widely held belief and a time when formula feeding often commences.

To conclude, based on the interviewees' opinions, their decision regarding when to start feeding baby formula depends on the three important factors: length of maternity leave, their lactation supply, and concern about nutrient density of both breast milk and infant formula.

2.3 Homemade and packaged supplementary food

Most interviewees stated that supplementary (solid) food was added after their infant reached 6 months, while some added supplementary food from 4 or 5 months. They had mixed opinions about homemade and packaged supplementary food, but all had purchased supplementary food.

Homemade supplementary food was seen to be fresh, natural and safe. Interviewees considered that there are no concerns in the safety and quality issue of homemade food. Some types of supplementary food, such as smashed fruit and vegetable are considered to be easy to prepare because the adults will be eating these as whole foods. Interviewees do worry about the difficulty of preserving homemade supplementary food as it tends not to last long and most did not have access to refrigeration. Several interviewees commented that they could not cook, and never prepared food in the home for any family member.

Preparing some food, such as packaged rice flour, was considered to be time-consuming. However, other packaged supplementary foods such as fruit and vegetable puree were considered as requiring little time to prepare. Such foods are seen as very convenient to take along when the family leaves the home. Many interviewees considered these food products to be the same quality as homemade puree, and most interviewees also believed that there would be extra nutrients added artificially in these foods that are beneficial to their child. However, they also expressed concerns that excessive additives and preservatives may be harmful. Some concern was raised that packaged supplementary foods may lose some natural nutrition during manufacturing. They also mentioned that some packaged foods have a poor taste and texture which may not be attractive to their child. Additionally, parents commented on the fact that most packaged supplementary food is in a large size container, which is inconvenient when there is little storage space and may result in waste.

To conclude, the interviewees would choose homemade or package supplementary food based on whether they have time and skills to prepare, their preference for freshness (or non-preservatives/additives), as well as the expected feeding environment (at home or outdoor). Concerns regarding not having adequate storage facilities were also raised.

3 Information Acquisition and Dissemination

Three key themes have been identified within the category of information acquisition and sharing, which includes channels of information acquisition, inconsistency in information, and information dissemination.

Before explaining these themes, it is important to understand what the information in this context refers to. It mainly covers two types of information: first, information on infant-related products and brands; second, information on infant feeding.

3.1 Channels of information acquisition

The interviewees reported a variety of ways to obtain information. According to the interviews, a total of five channels of information acquisition have been identified: word of mouth (WOM), local stores, experts and professionals, online integrative social networks, and commercial advertisements. It was evident that they valued credibility and reliability.

Table 1 demonstrates how interviewees acquire information on infant-related products and infant feeding respectively. Table 2 shows the channels of information acquisition and the information dissemination and marketing strategies employed (business to customers (B2C), peers to peers (P2P), or online to offline (O2O). Table 3 compares the channels and their communication characteristics (face-to-face, online community of practices, or one-way communication).

3.1.1 Word of mouth

Word of mouth (WOM) was widely regarded by the interviewees as the most significant approach to acquiring information. They valued advice from WOM because they see it as much more reliable and trustworthy than other channels. WOM could be from the interviewees' friends, colleagues, family, and those in the same local community.

People who are engaged in the WOM are usually known to the interviewees. Advice from those who gave birth just a few months before the interviewees would be much acknowledged and valued, because the interviewees considered that they are peers who share a similar experience. Additionally, interviewees also relied on acquaintances or relatives who reside overseas as they could get more information about foreign products, brands, and infant feeding practices.

According to Chinese culture and traditions, many parents of the interviewees (known as the older generation) make daily visits or even live with the interviewees after the birth of an infant. Older generation would also provide advice based on their previous experience; however, the interviewees had mixed attitudes towards their advice: some of them considered that the older generation may know more and they would always be there to cope with immediate issues, while other interviewees thought the knowledge and opinions of the older generation may not be up-to-date or scientific.

Interviewees also valued advice from experienced new parents living in the same or nearby neighbourhood. The sense of community and the experience of pregnancy and parenting made them feel closer to each other. Since they are in the same local community, they would also discuss the local stores that sell infant products.

3.1.2 Physical stores

Some interviewees would learn information from their local (international) stores. Compared with the duration of shipping time for online shopping, shopping at the local stores was seen to be much more accessible and time-saving.

Furthermore, some of the interviewees preferred to talk with the sales assistants, to learn about the products and their nutrition, and view and compare the available products in person. It was regarded as a more authentic experience to shop in a physical store. These interviewees also acknowledged that they would not totally believe in the sales assistants who may have brand biases and sales targets. The interviewees asserted that they only take sale assistant's suggestions into account. They then rely on their friends and online community to check the validity and accountability of the advice from the stores.

3.1.3 Experts and professionals

Three groups of experts and professionals were identified in the interviews: doctors from local hospitals, Dr Cui Yutao, and hired maternity matrons. Their advice and suggestions were regarded to be highly authoritative, neutral, objective, and useful.

Firstly, the interviewees always relied on local hospitals for regular health checks and medical consultancy during pregnancy, as well as for post-partum care. Doctors were considered to provide personalised diagnoses and advice. The interviewees considered that these consultations provided them with valuable information regarding their infant's health development, especially in terms of nutrient needed. For example, they could learn that their infant required additional amounts of particular nutrients. In addition, local hospitals in China usually hold workshop sessions on pregnancy and infant health, so the interviewees felt well prepared for general caregiving and handling urgent matters.

Secondly, most interviewees stated that they had heard of Dr Cui Yuyao. Dr Cui is a well-known paediatrician nationwide. He has been engaged in promoting infant health information online and offline for many years. He has held numerous workshops and published many books, and has been invited as a guest speaker on various TV programmes. Dr Cui is also an active member online, including Weibo, WeChat and his own mobile application (Yu Xueyuan). Some interviewees in focus groups asserted that his information is more helpful for new mothers at the early stage, and they do not pay much attention to him once their babies turn 15 months or older. Only one interviewee (ID7), had doubts about Dr Cui because he thought Dr Cui is a paediatrician and not a nutritionist. However, the other seven interviewees found him reliable and credible as he has years of clinical experience and has developed his own deep insights into the field.

Thirdly, apart from the medical experts, maternity matrons (also known as 'yuesao') are also seen as a group of trusted professionals in infant caring. According to Chinese tradition, after giving birth, women will practice the postpartum confinement (also known as 'sitting the month') for at least a month. They will hire maternity matrons to take care them and their infant in their own home. Today, qualified maternity matrons are usually highly paid, especially those who hold certificates in the related areas, such as nutrition and promoting lactation. Similar to doctors, these matrons provide personalised suggestions based on an infant's health situation.

3.1.4 Online interactive social networks

Technology today provides a number of ways to access information and connect with others. The interviewees highlighted five online platforms: mobile applications for child care, WeChat, Weibo, customer reviews, and forum.

Mobile applications for child care usually focus on health care of new mothers and infants. They include a variety of related content, such as general health and common medical care, diet and nutrition. Based on the personal information, some applications push notifications to the users to remind them about the changing diet and nutrition needs at different growth stages of infants. Some applications also include online stores so people can easily order infant-related products online.

Interviewees mentioned that they mainly used the peer groups and public platforms (or official accounts) through WeChat. Peer groups are the social groups for new mothers to socialise and exchange ideas and experiences. They not only talked about their child's development but also discussed their user experience of products and brands. These groups could be seen as another peer support method. Further, experts and professionals, such as Dr Cui, would also own a public platform to publish articles and tips for infant health care. Some brands and companies also use it as a social media networking strategy.

Weibo, similar to Twitter, is a micro-blogging platform. However, due to the differences between Chinese and English languages, a piece of 140-word Weibo could contain more information in Chinese. A Weibo content publisher may be an expert or professional such as Dr Cui, a community of practices, a marketing team, or individuals. Despite the fact that the authors could engage with readers in the comments section, it is still more like a one-way communication tool due to its user interface design.

Customers' reviews of products could usually be found in online shopping stores. Before purchasing any products, interviewees tend to check the customers' reviews to ensure the products are considered reliable, with only a few negative comments being acceptable. This significantly informs their decision-making process before making the final payment.

Forum has been seen as a conventional online interaction platform. Some interviewees would browse online forums, such as *Baidu Tieba* and *Baby Tree*, to navigate information that they are concerned about, such as health issues or product reviews.

3.1.5 Commercial advertisements

Some interviewees mentioned that they knew the products and brands from traditional commercial advertisements, including television and official websites. They acknowledged that TV advertisements can play a role in promoting the reputation of the brands and functionality of the products. For example, Mrs Miao (ID3) valued endorsements from celebrities and mentioned that those products should be of good quality. Moreover, official websites were supposed to include all the necessary information of the brands and products for public access. Interviewees also believe that purchasing particular products through official websites would be a preferred way rather than shopping on other third-party platforms, such as Taobao.

Table 1. Types of information and Channels of information acquisition.

Types of information	WOM	Stores	Experts and professionals: Doctors from local hospitals	Dr Cui Yutao	Maternity Matrons	Online interactive social networks: Mobile applications for baby care	WeChat (peer groups and public platforms)	Weibo	Customer reviews of products	Forum	Commercial advertisements: Television	Official websites
Information on infant-related products	•	•				•	•	•	•	•	•	•
Information on infant feeding	•		•	•	•	•	•	•		•	•	

Table 2. Information dissemination and marketing strategies and channels of information acquisition.

Information dissemination and marketing strategies	WOM	Stores	Experts and professionals: Doctors from local hospitals	Dr Cui Yutao	Maternity Matrons	Online interactive social networks: Mobile applications for baby care	WeChat (peer groups and public platforms)	Weibo	Customer reviews of products	Forum	Commercial advertisements: Television	Official websites
B2C		•	•	•	•	•	•	•			•	•
P2P	•					•	•	•	•	•		
O2O		•				•						•

Table 3. Communication characteristics and channels of information acquisition.

			Experts and professionals			Online interactive social networks					Commercial advertisements	
Communication characteristics	WOM	Stores	Doctors from local hospitals	Dr Cui Yutao	Maternity Matrons	Mobile applications for baby care	WeChat (peer groups and public platforms)	Weibo	Customer reviews of products	Forum	Television	Official websites
Face-to-face	•	•	•		•							
Online community of practice	•			•		•	•	•	•	•		
One-way communication		•		•		•	•	•	•		•	•

3.2 Inconsistency in information

Several interviewees mentioned finding inconsistencies in the information they acquired from difference sources, which leads to confusion. The inconsistency exists between the older generation, experts and professionals, and online interactive social networks. For example, when they were facing an infant health issue, they may firstly look for solutions through website and WeChat groups, and ask for help from the older generation. They would also visit the hospital if necessary. In this context, they may find that solutions and suggestions from different channels would be totally different. It is to note that interviewees realised that even Dr Cui, who is regarded as an expert nationwide, provides advice based on his own clinical experiences and his advice was not specifically targeted to them. In terms of the older generation, the interviewees said that they respected their parents, but sometimes find their advice lacks enough scientific support and therefore was not be fully convincing. The interviewees agreed that when facing inconsistent suggestions they prefer to follow the doctors from local hospitals.

3.3 Information dissemination

Since most of the interviewees only gave birth to their first baby, the interviewees admitted that they do not have much experience in infant-caring. However, they mentioned that they used to engage in sharing their experience of infant caring and use of products with their friends through WOM and online communities, including WeChat groups.

One interviewee, Mrs Zhang (ID8), stated that since she has given birth to two babies, she feels she is more experienced. At this stage she is not enthusiastic about following advice from different sources. She is confident in handling common problems and a more independent and critical thinker. Nowadays, she would be more willing to share her solutions to the online community and to her friends.

To conclude, the development of online social networking services and international logistics has enabled a variety of channels of information acquisition and dissemination for Chinese consumers other than the traditional channels such as local stores and TV programmes. Chinese consumers prefer to rely on WOM, which is seen as the most reliable and trustworthy. Moreover, due to the long-term impact of the past China's one-child policy, most of these interviewees are first-time parents and only very few of them have done any research to develop an independent and critical view of infant food products and infant nutrition.

4 Nutrition

This section addresses the overall perception of nutrition in relation to baby growth and the nutrients in baby food. Three main themes are identified within the interview data: nutrition and baby formulas, nutrition and supplementary foods, and specific nutrition elements.

4.1 Baby formula

Baby formula, which is widely considered as an substitute for breastfeeding, involves themes such as the level of knowledge and trust. According to the analysis of interview data, it was found that 7 out of 12 interviewees simply had no knowledge about the nutrition contained in baby formula. They were not sure why certain components of nutrition were essential for an infant's health. According to the interview results, only two of the interviewees had trust and confidence in the companies' nutrition and product research and development (R&D) effort. This indicates that the more parents lack knowledge about nutrition, the more sceptical they become about what companies offer in the market.

4.2 Supplementary food

For supplementary foods that derive themes of knowledge, trust, and health concerns, nine interviewees had either no or limited knowledge about the nutrition contained in supplementary food, while two interviewees had trust and confidence in nutrition components provided by certain companies. Again, this reveals a correlation between the level of knowledge and trust for Chinese parents. Moreover, there are two main aims for feeding their supplementary food: health maintenance and prevention of future illness (immune health). Six interviewees believed that supplementary foods are beneficial in maintaining infants' health at different stages of growth as they require varying nutrition needs. For the prevention of future illness, ID 1 and 3 said that they are using such foods as "medical" to prevent possible sickness in the future.

4.3 Specific nutritional elements

For specific nutritional elements, 15 different components were identified, with major ones such as general vitamins (3 interviewees), vitamin D3 (6 interviewees), iron (8 interviewees), and calcium (5 interviewees). Nutrition components that were only mentioned by two interviewees or less include DHA, mineral, zinc, protein, iodine, fat, biotics, electronlyte, lacto transferrin, and lutein. Interviewees were convinced that calcium was important for bone health but had no knowledge of why the other elements were important.

In summary, most of the interviewees had little understanding of baby formula, especially about nutrient information as to why certain components are considered essential for certain areas. Interviewees trusted that manufacturers were formulating supplementary foods in the correct manner so as to fulfil the two aims of infant's supplementary food – health maintenance and prevention of future illness.

5 Product and brand selection

This section addresses interviewees' thoughts and behaviour in relation to their product and brand selection with baby food. In this section, the highlighted themes are with regards to the products safety and quality. In the interviews, this core demand is demonstrated in interviewees' various expressions regarding detailed product and brand attributes, such as safety, nutrition, quality, the origin of milk, authenticity, package, label, tastes, historical brand reputation, no allergy caused to the baby, etc.

5.1 Perceived risk and food safety

Perceived risk is defined as the level of fear and uncertainty a consumer has when purchasing a product. Unlike other consumer food which is widely considered as a daily necessity with lower consumer perceived risk, such as bread, fruits, vegetables, eggs, etc., baby supplementary food has much higher level of perceived risk, especially in terms of performance and physical risks. Performance risk is the fear a consumer has that a product will fail to provide promised needs and functions, for example baby formula fails to provide adequate nutrients such as vitamin and calcium for growth and development. Physical risk is the perceived threat a product will cause damage to a consumer's body and health, for example the formula contains harmful chemicals that may provide severe damage to a child's wellbeing. Baby supplementary food has an exclusive position in the market by being a necessity with the highest level of consumer perceived risk, and with the most emphasis placed on the information search of consumer decision making process.

The high level of perceived risk results in a high concern over food safety, which has also been reflected throughout the interviews in three aspects. Firstly, interviewees expressed their concerns on safety, explicitly or not, when choosing baby food, in particular baby formula. Due to the past devastating baby formula incidents, especially the Melamine Scandal[1] and Big-headed babies incident[2], Chinese parents' confidence in domestic baby formula has been heavily shaken and 10 years later has not yet been restored. Secondly, the food safety status quo also worries Chinese parents, as they gain the impression from mass media and social media of negative publicity on safety issues over a wide range of food categories. Thirdly, interviewees are also aware of the growing public concern about environmental pollution, which may have a profound influence on agriculture and food safety within China.

[1] Melamine Scandal, also known as Sanlu Scandal, was a food safety incident in China in 2008. The scandal involved milk and baby formula along with other food materials and components being adulterated with melamine. An estimated 300,000 victims were reported in total, with six babies died and 54,000 hospitalised.
[2] A baby formula safety incident in China, 2004, which has caused 13 deaths and 229 "big-headed" diseased babies due to fake baby formula with little nutrition.

Therefore, safety assurance is a prerequisite when interviewees make decisions on choosing baby food brands. The strong motivation to avoid risk has a significant influence on interviewees' brand section and feeding practice. Interviewees' strategies to ensure safety include choosing internationally well-known brands, buying from overseas, or using different brands to reduce the risk.

5.2 Nutrition in baby food products

On top of safety, which basically means doing no harm to the baby, nutrition plays an essential role in fulfilling the functional benefit of baby food. As food for baby, both baby formula and other supplementary foods, must meet the nutritional needs for baby growth and cognitive development.

Close to breastmilk is one of the key indicators in terms of the nutrients contained in baby formula, as the concept of "breastmilk is the best food for infants" has been widely accepted by most interviewees. However, many of them also believed that nutrients in breastmilk would decrease or would not be sufficient to support baby growth from certain stages, such as 6 months after childbirth. Therefore, baby formula was also commonly introduced by many interviewees in different months from the 6 months onward, in order to meet the nutritional need of baby growth. The intended bottle-feeding period varied from 2 years old to 7 years old according to interviewees' individual plans.

Other baby food is also considered important to supply nutrition for the child's growth, especially elements that are widely believed to be insufficient in breastmilk, such as iron and calcium. For example, interviewees may buy rice flour with fortified iron, or compare the amount of iron among different brands.

Although many interviewees stated the significance of nutrition, few showed an in-depth understanding of nutrition and how nutrients may benefit the baby other than some very general knowledge of nutrients like vitamins (mainly Vitamin D), DHA, and trace elements (mainly iron, calcium, and zinc). Furthermore, many interviewees admitted that they have never read the nutrient facts on food packaging. Only some interviewees may read and compare nutrient facts among brands, and only a very few may carefully study and look for specific nutrients in products purposefully.

As layman consumers, many of these interviewees of course did not have special knowledge in nutrition; rather, they believed that the brand should have taken into account the nutritional needs for their child's growth in product research and development, and they assume the product will included all necessary nutrition.

For a detailed description of interviewees' perception on nutrition, please refer to *Section 4 Nutrition*.

5.3 Being suitable to, and accepted by the baby

In terms of nutrition in baby formula, there was a disagreement among interviewees regarding whether the formulae of domestic or Asian brands are more suitable for Chinese babies' constitution than those of western brands. Perspectives on this issue also had a significant influence on the choice of products and brands, and purchase channels of baby formula.

Some articles have been circulating among Chinese parents via WeChat and relevant channels claiming that domestic baby formula (both domestic brands and the domestic version of foreign brands) is specialised for Chinese babies, and have taken into account the Chinese dietary structure, Chinese constitution, and climate, etc., thereby is more suitable for Chinese babies than overseas baby formula. One of the interviewees referred to the official Chinese Dietary Guidelines, which provide authentic nutritional suggestions on daily diet for Chinese, as one of the reasons why she had chosen the domestic version of a foreign baby formula brand. This type of product is called "*hanghuo*" or "*guohang*", namely, "authorised dealer products of foreign brands". The overseas origin of these brands is considered as a safety guarantee, and the official Chinese version of the product is a sign as their adaption of Chinese dietary guideline. This kind of product was been accepted by many interviewees. It is usually available in supermarkets and mother-baby stores, making it convenient for parents to buy whenever needed.

Such arguments have caught the attention of many mothers and was convincing to some interviewees who cared about the nutrition but had no knowledge to evaluate the nutrition. The baby getting the symptom of "*shanghuo*" (means "excessive internal heat", a Traditional Chinese Medicine term, usually manifested in the symptom of constipation), being too chubby, being too big in size was considered by some interviewees as signs that western baby formula brands are unsuitable for the baby's constitution, although these symptoms might appear on babies fed by domestic versions as well.

On the contrary, some interviewees argued that there is no significant influence on the baby in terms of the differences in Chinese/Asian and western formulae. Reasons for this perspective include (1) babies of Chinese immigrants in western countries also adopt western dietary and formula, and (2) even the Chinese specialised formula cannot meet the regional differences of China due to the vast territory.

Despite the disagreement over the suitability of formula, there was a consensus among interviewees that the most popular or most expensive baby food brand is not necessarily the best for the baby, rather, only the most suitable one can be considered to be best. Suitable to the baby usually means the baby accepts the formula milk well and grows healthily without any adverse reaction such as allergy, constipation, diarrhoea, etc. If the baby dislikes, or rejects, or has any reaction such as eczema after being fed with formula milk of any specific brand, parents may have to switch to alternative or sub-optional products and brands, which were not their most favoured choice.

5.4 Brand preference

Throughout the interviews, interviewees demonstrated a strong preference for foreign brands over domestic brands when buying baby foods, considering foreign brands as safer and more reliable in quality. Foreign brands were also valued by interviewees because of their long history, reputation, a good record of not being involved in negative publicity, and better production techniques. Additionally, foreign brands have advantage because of their COO, including the origin of milk, and other ingredients.

Few of them had much understanding of domestic baby food brands or had the intention to try any domestic brands, except for one interviewee who may consider using domestic brand Feihe to replace her current brand as it met all essential nutritional criteria for Chinese babies and was cheaper. One other interviewee had replaced foreign rice flour brands with a domestic brand as the baby accepted the domestic brand best. Nevertheless, these two interviewees have also bought other popular foreign brands.

The preference for specific brands varied in individuals according to interviewees' personal experience and knowledge of brands, perception of nutritional needs, and recommendations from trusted people.

Although many interviewees could name quite a few renowned brands, and use brands as an important quality cue of product, in many cases they had little understanding of the origin or background of brands, and sometimes they even had incorrect linkage between the brand and its country of origin and milk/ingredient origin. As asserted by one interviewee, sometimes people just simply trust the brand name and follow the trend and recommendations from trusted others.

5.5 Brand replacement and improvement

Throughout the interview, it was clear that Chinese parents were not only choosing the “right” brand for their infants, but were simultaneously unwilling to replace the brand according to infants' varying needs and requirements. Under the theme ‘Brand replacement’, which involves willingness to replace the brand with another, five interviewees claimed that they were unwilling to switch to other brands, while only one showed willingness to try another brand but only if the other brand provided certain benefits that are more appealing than the current brand. Likewise, two of them showed their concern towards an allergic reaction arising as a result of certain chemical components such as lactose intolerance from ID 5 in certain brands, which will turn them away from choosing that brand. Overall, it was common for Chinese parents to consider that different brands have different components in terms of nutrition, thus leading it to a more individual decision making.

For ‘Brand improvement’, which implies consumers' willingness for companies to improve the product types and variety within the brand to further meet their needs, 3 out of 12 interviewees disclosed that they lack the knowledge to provide suggestions to companies in terms of what improvement could be made for further product research and development. They only had basic knowledge about what the product contained, but did not have further understanding of why certain components are significant and where to put more emphasis. However, one interviewee (ID 2) suggested that the company should engage more in their product research and development to create products, which are more specialised and suitable for Chinese babies rather than Western babies. Similarly, another interviewee (ID 9) mentioned that companies should put more effort in to improving ingredients/formula such as excluding sugar from rice cereal as too much sugar is considered unhealthy. Interviewee ID 6 complained that the presence of too many brands and versions of products caused difficult consumer decision-making processes, especially in the stages of information search and purchase.

5.6 Food regulation and government supervision

Many interviewees believed that foreign countries have stricter supervision over food safety, and in foreign countries there are very few counterfeits. One interviewee asserted that Europe has a higher standard of food safety when explaining why German brand of baby formula is favoured by her. Strict government supervision was one of the most important reasons that interviewees considered foreign brands to be more trustworthy and reliable than domestic ones.

Some interviewees were aware of the effort of the Chinese government in improving food safety, yet their confidence was not yet restored, even nearly 10 years on from the Melamine scandal. They would not be willing to expose their children to any potential risk by trying domestic baby formula. Also a few interviewees explicitly expressed their distrust in local government and domestic food safety.

Some other interviewees, although not many throughout interviews, have restored a certain level of confidence in government food regulation. One interviewee explicitly mentioned that she has some confidence in Chinese brands as one of her friends had visited some domestic dairy manufacturers and suggested that domestic manufacturers are sound and reliable nowadays. Several interviewees also expressed their trust in Chinese Customs and Chinese Inspection and Quarantine, in terms of their inspection of officially imported brands.

5.7 Country of Origin

The country of origin (COO) of the brand, of the ingredient, and the place of production, has also be identified as crucial quality cues for interviewees to assist brand selection.

According to interviews, Germany was one of the most favoured COOs of baby food brands, as it was seen to have a high reputation in advanced industrial techniques, as well as the care and rigor characteristic of German people. Japanese brands were also considered to be reliable and of good quality.

Australia, New Zealand, Ireland, the Netherlands, and Germany were considered as best origins of milk due to the regional climate, green environment, fresh air, and less pollution. The ingredients of other baby food were not as highly noted as baby formula; however, it was a general concept that imported ingredient would be of better quality.

According to the interviewees, Japanese brands have an advantage, being considered as more suitable for Chinese babies by some interviewees, although its lower iodine content is a concern. However, the nuclear pollution in Japan in 2011 may stop them from buying Japanese brands. One of the interviewees who bought Japanese brands for half a year stopped buying after the nuclear pollution, and another interviewee also reported that she would not choose Japanese baby formula brand for the same reason. However, another interviewee, who was a regular visitor to Japan, preferred to use Japanese brands of baby food, including baby formula.

In summary, Chinese parents' core demand for baby food is safety and quality. The reputation of a brand has been highly valued by these parents. Domestic baby food brands, especially baby formula brands are not favoured by Chinese consumers due to the past baby formula safety incidents. In contrast, well-known foreign brands are considered more trustworthy in both safety and quality. For layman consumers, a well-known brand recommended by many others may be the guarantee of safety and quality. This obvious preference in foreign brands over domestic brands is not only due to the historical reputation of these brands themselves, but also because foreign countries are recognised as having stricter food regulation, more advanced food processing techniques, and better milk origin.

6 Purchase channels

Purchase channels here refer to where interviewees buy their baby food products. Interviewees may mainly adopt one or several channels to buy products, including but not limited to, physical stores, online shopping sites, overseas "daigou", and other alternative channels.

Different channels may provide different types of products and brands. Therefore, the availability of various purchase channels was also reported to have an impact on product and brand choice.

6.1 Physical stores

Large scale supermarkets (e.g. Wal-Mart), Mother-baby stores (e.g. Babemax, i.e. "*aiyingshi*" in Chinese), and other specialised supermarkets (e.g. supermarket for imported goods, Sam's Club) are the three major physical channels identified among interviewees.

Physical stores offer baby food products of both domestic and foreign brands. Products of foreign brands can also be divided into two types, i.e. produced in China or imported from overseas with original package. The latter one is also called "*guohang*" or "*hanghuo*", meaning authorised dealer products of foreign brands, as mentioned above.

The brand of a physical store itself, like Walmart, Babemax, and Sam's Club, may provide some sort of guarantee of the product's trustworthiness on sale in their stores. Specialised supermarkets stand for the high-end physical channel, usually with higher prices, representing higher level of trustworthiness for interviewees.

As asserted by one interviewee (ID 2), for example, she thought only products that had passed quality inspection would be on sale in supermarkets; And the visibility of products in physical stores could also help to increase the perception of trustworthiness, as exemplified by interviewee ID 12.

On top of the assurance of authenticity (no counterfeits), physical stores also provide easier access to products, which is important to many interviewees who require freshness, convenience of purchase, and stability of supply. For example, interviewees ID 2 and ID 9 preferred to buy a new product from a physical store when the previous one is nearly finished, and therefore they perceive that the product is recently produced and fresh.

These physical channels have provided a high level of trustworthiness to many interviewees, as these channels stand for a certain form of guarantee – interviewees assumed that these physical stores are providing quality goods that have passed rigorous quality checks.

6.2 Online shopping

Online shopping for baby products is widely adopted by many Chinese parents. There are several ways of doing online shopping for baby food in China.

Domestic shopping sites are accessible to many Chinese; popular examples are JD (www.jd.com), NO.1 Supermarket (www.yhd.com), and Kaola (www.kaola.com). In addition to products and brands that are also available in physical stores, these shopping sites provide a separate section for purchasing overseas products, to help consumers to get products mailed directly from overseas. These overseas products are different from authorised dealer products of foreign brands. Yet when it comes to buying baby food via these shopping sites, especially baby formula, individual attitudes may vary due to individual traits, experiences and influences from trusted people. There was a common concern that people may get counterfeits via these shopping sites. The main concern was whether they can get genuine and authentic goods via these online shopping sites. Some may say yes and some no.

The other way is to buy overseas products via overseas shopping sites, like Amazon (US or other overseas sites). Overseas shopping sites mainly provide products for local markets in those country of origins (i.e. Amazon US mainly serve American consumers), but Chinese consumers can still buy from these shopping sites by using either the international shipping services of these sites, or third party logistic service providers. This way of online shopping meets some parents' need for "authentic" and "safe" overseas products, but its disadvantages are obvious and may matter to many consumers as well. The sites are in English and therefore language barriers may prevent a potential customer from being able to shop. The shipping fees are expensive, consumers may have to buy in a large number of products once in an order, it usually takes a long time for product delivery, and there may be potential tax issues with Chinese Customs. Concerns over the 'freshness' of these products was also clear. Therefore, interviewees may decide whether to buy from overseas shopping sites according to a holistic consideration over all these relevant factors.

6.3 Overseas "daigou"

The word "daigou" literally means "buying on behalf of", specifically referring to a grey purchase channels by which an overseas person buys and sends products from a foreign country on behalf of a consumer in China. This is a way by which consumers may get parallel imported baby foods, as these products are usually sent from overseas by individuals rather than exporters. There are two types of "daigou" in relation to consumers' familiarity with the overseas shopper, i.e. "daigou" via acquaintances or via strangers.

Only "daigou" via acquaintances, such as friends, relatives, and co-workers is accepted by most interviewees. The viability of "daigou" via acquaintances is strongly based on the assumption and confidence that "my friends will not cheat on me". Therefore, although "daigou" was acknowledged by many interviewees as a reliable way to get authentic overseas baby foods, not everyone had a trusted overseas contact to buy on behalf of them.

The other way of “daigou” via strangers was not accepted by interviewees due to the concern of getting counterfeits or other faulty products from strangers. In the case of “a friend of friends” as the overseas shopper, interviewees’ confidence declined as their familiarity with this person declined. Only one degree of separation was considered trustworthy.

Similar to overseas shopping sites, “daigou” was considered as a way to get authentic overseas products, and the disadvantages of overseas shopping sites were also mostly applicable to “daigou”: time-consuming, expensive shipping fees, large quantity order, unstable supply, customs and tax issues, packing and logistic risks, concerns over freshness, as well as strong concern with product genuineness if doing “daigou” via strangers. Interviewees may prefer other channels like physical stores and brands available in these channels, if they do not have reliable contact to buy specific overseas brand directly.

6.4 Other purchase channels

Some interviewees were buying from overseas in-person when paying individual/business visits to foreign countries, especially Hong Kong, and Macau. For example, interviewee ID 10 once bought in HK as it was cheaper, and interviewee ID 4 frequently visits Japan and buys products there. However, this channel was not adopted as frequently as other channels.

In conclusion, there are several different purchase channels providing a wide range of baby food products and brands for Chinese parents. Among all channels, overseas “daigou” via acquaintances is considered as one of the most trustworthy ways of buying overseas products, yet this channel is only available to those who have reliable overseas contacts. Moreover, disadvantages, such as being time-consuming and having expensive shipping fees, together with concerns over freshness, are acknowledged by all parents. “Daigou” via strangers is seen as a risky (counterfeits), and therefore is not favoured by most parents. Physical stores, mainly referring to large-scale supermarkets, chained baby stores, and specialised supermarkets, are seen as good choices for many parents who believe that products can only be sold in these places if they have passed quality check. Many interviewees choose to buy baby foods (with the exception of baby formula) via online shopping sites, which they believe to be selling quality products, but confidences in online shopping sites vary among interviewees. The availability of purchase channel is highly relevant to Chinese consumers’ final decision on baby food products and brands.

7 Pricing

This section addresses consumers' intentions to purchase, general perceptions toward the infant food pricing, and their willingness to buy infant supplementary food. Section 7.1 characterizes four types of consumers based on their different levels of purchase intentions, ranging from non-purchaser, restrictive purchaser to purchaser. Section 7.2 demonstrates Chinese consumers' general perceptions toward the high and low price products. Section 7.3 investigates the maximum amount of money that the consumers are willing to pay for infant supplementary food, especially with fortified nutrition.

7.1 Purchase intention

This section focuses on Chinese consumers' purchase intentions of packaged supplementary food with fortified nutrition. In the interviews, vegetable puree fortified with calcium is used as a product example to explore interviewees' intention to buy. Four types of consumers are identified according to their different levels of purchase intentions.

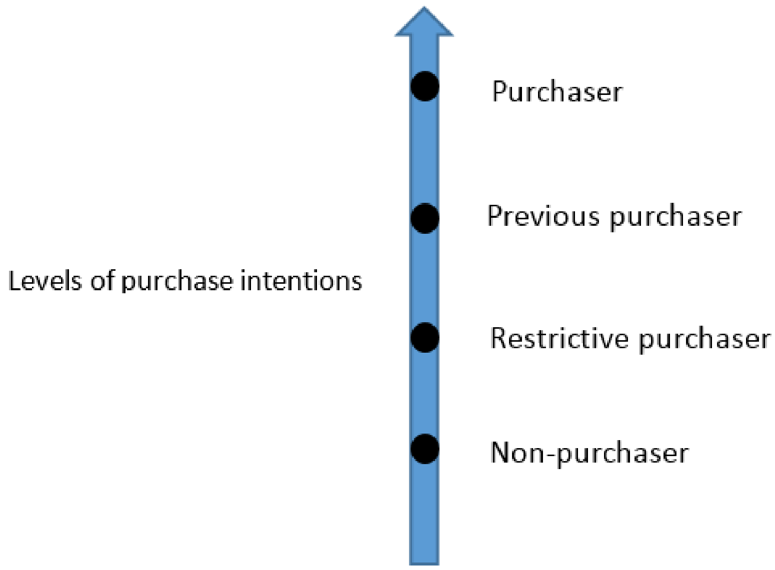


Figure 1. Different types of consumers based on their levels of purchase intentions.

The first type of consumers are parents who do not want to buy these supplementary food products, mainly for two reasons. 1) They hold the feeding belief of favouring exclusively home-made foods (in terms of vegetable, fruit and meat puree, etc.). They believe home-made foods are fresher, convenient to make, and they do not have to worry about food storage as it is made-for-demand. 2) They are aware of the benefits of fortified nutrition, but prefer to use alternative natural foods that have these nutrients. This also links back to the consumers' feeding beliefs as these consumers prefer the nutrition in its natural form – stored in whole foods. They are concerned about the potential additives and preservatives in the packaged infant food.

The second type of consumers are parents who want to buy the packaged foods only if the fortified nutrients are compatible with that of the food itself. For example, they believe that calcium, iron and protein are supposed to be added in food like red meat, whereas vitamins are supposed to be mixed within food like fruit and vegetables. They are concerned that if the added nutritients are not compatible with one another, there is a chance of causing undesirable consequences for the babies. For example, one of the interviewees said:

> *"I only accept calcium fortified in meat puree and vitamins in fruit puree." (Focus group ID 1)*

The third type of consumers are parents who purchased before but stopped buying, because the babies have tried these foods but do not like them. This previous purchase behaviour indicates a willingness to purchase and attempt, but the ceased purchase behaviour shows that these mothers put their infants' preference as a priority. This priority is also reflected by many parents when it comes to purchasing baby formula. However, this priority, as many interviewees reported, will always be subject to safety and nutrition concerns. Furthermore, many parents believe that different babies have different food preferences. There is no one-fit-all type of food that satisfies every baby's food preference. For example, some interviewees say that their baby prefers chewy food (e.g. apple) rather than packaged apple puree, while other mothers say the exact opposite – their infants like the soft food texture of soup and puree. Another example reported is that some mothers believe their babies dislike the packaged food due to the flavour (one mother tried one fruit puree herself and thought the flavour was not as good as the original fruit).

The fourth type of consumers are parents who are willing to purchase. Firstly, their feeding beliefs are to favour packaged food over home-made food. As discussed in the section on feeding beliefs, this is because these consumers think the packaged foods are convenient, especially when they are busy working or when they take their babies for outdoor activities. Secondly, they think that they are not able to add these extra nutrients in homemade supplementary food, and thus they have to buy these products. These consumers think that some of the fortified nutrition cannot be supplemented in other daily foods, or they are not sure which food sources contain such specific nutrition, therefore they buy the packaged ones with fortified nutrition. Also, these consumers believe that the type and amount of fortified nutrition are chosen by experts or specialists, which are more knowledgeable than they are in the infant food area, so these parents are willing to buy packaged ones.

7.2 General perceptions towards the price

The data analysis shows that affordability is one of the important factors when choosing certain brands or products. Interviewees only accept products with reasonable prices. However, they also claim that they are willing to pay more for better baby food products.

High price – Generally, according to the interviewees, a higher price indicates a better quality.

Low price – suspicion and concerns. If the price is too low, for example, the extremely low price for online shopping promotion, people may not trust it and be sceptical about it. As illustrated by some interviewees, when the price drops to a certain low level, they would generate strong suspicion on the genuineness and quality of that product and would not willing to buy or use it. This suspicion is mainly on products from online channels, including some famous shopping sites, such as JD shopping site and Tmall flagship stores. One interviewee from focus group 4 gave an example that she once bought a can of Karicare baby formula from Sam's Club Store at the price of ￥300, and later on she bought at ￥99/can from a Tmall flagship store. She ended up not daring to consume any of this cheap one as she was concerned a lot about its genuineness due to the extremely low price.

7.3 Willingness to pay

Baby supplementary foods, especially those with fortified nutrition, often charge a premium price. This section addresses the Chinese consumers' willingness to pay for these supplementary food products by exploring the maximum amount of money the interviewees would be willing to pay for such products.

Generally, Chinese parents are willing to spend on their babies, especially for their food. They are willing to spend more money on the infant food than on other infant necessities such as clothes, and on their own adult food. The underlying reasons for this particular "generosity" is that babies are seen as the hope of the family. The infant supplementary food is the main food source for babies at a certain age. Thus, they are willing to spend more money on food at this stage. Also, food safety issues are still at concern for Chinese parents. They would rather pay more money on expensive, overseas brand with good, historical reputations.

Some parents, who use breast milk as the main milk source since baby's birth, think that they have already saved quite a lot of money and thus are more willing to spend money on infant supplementary foods. Some think that infant supplementary food is only needed for a short period of time (i.e. 1 or 2 years). Thus, they think spending more money within this short period of time is acceptable.

Specifically, the interviewees are shown one can of infant food at a certain price, and then are asked about their desired price for that food fortified with nutrition. Interviewees' responses vary. But the general answers are that the consumers are willing to pay 1.2 times to 1.5 times more money on the infant supplementary food with fortified nutrition than on those without.

8 Packages and labels

This section addresses Chinese consumers’ perceptions on the packaging of baby formula and supplementary food. Specifically, the size, language use (Chinese vs. Foreign) and nutrition information are the three most discussed themes in the data analysis.

8.1 Product size

Generally, consumers report that the size of most infant food products is too large. Sometimes babies dislike the product after the first feeding, and the large-size product is wasted. Some parents report that this is quite normal in their feeding experience. Their current solution of avoiding such wastes is to exchange small samples with their trusted friends or neighbours who have babies in similar stages. If the babies like the small sample, then the parents will consider buying it in a whole package.

One of the interviewees mentioned one Japanese brand called Meiji. This brand has its products with small, individual packages, and this interviewee likes this idea of packaging. The same preference on small, individual packages or the wish to have trials of small packages are also reported by many parents in the interviewees.

8.2 Language use

The language used on the package in terms of Chinese or English or other foreign languages also matters to the Chinese consumers. As discussed in the brand selection and purchase channel sections, consumers hold different perceptions on whether Chinese language should be used on the product package.

Some consumers prefer foreign language on the package as they think it represents authenticity, especially when these products are purchased from overseas. However, some consumers believe that if the infant food is made overseas but specifically for exporting to Chinese markets, then Chinese language ought to be put on the package.

Some consumers prefer product packages with Chinese when they purchase such products in China, as they believe, the regulations in China requires Chinese labelling on the package, or inside the package. However other consumers think that if the label is in Chinese, such products may have been opened in China, and thus these consumers do not trust the products with Chinese labels.

8.3 Nutritional information

Generally, interviewees seldom checked the nutritional information on the package. The reasons are twofold. First, during their brand/product selection process, they have already decided to buy products of a certain brand. These interviewees trusted these brands/products and thought their quality to be assured, and therefore it is not necessary for them to check it themselves. Secondly, they thought that the figures on the package showing the different percentages of different nutrients do not differ much between brands and therefore they did not see the need to check the nutritional information on the package.

Among the few parents who do check such information on the package, they did this to look for whether the products have specific nutrients such as Lactoferrin, Lutein, OPO and the percentages teach product has.

9 New Zealand perceptions

This section outlines the general perception of New Zealand from interviewees in relation to New Zealand's general country image, the New Zealand food industry, New Zealand brands of supplementary infant food, and types of information source for knowing about New Zealand.

9.1 New Zealand's general country image

For the first question about New Zealand's general country image, 7 out of 12 interviewees mentioned that they believe New Zealand is a country with clean and green natural environment that is great for living and sightseeing for travel. Moreover, in terms of demographic, four of them mentioned that there are many international students and immigrants in New Zealand, with a large sector occupied by Chinese immigrants. Additionally, ID 10 mentioned that Haka dancing and Bungee jumping are part of New Zealand culture.

Interviewees' information and knowledge of New Zealand was mainly from friends who had travelled or studied in New Zealand, TV advertisements, other online information, and some personal experiences with New Zealand products. Not many of these interviewees have any direct experience with New Zealand. Therefore, there was a certain level of vagueness in terms of New Zealand as a country, and two of the interviewees were confused by its location, further underpinned by confusion with Australia.

9.2 New Zealand food industry

According to nine interviewees, milk formula, kiwifruit, and chocolate were mentioned as New Zealand's authentic foods that occupy large segments of New Zealand food industry. Several interviewees also reported that they were consumers of some New Zealand products, such as Karicare baby formula and Zespri kiwifruit. Due to the general image of New Zealand as a clean and green country, milk origin and other ingredients were considered of high quality among many interviewees. This shows that New Zealand products have a much stronger image than the country itself in the mind of Chinese parents. This was further supported by three of them having some knowledge about New Zealand's skincare products such as Lanolin cream, which they consider to be high quality. Furthermore, five interviewees made comments that New Zealand has a well-developed primary agricultural industry, especially in sheep and cow farming.

9.3 New Zealand brand

In contrast to their favourable attitude towards New Zealand food products, there was a weak linkage in their perception between the product, the brand, and its country of origin. For example, Zespri kiwifruit and Anchor milk powder and cheese were well-known and very popular among many consumers in Shanghai, according to many interviewees; however, few of them were aware that these were brands of New Zealand.

In response to the question of willingness to try New Zealand food products, 9 of them showed a high level of desirability to try the products for their infants. Although six of them had little understanding of New Zealand brands and available products, most of them believed that it is of high quality and reliability, where reliability portrays safety and trustworthy. When asked about types of motivation they have towards New Zealand products, three of the participants mentioned WOM (mainly friends' recommendation) and appealing product/brand attributes, while one made comments on appealing advertising and promotion.

In Summary, in the mind of Chinese consumers, New Zealand is perceived as a favourable country with reliable food products and well-developed primary industry, but with a vague country image. However, its authentic products were very well-known, and interviewees had perceptions of high quality and safety. Interviewees considered there to be a high potential for New Zealand products to succeed in Chinese market as consumers showed high willingness to purchase New Zealand products even with little understanding of it.

10 Summary

This research has identified feeding beliefs, channels of information acquisition and dissemination, as well as views on nutrition, products, pricing and perception of New Zealand through 12 individual interviews and 4 focus groups discussions. This section will summarise the highlighted findings.

First, it is suggested that the new parents' feeding beliefs are partially influenced by Chinese culture and traditions, while the contextual factors play a significant role in their decision-making process. To be more specific, their decision on when to start feeding baby formula depends on three important factors: length of maternity leave, lactation supply, and considerations of nutrients. They would choose homemade or packaged supplementary food based on whether they have time and skills to prepare, their preference for freshness (or non-preservatives/additives), as well as the expected feeding environment (at home or outdoor).

Second, WOM and the online community have become highly important for Chinese parents to obtain advice on infant-related information and to socialise. Moreover, due to the long-term impact of the past China's one-child policy, most of these interviewees are first-time parents and only very few of them have done research by themselves to form an independent and critical view on infant products and infant feeding.

Third, many parents have little understanding of baby formula, especially about nutrient information and why certain components are considered essential for certain aspects of health. The correlation between knowledge and trust was also notable, with the two aims of infant's supplementary food being health maintenance and prevention of future illness (immunity).

Fourth, Chinese parents' core demand for baby food is safety and quality. The reputation of a brand is highly valued by these parents. Domestic baby food brands, especially baby formula brands, are still not favoured by Chinese consumers due to past baby formula safety incidents. In contrast, well-known foreign brands are considered more trustworthy in both safety and quality. For layman consumers, a well-known brand recommended by trusted others is the guarantee of safety and quality. This obvious preference for foreign brands over domestic brands is not only due to the historical reputation of these brands themselves, but also because foreign countries are recognised as having stricter food regulation, more advanced food processing techniques, and better milk origin.

Fifth, there are several different purchase channels providing a wide range of baby food products and brands for Chinese parents. Among all channels, overseas "daigou" via acquaintances is considered as one of the most trustworthy ways of buying overseas products, yet this channel is only available to those who have reliable overseas contacts. Moreover, disadvantages, such as being time-consuming, concerns with freshness and expensive shipping fees, are concerns for all parents. "Daigou" via strangers is seen as a risky because of potential counterfeits, and therefore is not favoured by most parents. Physical stores, mainly referring to large-scale supermarkets, chain baby stores, and specialised supermarkets, are seen as good choices for many parents who believe that products can only be sold in these places if they have passed quality checks. Many consumers also choose to buy baby food (except for baby formula) via online shopping sites, which they believe to be selling quality products, but the confidence in online shopping sites varies among interviewees. The availability of a purchase channel is highly relevant to Chinese consumers' final decision on baby food products and brands.

Sixth, there is a strong link between Chinese consumers' purchase intentions of baby formula and infant supplementary foods, and their feeding beliefs. Those who prefer breastfeeding or natural food source have little intention to buy. Other consumers indicate different levels of purchase intentions. The compatibility between the fortified nutrition and the main food in the product is also viewed as very important for some consumers. The babies' preference (in terms of tastes) also matters when purchasing certain products.

Seventh, Chinese consumers, in general, are willing to spend on infant foods because the babies are seen to be the hope for their family and also because Chinese consumers are still concerned about food safety issues in China. They believe higher price indicates better quality. Specifically the ideal price for infant food with fortified nutrition is set 1.2 to 1.5 times higher than those without.

Additionally, Chinese consumers tend to favour the idea of smaller packages to keep food fresher and to avoid waste. As for the language used on the package, consumers hold different opinions with regards to whether English (or other foreign language) or Chinese should appear on the package. The main reason for this difference lies in their different understandings of Chinese regulations on imported brand and products. Besides, most consumers are reluctant to look at the nutrition information on the package. Few claim that they check the nutrition information on the package because they want to confirm whether the products have certain nutrients.

Lastly, in the mind of Chinese consumers, New Zealand is perceived as a favorable country with reliable food products and well-developed primary industry, but with vague country image. However, its authentic products were very well-known with images of high quality and safety, with great potential to succeed in the Chinese market. Interviewees showed high willingness to purchase New Zealand products even with little understanding of it.

11 Implications

Based on the findings from this research, this section outlines the implications for each main topic discussed in the report. Within each topic, two major aspects will be discussed: 1) methodological suggestions for the next round of qualitative studies, and 2) implications for the infant food associated industry.

11.1 Academic suggestions for the next round of study

11.1.1 Feeding beliefs and nutrition

For the interviewer, it may be helpful to probe further:

- How do the interviewees define 'a healthy baby' (What are the features that could indicate a baby as heathy)?
- To clarify their feeding beliefs. For example, do the new parents originally plan to breastfeed in the first place? Do they adopt bottle feeding just because they prefer formula or other reasons (e.g. lack of lactation, limited maternity vacation)?
- Why do Chinese parents perceive certain nutrients as essential for baby's well-being despite having shallow understanding of it?
- What can enhance both trust and knowledge of Chinese parents towards supplementary food?

11.1.2 Information acquisition and dissemination

For the interviewer, it may be helpful to probe further:

- If the interviewees prefer online shopping, what kinds of websites do they prefer? Did they try to locate a Chinese official website of the brands? What are their concerns on shopping on the official websites?
- What are their expectation towards baby formula and supplementary food (advertisement channel, package, price, etc.)?
- What are the common complaints that they share about the baby formula and supplementary food within their social groups?

11.1.3 Pricing

Pricing was probed in the current round of interviews and the data analysis revealed quite a few interesting findings. However, it was not listed explicitly on the current interview questions. It could be interesting to have a separate section on pricing questions in the next round of qualitative studies. Potential questions could be:

- The price perceptions (purchase intentions and willingness to pay) on different products, i.e. baby formula, supplementary food (normal), and supplementary food with fortified nutrition.
- For consumers who are not willing to purchase, or have a low level of purchase intentions, what can be done to change their mind, i.e. to increase their purchase intentions?

When investigating willingness to pay, the interviewers may consider using a real product as an example to probe. In this way, the interviewees could have a better idea in setting up their ideal price for that product.

11.1.4 Packaging

The findings show that many interviewees favoured smaller sizes. However, not much direct probing was done as to why they favour smaller package size. Questions regarding this issue could be considered in the next round.

The consumers hold quite different ideas on the language use on the package. This could be interesting to probe in the next round as it will be quite important for package design. It seems that consumers have inconsistent understanding of the Chinese regulations on what language should be used on imported products.

- Could it be possible to have both English and Chinese on the package?
- What will the consumers perceive if they see a package with all English/Chinese or a mix of English/Chinese?
- What will the consumers think if they see a package with printed English label on the package or with a slicked Chinese label on the package?

In terms of the nutrition information, consumers are reluctant to check. However, what are the other elements on the package they are interested in when purchasing? Do they use heuristics? This could also be interesting to investigate as it will offer guidance as for the package design.

11.1.5 Brand and purchase channels

For the interviewer, it may be helpful to probe further:

- How was a favoured brand articulated in WOM communication? For example, what did other people say when they recommend a brand to you? What did you say or what will you say when recommending a brand to other people?
- In what ways can baby food companies improve their current products to further meet consumers' demand, especially for Chinese infants? What is missing in current Chinese market?
- Why do certain customers move from one brand to another? What potential risks do they take for baby food? What are the biggest threats?

It is also suggested that the interviewer follows the common perceptions of baby food in interviews. For example, for most Chinese parents, baby formula milk is not part of supplementary food, although after 6 months of age it may be in a supplementary role. Following the common perception may be helpful to make sure the interviewees are having the same understanding of the object under discussion.

11.1.6 New Zealand perception

There are some areas worthy of further probing:

- How can New Zealand promote its country image while extending its product range to attract Chinese consumers? What will distinct itself from other countries' brands such as Australia, Holland, US, and Japan? What are the unique values that it can offer in the Chinese market?
- How can New Zealand companies utilize WOM and social media in the most effective way? What kind of platform can be perceived as reliable and trustworthy?

11.2 Industrial implications

11.2.1 Feeding beliefs and nutrition

For the baby formula, it is suggested that heuristics could be used to highlight the significant nutrients and their benefits.

For the packaging of supplementary food, it is suggested highlighting its preserving technology and freshness. It is also important to indicate the nutrition differences between the products and fresh food. Advertisements emphasise how the products could support parents in different contexts/settings/environments.

11.2.2 Information acquisition and dissemination

Brands may find success in collaborating with internet celebrities to promote the brands and products. They can be either foreign or Chinese. In terms of the foreign internet celebrities, videos could be translated into Chinese and re-introduced in Chinese online community, including WeChat and Weibo.

According to Table 2, mobile applications have become a comprehensive information dissemination tool. Therefore, it is suggested that brands approach popular mobile applications to launch innovative marketing strategies.

If possible, the brands would partner with the Chinese TV programmes and promote their products. One of the successful examples is the Streamland honey in a parenting programme named 'Where Are We Going, Dad?' After the show, Streamland honey became very popular in the Chinese online community.

11.2.3 Pricing

New Zealand products could be positioned with at a higher price point, but within a reasonable range. Consumers believe that higher price indicates better quality. The general response is for an infant food with fortified nutrition to be 1.2 to 1.5 times higher than that without.

11.2.4 Packaging

Many parents indicate their wish to have smaller-sized products. One Japanese brand called Meiji has already done this, and one of the interviewees spoke highly of this packaging idea. Further implications could be expected if further investigations can be done on this packaging area in the next round.

11.2.5 Brand and purchase channels

A strong, positive historical reputation, and not being involved in negative publicity is very important for a brand in order to be favoured by Chinese parents. In addition, WOM from a trusted acquaintance is another crucial connector between Chinese parents and baby food brands. Compared with existing reputable brands, these consumers are vigilant towards new brands due to strong risk aversion. Therefore, new brands wanting to penetrate into this group of consumers must be sound in safety and quality to fulfil the core consumer demand on the one hand, and must be patient in nurturing brand reputation. Commercial advertising and promotion is necessary to increase general brand exposure and build up brand familiarity among consumers as well. To commence in market it will be strategically viable to make use of WOM communication by targeting a small influential group of consumers at the beginning, such as those "daigou" shoppers.

For New Zealand specifically, the "pureness" narrative has been working well in generating a "clean and green" country image in the eyes of Chinese consumers. However, the linkage between this image and New Zealand food brands is weak to Chinese consumers, except for a few brands that have been exploring the Chinese market for years, such as Zespri. The implication is that the New Zealand government and food brands interested in Chinese market should work hand in hand to enhance the overall reputation of New Zealand food. Apart from the image of "clean and fresh" and "a great origin of milk or other ingredients", it will also be important to promote New Zealand as a country with strict regulation over food processing and safety management. For products such as fruits, clean and fresh, along with taste, are crucial, but for processed and packaged food products, safety in processing is as important as safety in origin of ingredients. Establishing that the packaged food is fresh is also crucial – Chinese consumers are very suspicious of long sell by dates.

11.2.6 New Zealand perception

New Zealand and its brands need to be aware of the disruptive marketing information, which may impair the New Zealand reputation. For example, the counterfeits of authentic New Zealand food products such as Manuka honey. It is necessary for New Zealand brands to work more proactively to establish a “New Zealand standard” of quality and authenticity in the mind of Chinese consumers.

New Zealand has also been proactively putting effort in to supervising its food chain in both domestic and export market, for example, the prohibition of individuals to mail baby formula out of New Zealand. As previously addressed, a reliable purchase channel means reliable products to the end consumer. In this sense, advanced techniques such as traceability may be worthy of employing, but a sound control and reputation over product distribution system will be highly valued by Chinese consumers.

Appendix: Consumer profiling

This section offers a general description of the main characteristics of Chinese consumers regarding their thoughts and behaviours in relation to baby feeding and baby food consumption practice.

A1 General description of Chinese young parents

Throughout the interviews, Chinese young parents were generally captured as a group of naïve consumers. This naiveté is demonstrated in several dimensions.

First of all, most interviewees in this study showed limited knowledge and shallow understanding of nutrition regarding baby food, and were not strongly motivated to acquire such knowledge further.

Due to the lack of knowledge and shallow understanding of nutrition, many interviewees were not capable of examining and distinguishing inconsistency of the information they acquired from multiple sources, and were often confused. Moreover, these interviewees also showed little critical thinking, reflection, and independent decision making. They heavily drew on external information and experience, such as WOM from others and advice from experts, rather than self-possessed knowledge, in decision-making and problem-solving.

These parents were sensitive to risk perception and had a strong desire to avoid risk. Instead of independent risk analysis, they either followed mainstream practice by relying on the experiences of others as a risk aversion strategy, or remained confused and anxious after making a decision.

A2 Four types of Chinese consumers of baby food products

Although generally captured as naïve, four types of consumer are further identified based on interview results, namely, self-aware consumers, confused consumers, followers/careless consumers, and experienced consumers.

A.2.1 Self-aware consumers

These are consumers who may think critically and reflectively in relation to their consumption of baby food products. They have more in-depth knowledge and better understanding on nutritional needs of a baby and therefore may have purposely looked for products and brands that can fulfil their needs and expectations.

They may draw on multiple information resources, including experience of others and advice from experts, but they are more relying on scientific and authentic sources such as the American Academy of Paediatrics, and the Chinese Dietary Guidelines. When making decisions, they are more confident in their own investigation and analysis based on their knowledge and the ability of critical and independent thinking.

This type of consumers is self-aware and keen to “know what, know why, and know how”, thus they would not easily and blindly follow the mainstream consumption choices, as they have sufficient information and are capable to make their own evaluation and judgement on desirable products and brands, and the purchase channel they choose.

However, according to the field work, this type of consumer accounts for only a minor proportion of the whole Chinese consumer group.

A.2.2 Confused consumers

This type of consumer has some knowledge of nutrition, but with content that involves superficial understanding.

They may frequently seek for opinions from others but do not have adequate capability in evaluating and verifying inconsistent information from multiple sources. Therefore, they may end up being confused and lost.

They may have some limited level of critical thinking and reflection but not in-depth, as they do not have the same level of knowledge and skills for dealing with inconsistency as the self-aware consumers.

In risk aversion and decision making this type of consumer tends to rely heavily on external trusted sources such as doctors and experienced others among their social network, as these sources may appear to be more trustworthy than others. Independent and critical thinking may not be dominant in their decision making. Therefore, they may be not completely confident in their own decisions, which may result in some level of uncertainty and anxiety.

This type of consumer seems to account for a large proportion of the whole group of Chinese consumers.

A.2.3Followers/careless consumers

Followers/careless consumers have similar characteristics to confused consumers, except they are more careless, and tend to follow the mainstream to inform their decision making.

Furthermore, this type of consumer is less motivated to conduct in-depth investigation and study for a more comprehensive understanding of nutritional needs and baby food product attributes. Rather, they tend to be relatively passive in information seeking and sharing.

They have a simplified strategy in risk aversion and decision making. They mainly follow others experience and seldom invoke critical thinking or reflect on their own decisions. They rarely have strong viewpoints of their own, and are comfortable with various forms of external guarantees, which may also simplify their decision-making process. For example, they may be content with well-known brands and assume these brands provide sufficient nutrition for baby growth.

This type of consumers also accounts for a large proportion of consumers who have limited knowledge and experience on nutrition and baby feeding.

A.2.4 Experienced consumers

This type of consumer portrays experienced parents whose babies are transiting to a normal solid diet. Since they have accumulated more experience in their own feeding practices, and their babies have gone through the most vulnerable period, they are not as cautious and anxious as they were in the early stage of baby feeding. They are content if their babies perform as what they are supposed to be performing at this stage. They may actively engage in information and advice seeking when there is some specific issue regarding baby feeding arises. These experienced consumers do not readily follow trends, but they are also not very independent or critical in thinking and reflection.

As the baby grows, many confused and careless parents may evolve into this type of consumer.

--- End of the Report ----

APPENDIX 2. MMR – WINNING WITH HVN COMPLEMENTARY FOODS

P303757

Winning with HVN complementary foods

Prepared for Roger Harker, Joanne Todd, April 2017

This quantitative stage followed the qualitative groups that were conducted in March 2017

Background

- The High-Value Nutrition National Science Challenge (HVN) supports the New Zealand food and beverage export sector with the aim of developing a globally competitive position with scientifically validated health benefits for consumers in major export markets
- The HVN is developing a research programme with a specific focus on how complementary feeding might improve infants "protection from infection" for markets including China

Objectives

- To understand the usage and attitudes of consuming complementary feeding products in China
- To identify the perceived benefits, opportunities and risks associated with developing products targeting complementary feeding in China

Design

- Prior to this quantitative stage, two focus groups were conducted in Shanghai in March 2017 to generate and check content for the quantitative questionnaire design, ensuring it is focused, relevant and in the correct consumer language

An online panel from three major Chinese cities was recruited to conduct this quantitative survey

Study design

- Consumers were screened for eligibility by one of MMR's open access panel partners to take part in this online survey according to the respondent criteria
- n=1,500 in Shanghai, Guangzhou & Hong Kong, 500 respondents recruited per city

Survey flow

1. Screening process
2. Consumption (type & frequency)
3. Shopping (info. channel & decision making factors)
4. Key benefits
5. Concepts (control vs. HVN)
6. Claims of "*protection from infection*"
7. Country association (Incl. New Zealand)

Respondent criteria

- Mums aged 20 to 35 years old
- Their children aged 3 months to 3 years old
- Monthly household income at RMB 12,000 or above for Shanghai & Guangzhou
- Monthly household income at HKD 30,000 or above for Hong Kong
- Main decision makers about grocery shopping
- Residency in Shanghai, Guangzhou or Hong Kong for at least 5 years
- Self and family do not work in sensitive industries

Respondent quota achieved sample (n=1535)

Gender	Female	100%	1535
City	Shanghai	33%	511
	Guangzhou	34%	515
	Hong Kong	33%	509

Executive Summary

- Among the three major Chinese cities, Hong Kong mums incur the most expenditure on complementary feeding at approximately RMB 1,000/month
- Roughly 20% more money is spent on raw ingredients used to prepare complementary foods than on ready-to-eat complementary foods
- Similar to the qualitative findings, rice cereal carries the widest consumer coverage in China and is most frequently consumed, with 59% of children using it on a daily basis
- Considering the entire complementary feeding period, mums seem to spend the most at the commencement, potentially due to stocking up on foods and getting ready for the new feeding journey

Whilst Hong Kong is still likely to spend the highest amount overall on complementary feeding, Shanghai mums respond most positively to the new HVN concept, for which they are willing to double their current spend on pre-packaged complementary foods

Overall, mums place “*gives the nutrition that my child needs*” at the top of their decision making hierarchy; Shanghai and Guangzhou mums would like the nutrition to *enhance the natural protection from infections* whilst Hong Kong mums would prefer it to *develop children’s brain*

Although complementary foods produced in New Zealand are believed by all mums as *safe*, *premium*, *good quality*, *offering health benefits and high nutrition*, they are not as associated with *high tech*, particularly amongst Hong Kong mums

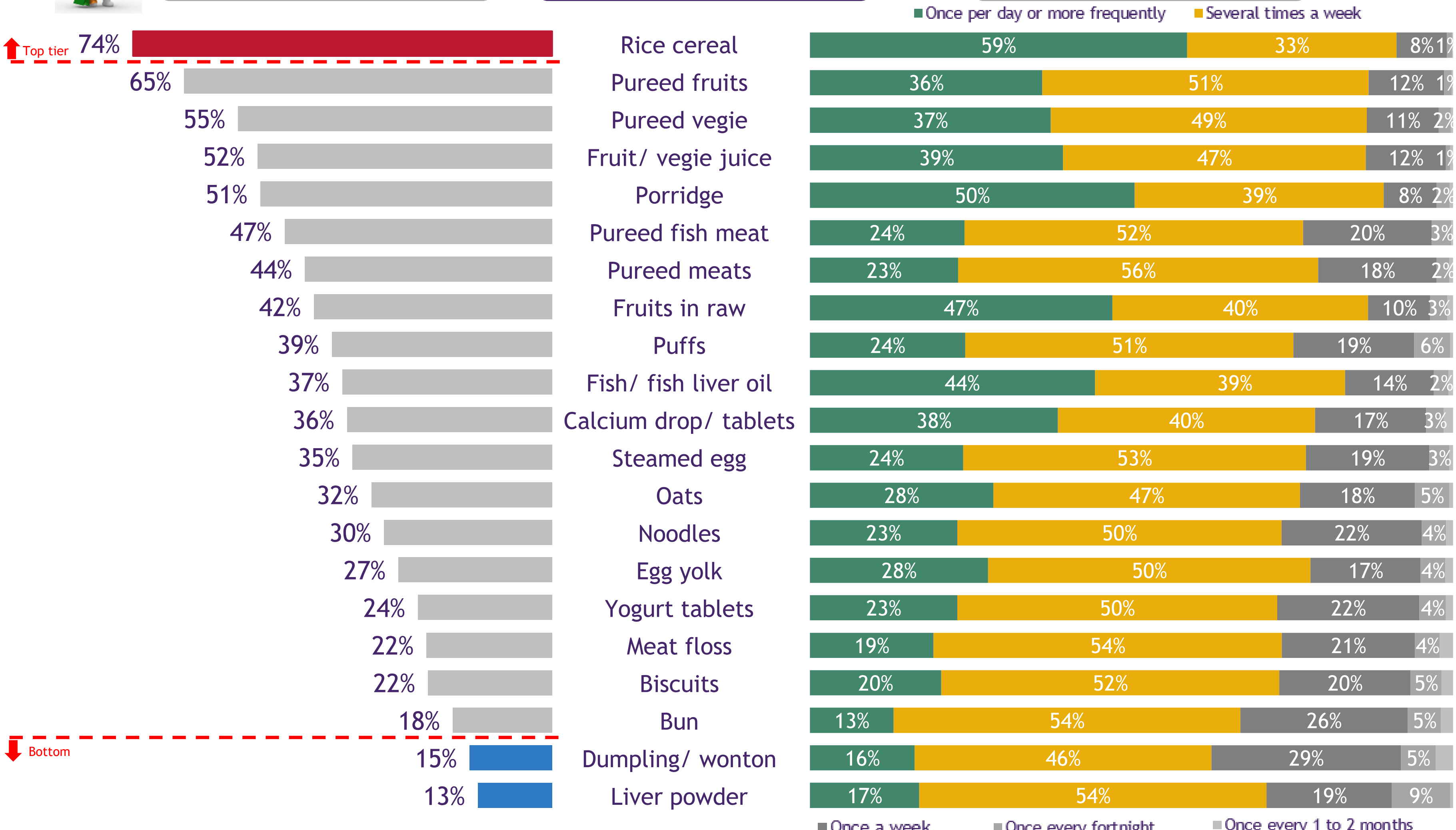
Among the three cities, Shanghai and Guangzhou are more willing to pay a high premium for HVN complementary foods produced in New Zealand that claim to protect children from infections

- What types of foods and beverages are used in complementary feeding in China?
- How much do Chinese mums spend on complementary feeding?
- How do Chinese mums gather information and make purchase decisions on complementary foods?
- What is Chinese mums' impression of High Value Nutrition (HVN) complementary foods from New Zealand?
- Why are Hong Kong mums less attracted to New Zealand HVN complementary foods that claim to protect children from infections?
- What is the potential for New Zealand High Value Nutrition (HVN) complementary foods in China?

What types of foods and beverages are used in complementary feeding in China?

Rice cereal not only has the highest level of consumer coverage, but is also consumed most frequently, with 59% of babies using it daily

Percentage of consumers | **Consumption of complementary foods** | **Frequency of consumption**



Top tier: Products on par with top performer
Bottom tier: Products on par with bottom performer

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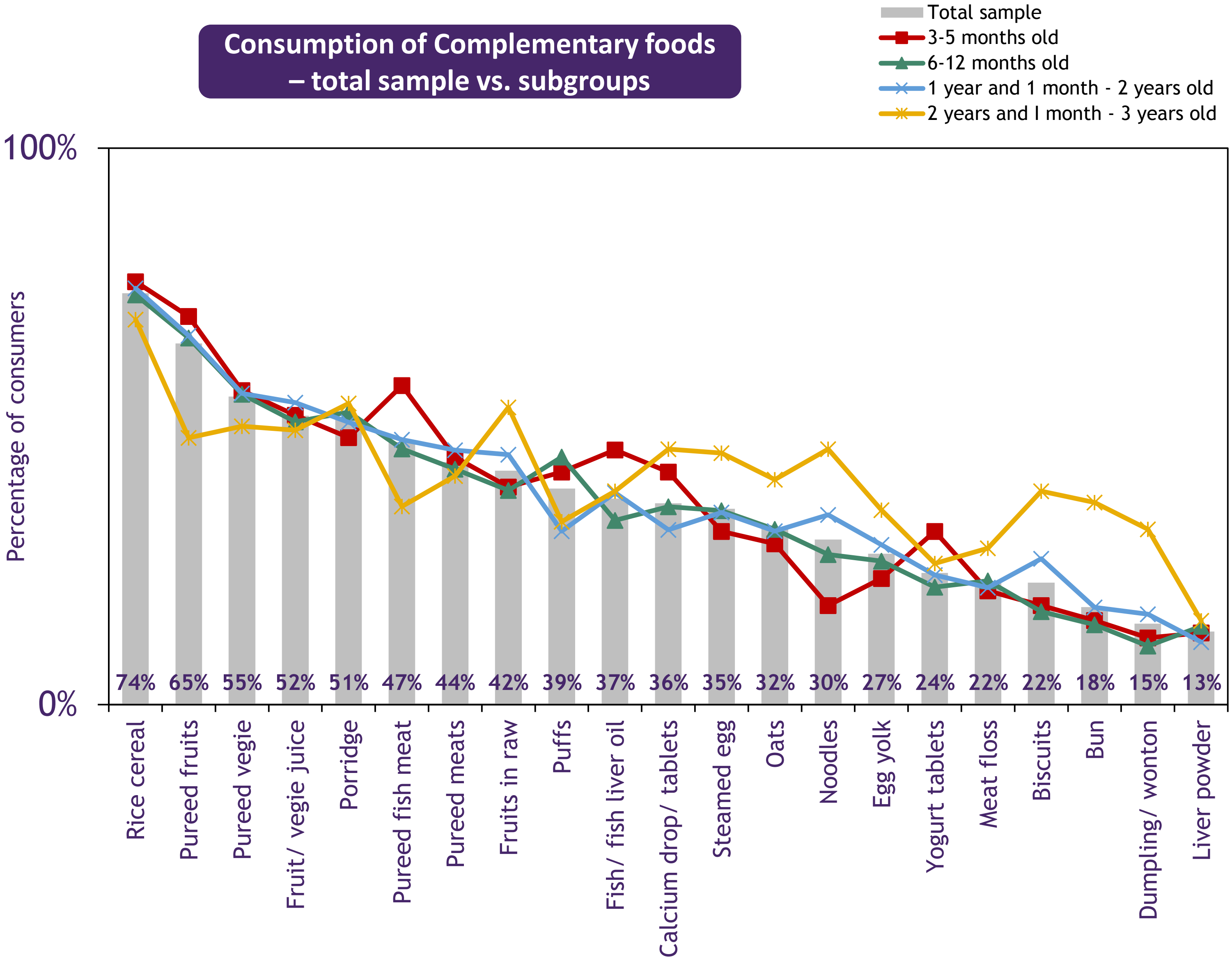
RANGAHAU AHUMARA KAI

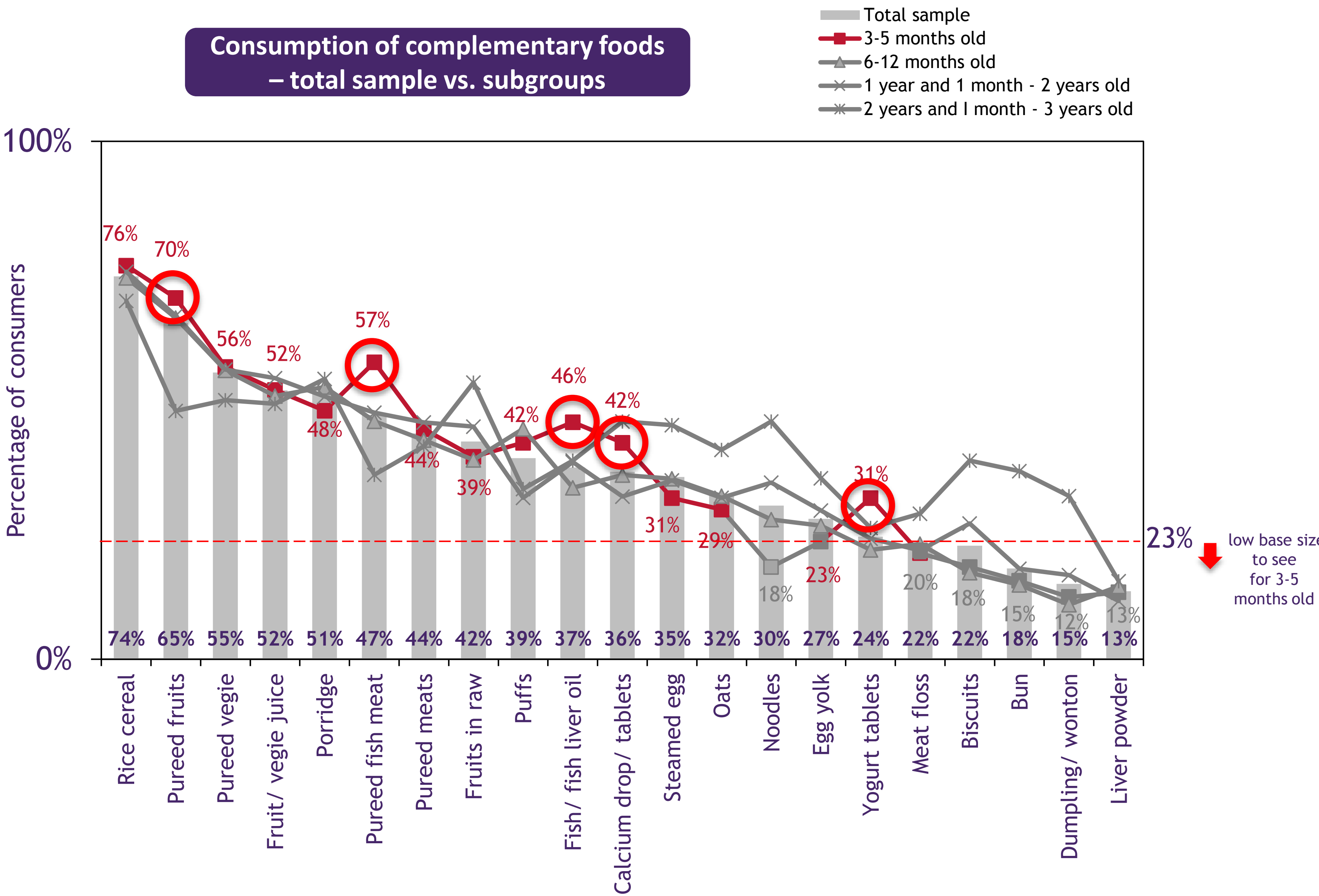
Q1a. Which of the following types of complementary foods (not including milk powder) do you currently, or plan to give to your child?
Q1b. How often does your child consume each type of below the complementary foods (not including milk powder)?
Base size: n = 1535

The youngest and oldest children show more differences with total sample on the type of complementary foods they consume



Q1a. Which of the following types of complementary foods (not including milk powder) do you currently, or plan to give to your child?
Total size: n = 1535, 3- 5 months n=225, 6-12 months n=683, 1 years and 1 month - 2 years old n=481, 2 years and 1 month - 3 years old n=146.

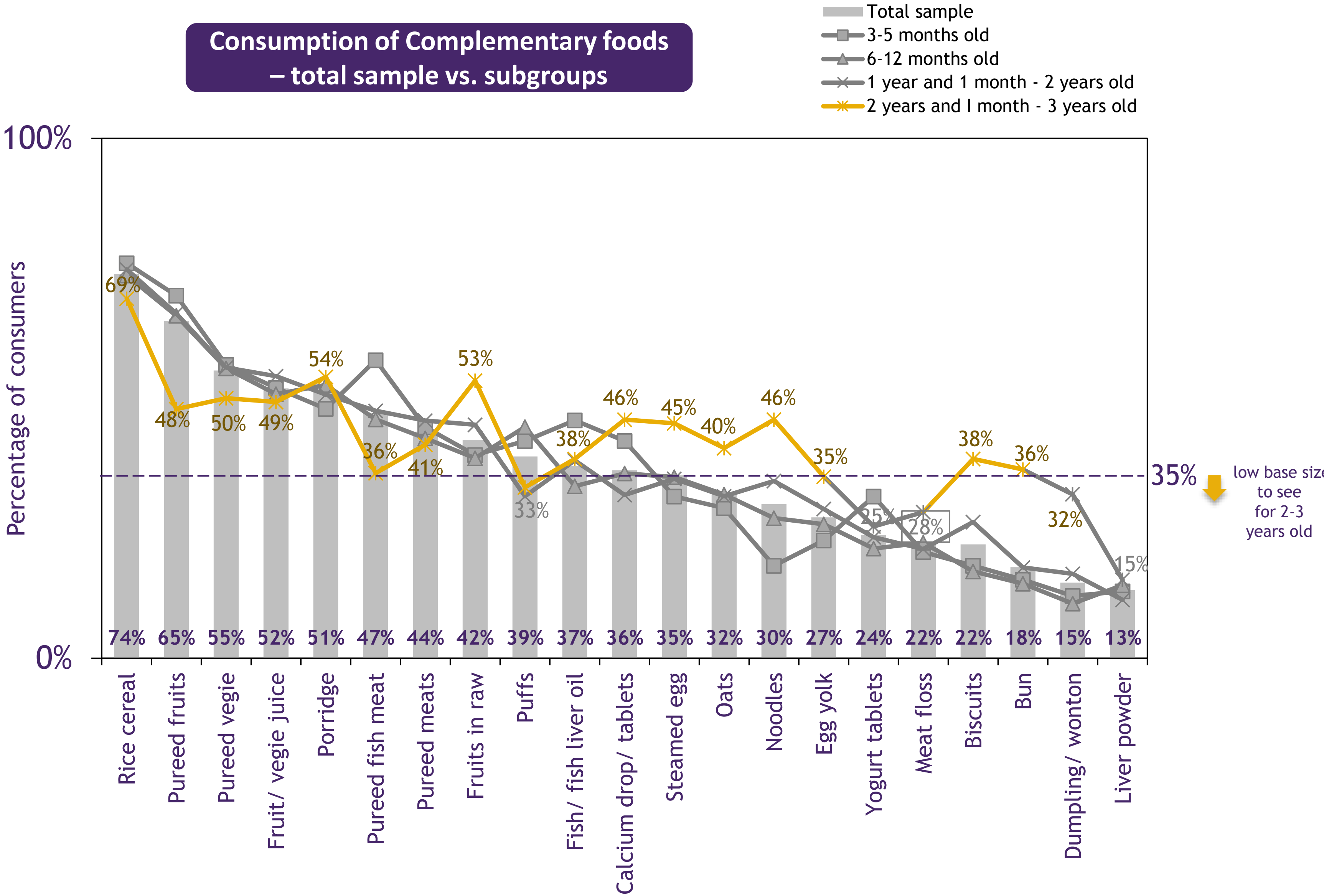
Purees are more welcomed by mums of 3 to 5 month olds who are also more willing to give this age group extra nutrients such as fish oil and calcium drop



Plant & Food RESEARCH RANGAHAU AHUMARA KAI

Q1a. Which of the following types of complementary foods (not including milk powder) do you currently, or plan to give to your child?
Total size: n = 1535, 3- 5 months n=225, 6-12 months n=683, 1 years and 1 month - 2 years old n=481, 2 years and 1 month - 3 years old n=146.

2 to 3 year olds take in more chewable formats and transition out liquid & mashed formats



Plant & Food RESEARCH
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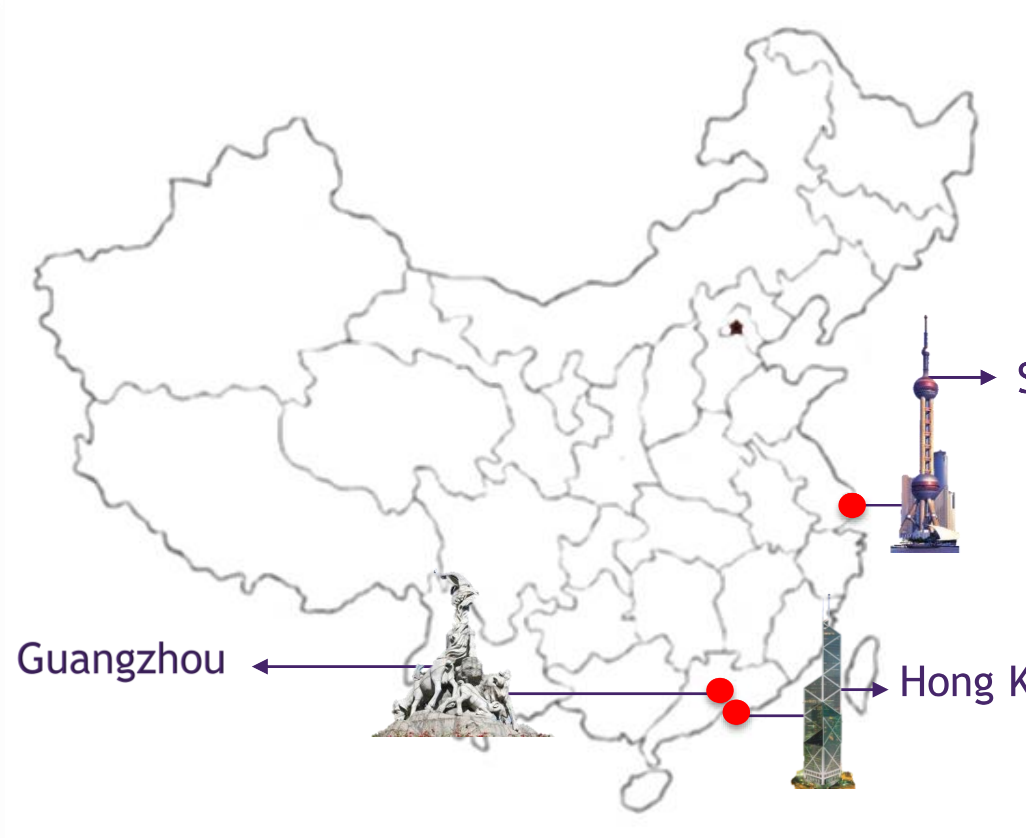
Q1a. Which of the following types of complementary foods (not including milk powder) do you currently, or plan to give to your child?
Total size: n = 1535, 3- 5 months n=225, 6-12 months n=683, 1 years and 1 month – 2 years old n=481, 2 years and 1 month – 3 years old n=146.

How much do Chinese mums spend on complementary feeding?

Across all three cites, mums spend roughly 20% more on raw ingredients used to prepare complementary foods than on ready-to-eat pre-packaged foods….

Expenditure for raw ingredients used to prepare CF – by cities



Shanghai
RMB 718.5
Spent per month
Purchase every
5.5 days

Guangzhou
RMB 726.4
Spent per month
Purchase every
6.2 days

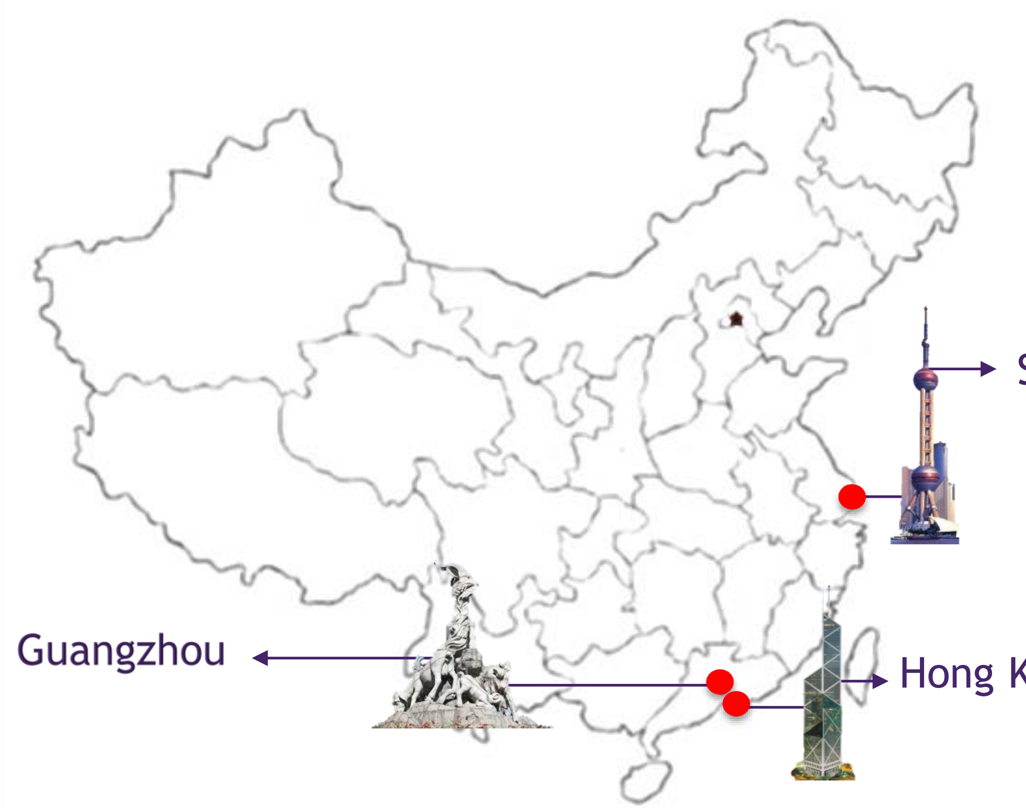
Hong Kong
RMB 999.4 ↑↑
Spent per month
Purchase every
5.7 days

↑ Significantly higher at 95% LOC two tailed test

Q2a.How often does someone in your household shop for the raw ingredients complementary foods at home for your child?
Q3a. How much do you and your family spend on average on the raw ingredients complementary foods for your child every month?
Total size: n = 1535, Shanghai n=511, Guangzhou n=515, Hong Kong n=509.

…and among those cites Hong Kong mums spend significantly more on complementary feeding, potentially due to the generally higher price levels there

Expenditure for pre-packaged CF – by cities



Shanghai
RMB 566.1
Spent per month
Purchase every
20.4 days ↑

Guangzhou
RMB 612.9
Spent per month
Purchase every
24.1 days ↑↑

Hong Kong
RMB 789.3 ↑↑
Spent per month
Purchase every
16.8 days

↑ Significantly higher at 95% LOC two tailed test

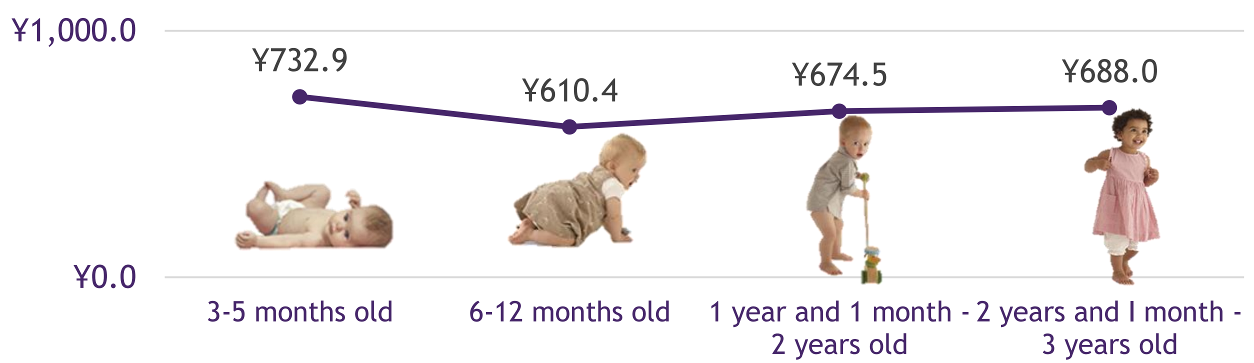
Plant & Food RESEARCH
RANGAHAU AHUMARA KAI

Q2b.How often does someone in your household shop for the ready-to-use/pre-packaged complementary foods at home for your child?
Q3b. How much do you and your family spend on average on the ready-to-use/pre-packaged complementary foods for your child every month?
Total size: n = 1535, Shanghai n=511, Guangzhou n=515, Hong Kong n=509.

Mums spend the most at the commencement of complementary feeding, with spending levels dropping off as they get familiar with this process, and picking up again when children's appetite grows

Monthly expenditure for raw ingredients used to prepare CF – by child's age

Monthly expenditure for pre-packaged CF – by child's age



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Q3a/Q3b. How much do you and your family spend on average on the raw ingredients / ready-to-use/pre-packaged complementary foods for your child every month?
Base size: n =1535, 3- 5 months n=225, 6-12 months n=683, 1 years and 1 month - 2 years old n=481, 2 years and 1 month - 3 years old n=146.

How do Chinese mums gather information and make purchase decisions on complementary foods?

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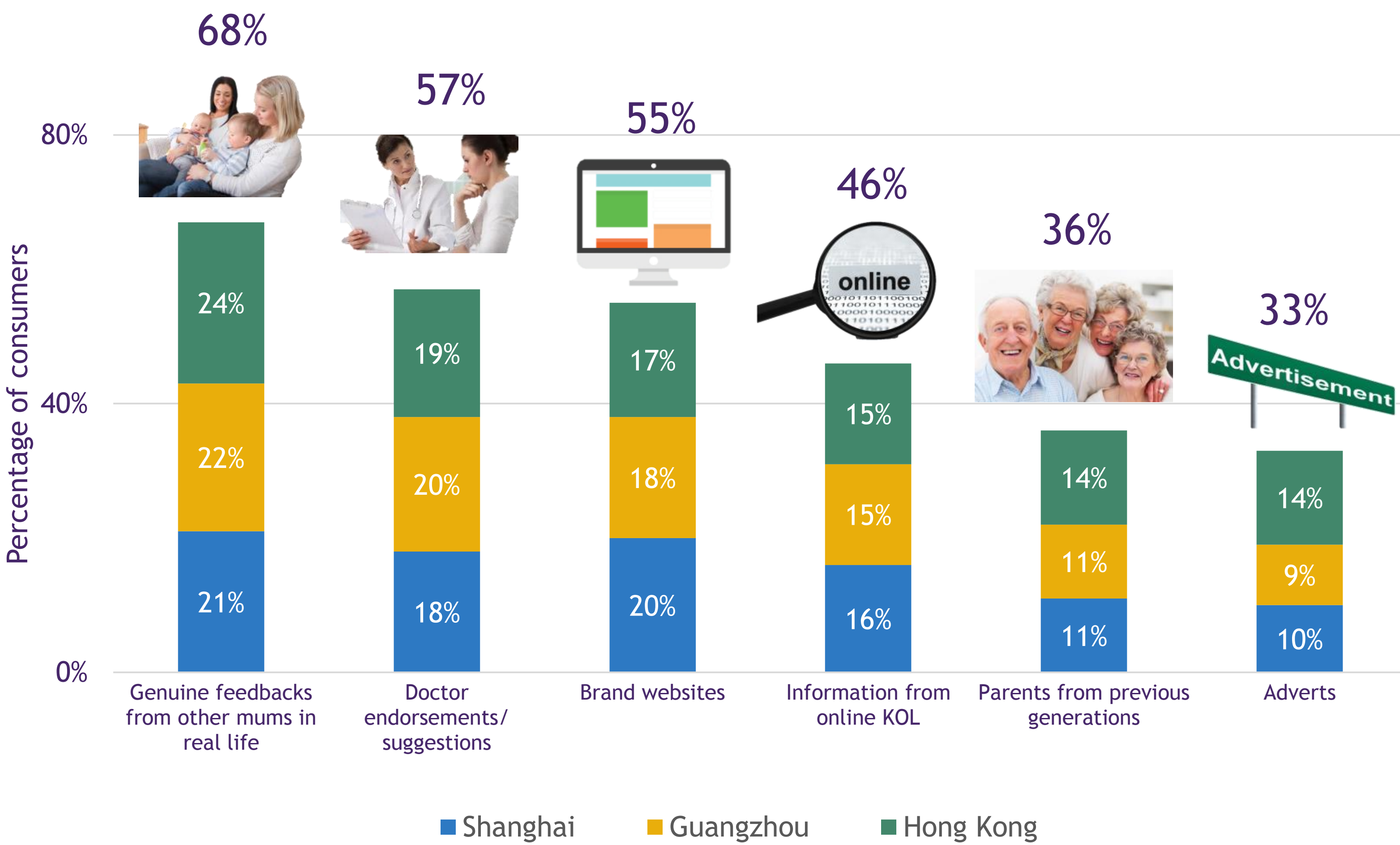
Overall, *genuine feedback from other mums* is rated as the number 1 information channel followed by *doctor endorsements*; but Shanghai mums trust *brand websites* more than professionals

Information Channel



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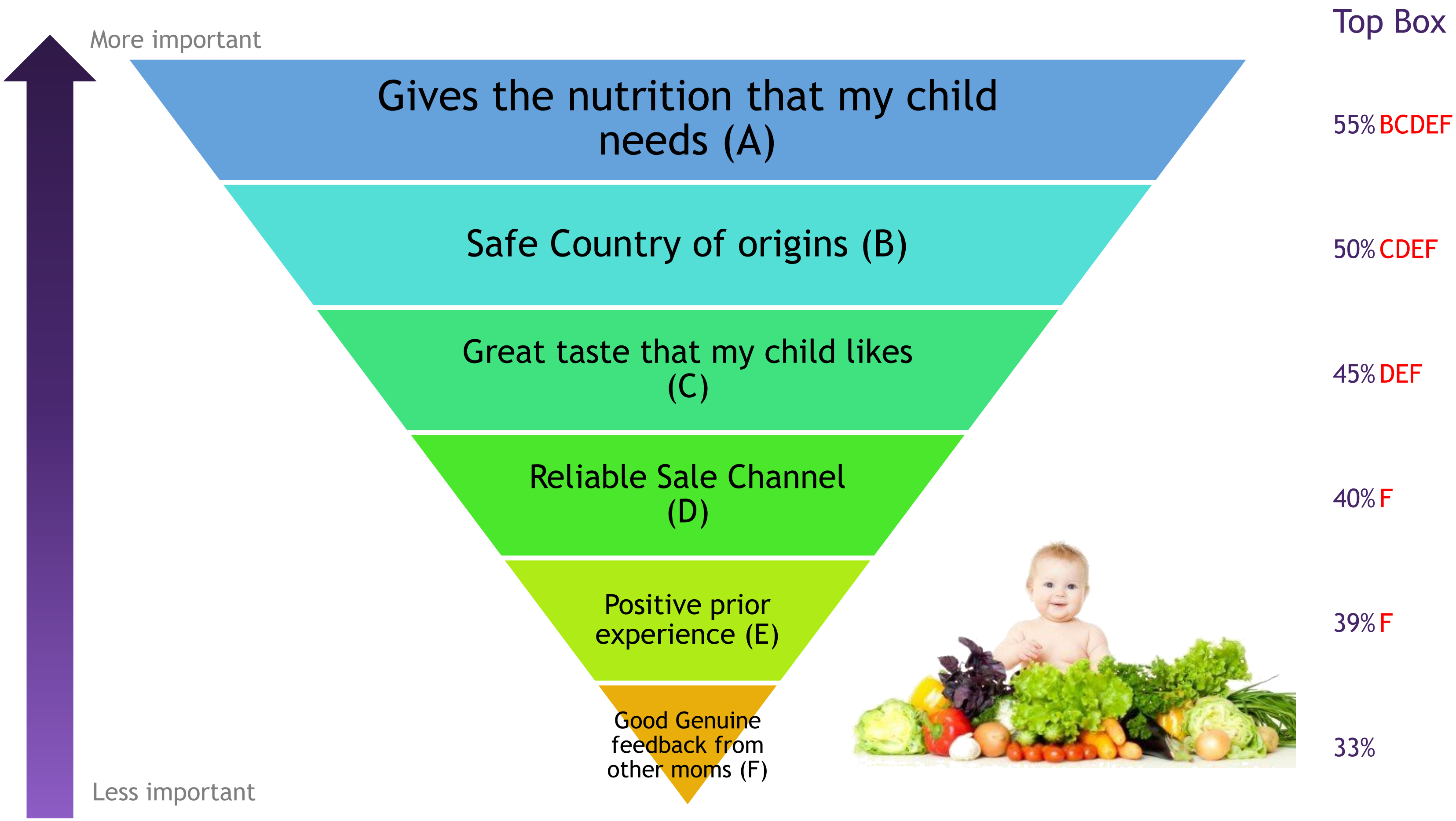
Q4. How do you usually get the information of the complementary foods?
Total size: n = 1535, Shanghai n=511, Guangzhou n=515, Hong Kong n=509.

Whilst *genuine feedback from other mums* is heavily relied upon for gathering information, when it comes to making real purchases other important elements are also factored in…

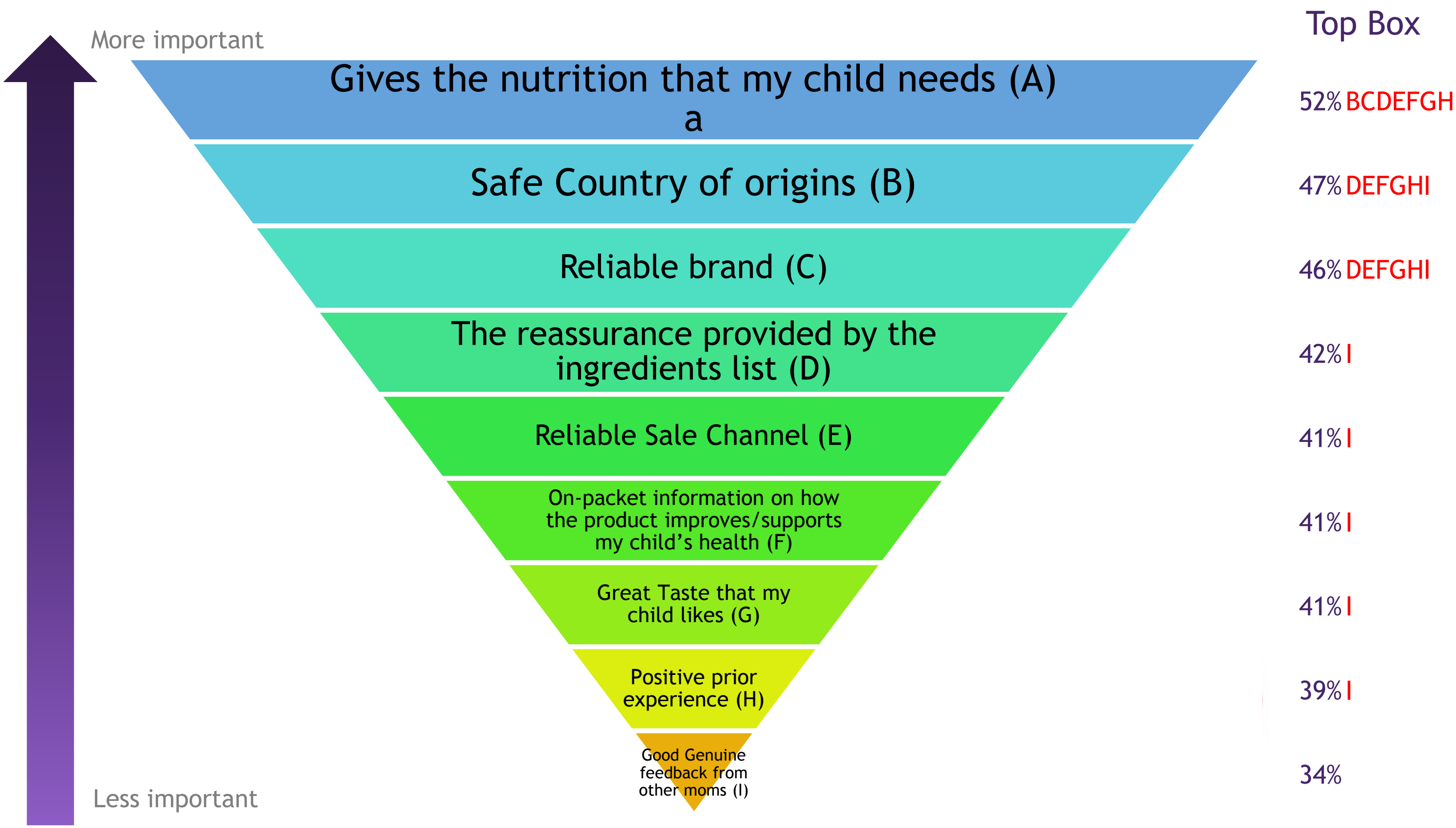
Decision making factors – raw ingredients used to prepare CF



Q5a. When you make choices about buying raw ingredients used to prepare complementary foods at home for your child, how important are below the factors to you?
Base size: n = 1535

…and *nutrition needed by children* is the top decision making factor when buying both raw ingredients and pre-packaged products for complementary feeding

Decision making factors – pre-packaged CF



A: Significantly higher at 95% LOC two tailed test

Q5b. When you make choices about buying ready-to-use/pre-packaged complementary foods excluding milk powder (e.g. rice cereal, puffed food) for your child, how important are below the factors to you?
Base size: n = 1535

What is Chinese mums' impression of High Value Nutrition (HVN) complementary foods from New Zealand?

Concept set – Rice Cereal

H23 - Rice Cereal Control

This rice cereal was made in New Zealand.

A35 - Rice Cereal HVN 1

This rice cereal was made in New Zealand using ingredients that have been shown to strengthen children's natural immunity.

C67 - Rice Cereal HVN 2

This rice cereal was made in New Zealand using ingredients that have been shown to strengthen children's natural protection from illness and infections.

Concept set – Apple

U79 - Apple Control

This apple was grown in New Zealand.

K84 - Apple HVN 1

This apple was grown in New Zealand and as a pureed complementary food has been shown to strengthen children's natural immunity.

G92 - Apple HVN 2

This apple was grown in New Zealand and as a pureed complementary food is a good source of nutrients and minerals.

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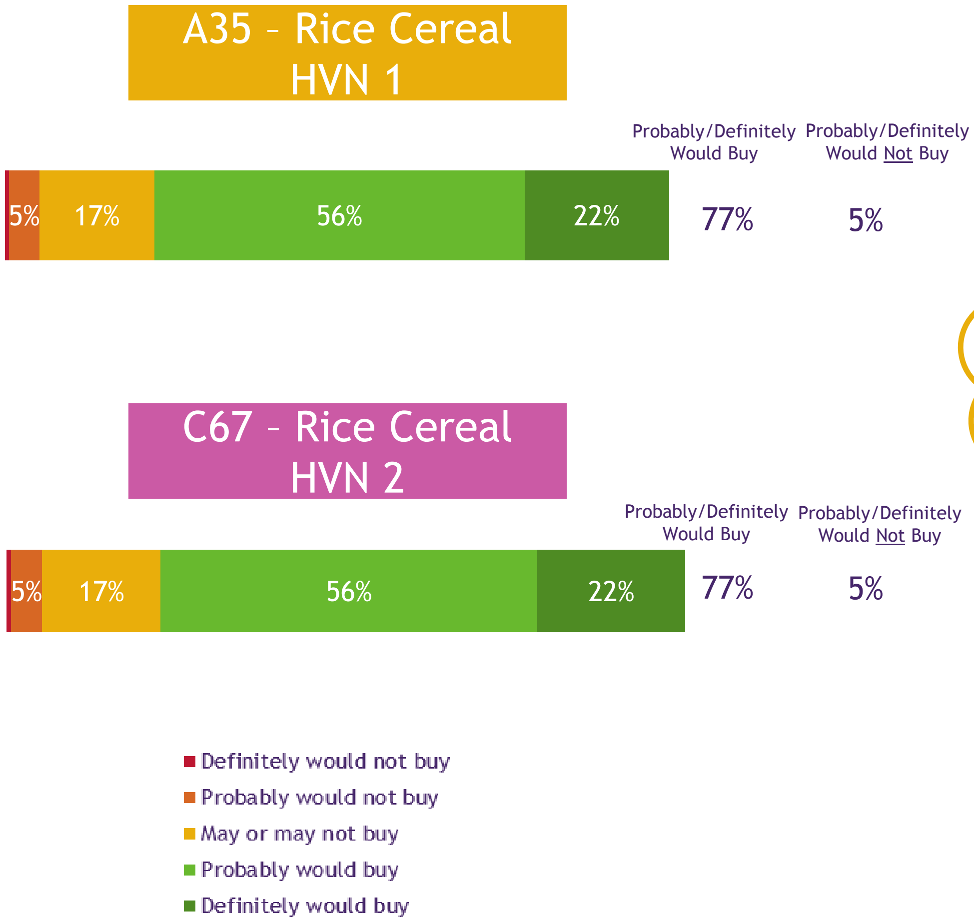
Purchase intent scores for the two HVN concepts of rice cereal are identical…

Purchase Intent for HVN rice cereal



Likely buyers are saying:

This product is premium
by 54% likely buyers

I think this product gives the benefit my child needs
by 54% likely buyers

This product is pretty new, and I would like to try that
by 50% likely buyers

This product is from high-tech by
39% likely buyers

This product is more natural
by 35% likely buyers

Note: Likely buyers are allowed to select more than one purchase reasons

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Q7c. Please now think of the complementary food introduced on the screen, how likely would you be to buy this product, if it were sold at stores where you usually shop for complementary foods? Base size: n = C.768
Q7e. Why do you think you definitely / probably would buy this complementary food? Base size: n = C.594

…potentially because the ratings for alternative claims of *“protection from infection”* provided by HVN complementary foods are quite similar

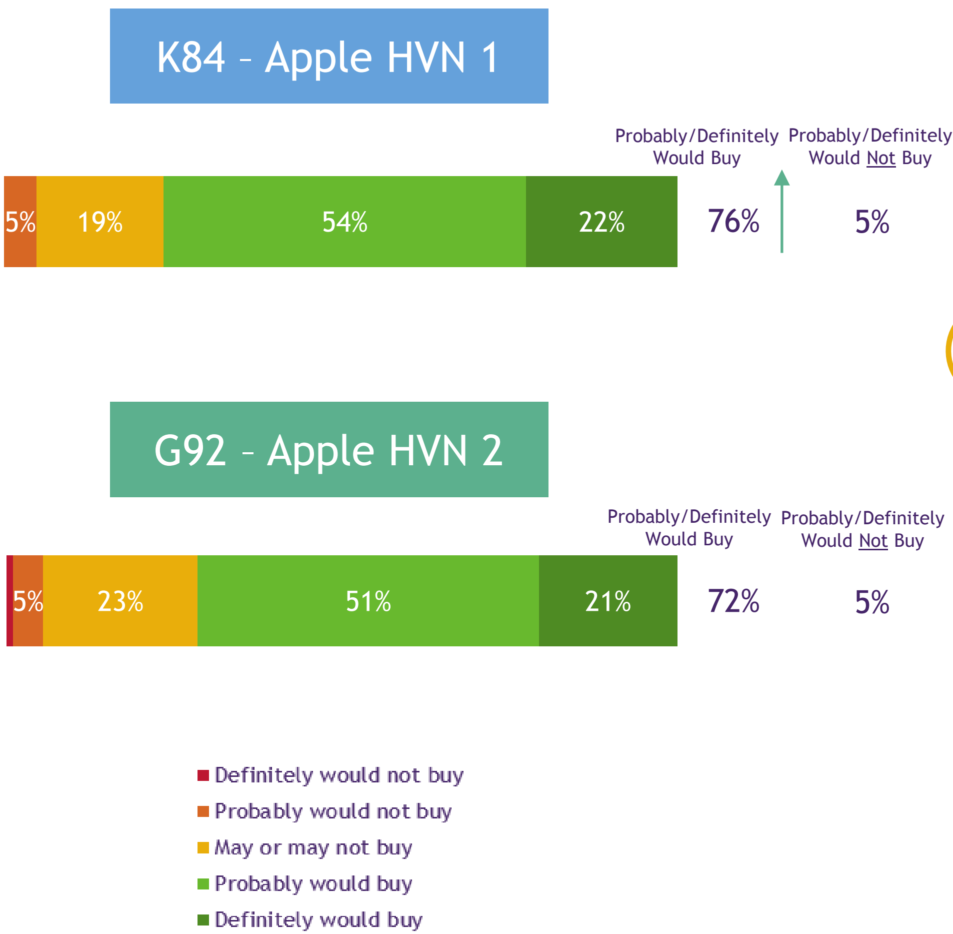
Alternative claims of “protection from infection”

Claim	Average Liking Score
Strengthen the immune system	83.20
Enhance the natural protection against infections or illnesses	83.09
Enhance the natural defences against common illnesses or infections	82.67
Enhance the natural defences	82.54
Support a healthy digestive system	82.48

Q10. Now there is a complementary foods product which has components/ingredients proven by the New Zealand experts / doctors to have some benefits to your child’s health. We are interested in knowing which of the claims at the top of the screen attracting you most. How much do you like each of the claims at the top of the screen?
Base size: n = 1535

The Apple HVN 1 concept that addresses health benefits drives significantly greater purchase intent than the HVN 2 concept that only mentions source of nutrients; mums associate the current HVN concept more with premiumness & health benefits and less with high tech or natural

Purchase Intent for HVN apple



Likely buyers are saying:

This product is premium
by 55% likely buyers

I think this product gives the benefit my child needs
by 52% likely buyers

This product is pretty new, and I would like to try that
by 49% likely buyers

This product is from high-tech
by 37% likely buyers

This product is more natural
by 37% likely buyers

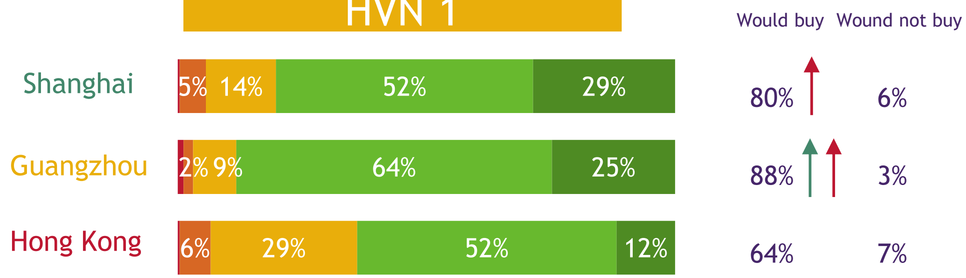
↑ Significantly higher at 95% LOC two tailed test

Q7c. Please now think of the complementary food introduced on the screen, how likely would you be to buy this product, if it were sold at stores where you usually shop for complementary foods? Base size: n = C.768
Q7e. Why do you think you definitely / probably would buy this complementary food? Base size: n = C.568

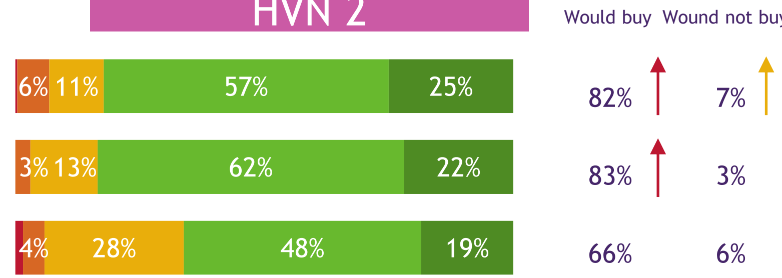
Compared to the two mainland China cities, Hong Kong mums show significantly less interest in buying both rice cereal and apple HVN products

Purchase Intent for HVN rice cereal – by cities

A35 - Rice Cereal HVN 1



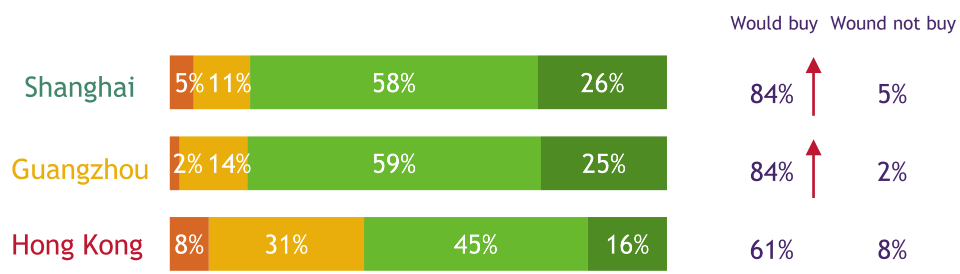
C67 - Rice Cereal HVN 2



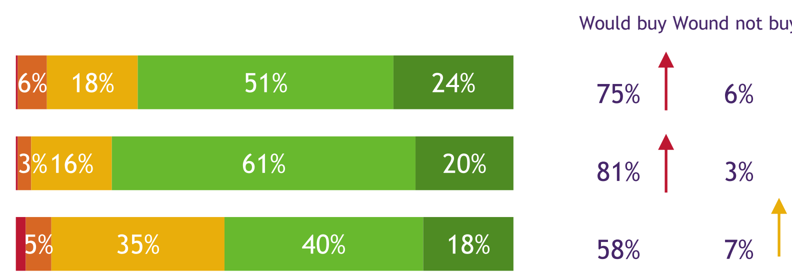
- Definitely would not buy
- Probably would not buy
- May or may not buy
- Probably would buy
- Definitely would buy

Purchase Intent for HVN apple – by cities

K84 - Apple HVN 1



G92 - Apple HVN 2



Note: The purchase intent for the control will be reflected through the relative differences in price revealed in the next two slides

↑ Significantly higher at 95% LOC two tailed test

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Q7c. Please now think of the complementary food introduced on the screen, how likely would you be to buy this product, if it were sold at stores where you usually shop for complementary foods?
Base size: n = C.768

Mums in Shanghai and Guangzhou accept much higher prices than their Hong Kong counterparts for standard rice cereals and apples imported from New Zealand...

Price Comparison for rice cereal - by cities

Rice cereal 500g



	Total		Shanghai		Guangzhou		Hong Kong	
Rice Cereal Control	¥ 87		¥ 89		¥ 105		¥ 70	
Rice Cereal HVN 1 (Strengthens children's natural immunity)	¥ 98	12.6%	¥ 100	12.4%	¥ 115	9.5%	¥ 73	4.3%
Rice Cereal HVN 2 (Strengthens children's natural protection from illness and infections)	¥ 94	8.0%	¥ 104	16.9%	¥ 115	9.5%	¥ 70	0.0%

Note: Price is captured at the point where only 20% consumers believe it is too expensive to purchase

Increase over control

Q7. Please now read the description of a complementary foods product for child shown on the screen. Based on the description, please move the sliders to show what you feel would be an ideal or too expensive price for this product (per 500g)
Total size: n = 1535, Shanghai n=511, Guangzhou n=515, Hong Kong n=509.

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… and they are also willing to pay a higher premium (in % terms) for the HVN versions, whilst Hong Kong mums are only willing to pay more for New Zealand apples that strengthen children's natural immunity

Price Comparison for apple – by cities

Apple 500g

	Total		Shanghai		Guangzhou		Hong Kong	
Apple Control	¥ 74		¥ 82		¥ 94		¥ 49	
Apple HVN 1 (Strengthens children's natural immunity)	¥ 86	16.2%	¥ 95	15.9%	¥ 109	16.0%	¥ 64	30.6%
Apple HVN 2 (A good source of nutrients and minerals)	¥ 82	10.8%	¥ 99	20.7%	¥ 103	9.6%	¥ 52	6.1%

Note: Price is captured at the point where only 20% consumers believe it is too expensive to purchase

Increase over control

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RANGAHAU AHUMARA KAI

Q7. Please now read the description of a complementary foods product for child shown on the screen. Based on the description, please move the sliders to show what you feel would be an ideal or too expensive price for this product (per 500g)
Total size: n = 1535, Shanghai n=511, Guangzhou n=515, Hong Kong n=509.

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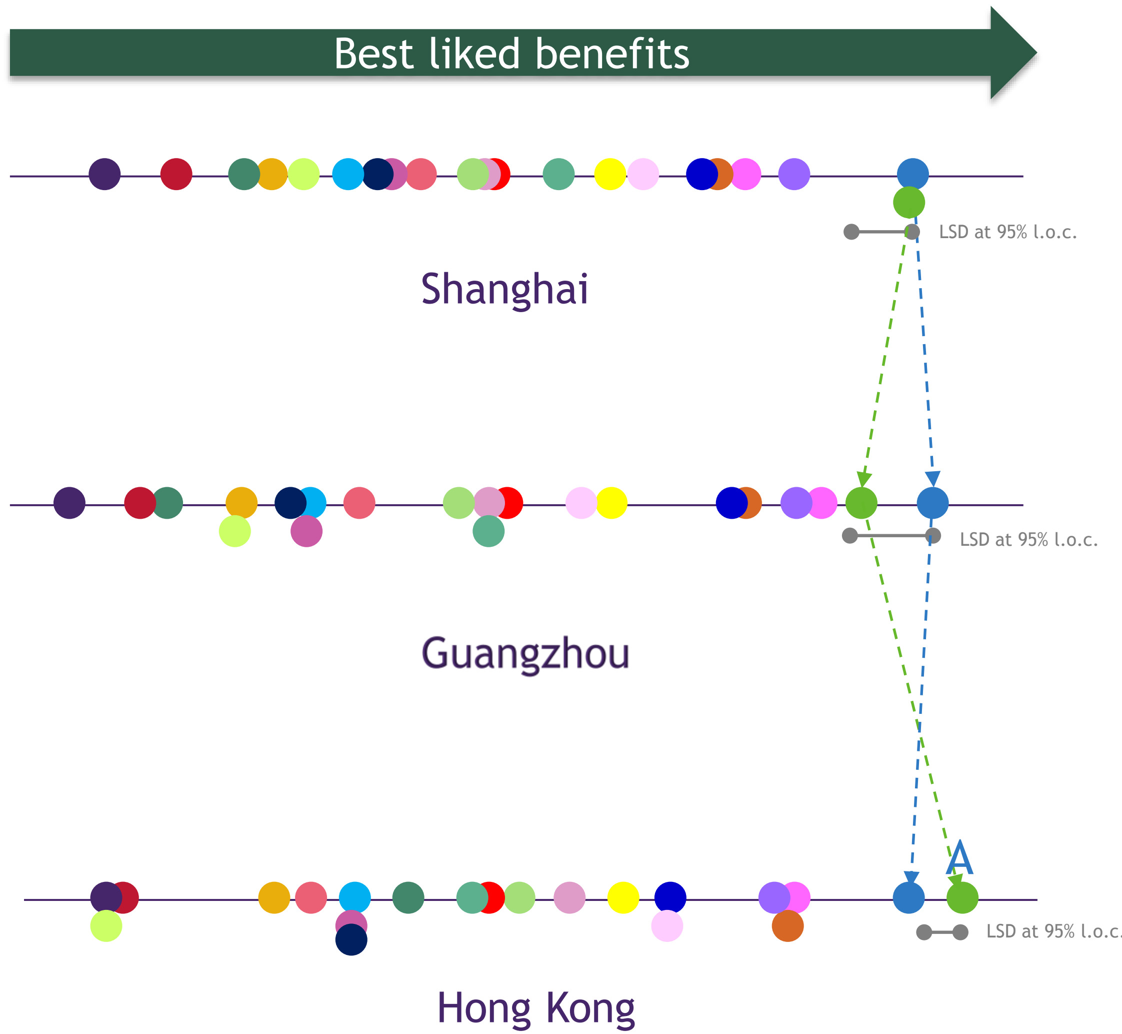
Why are Hong Kong mums less attracted to New Zealand HVN complementary foods that claim to protect children from infections?

The directionally most liked benefit in Shanghai and Guangzhou is *Enhance the natural protection from infections*, whilst this benefit is significantly topped by *Brain development* in Hong Kong

- Additive/ preservative free
- Anti-anaemia
- Anti-low weight
- Brain, cognitive and neurological growth and development
- Contains Calcium
- Contains Fibre
- Contains Iron
- Contains Omega 3
- Contains probiotic
- Contains Vitamin C
- Development of eyesight
- Development of strength
- Enhance the natural protection from illnesses/ infections
- Get nutrients/ minerals
- Improve digestion
- Improvement of general health
- Increase height and weight
- Maintenance of general health
- Organic
- Strengthen immune system
- Strong bones & teeth

Key benefits



A: Significantly higher at 95% L.O.C by LSD

QQ6. Which of the following benefits do you feel is MOST important when you choose complementary foods (not including milk powder) for your child, and which is the LEAST important?
Base size: n = 1535

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Hong Kong mums are least likely to associate *high tech* with complementary foods produced in New Zealand, although the foods are perceived as safe, premium, good quality, offering health benefits and high nutrition

30% and above

20% and below

New Zealand Association

Top box % Ordered by top box ranking at total sample	Shanghai (A)	Guangzhou (B)	Hong Kong (C)
It would be safe for children consuming	35%	33%	31%
It would be good for my children's health	36%	30%	30%
It is a premium product	33%	32%	30%
It contains high nutrition for my child	33%	30%	31%
It is from a safe origin	31%	33%	30%
It has good quality	35%	27%	30%
It is suitable to my child	35%BC	27%	23%
It is organic	31%C	25%	23%
My child would love it	27%	24%	22%
It is great tasting	29%B	20%	22%
It would be worth paying more for	23%	21%	21%
It is from high-tech	28%BC	20%	17%
It is additive / preservative free	29%BC	20%	15%
It is a traditional complementary product	25%C	20%	15%

A: Significantly higher at 95% L.O.C by Z test

Plant & Food RESEARCH RANGAHAU AHUMARA KAI

Q11. If there is a complementary food product produced in New Zealand, how much you would associate below the statements with it?
Total size: n = 1535, Shanghai n=511, Guangzhou n=515, Hong Kong n=509.

What is the potential for New Zealand High Value Nutrition (HVN) complementary foods in China?

Overall, Hong Kong still foresees the highest spending on complementary foods (including HVN), but Shanghai mums show the most willingness to spend more for HVN …

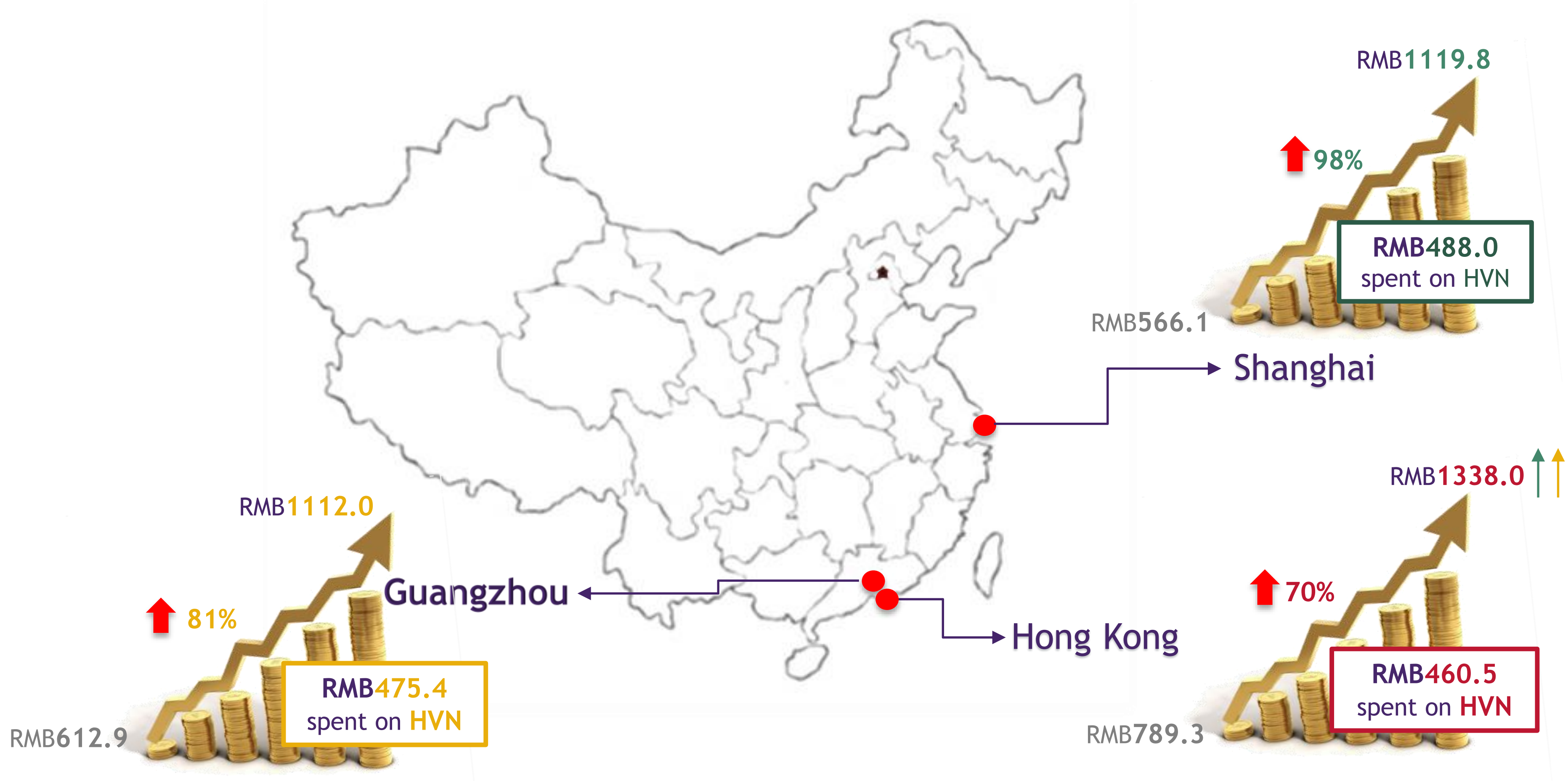
Monthly expenditure for raw ingredients used to prepare CF (Including HVN)– by cities

↑ Significantly higher at 95% LOC two tailed test

Q8b. How much extra would you like to spend every month on raw ingredients that provide specific benefits for immunity and/ or nutrients and minerals that children need to prepare complementary foods at home for your child?
Q8c. For all the money you plan to spend every month on raw ingredients products, how much percentage you do intend to spend on raw ingredients that provide specific benefits for immunity and/ or nutrients and minerals that children need?
Base size: n = 1304

… and are ready to double their current spending on pre-packaged complementary foods if HVN products are available in market

Monthly expenditure for pre-packaged CF (Including HVN)–by cities



Q9b. How much extra would you like to spend every month on pre-packaged CF products that provide specific benefits for immunity and/ or nutrients and minerals that children need to prepare complementary foods at home for your child?
Q9c. For all the money you plan to spend every month on pre-packaged CF products, how much percentage you do intend to spend on raw ingredients that provide specific benefits for immunity and/ or nutrients and minerals that children need?
Base size: n = 1273

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Thank you

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Appendix

30% and above

20% and below

Country Association - Total

Top box % Ordered by top box of New Zealand ranking	New Zealand (c)	Germany (a)	Australia (b)	US (d)	Japan (e)	China (f)
It would be safe for children consuming	33%F	33%F	32%F	30%F	30%F	23%
It would be good for my children's health	32%F	31%F	32%F	31%F	29%F	24%
It is a premium product	31%F	31%F	31%F	28%F	27%	23%
It contains high nutrition for my child	31%F	32%F	31%F	30%F	29%F	24%
It is from a safe origin	31%F	33%EF	30%F	30%F	28%F	21%
It has good quality	30%F	30%F	28%F	30%F	29%F	22%
It is suitable to my child	28%	27%	25%	24%	25%	25%
It is organic	26%ABDEF	21%F	22%F	21%	20%	17%
My child would love it	24%F	25%F	26%F	24%F	25%F	20%
It is great tasting	24%	24%	22%	22%	24%	21%
It would be worth paying more for	22%F	24%F	22%F	21%F	21%F	16%
It is from high-tech	22%	25%F	22%	26%F	24%	20%
It is additive / preservative free	21%	22%	26%CEF	23%	19%	19%
It is a traditional complementary product	20%	17%	19%	19%	19%	21%

A Significantly higher at 95% LOC two tailed test

Plant & Food RESEARCH
RANGAHAU AHUMARA KAI

Q11. If there is a complementary food product produced in XXX, how much you would associate below the statements with it?
Base size: n = C.767

30% and above

20% and below

Country Association - Shanghai

Top box % Ordered by top box of New Zealand ranking	New Zealand (c)	Germany (a)	Australia (b)	US (d)	Japan (e)	China (f)
It would be good for my children's health	36%	35%	35%	36%	36%	31%
It is suitable to my child	35%	30%	29%	34%	29%	35%
It would be safe for children consuming	35% F	33%	34% F	30%	32%	25%
It has good quality	35%	30%	30%	36% F	32%	27%
It contains high nutrition for my child	33%	34%	35%	34%	33%	31%
It is a premium product	33%	34%	37%	34%	31%	31%
It is organic	31% AE	23%	26%	25%	22%	25%
It is from a safe origin	31%	31% F	33% F	30%	26%	23%
It is great tasting	29%	29%	33%	29%	28%	26%
It is additive / preservative free	29%	25%	30%	30%	23%	24%
It is from high-tech	28%	26%	26%	31%	24%	25%
My child would love it	27%	29%	29%	29%	28%	25%
It is a traditional complementary product	25%	20%	21%	25%	27%	26%
It would be worth paying more for	23%	23%	27% F	24%	21%	18%

A Significantly higher at 95% LOC two tailed test

Plant & Food RESEARCH RANGAHAU AHUMARA KAI

Q11. If there is a complementary food product produced in XXX, how much you would associate below the statements with it?
Base size: Shanghai n = 511

- 30% and above
- 20% and below

Country Association - Guangzhou

Top box % Ordered by top box of New Zealand ranking	New Zealand (c)	Germany (a)	Australia (b)	US (d)	Japan (e)	China (f)
It is from a safe origin	33%	35% F	27%	31%	29%	25%
It would be safe for children consuming	33%	35%	34%	33%	31%	29%
It is a premium product	32%	28%	29%	25%	26%	25%
It contains high nutrition for my child	30%	35% EF	33% F	35% F	27%	24%
It would be good for my children's health	30%	33%	33%	34%	29%	30%
It has good quality	27%	26%	29%	26%	26%	27%
It is suitable to my child	27%	23%	25%	24%	24%	28%
It is organic	25% F	25% F	22%	24%	20%	17%
My child would love it	24%	25%	28%	26%	26%	24%
It would be worth paying more for	21%	24%	20%	22%	20%	18%
It is great tasting	20%	22%	21%	21%	21%	25%
It is from high-tech	20%	24%	22%	23%	25%	26%
It is additive / preservative free	20%	24% E	26% E	25% E	17%	23%
It is a traditional complementary product	20%	19%	16%	20%	17%	25% BE

A Significantly higher at 95% LOC two tailed test

Q11. If there is a complementary food product produced in XXX, how much you would associate below the statements with it?
Base size: Guangzhou n =515

30% and above

20% and below

Country Association – Hong Kong

Top box % Ordered by top box of New Zealand ranking	New Zealand (c)	Germany (a)	Australia (b)	US (d)	Japan (e)	China (f)
It would be safe for children consuming	31% F	30% F	27% F	26% F	27% F	14%
It contains high nutrition for my child	31% DF	25% F	25% F	22%	26% F	17%
It is from a safe origin	30% F	32% F	29% F	28% F	28% F	14%
It would be good for my children's health	30% EF	27% F	29% F	23% F	22% F	12%
It has good quality	30% F	34% BF	25% F	28% F	30% F	13%
It is a premium product	30% F	33% F	28% F	25% F	25% F	13%
It is suitable to my child	23% DF	28% BDF	20% F	15%	22% DF	13%
It is organic	23% DF	16% F	17% F	13%	18% F	10%
It is great tasting	22% BDF	20% BF	13%	15%	25% BDF	11%
My child would love it	22% F	21% F	22% F	18% F	20% F	11%
It would be worth paying more for	21% F	25% DF	19% F	16%	22% F	11%
It is from high-tech	17% F	24% F	18% F	24% F	25% CF	10%
It is additive / preservative free	15%	16%	21% DF	14%	18% F	11%
It is a traditional complementary product	15%	13%	19% DF	12%	14%	12%

A Significantly higher at 95% LOC two tailed test

Plant & Food RESEARCH RANGAHAU AHUMARA KAI

Q11. If there is a complementary food product produced in XXX, how much you would associate below the statements with it?
Base size: Hong Kong n = 509

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