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An Exploratory Study on the Pet Food Purchasing Behaviour of New Zealand Consumers

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requirements for the degree of Bachelor of Commerce
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By

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ABSTRACT

This research investigates the pet food purchasing behaviour of New Zealand consumers. This study seeks to identify all important attributes which are used by consumers to evaluate pet food products. Furthermore, the aim of the research is to understand the behaviour of pet food purchasers, consumer characteristics and identify different purchasing behaviours between cat and dog owners. This research is important due to the global increase in pet ownership and pet care expenditure, the value of the animal-human relationship and the lack of literature on the pet food purchasing behaviour of New Zealand consumers.

This research used a structured questionnaire in which interviews were held with New Zealand consumers carrying out grocery shopping in a variety of Christchurch supermarkets. The supermarkets selected had different socio-economic factors in order to best represent the New Zealand population. Consumers were approached and asked if they owned a pet and if so, were they willing to participate in a survey which questioned their pet food purchasing behaviour. The final sample consisted of 103 respondents with a response rate of 59%.

The results of the analysis of the total sample revealed pet owners in New Zealand are showing signs of following the global trend of “pet parenting”. Product attributes that were evaluated as most important were nutritional value and palatability of pet food. However, the lowest ranked attribute was the country of origin of the pet food, which does not coincide with the global trend of concern for the origin of pet food. Given global pet food contamination scandals, this could show that New Zealanders are naïve to these events as pet food safety issues haven’t occurred here as of yet.

The most popular pet choice was cats, owned by over three quarters of pet owners (respondents). Dogs were owned by half of respondents. The total sample showed that 55 percent owned a single pet while 45 percent owned multiple pets.

Biscuit or kibble pet food was found to be the most common type of pet food purchased and purchases were most likely made through supermarkets. Pet owners reported most commonly purchasing pet food on a weekly basis.

Theoretical contributions of this study are important and it fills many gaps that exist in the literature. The results include insight in to the purchasing behaviour of pet owners and understanding of the factors that affect their purchasing decisions. Furthermore this study has added to the literature in terms of the characteristics of New Zealand pet owners, involvement with their pets, and their knowledge of pet food.

There were several significant practical contributions revealed in this study. Results showed that pet owners more commonly are in higher income and older age brackets and therefore this group can be specifically targeted through marketing strategies. Also, involvement levels showed cat owners to have the same involvement with their pets as dog owners. In addition, nearly a quarter of households owned some combination of both cats and dogs. This highlights the importance of both the cat and dog food markets and that products can be marketed conjointly. The most important product attributes of nutritional value and palatability should be considered during product development and for pet food packaging. Education is another important practical implication, as results showed the naivety of pet owners despite the high levels of pet food knowledge that was reported. Vets were shown to be opinion leaders due to the large percentage of pet food recommendations they provide and they therefore should be used to communicate messages regarding the benefits of certain pet foods to pet owners. The results of the survey showed supermarkets as an important distribution channel, however the literature review also highlighted the growing importance of specialist pet food channels.

Although the decision making process of consumers is complex, understanding the reasons behind purchase choice assists pet food manufacturers in developing new products and marketing messages to appeal to New Zealand pet owners.

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'If you're not in over your head, how tall do you know you are?'

- T. S Eliot

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1.0 Introduction

1.1 Background

Pet ownership has become common place in modern society. Originally pets were domesticated for mutual benefit in hunting or keeping rodent populations down (Larson & Burger, 2013). Yet recently, it has become socially acceptable to treat pets as children, due to the rise of the “pet parenting” trend (Denniss, 2004; Ferdman, 2014; Holbrook & Woodside, 2008). This developing trend is wide spread, as shown by increasing pet ownership numbers around the world (e.g, Lee, 2013; NZCAC, 2011; Zentek, 2004).

Global trends are encouraging increased expenditure on pets and increased pet ownership rates. This causes the pet food market to become an attractive one for manufacturers. Pet food brands have been seen to increase their product range and include higher value premium products to sell to pet owners (Armstrong, 2014).

1.1.1 Growth of Pet Ownership and Pet Expenditure

Global domestic pet numbers are difficult to estimate, however Coriolis (2014) suggested that a third of households worldwide own at least one domesticated animal. There are approximately 74 million domesticated dogs and 72 million domestic cats in the USA. Europe follows the USA with 47 million domesticated cats and 41 million domesticated dogs. Other countries that have high pet ownership numbers include Australia, New Zealand, Mexico and Asian countries such as Thailand and Japan (Coriolis, 2014; Lee, 2013). New Zealand is placed high in terms of pet ownership per capita, and has the highest cat ownership per capita worldwide (NZCAC, 2011). Given the large number of domesticated pets, expenditure on pet care products is also increasing. In 2012 global pet expenditure was USD\$92bn (Coriolis, 2014). This is expected to reach USD\$95bn by 2017 ("Pet Food Manufacturing," 2013).

The rise of both pet food expenditure and pet ownership in recent years shows the strong worldwide involvement that owners have with their pets. The pet market is therefore highly emotive. Other evidence suggests that because of their relationship with their pets, owners purchasing behaviour is following human purchasing

behaviour trends (Bohrer, 2011). Packaging is seen to communicate the same messages as human food and as a result, pet food aisles in supermarkets have been expanding in shelf space (e.g, Bohrer, 2011).

1.1.2 Export Value of Pet Food

Globally there is a strong market for pet food exports. America imports the largest amount of pet food each year. China has a 70% share of these imports worth USD\$21.8m ("US Petfood Import and Export Trends," 2011). However recent pet food contaminations give New Zealand the opportunity to use its country of origin as a marketing message and unique protein supply position to profit off to America and other countries supported by the pet parenting trend. Coriolis (2014) highlighted the pet food industry as one of the most attractive food and beverage export sectors for New Zealand manufacturers. Total domestic production of pet food in New Zealand in 2012 was NZD\$234m (Coriolis, 2014). Global exports of retail cat and dog food were USD\$14.8m in 2010, and has seen a CAGR of 12.6% over the last 12 years. Butch, New Zealand's highest earning pet food manufacturer, exports 5-10% of its retail ready pet food product. Ziwi Peak and K9 Natural are two other examples of New Zealand pet food manufacturers who export its product (97% and 75% respectively) (Coriolis, 2014). New Zealand has a history of exporting agricultural commodities without adding any marketing value (Jayne, 2012). The pet food industry offers New Zealand companies the opportunity to reduce the amount of commodities sent offshore and to profit from the value adding activities using New Zealand as a brand.

1.2 Research Objectives & Questions

The increased pet food production in New Zealand, consumer trend of “pet parenting” and the rise in pet food expenditure and pet ownership are key drivers to this study. This exploratory research aims to answer the ‘what’, ‘when’, ‘where’, ‘why’ and ‘how often’ questions, and to advance the knowledge regarding the behaviour of pet owners in New Zealand. Specifically, this research is focused on understanding the influence of three main concepts on the behaviour of pet food purchasing consumers:

- Consumer trends such as “pet parenting”
- Importance of product attributes
- Individual consumer characteristics such as demographic variables, subjective pet food knowledge and level of pet involvement

An objective of the research is to answer the following questions based on the responses of pet owners:

1. What pet food are New Zealand pet owners purchasing?
2. Are New Zealand pet owners following global trends such as “pet parenting”?
3. Which product attributes are most important and have the greatest influence on New Zealand pet owners?
4. What roles do New Zealanders play in purchasing and serving pet food?
5. What influence do demographic variables have on pet food purchasing behaviour?
6. How loyal are New Zealand pet owners to pet food brands?
7. Who are the opinion leaders in the New Zealand pet food industry?

1.3 Research Significance

1.3.1 Theoretical Contributions

Pet food purchasing behaviour is complex and the current literature suggests there is no universally widely-accepted consumer decision making model; the decision making model varies between different product classes and situations (Lye, Shao, Rundle-Thiele, & Fausnaugh, 2005). Further research is needed into the purchase decision making process by pet owners.

This study will question New Zealand supermarket consumers who own pets in an attempt to expand current knowledge of the decision making process and more specifically the influence of demographic characteristics, consumer trends and product attributes. This research seeks to address the gaps in literature as discussed in Chapter Two.

A more detailed discussion of the theoretical contribution outcomes of this research is concluded in Chapter Six.

1.3.2 Practical Implications

The objective of this study is to be of practical benefit to pet food manufacturers and pet food marketers. Identification of reason for pet food purchasing choices, the evaluation of pet food product attributes as well as involvement level with pets and subjective knowledge will assist pet food manufacturers in their decision making of marketing and product development. The significant results that have been revealed through this study include identifying important distribution channels, the importance of the cat food market and education for pet owners.

A more detailed discussion of the practical implications from this research is concluded in Chapter six.

2.0 Literature Review

Chapter Two provides the theoretical bases for conducting this study. Little academic research currently exists about the consumer behaviour of pet owners, but this chapter will discuss what is known about the global and New Zealand pet food industry, market and consumers.

2.1 *Pet Food Industry*

This section will discuss the pet food industry at a national and global level.

2.1.1 *Global Industry*

The global pet food industry is a competitive one and is driven by pet ownership. The two major players are global giants Mars and Nestle. These two companies total 51% of the market share and in addition to this the 50 largest pet food companies combined make nearly 100% of all pet food sales (Coriolis, 2014). This shows that the current pet food industry is highly concentrated. The larger of the two companies is Mars; it sold USD\$16.2bn worth of pet food in 2011 (Coriolis, 2014). The growing profitability of the pet food industry can be shown through Nestle's profit from this sector increasing from 13% in 2002 to 20% in 2012. Europe has forecasted a compound annual growth rate (CAGR) in the pet food sector of 4.4% from 2011 to 2017, followed by North America at 3.5% (Lee, 2013).

Most of the pet food produced by the leading companies is based on a low cost and high margin model (Bachman, 2014; Brennan, 2014; Parthasarathy, 2010). However a recent article stated that the premium pet food market has increased by 170% over the past 15 years compared to low and medium priced pet food in the US. Premium pet food now accounts for 57% of the dog food market in America (Ferdman, 2014). This has led to major players entering the premium pet food market and expanding their product range (Armstrong, 2014).

Major pet care companies on a retail level in the US include PETCO Animal Supplies and PetSmart Inc. which hold a market share of 20.6% and 41.6% respectively (Brennan, 2014). PetSmart employs 53,000 people, owns 1,333 stores and offers a product range of over 11,000 pet food and pet care products. Revenue per store has increased from USD\$4.7 million in 2009 to USD\$5.2 million in 2014 (Brennan, 2014).

This shows either an increasing number of pets or an increase in expenditure on pets. Exports by pet food manufacturers also provides evidence of the growing pet food market.

Pet food manufacturers export pet food to different countries. For instance America receives large amounts of pet food each year. China has a 70% market share of imports in to America; in 2011 it exported USD\$21.8m worth of cat and dog food ("US Petfood Import and Export Trends," 2011). The second largest country to export to the US was Thailand which exported USD\$7.6 million worth of pet food ("US Petfood Import and Export Trends," 2011). Total imports in to America in 2011 were up 29% from 2010, however more recent pet food export values were not available. America also exports pet food. In 2011 Japan imported USD\$30.9million worth of pet food which made up 50% of all pet food exports from America. Australia was the second largest importer of American pet food (USD\$6.0 million) ("US Petfood Import and Export Trends," 2011).

The US was recently involved in a pet food scandal where up to 600 dogs were killed following consumption of contaminated imported beef jerky treats from China (Adams, 2013). The likely outcome to this event is that China's market share in the US will fall in years to come. In addition sales of premium and super premium pet foods should rise as consumer perceive that pet food imported from China or other Asian countries has lower food safety standards. Finley, Reid-Smith, Weese, and Angulo (2006) suggest that current consumer awareness of pet food safety is low however food contaminations such as this will create greater caution in pet owners when they select pet food. In recent years other pet food contaminations have occurred in the US through Salmonella infections (Behravesh et al., 2010) and also in Australia through contaminations in dry treats and pet food meat (Hogan, 2012). In addition, Zicker (2008) reported that enhanced food safety standards lengthen the lives of pets, in turn producing greater sales for pet food manufacturers. This highlights the importance of food safety standards when producing pet food as there are risks to poor controls including brand damage and decreased profits.

2.1.2 New Zealand Industry

New Zealand hosts a number of pet food manufacturers. Pet food manufacturers total domestic production of retail ready cat and dog food was NZD\$234m in 2012 (Coriolis, 2014). Producers in New Zealand include Butch, Jimbo's, Chunky, Ziwi Peak and K9 Natural (Coriolis, 2014). See Table 2.1 below for a list of New Zealand producers of pet food.

Table 2-1 New Zealand Key Firms in the Pet Food Sector 2012 (source: Coriolis, 2014)

Company	Year Founded	Turnover	Export %
Butch	1976	\$15-20m	5-10%
Jimbo's	1967	\$14m	0%
Chunky	2007	\$10-12m	0%
Ziwi Peak	2007	\$10m	97%
K9 Natural	2006	\$5-10m	75%

These New Zealand companies operate on a minor scale compared to global giants Mars and Nestle. Butch is New Zealand's highest earning pet food manufacturer with an annual turnover of NZD\$15-20million (Coriolis, 2014). Butch sells a range of meat based rolls for cats and dogs ("Butch", n.d.).

New Zealand manufacturers also gain value from exporting pet food. As seen in Table 2.1 above, Butch only exports 5-10% of its products, however companies such as K9 Natural and Ziwi Peak export the majority of their products (Coriolis, 2014). In the food and beverage export sector pet food has been recognised as one of the top 25 high growth emerging markets (Coriolis, 2012). Global exports of retail cat and dog food from New Zealand in 2000 were USD\$14.8m which increased to USD\$62m in 2012. This gives a CAGR of 12.6% over the past 12 years (Coriolis, 2014). Australia was the largest importer of retail cat and dog food from New Zealand (USD\$39.4m) followed by America (USD\$6.7m) (Coriolis, 2014). The retail ready cat and dog food export values compared to the total pet food export value shows there is room for the retail ready cat and dog food exports to grow.

Coriolis (2014) highlighted the USA, Canada, Hong Kong, Korea and Netherlands as attractive export markets for New Zealand pet food manufacturers. Total global exports of pet food out of New Zealand have grown from USD\$92.5m in 2000 to

USD\$260.1 in 2012 (Coriolis, 2014), however it holds only 1% of market share for export into the above listed markets. The report concluded that these are valuable international markets because pet food is a primary industry activity that has potential for New Zealand to add value. This is supported by overseas pet food packaging that claims New Zealand as a source of ingredients; New Zealand is seen as a trusted and inexpensive country of origin (Coriolis, 2014; Knight, Holdsworth, & Mather, 2007). Jayne (2012) reports New Zealand as having a history of exporting agricultural commodities without adding marketing value. An example in the pet food industry that demonstrates this is the NZD\$198m of pet food ingredients such as meat, organs and other ingredients that were exported to offshore manufacturers (Coriolis, 2014). Given New Zealand's unique protein supply position and marketing value of New Zealand as a country of origin it is the ideal country to provide premium pet food nutrition where demand is fuelled by the increasing importance of pets in households (Hutchings, 2014).

2.2 Pet Food Market

This section will discuss the pet food market at a national and global level.

2.2.1 Global Market

Domesticated pets exist in large numbers around the globe. The exact global number of domesticated pets is difficult to estimate, however a report by Coriolis (2014) suggests that over a third of households in the global market own pets. In the USA alone there are approximately 74 million domesticated dogs and 72 million cats (Coriolis, 2014). In Europe it is estimated there are 47 million domesticated cats and 41 million domesticated dogs (Zentek, 2004). Mexico is another country showing high pet ownership rates; Lee (2013) reported that Mexican consumers are following global trends in regards to less concern for spending larger portions of income on pets and equally spending time with pets, family and friends. Australia has reported a decline in pet ownership numbers, yet is still high by international standards with 2.4 million domesticated cats and 3.4 million domesticated dogs (Hogan, 2012). USA, Europe, Asia and Latin America are the most rapidly emerging pet markets, shown by an increase in total expenditure on pet care products, which also reflects the increasing numbers of domesticated pets.

Global expenditure is increasing in conjunction with pet ownership. Global pet expenditure in 2010 was \$USD81bn (Lee, 2013) and rose to USD\$92bn in 2012 despite the challenging economic times during this period (Coriolis, 2014). It is expected to grow to \$95bn by 2017 ("Pet Food Manufacturing," 2013). A steady increase in total expenditure is reflected by the increase in popularity of pets and the value pet owners are placing on companion animals. Pet owners are willing to spend more money on pets and are often victim to impulse buys (White-Sax, 2011). White-Sax (2011) reported that half of dog owners purchased at least five packets of dog treats in the past 12 months. See Figure 2.1 for a breakdown of total global pet care expenditure in 2012; food for pets is where consumers spend the largest amount (78%). Pet products (22%) include accessories such as coats and collars, and care products such as shampoo and flea treatments.

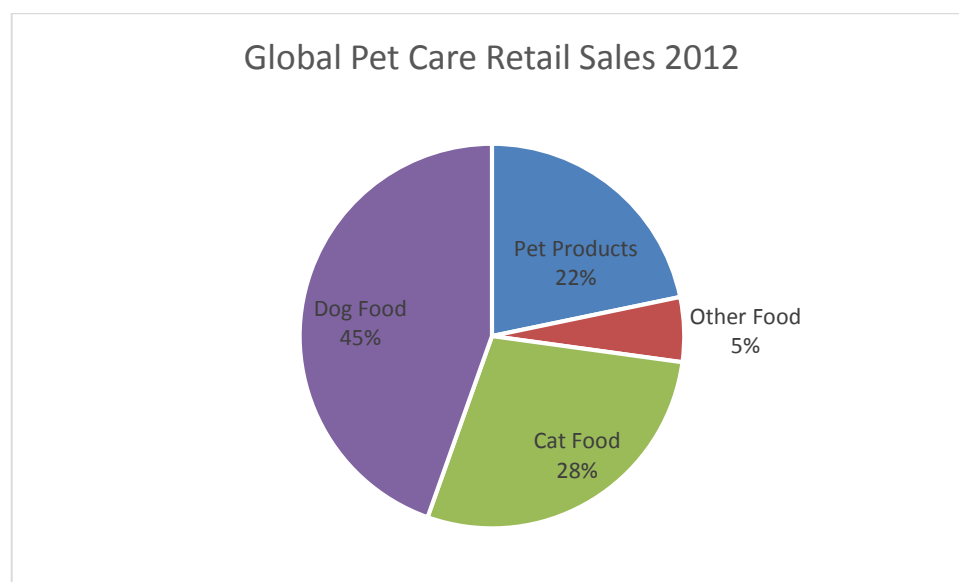


Figure 2-1 Global Pet Care Sales 2012 (source: Coriolis, 2014)

Research on the demographic details of pet owners is present in the literature. According to Lee (2013), in 2006 26.9% of single people in America owned at least one pet, which grew to 54.7% in 2011. Single people included both those who had separated and those who had never married. Families showed higher pet ownership rates (66.4%) but a lower growth rate between 2006 and 2011 (1.37%). The aging population is expected to increase pet ownership numbers (Brennan, 2014). Single person households are also on the increase globally, suggesting that pet ownership levels will continue to increase.

The age bracket with the highest expenditure on pet products at a retail level is consumers aged between 45 and 54 (Brennan, 2014). See Figure 2.2 below for an illustration of the major market segments by age in the US in 2014. In the past five years, households with higher incomes (therefore higher disposable incomes) have been the greatest contributors to the latest luxury pet products available on the market such as designer pet toys. However if these higher earning workers are likely to travel frequently or live in apartments, they are less likely to own pets (Brennan, 2014).

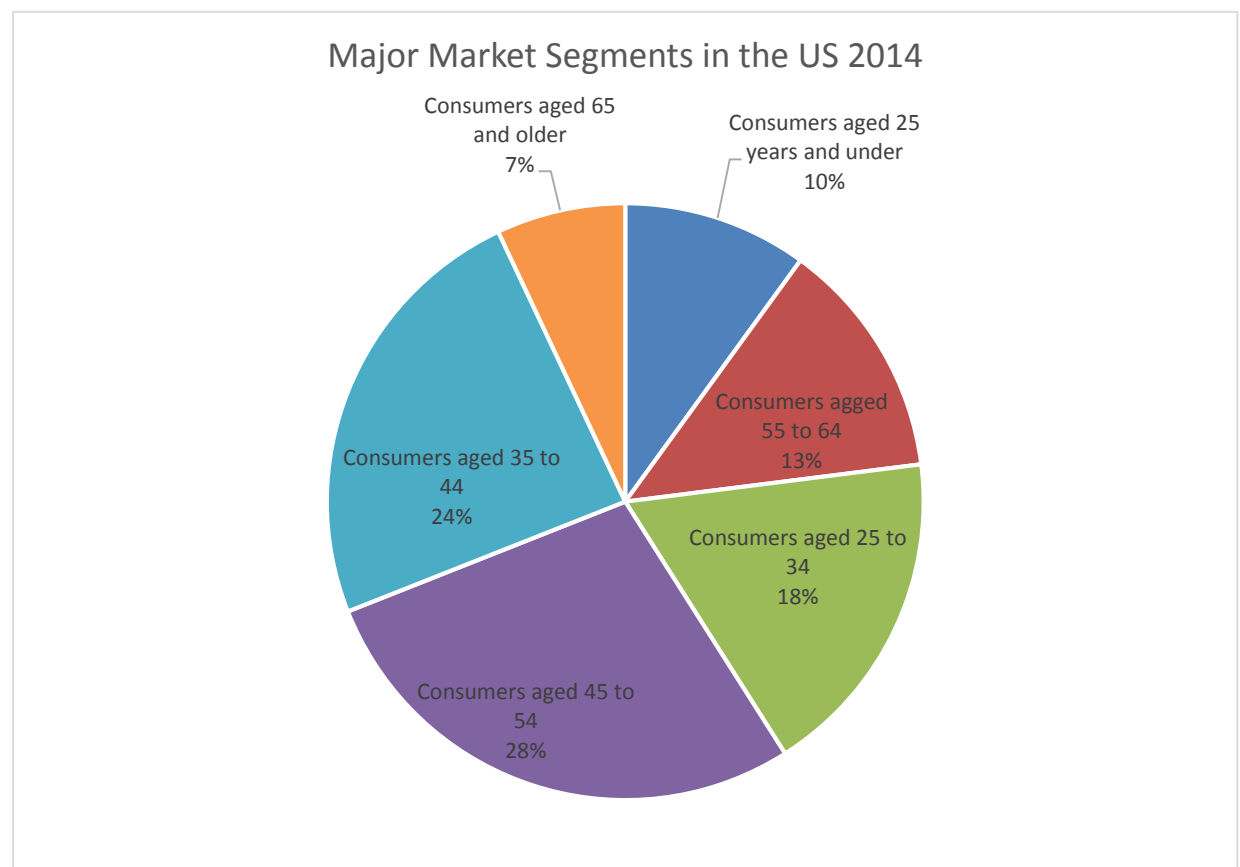


Figure 2-2 Major Market Segments in the US, 2014 (source: Brennan, 2014)

There are various pet food and pet care shopping channels; however the supermarket channel is dominant. In the US in 2002, a total of 37.4% of pet care purchases were made from supermarkets. This percentage showed a small decline in pet care purchases from supermarkets which was 38.8% in 2000 (Knudson, 2003). The next largest channel was pet superstores; 16.7% in 2000 but growing to 17.2% in 2002, followed by mass merchandisers (16.4%), farm and feed stores (5.4%), vet/kennel (5.0%) and other channels (18.6%) (Knudson, 2003). Pet stores have

greater opportunity to sell premium and super premium pet food which contributes to the increase in pet store sales and the decrease in supermarket sales. In superstores and supermarkets there are dedicated pet food refrigerators that traditionally would have stocked human food (Bohrer, 2011). Research regarding pet food at a retail level also supports the emergence and fast growth of the pet food market.

Growth of the pet food market can also be measured by types of pet food available. Dry food continues to dominate the pet food market (Bohrer, 2011; "Pet Food Manufacturing," 2013). Dry dog food accounts for 45% of industry revenue and canned cat food accounts for 25% in the US ("Pet Food Manufacturing," 2013). Knudson (2003) reported that pet owners were increasingly moving away from wet food and towards high priced, premium dry food for health reasons. Often raw materials such as grains, chicken and meat meals are used in manufacturing due to their low costs ("Pet Food Manufacturing," 2013). There is also an increasing popularity for raw pet food diets in response to concerns about manufacturing methods of commercial and dry food and as a means to reinforce human-animal bond (Freeman, Chandler, Hamper, & Weeth, 2013). Raw pet food is promoted by marketers as a natural diet that enhances animal wellness. Pet owners experience immediate improvements in coat quality and palatability, however raw pet food diets have increased risks of contamination if food safety controls are not closely monitored (Freeman et al., 2013). Research and development is focused now on the nutritional value of pet food ("Pet Food Manufacturing," 2013) which is driven by the humanisation trend and consumer demand for premium products for their pets.

Humanisation, the condition in which animals are treated as humans, is a trend that has been spreading globally over the past decade. Animals were originally domesticated for mutual benefit in hunting and to keep rodent populations down (Larson & Burger, 2013; Oltenacu, 2004). Later, animals would become beloved pets to families purely for companionship. More recently the global pet market has experienced humanisation of animals, a trend the pet industry has dubbed 'pet parenting' (Denniss, 2004). The pet parenting trend has been referred to by many academic authors (e.g, Denniss, 2004; Ferdman, 2014; Holbrook & Woodside, 2008;

Kienzle, Bergler, & Mandernach, 1998; Petersen, 2011). There are global trends supporting the emergence of pet parenting. The first trend is declining human birth rates (Coleman & Rowthorn, 2011; Lutz & Samir, 2011) which causes families to replace children with pets (Petersen, 2011). Hart (1995) stated that humans find it easier to show affection to animals than to family members and are highly emotionally involved with pets in their household, which also supports the idea that the business of marketing pets and pet-related products is highly emotive (Boya, Dotson, & Hyatt, 2012; Holbrook & Woodside, 2008). Knudson (2003) cited a survey where 83% of pet owners called themselves “mummy” or “daddy” to their pets and 59% celebrated a pet’s birthday. America is an example of a nation with changing structure of families as 59.5% of households in 2007 owned at least one type of pet while only 35% had children (Petersen, 2011). The second global trend supporting pet parenting is the rise of the middle class (Hanson, 2012; Ravallion, 2010) which enables families to spend greater portions of income on their pets. This may come in the form of more expensive pet food or pet care products such as higher quality food and luxury accessories or equipment. A report noted that over one million people had acquired health insurance for their pet (Knudson, 2003) which also demonstrates this increase in expenditure.

There is also a ‘give’ element of pets to their owners. It has been reported that the relationship between older people and pets offer health benefits such as reduced cardiovascular disease (Allen, Blascovich, & Mendes, 2002; Anderson, Reid, & Jennings, 1992; Rijken & van Beek, 2011), better survival rates following a heart attack (Friedmann & Thomas, 1995; Rijken & van Beek, 2011) and less frequent visits to medical practitioners (Headey, 1999; Rijken & van Beek, 2011). As well as health benefits pets also offer social benefits such as greater self-esteem and conscientiousness (McConnell, Brown, Shoda, Stayton, & Martin, 2011) and reduced loneliness (Krause-Parello, 2012; Pikhartova, Bowling, & Victor, 2014; Stanley, Conwell, Bowen, & Van Orden, 2014). The returned endearing companionship pet’s offer to owners is well documented. Owners have categorised their pets into the same character as children, playmates, social support and friends (Holbrook,

Stephens, Day, Holbrook, & Strazar, 2001). Not only do pets offer health benefits but increased social wellbeing for owners.

Packaging of pet food also supports the humanisation trend. Claims on pet food packaging are following human food claims such as “organic”, “fresh”, “grass fed”, “free range”, “preservative and additive free”, “free of grains and filler” and “locally sourced ingredients” (Bohrer, 2011). Ferdman (2014) claims that ‘human grade’ labelling on premium pet food supports the idea of pet parenting and that it is now socially acceptable that a dog is treated as a family member. According to recent research, the majority of UK shoppers check the origin on pet food packaging before purchasing (Creasey, 2014). Pet food packaging is following the human food packaging and labelling trends. No literature was found on the knowledge of pet owners, or key decision makers within pet owning households.

2.2.2 New Zealand Market

New Zealand is placed high in the global pet ownership ranks; companion pets outnumber people (NZCAC, 2011). It is estimated that there is a pet population in New Zealand of approximately 5 million, with 68% of households in New Zealand owning at least one pet. This is one of the largest percentage of pet ownership per capita in the world (NZCAC, 2011). Furthermore, 48% of pet owners had an average of two cats, placing New Zealand in the top spot for cat ownership per capita worldwide, and 29% of households owned one dog (NZCAC, 2011). The size of the New Zealand pet market has led to this study’s first exploratory question:

EQ1: What is the composition of pet owning households in New Zealand?

High pet ownership levels open New Zealand up to the pet parenting trend. Evidence of the pet parenting trend in New Zealand is present but much more subtle than other markets. NZCAC (2011) stated that New Zealanders spend NZD\$766.2m on pet food each year. The trend of global humanisation of dogs and cats is also reflected in New Zealand through the average spend per animal per annum on dogs (NZD \$1,517) and cats (NZD \$838). See Table 2.2 for a breakdown of this expenditure. The New Zealand Companion Animal Council (NZCAC) reported this expenditure from a

survey. This survey could have been implemented through members which would have produced higher recorded spending due to members having a greater involvement with their pets. Despite unstable economic conditions spending on pets by New Zealanders was not reduced, proving a pet's health and wellbeing takes priority within New Zealand families. New Zealanders spent a total of \$1.2bn on their animal companions food and care products (excluding veterinary services) (NZCAC, 2011). In order to identify pet food expenditure by consumers the second research question has been developed:

EQ2: How much do New Zealand pet owners spend on cat food and dog food each year?

Table 2-2 Estimated Total Annual Expenditure on Companion Animals (source: NZCAC, 2011)

Area of expenditure	Expenditure (\$m)	% of Total
Pet Food	766.2	48%
Pet Care Products	255.3	16%
Veterinary Services	358.1	23%
Other Pet Care Services	204.3	13%
Total	1583	100%

Little literature exists regarding the demographics, household structure and purchase decision making roles of New Zealand pet owners. According to New Zealand pet owners, the most important reasons for acquiring a pet are companionship, fun for the children, education for children and to give children responsibility (NZCAC, 2011). The top location to acquire a cat was from friends or neighbours followed by an animal shelter (SPCA), while dogs were more likely to be acquired from a breeder followed by friends or neighbours (NZCAC, 2011). From this information exploratory questions have been developed:

EQ3a: What are the demographics of pet owners in New Zealand?

EQ3b: What are the household structures of pet owners in New Zealand?

EQ3c: Which roles (pet food decision maker, purchaser and server) are played by members of pet owning households in New Zealand?

Like the global pet food market, different types of pet food are available in the New Zealand market. Research suggests that 55% of pet food fed to pets in New Zealand is non-prepared (NZCAC, 2011). Non-prepared pet food includes food that is not packaged and prepared as pet food; for example leftovers, homemade food or meat from the butcher. NZCAC (2011) reported that cat owners spend \$164m on non-prepared pet food each year and dog owners \$168m. Sales of pre-prepared pet food including dry food, wet food, treats and mixers has also increased (NZCAC, 2011). See Table 2.3 below for a breakdown of the type of pre-prepared pet food expenditure. The 2005 annual expenditure on pre-prepared cat food was \$198.3m which increased to \$235.7m in 2010. Pre-prepared dog food sales also increased from \$132.4m in 2005 to \$166.1 in 2010 in expenditure (NZCAC, 2011). These figures again suggest that either pet numbers are increasing in New Zealand or that expenditure on pets is increasing.

Table 2-3 Pre-prepared Pet Food Sales (NZD\$m) 2005 & 2010 (source: NZCAC, 2011)

Pre-prepared	Dog food		Cat food	
Type	2005	2010	2005	2010
Wet food	69.6	73.7	130.3	149.2
Dry food	48.7	71.1	65.1	82.5
Treats and mixers	14	21.3	3	4
Total	132.4	166.1	198.3	235.7

No literature on the pet food attributes that are most important to pet owners has been found. To understand why certain types of pet food is purchased the following exploratory questions were developed:

EQ4a: What are the types of food fed to dogs and cats in New Zealand?

EQ4b: What are the most important pet food product attributes to New Zealand pet owners?

The total retail-ready industry turnover of pet food was \$300 million in 2012 (Coriolis, 2014). Table 2.4 below shows the percentage of this value sold through each distribution channel of pet food in New Zealand.

Table 2-4 Distribution Channels (NZD\$m) 2012 (source: Coriolis, 2014)

Distribution Channel	Expenditure (\$m)	% of Total
Supermarket	241	80%
Pet stores	24	8%
Rural retailers	16	6%
Vet	10	3%
Other	9	3%
Total	300	100%

Supermarkets had the greatest distribution (80%), however pet stores show a strong CAGR of 17% which suggests that the percentage of pet food sold through supermarkets may decrease (Coriolis, 2014). No literature was found to have examined how often pet food is purchased nor whether owners are loyal to pet food brands. Therefore the following exploratory questions have been formed:

EQ5a: Where do New Zealand pet owners purchase pet food?

EQ5b: How often do New Zealand consumers purchase pet food?

EQ5c: How loyal are New Zealanders to pet food brands?

Product knowledge, in terms of other categories, has been reported as having various influences on consumer behaviour. However, no literature regarding the pet food knowledge of global or local consumers was found. The following exploratory questions are proposed to investigate this area:

EQ6a: How highly do New Zealand owners rate their knowledge of pet food?

EQ6b: Does pet food knowledge influence the types of pet food purchased?

EQ6c: Does pet food knowledge influence the amount spent on pet food?

EQ6d: Does pet food knowledge influence which pet food product attributes are most important?

The high expenditure and pet ownership levels is reflected through how New Zealanders rate pets in their families. The report by NZCAC (2011) showed 83% of New Zealanders considered their cat as a member of the family versus dogs (77%). The high level of families considering cats as a member of the family reflects the high cat ownership rates in New Zealand as discussed above (NZCAC, 2011). This high percentage of New Zealanders who consider their pet one of the family has led to a series of exploratory questions measuring New Zealander's involvement with their pets and how this involvement influences their behaviour:

EQ7a: How highly involved are New Zealanders with their pets?

EQ7b: Does involvement with pets influence the type of pet food purchased?

EQ7c: Does involvement with pets influence the amount spent on pet food?

EQ7d: Does involvement with pets influence which pet food product attributes are most important?

NZCAC (2011) asked pet owners what they thought the best source of information was regarding information about their pet; vets were rated the highest for both cats and dogs. See Table 2.4 below for an illustration of the information sources most trusted by pet owners. The information reported in NZCAC (2011) was not limited only to pet food, but to pets in general.

Table 2-5 Most trusted sources of Information about Companion Animals (source: NZCAC,2011)

Source of Information	Cat	Dog
Vets	76%	75%
The internet	58%	58%
SPCA	38%	29%
Pet shops	35%	33%
Books	25%	23%
Family/Friends	22%	25%
Animal tv shows	18%	19%
Breeders	10%	18%
NZCAC	2%	3%
None of the above	1%	1%

These statistics about trusted sources of information lead to the exploratory questions:

EQ8a: What percentage of pet owners had their current pet food recommended?

EQ8b: Of those who had their pet food recommended, who was it recommended by?

To further explore the relationship between pet owner characteristics and their food purchasing behaviour the following final exploratory questions have been proposed:

EQ9a: What influence do pet owner's demographics have on pet food purchasing behaviour?

EQ9b: What influence does household structure have on pet food purchasing behaviour?

Table 2.5 below provides a summary of the exploratory questions that have been developed from a review of the literature.

Table 2-6 Summary of Research Exploratory Questions

Exploratory Questions	
EQ1	What is the composition of pet owning households in New Zealand?
EQ2	How much do New Zealand pet owners spend on cat food and dog food each year?
EQ3a	What are the demographics of pet owners in New Zealand?
EQ3b	What are the household structures of pet owners in New Zealand?
EQ3c	Which roles (pet food decision maker, purchaser and server) are played by members of pet owning households in New Zealand?
EQ4a	What are the types of food fed to dogs and cats in New Zealand?
EQ4b	What are the most important pet food product attributes to New Zealand pet owners?
EQ5a	Where do New Zealand pet owners purchase pet food?
EQ5b	How often do New Zealand consumers purchase pet food?
EQ5c	How loyal are New Zealanders to pet food brands?
EQ6a	How highly do New Zealand pet owners rate their knowledge of pet food?
EQ6b	Does pet food knowledge influence the types of pet food purchased?
EQ6c	Does pet food knowledge influence the amount spent on pet food?
EQ6d	Does pet food knowledge influence which pet food product attributes are most important?
EQ7a	How highly involved are New Zealanders with their pets?
EQ7b	Does involvement with pets influence the type of pet food purchased?
EQ7c	Does involvement with pets influence the amount spent on pet food?
EQ7d	Does involvement with pets influence which pet food product attributes are most important?
EQ8a	What percentage of pet owners had their current pet food recommended?
EQ8b	Of those who had their pet food recommended, who was it recommended by?

EQ9a	What influence do pet owner's demographics have on pet food purchasing behaviour?
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EQ9b	What influence does household structure have on pet food purchasing behaviour?
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3.0 Methodology

This study used a structured questionnaire developed following a focus group of pet owners. For the data collection New Zealand consumers were interviewed using an intercept technique in Christchurch supermarkets. The supermarkets visited included a range of socio-economic areas so as to best represent the different demographics of New Zealand consumers.

3.1 *Development of the instrument*

The final questionnaire used in this study is in Appendix A. It was developed as an instrument for this study to assess consumers' involvement with pets, their purchasing behaviour, their knowledge of pet food and which pet foods they purchased. The pet food questionnaire was developed using a focus group and then pre-tested to ensure the final survey was comprehensible and effective.

3.1.1 Focus group

In order to gain an in-depth understanding of the purchasing behaviour of pet owners and involvement with their pets, a group of pet owners from Christchurch were invited to attend a focus group to share their experiences and thoughts. Focus groups are used to gain collective information from selected audiences and are widely accepted as a research method. They are an efficient way of gathering opinions from multiple parties in an interactive way (Gibbs, 2012). The questions asked were aimed at uncovering any traits of pet owners that had not previously been uncovered by the review of literature. The discussion was recorded for reference following the focus group. Some information was revealed that measured the level of involvement of pet owners with their pets, for example gift giving on special occasions, as well as alternative options for feeding pets.

3.1.2 Pre-testing the instrument

Pre-testing is an important part of developing a questionnaire (e.g, Brace, 2004; Reynolds & Diamantopoulos, 1998). By pre-testing it ensures that the questionnaire is understood by respondents, therefore reducing the amount of systematic sampling errors.

A pilot test for the questionnaire was held over two hours at a Christchurch supermarket with customers inside the store. Hunt, Sparkman Jr & Wilcox (1982) suggest that pre-test respondents should be as similar as possible to the target respondents. The pilot test accomplished this by intercepting respondents using the same method as the actual data collection phase. Authors recommend using personal interviews so to measure reactions and offer explanation that would not be recognised through other means of surveying (Hunt et al., 1982; Reynolds & Diamantopoulos, 1998). The pilot method was conducted using face-to-face personal interviews with a structured questionnaire, which was the same method employed for the final survey.

During the pilot test questions were revealed that did not make sense to the respondents. It also gave an estimated response rate and duration for respondents to complete the questionnaire. Changes made to the questionnaire were “parents” were added as an option to the “purchasing” and “serving” questions and more frequencies were added to the length of time a respondent had been using one brand of pet food. There were no other issues identified with the questionnaire or cue cards during the pilot test.

3.1.3 The finalised instrument

In the final questionnaire there were a variety of question formats used, including closed and open ended questions and Likert scale questions.

The questionnaire began with general questions about pet ownership in terms of how many cats or dogs were owned. A number of 7 point Likert scaled items were used to measure the respondent’s involvement with their pet and subject knowledge of pet food. A 7-point scale was used as Likert scales should have no fewer than 5 or 6 anchor points (Finstad, 2010). The next question also used 7-point Likert scale items to rate product attributes in terms of their importance when purchasing pet food. The attributes that respondents were asked to rate were; recyclable packaging, brand name, cheapest price, country of origin, easy to serve nutritional value, tolerable smell, claims of additional health benefits, portion size and my pet likes it. Both scales were displayed on a cue card for the respondent (see Appendix B).

Jordan, Marcus & Reeder (1980) state that cue cards reduce bias in agree / disagree responses such as question four in this survey. Following the attribute importance questions, the questionnaire then asked in a closed question if the respondent's current pet food had been recommended to them and if so, who by.

In order to determine what role the consumer played in the purchasing and serving of their pet food, the questionnaire asked who in the household decides which pet food is purchased, who purchases the pet food, and who serves the pet food. These choices were displayed on a cue card for the respondent (Appendix A) and the options given were "I do", "my partner does", "my flatmate" does, "my children do", "my parents do" or "other". This will assist in determining which attributes are important to a consumer who plays a given role.

The next questions were focused on the consumer's purchasing behaviour. A dichotomous question asked if the respondent was loyal to a certain pet food brand and if so, how long had they been using that brand. Weekly expenditure on pet food and what type of pet food they purchase were also asked.

The last section of the questionnaire gathered demographic data from the respondents such as age, gender, education and income.

3.2 *Research method*

3.2.1 *Sampling Plan*

This study focuses on the behaviour of New Zealand pet owners. This population was therefore defined as the individuals who resided in New Zealand at the time of the data collection and who owned a cat or dog. Time and cost were constraining factors and did not allow the views of the entire population to be collected and as a result a non-probability convenience sampling method was adopted to best represent the New Zealand population. This method was carried out by in supermarkets where consumers were approached and offered the opportunity to participate in the study by answering the survey. Appendix C shows the date and time that supermarkets were visited and the individual supermarket and total response rates. The final sample consisted of 103 respondents and with a response rate of 59%.

3.2.2 Data Collection

An intercept technique was used to collect quantitative data from customers at supermarkets. Contact was made to each Christchurch supermarket from a list of compiled supermarkets from the Food Stuffs franchise (New World and PaknSave supermarkets) to ask for permission to collect data in store. In order to create a representative sample the stores selected were located around Christchurch, including rural and suburban areas with varying socio-demographic characteristics. Although a few stores from the selection declined permission the supermarkets that did grant permission gave sufficient variance to the sample. Appendix C contains a schedule of supermarket visits and response rates per store.

The type of data collection method used was face-to-face interviews using a structured questionnaire. Respondents were intercepted in the store while they were grocery shopping. Given the qualifying question for the survey was to own a pet, the interceptions were made in the pet food aisle as pet owners were more commonly down this aisle. Interviewing was scheduled for different days and times during the week to increase the representation of the respondents.

As mentioned above, both New World and PaknSave supermarkets were targeted. Both these supermarkets market to different target markets. New World offer specialised high end products and a high level of customer service and is generally a smaller supermarket. PaknSave is a larger format supermarket that markets its low price offerings and generally has a lower level of service. Including both these supermarkets in the study ensured varying consumer segments were included in the study. Given PaknSave markets lower prices it can be assumed that lower socio-economic segments would shop at PaknSave as opposed to New World.

There are a variety of other interview types. Telephone interviews are geographically flexible, fast and can be followed up yet this type of interview limits questions to simple questions and technological difficulties and caller ID can delay the process. Mail surveys are another form of survey that give the respondent flexibility in time when responding, also have high flexibility and are low cost but have high non response rates and carry the risk of respondents misinterpreting questions (Czaja &

Blair, 2005; Hansen & Hurwitz, 1946; Zikmund & Babin, 2006). Personal interviews were selected as it ensured questionnaires were fully completed to a high quality and as a result each questionnaire was suitable for analysis. Face-to-face interviews also offered the capability for the interviewer to clarify any terms that the respondent was uncertain of the meaning and to build a relationship with the respondents therefore enabling the interview to reveal sensitive and complex information. This type of questionnaire also enabled visual aids to be used through cue cards to present possible answers to the respondent. Literature does include some disadvantages to personal interviews such as high travel costs and longer periods of time to complete the data collection (Czaja & Blair, 2005; Zikmund & Babin, 2006). However, data collection for this survey required little travel time between supermarkets as they were located in the same city and data collection was limited to one week.

3.2.3 Data Analysis

The software package SPSS 20 was used to execute a variety of statistical techniques in order to analyse the data. Techniques including frequency distributions, cross tabs with chi-square, means and standard deviations were employed and these are common techniques used by other consumer behaviour researchers.

A number of the analysis were completed using the total sample as well as subsets of just those respondents who owned a cat or cats and just those respondents who owned a dog or dogs. Results clearly label these analysis as relating to the “total sample”, “cat owner” and “dog owner”.

4.0 Results and Discussion

4.1 Sample Description

Table 4.1 shows the demographic characteristics of the 103 sampled pet owners. Demographic variables that were measured were gender, education, age, household structure and household income.

Table 4-1 Sample Demographic Characteristics

Characteristic	Sample (%)	NZ 2013 Census % ¹ Approximate Values
Gender Male	20.4	48.7
Female	79.6	51.3
Age 15-19	1.0	7.0
20-24	3.9	6.9
25-29	2.9	6.1
30-34	4.9	6.0
35-39	6.8	6.3
40-44	18.4	7.2
45-49	8.7	7.1
50-54	10.7	7.1
55-59	13.6	6.1
60-64	8.7	5.5
65-69	11.7	4.6
70+	8.7	9.7
Education High School	47.6	-
Trade/tech	12.6	9.3
Undergraduate	28.2	13.6
Postgraduate	9.7	6.4
Household Structure Single person household	14.6	23.5
Flatting household	1.9	-
Live with partner	32	-
Live with children	47	-
Live with parents	5.8	-
Household Income \$1-\$5,000	1.0	-
\$5,001- 10,000	1.9	-
\$10,001- 15,000	3.9	-
\$15,001- 20,000	3.9	-
\$20,001- 25,000	3.9	-
\$25,001- 30,000	1.9	-
\$30,001- 35,000	1.0	-
\$35,001- 40,000	2.9	-
\$40,001-50,000	3.9	-
\$50,001- 70,000	8.7	-
\$70,001- 100,000	21.4	-
\$100,001-150,000	15.5	-
\$150,000+	9.7	-

¹source: www.stats.govt.nz

The sample of pet owners consisted of 21 males and 82 females. Females are overrepresented in this sample as the gender ratio was not consistent with the 2013 New Zealand census statistics. This is probably due to the survey being performed in a supermarket environment and females are the primary shoppers for household groceries. For other demographic characteristics, the sample was dominated by those over the age of 50 and those with an undergraduate degree. Both these characteristics were overrepresented in comparison to the 2013 census results. The qualifying question for this survey was to own one or more pets, which in addition to week day surveying when the elderly primarily shop, could explain the older age group represented in the sample.

Two demographic characteristics were recoded; age and income. Age was categorised into young adult (15-29), middle age (30-49) and elderly (50+). The new categories for income included low (up to \$50,000), medium (\$50,001-\$70,000) and high (above \$70,000). These income categories were taken from the New Zealand Statistics website (2014). Recoding information allows for ease when discussing results and comparing segments of the respondents. Table 4.2 below shows the percentages of the recoded data for the age and income categories.

Table 4-2 Recoded Sample Demographic Characteristics

	Sample (frequency)	Sample (%)	NZ 2013 Census % Approximate Values
Age			
Young Adult	8	7.8	26
Middle Age	40	38.8	27
50+	55	53.4	33
Household Income			
Low	17	16.5	24.3
Medium	17	16.5	9
High	48	46.6	48

Source: Statistics New Zealand (2013)

Like Table 4.1, the recorded younger age group is still underrepresented in terms of national population statistics. The medium income earners are overrepresented however high income earners are similar in percentage to national statistics.

4.2 Testing of Exploratory Questions

In this section the exploratory research questions will be tested and discussed.

4.2.1 Pet Ownership and Pet Food Expenditure

Following the qualifying question of the study (do you own a pet?); the respondent was then asked how many cats and dogs they owned. EQ1 sought to examine how many cats and dogs New Zealanders own. The survey showed that 73.7% of respondents owned at least one cat and 50% owned at least one dog; in addition 25% of all those surveyed owned at least both one cat and one dog. Figure 4.1 below shows the number of cats and dogs owned by respondents.

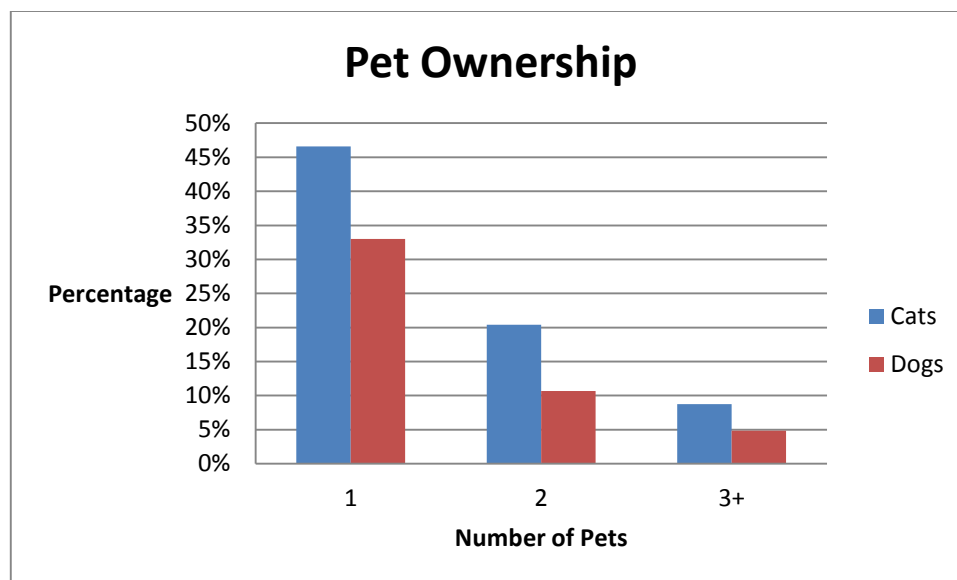


Figure 4-1 Pet Ownership Numbers

Figure 4.1 shows that cats are more popular than dogs as pets in New Zealand and are commonly owned in numbers greater than one. The survey earlier by NZCAC (2011) reported that 48% of pet owners had an average of two cats; this survey showed that 27% of all pet owners had two or more cats which is significantly less. However this still supports the idea that cats are more popular than dogs. NZCAC (2011) reported that dogs were owned by 29% of New Zealanders. Table 4.3 shows the quantities of cats and dogs owned by respondents ordered from the most prevalent combination to least.

Table 4-3 Composition of Cats and Dogs

	Percentage of Respondents
Single Cat	34.0
Single Dog	21.4
Multiple Cats (no dogs)	15.5
Single Dog and Single Cat	10.7
Multiple Dogs and Multiple Cats	5.8
Multiple Cats Single Dog	5.8
Multiple Dogs (no cats)	4.9
Multiple Dog Single Cat	1.9

Table 4.3 shows that the most common household contains a single cat followed by a single dog. If the household was likely to own more than one pet, it was likely to be both types of pet (i.e, a combination of cats and dogs). Households with one or multiple cats made up 73.7% of the sample compared with households with one or multiple dogs which made up 50.5% of the population. Single pet households made up 55% of the sample and multiple pet households 45%. Furthermore, 24% owned some type of combination of cat or cats and dog or dogs. This shows that almost as many pet owning households in New Zealand have multiple pets as those who own a single pet and that nearly a quarter own both cats and dogs. This is important as it shows pet food producers should offer both cat and dog food under the same brand to evoke loyalty and brand familiarity in pet owners with both types of pet. In addition, marketing should promote products for cats and dogs conjointly and direct marketing activity to households with more than one cat or dog.

To follow on from the number of pets owned, the survey measured the estimated weekly spend for pets. EQ2 sought to investigate how much New Zealand pet owners spend on cat and dog food each year. Figure 5.2 was calculated by dividing the data into cat owners and dog owners and finding the mean value of those who owned one dog or one cat and then the mean value of those respondents who owned more than one of each. Mean scores were rounded down to indicate the closet range of weekly spend values.

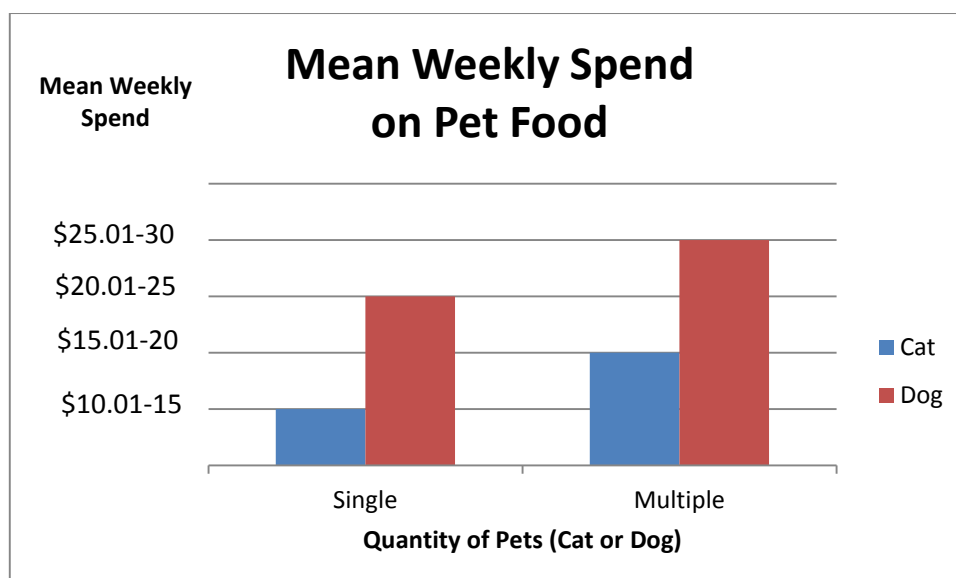


Figure 4-2 Mean Weekly Spend by Pet

The mean amount spent on pets each week varies between cats and dogs. As shown in Figure 4.2 shows above, there is a higher weekly spend on dogs (\$20.01-\$25) than cats (\$10.01-\$15). Overall, the average amount spent by respondents on all pets each week is between \$15.01 and \$20. The report by NZCAC (2011) reported that the average spend per animal per annum on dogs is \$1,517 and cats \$838; these figures included pet food as well as other costs associated with pet ownership. The data clearly illustrates that food expenditure is the biggest portion of total pet costs. Table 4.4 compares the annual figures. Not surprisingly, households with multiple pets spend more on pet food than those with a single dog or cat. Considering that 45% of pet owning a households own multiple pets, this demonstrates the potential the New Zealand pet food market holds, especially when multiple pet households are targeted through marketing activity.

Table 4-4 Average Per Annum Spend per Pet (source: NZCAC, 2011)

Per Annum Spend		
	NZCAC (2011)	Christchurch Survey
Single Cat	\$838	\$520-\$780
Single Dog	\$1,517	\$1040-\$1300
Multiple Cats	-	\$780-\$1040
Multiple Dogs	-	\$1300-\$1560

The results from this survey shows a lower spend per pet compared with the NZCAC (2011) survey, however food was the only product measured so we can conclude if vet services and other pet products were included this would have increased the total spend. There is a significant difference in annual spends between dog owners from the surveyed sample and the survey by NZCAC (2011); this probably shows that dogs incur more veterinarian visits and care products which is reflected by a greater involvement with dogs and their owners which is discussed later in later results. These results suggest that New Zealand households are spending considerable amounts on pet food each year; this supports the idea that the pet food market is an attractive one for manufacturers.

The demographic characteristics of New Zealand pet owners were questioned in EQ3a. In the opening to this chapter, the demographics of the respondents to this survey were discussed. The mode of all respondents as well as those who own just cats and those who own just dogs are compared in Table 4.5. Gender was removed from this table as females were the primary respondent to the survey.

Table 4-5 Mode Demographics of Pet Owners

Characteristic	Total Sample	Cat Owner	Dog Owner
Age	40-44	40-44	60-64
Education	High School	High School	High school
Income	70,000-100,000	70,000-100,000/ 100,000-150,000	100,000-150,000
Household Structure	Live with children	Live with children	Live with children/Live with partner

Table 4.5 showed that there was little difference in the demographics of the sampled cat owners and dog owners. A higher age and higher household income was more common amongst dog owners. This could mean that New Zealanders are more likely to buy a dog after children leave home; as shown by higher age and likelihood to live in a household with a partner. No literature was found to have examined the demographic characteristics of New Zealand pet owners therefore this result provides an interesting insight into the characteristics of pet owners. Marketers could target older consumers in promotional campaigns for dog food. Also, all

respondents are typically in the high income category; again marketing campaigns should target those with higher income levels.

EQ3b sought to identify the household structures of New Zealand pet owners. Table 4.6 shows the percent of household structures of those who own a cat, those who own a dog and the sample as a whole.

Table 4-6 Household Structure of Pet Owners

Household Type	Total Sample (%)	Cat Owner (%)	Dog Owner (%)
Live alone	14.6	21.2	12
Live with partner	32	28.8	40
Live with parents	5.8	0	8
Live with flatmates	1.9	1.9	0
Live with children(with/without partner)	45.6	48.1	40

Table 4.6 shows that someone who lives alone is nearly twice as likely to own a cat than a dog. Those who live with a partner and no children were much more likely to own a dog (40%). Cats are more likely to live in households with children and in single person households. Dogs are equally as likely to live in households with children or those with partners, but less likely to live in single person households.

Table 4.6 also highlights that pet owners most commonly live with children across the board. No literature exists on the household structure of pet owners, however it is suggested in prior research that through the pet parenting trend, pets are acquired to replace children or for company for those who live alone (Petersen, 2011; Pikhartova et al., 2014). This research suggests that those people who live alone are more likely to own a cat than a dog. Single person households have less disposable income than households with two income sources (i.e partners that both work). This could be a reason for single person households being more likely to own a cat as this study has also revealed that it costs less to feed cats than to feed dogs.

The next question, EQ3c, seeks to understand the roles (decision maker, purchaser and server) New Zealander's play as pet owners. Tables 4.7, 4.8 and 4.9 show the

responsibilities households have when it comes to purchasing and feeding food to their pets.

Table 4-7 Decision Makers in Pet Owning Households

Decision Maker	Total Sample (%)	Cat Owner (%)	Dog Owner (%)
I do	87.4	92.3	92
Partner	4.9	3.8	4
Flatmate	1.9	0	0
Children	4.9	1.9	0
Parents	5	0	4
Other	1	1.9	0

Table 4.8 shows that the respondents (i.e the shoppers) are typically the decision maker of the household in terms of pet food purchasing. Considering 82% of the sample was female, this shows that females are the primary decision maker for pet food purchases in households. No literature was found on the decision makers of pet food purchases, therefore this result adds to current knowledge. This suggests that pet food marketers should target their promotional activities to appeal to women.

The next table in the series, Table 4.8 showed that those who decided on which pet food to purchase also purchased the pet food. There was only a small percentage (9.7% of the total sample) who said that someone else in the household made the decisions. This shows that decision makers and purchasers are the same person in a majority of New Zealand households who own a pet. To further support this, a series of chi-square and crosstab statistics were computed on the total sample to identify the relationship between the primary purchaser and the primary decider. A significant relationship was found between the two variables ($\chi^2=235.46$, $P=.00$). Of those who said they did the purchasing, 96.8% said they also made the decisions. Significance of this result is that marketers do not have to market pet food products to appeal to different roles within pet owning households.

Table 4-8 Purchasers in Pet Owners Family

Purchaser	Total Sample (%)	Cat Owner (%)	Dog Owner (%)
I do	90.3	96.2	92
Partner	3.9	1.9	4
Flatmate	0	0	0
Children	1	1.9	0
Parents	4.9	0	4
Other	0	0	0

Table 4.9 below shows that only 5.8% of the overall sample gave their children the responsibility of feeding their family pet. According to the survey by NZCAC (2011) the third most important reason for acquiring a pet was to give children responsibility (the top two reasons were fun for the children and education for the children). Such a low percentage of children having the responsibility of feeding the pets show that perhaps households purchased pets to please children but ultimately the parent/s end up doing the jobs associated with owning a pet.

Table 4-9 Servers in Pet Owners Family

Server	Total Sample (%)	Cat Owner (%)	Dog Owner (%)
I do	74.8	78.8	80
Partner	14.6	15.4	16
Flatmate	1	0	0
Children	5.8	5.8	0
Parents	3.9	0	4
Other	0	0	0

These results show no significant difference between males and females serving the food but suggest that the household member who does the purchasing also does the serving (72.8%). This result is in despite of the report by NZCAC (2011) which suggests that pets are purchased to give children responsibility.

4.2.2 Pet Food Products and Purchasing Behaviour

The next set of exploratory questions investigate what types of pet food products are purchased and which product attributes are most important to consumers.

EQ4a sought to investigate what types of pet food are fed to pets. A frequency analysis was used to illustrate the percentage of different pet food types across the total sample as well as cat and dog owners (see Table 4.10). If a pet owner fed more than one type of food it was counted more than once.

Table 4-10 Types of Pet Food

Type of Food	Total Sample (%)	Cat Owner (%)	Dog Owner (%)
Biscuit/Kibble	51	49	48
Wet (can)	14	18	17
Wet (pouch)	13	21	5
Human food	5	6	2
Freeze dried	1	0	2
Frozen raw	2	0	2
Fresh roll	9	1	19
Fresh meat chunks	4	4	2
Other	1	1	2

Table 4.10 shows that biscuit/kibble is the most popular choice of pet food for both cat and dog owners. The literature review also showed similar results in that dry food is currently the mainstream choice of pet food (45% of the US market share) due to the convenience it offers (Bohrer, 2011). Wet food in pouches was more popular for cats while wet food in cans was more common for dogs. This could be due to the serving size of the products; cans come in larger sizes while pouches are usually suited to one meal for a cat.

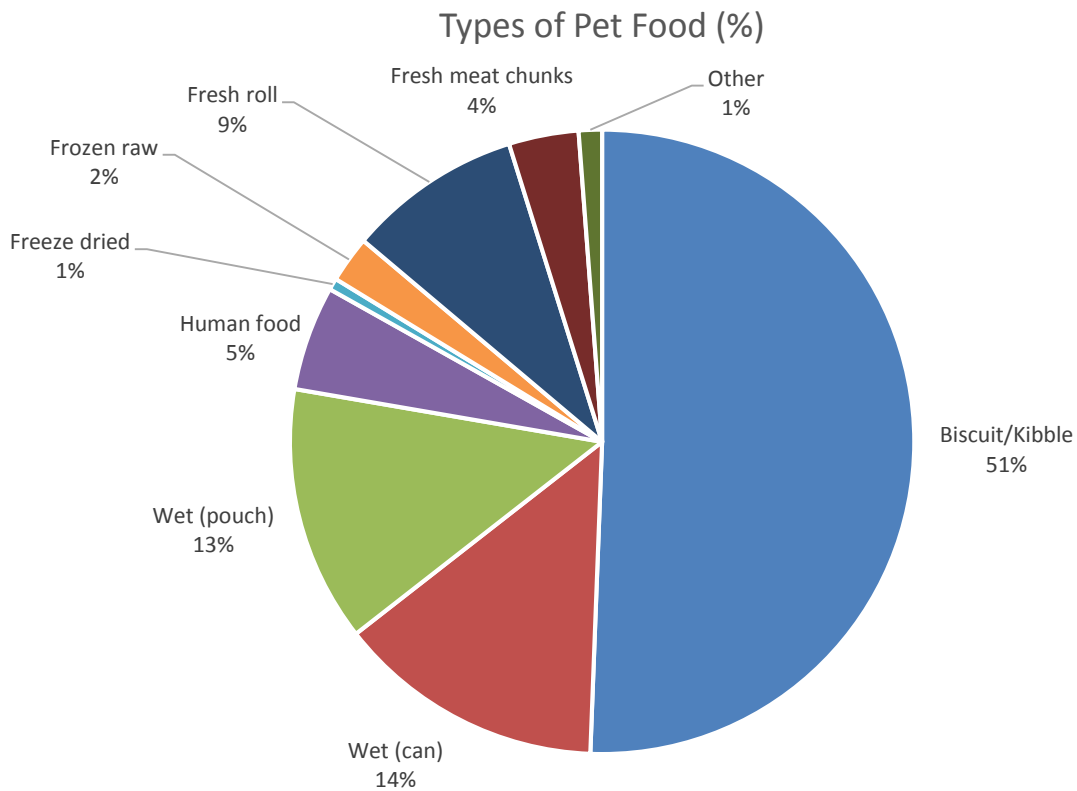


Figure 4-3 Types of Pet Food

Figure 5.3 illustrates that of the total sample the most prevalent type of pet food purchased is biscuit/kibble, followed by wet (can) and wet (pouch). Table 4.11 compares pet owners who fed biscuit/kibble to those who fed wet food or raw food types. Dry food consisted of only biscuit/kibble, wet food consisted of wet can and pouch options and raw food consisted of freeze-dried and frozen raw, human food and other. Other was put in the raw category because when asked to define other, respondents said this was home kill meat.

Table 4-11 Type of Pet Food (Dry and Wet Categories)

Category	Total Sample (%)	Cat Owner (%)	Dog Owner (%)
Dry food	51	48	48
Wet food	36	40	40
Raw food	13	11	12

When the wet based types are added together the results showed that across the total sample, as well as cat owners and dog owners there was still a lower amount of pet owners feeding wet food types to those feeding biscuit/kibble diets. This still

shows that biscuit/kibble diets is the mainstream diet of New Zealand pets. From the previous literature review, it was suggested that super premium pet food was increasing in market share (Nilsson, 2010; Ferdman, 2014), which could explain why there was a presence of the raw food category across cats (11%), dogs (12%) and the total sample (13%). However some biscuit/kibble meals are branded as super premium.

NZCAC (2011) reported that 55% of pet food fed to pets was non-prepared (i.e not packaged as pet food); this shows that only 6% (human food and other) were fed non-prepared meals. However this data was collected in a supermarket therefore potentially pet owners that did feed non-prepared food would not shop in the pet food aisles. NZCAC (2011) showed that dollar spend on wet food was higher than dry food. However, global data reported that dry dog food accounted for 45% of the total pet industry revenue in the US ("Pet Food Manufacturing," 2013), and is globally the primary pet food sold, particularly given the recent shift toward the claims of health benefits of dry food (Bohrer, 2011). The increase in super premium pet food sales (Ferdman, 2014; Nilsson, 2010) and consumer awareness such as increasing number of consumers who are checking the information on pet food packaging (Creasey, 2014) are likely to relate to recent pet food contaminations (e.g, Adams, 2013; Behraves et al., 2010; Hogan, 2012) and the pet parenting trend (Denniss, 2004; Ferdman, 2014). This shows that dry food marketers are meeting the requirements of consumers who are increasingly concerned about the processes and contents of their pet food by adding health benefits and other claims deemed important by pet owners.

Table 4.12 shows how important each pet food product attribute of pet food is ranked by the respondents. The frequency analysis was also run on the categorised cat and dog owners to compare the difference in how the respondents valued different product attributes for their cat or dog. The attributes were measured using a seven-point Likert scale, therefore the value could be a score from one (not at all important) to seven (extremely important). The ranked most important column shows how many respondents ranked the given attribute the highest, therefore the most important. For respondents who gave the same highest score for more than

one attribute, the attributes were both recorded as most important. This information shows us that nutritional value and my pet likes it were most often ranked the most important out of all of the attributes. Pet food marketers should therefore first and foremost communicate the palatability of pet food to pet owners.

Table 4-12 Importance of Evaluated Attributes

Attribute	Mean Importance	Standard Deviation	Ranked Most Important (frequency)
Recyclable Packaging	3.6	2	12
Brand Name	4.1	2	17
Cheapest Price	3.5	1.9	10
Country of Origin	3.2	2	7
Easy to Serve	4.8	1.9	27
Nutritional Value	6.1	1.1	64
Tolerable Smell	4.4	1.9	21
Claims of Additional Health Benefits	4.7	1.9	28
Portion Size	4.6	1.9	22
My Pet Likes it	6.5	0.7	86

To compare the evaluated attributes by the total sample, cat owners and dog owners, the mean values are presented in Figure 4.5 as a bar graph. It shows that there is little difference in how pet owners' value cat food and dog food product attributes. This tells us that the two attributes, nutritional value and pets preference are highest rated across the board. This is significant to marketers as the same attributes are most important for both cat and dog food, therefore packaging and promotions can communicate the same message to pet owners in New Zealand. Marketers can also respond to these results by noting the importance of "easy to serve" and "claims of additional health benefits". As "my pet likes it" was ranked the most important attribute, palatability guarantees can be offered to consumers or included in marketing messages emphasising that cats and dogs will love the taste. To support these attributes, packaging and labelling can also include nutritional information to appeal to pet owners.

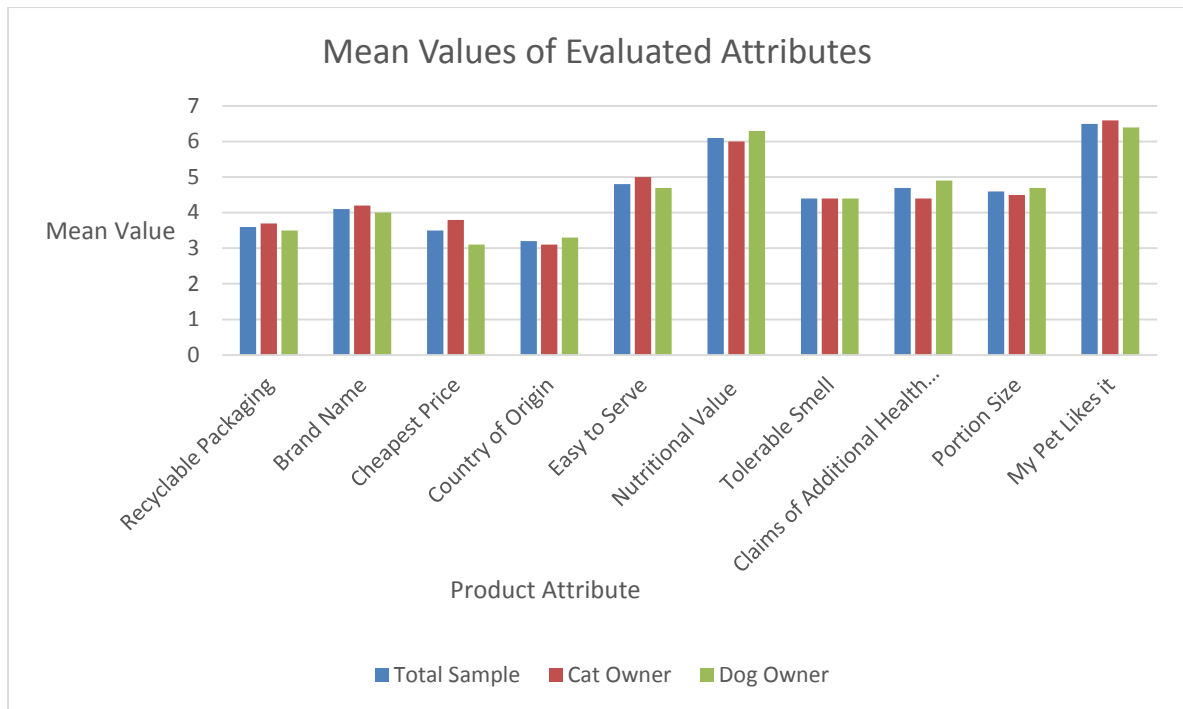


Figure 4-4 Mean Values of Evaluated Attributes

Figure 5.4 above shows that on average “country of origin” is least important to both cat and dog owners when purchasing pet food. This shows that New Zealanders could be naïve in their pet food purchasing decisions and take for granted the origin of their pet food compared to pet owners in other countries. The literature showed global pet food contaminations are now being reported in overseas markets (e.g, Adams, 2013; Behraves et al., 2010; Hogan, 2012) and that overseas pet owners have increasing demand for pet food from countries with higher food safety standards (Creasey, 2014) and lean toward premium pet food (Nilsson, 2010). New Zealand was reported to have high food safety standards (Knight et al., 2007) and no pet food scares have occurred in New Zealand which could also contribute to the lack of awareness of New Zealand pet owners about where their pet food is made and the food safety measures that control the manufacturing process. Although currently New Zealanders show no concern for country of origin of their pet food, this could be a concern in the future as more pet food scandals and manufacturing processes come to light.

EQ5a asked where pet owners purchase pet food (see Figure 4.5). The most common place where the respondent purchased pet food from was the supermarket (65.5%

of the total sample). This data could be skewed due to the survey taking place in a supermarket however the global data in the literature also showed that supermarkets were the dominant channel for pet food purchases both globally (37.4%) and locally (80%) (Coriolis, 2014; Knudson, 2003). Other places people purchased pet food included the SPCA, butchers, agricultural stores, wholesale stores, directly from distributors and the Warehouse. The most common of these was agriculture stores such as Farmlands and RD1 stores. Cat owners more commonly made supermarket purchases (73%) than dog owners (59.3%), which could be due to the size of servings for cats through wet pouches or cans which can be bought in supermarkets. This could also be due to owners willing to take their dog out to the pet store given the pet friendly environments of pet stores which would also support the global trends from the literature review of “pet parenting” (Bohrer, 2011; Denniss, 2004; Ferdman, 2014; Peterson, 2011), therefore markets should consider pet friendly environments in stores. Due to the strength of the supermarket channel it is important for pet food producers to distribute their products through supermarkets, however the literature review also showed the growing strength of the pet store channel (Coriolis, 2014) which suggests that pet food marketers should still hold vested interest in pet stores as an important channel of distribution.

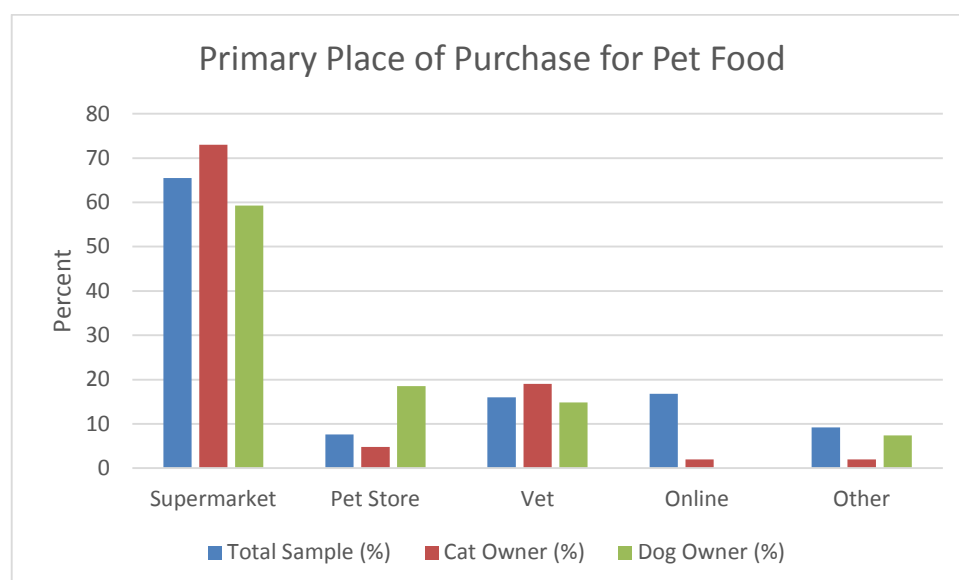


Figure 4-5 Primary Place of Purchase for Pet Food

The next exploratory question, EQ5b, sought to find out how often New Zealand pet owners purchase pet food. Figure 4.6 below shows the frequency of pet food purchases by respondents. The results show that very few pet owners (1% of the total sample) buy pet food each day. Most pet owners purchased food weekly which could be due to pet food purchases being made with the regular household grocery shopping. As length of time between purchases went on, the percentage of respondents purchasing pet food reduced for cat owners, however there was a slight increase for dog owners. No literature was found on the frequency of pet food purchases but these results could indicate that due to the higher cost of feeding dogs as shown in EQ2, pet owners recognise the value of buying dog food in bulk. This gives reason for marketers to offer larger product sizes for dog food at a lower dollar cost per kilogram, which is not necessary for cat food.

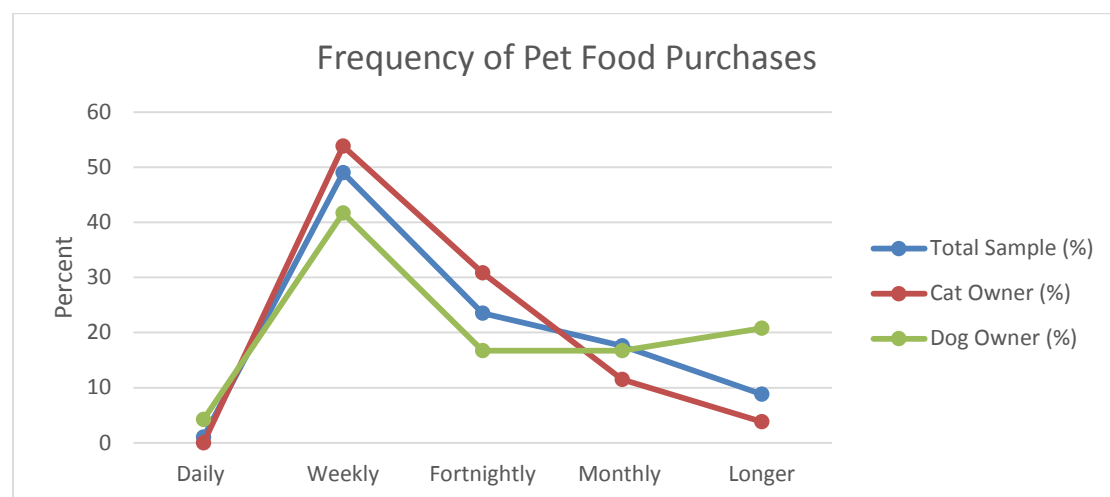


Figure 4-6 Frequency of pet food purchases

Loyalty of New Zealand pet owners to pet food brands was investigated in EQ5c. Respondents were asked a dichotomous question about loyalty to pet food brands. Table 4.13 below shows that of the overall sample, 62.1% said they were loyal to their current pet food. More dog owners recorded being loyal (72%) compared with cat owners (53.8%). Cat owners also seemed to care more about cheapest price as a product attribute when purchasing pet food which would support this finding of slightly less loyalty among cat owners.

Table 4-13 Loyalty to Pet Food Brands

Loyal	Total Sample (%)	Cat Owner (%)	Dog Owner (%)
Yes	62.1	53.8	72
No	37.9	46.2	28

Those respondents who had responded that they were loyal to their pet food brand were then asked what length of time they had been using that brand for. The mean value selected was between three and five years for the total sample (4.78), cat owners (4.59) and dog owners (4.74). This shows that although cat owners are less loyal, if they are, then the loyalty is over the same length of time. These results also showed a similar average value. No literature was found on the duration of loyalty to one pet food brand however Figure 4.7 below shows that the frequency of dog owners increases as duration of loyalty increases, whereas cat owners and the total sample is more likely to plateau or slightly decline in frequency of respondents.

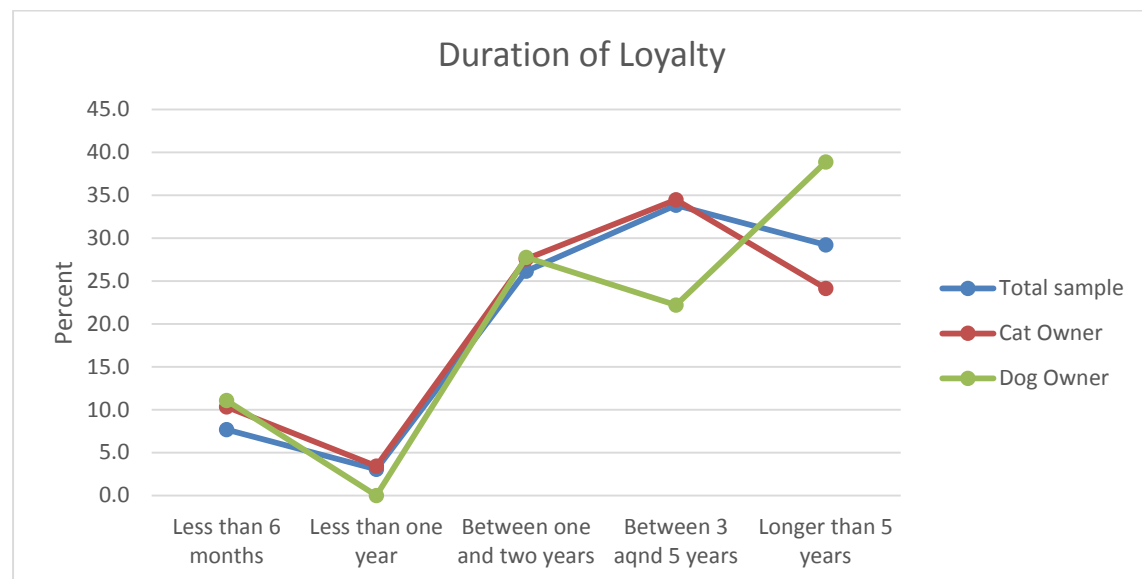


Figure 4-7 Duration of Loyalty

The next exploratory question, EQ6a, sought to identify the knowledge that pet owners believe they possess regarding pet food. Data was collected that measured the subjective level of pet food knowledge from consumers. No previous research has been found to have examined the level of pet food knowledge of owners. Three

questions were asked to assess the subjective knowledge of the pet owner using a seven-point Likert scale. The scores thus ranged from a minimum of three for a respondent who scored a one for all the questions to twenty one for a respondent who scored seven for all the questions. To compare the subjective knowledge of cat owners and dog owners, Table 4.14 shows the results for the total sample and cat or dog ownership categories. Overall the lowest score (three) was scored by 1% of the respondents. Only 11.7% of respondents scored lower than an 11 overall which shows that the majority of New Zealander pet owners believe they have at least some level of pet food knowledge. The highest recorded score (21) was scored by 13.6% of respondents. The halfway point of this scale of subjective knowledge is a score of 12, this means that the average score of both cat and dog owners is more than half. This result supports the idea that New Zealanders are naïve in their pet food purchasing, as they believe they have a high level of knowledge about pet food yet 51% of the overall sample fed their pets biscuit/kibble which was shown in the literature review to be manufactured using low cost ingredients such as grain and other fillers which pets are not supposed to eat ("Pet Food Manufacturing," 2013). Furthermore, despite the high levels of subjective knowledge also had low concern about the country of origin of the pet food. This is despite recent events in the US which saw dogs dying as a result of being fed contaminated jerky treats from China (Adams, 2013). This again supports the idea that New Zealand pet owners are naïve in their pet food knowledge. Premium pet food manufacturers who meet food safety standards should include education for consumers in their marketing activities as this research shows pet owners do not understand the benefits of New Zealand made or low carbohydrate pet food. Education is also important to producers of niche pet food products because pet food owners are more accustomed to mainstream pet food. As shown in the literature review, global giants in pet food manufacturing Mars and Nestle primarily produce kibble based pet food due to its low cost and high margins ("Pet Food Manufacturing," 2013).

Table 4.14 also shows that dog owners have very similar subjective pet food knowledge to cat owners. No literature was found that compared cat and dog food

knowledge, however these results suggest there is little difference between cat owners and dog owners in terms of their subjective knowledge of pet food.

Table 4-14 Subjective Knowledge of Pet Owners

	Total Sample	Cat Owner	Dog Owner
Minimum Value	3	7	3
Maximum Value	21	21	21
Mean	15.1	14.8	14.8

EQ6b asked what influence pet food knowledge would have on pet food types. A series of chi-square and crosstab statistics were computed to identify the relationship between the variables. The knowledge scores were recoded into high (score of 17 to 21), medium (score of 12 to 16) and low (score of three to 11) groups prior to further analysis. These groups were based on the curve of a bar graph. In addition to the recoded scores, the recoded pet food categories were used (dry, wet and raw food) in this analysis. The chi-square results showed a significant relationship ($\chi^2=13.192$, $P=.040$). The largest category of pet owners were those who fed dry food and had a medium level of pet food knowledge (27.6% of the total responses). Of those who recorded a high level of pet food knowledge, 50% fed dry food. This shows that dry food is still fed to dogs despite evidence that dry food containers low cost product fillers such as wheat and grains ("Pet Food Manufacturing," 2013). However those with a high knowledge also were more likely to fed raw than any other knowledge category; 30% fed raw food to their pets, compared with 17.5% of medium knowledge respondents and 13.3% of low knowledge respondents. This could be an indication that those with greater knowledge believe raw food is best for dogs.

The next question, EQ6c, sought to identify relationships between subjective pet food knowledge and weekly spend on pet food. The third pet food knowledge question asked to what degree the respondent agreed with the statement 'I know I am feeding my pet what is best for its health and wellbeing'. A significant result was shown through a chi-square and crosstab analysis of the belief that the respondent was feeding their pet what is best for its health and wellbeing and amount spent per

week ($\chi^2=78.2$, $P=.017$). This suggests that in order to encourage higher spending marketers must provide means for greater education of pet owners.

EQ6d asked what influence pet food knowledge had on the importance of product attributes. A series of chi-square and crosstab statistics were computed to identify these relationships. Significance was found between pet food knowledge and nutritional value ($\chi^2=47.03$, $P=.00$) as well as recyclable packaging ($\chi^2=24.58$, $P=.017$), tolerable smell ($\chi^2=30.17$, $P=.003$) and claims of additional health benefits ($\chi^2=25.85$, $P=.011$). The high pet knowledge category accounted for a larger portion of those who ranked nutritional value as extremely important (90%), compared to the low pet food knowledge group who gave mixed results when ranking nutritional value. This which indicates that those with greater knowledge place greater importance on the nutritional attributes of a pet food product. No literature was found on pet food knowledge however this result suggests that marketers of premium pet food with greater focus nutritional attributes of the product need to support their claims with sufficient scientific evidence as those with higher knowledge spend more, therefore they should target these consumers with evidence to convince them of the benefits of their pet food over other brands.

In addition to subjective knowledge, data was also collected to measure the involvement of owners with their pets as examined by EQ7a. Literature frequently reports a global 'pet parenting' trend where pets are increasingly treated as family (e.g, Bohrer, 2011; Denniss, 2004; Ferdman, 2014; Peterson, 2011). In total, fifteen seven-point Likert scale questions were asked to assess the level of pet involvement. The scores thus ranged from a minimum of 15 for a respondent who scored a one for all the questions to 105 for a respondent who scored seven for all the questions. Table 4.15 shows the mean, minimum and maximum values for the overall sample and cat and dog ownership categories. Overall the lowest score (15) was scored by none of the respondents; in fact the lowest score was 35, 20 points higher than the lowest possible score. On the opposite end of the scale, no respondents scored 105, however over half of the respondents scored over 70 points, showing a high level of involvement with their pets. The halfway score for this scale is 60 points. The

average of all cat and dog owners were over this halfway point which shows New Zealand have an above average involvement with their pets.

Table 4-15 Involvement of Pet Owners with their Pets

	Total Sample	Cat Owner	Dog Owner
Minimum Value	35	39	35
Maximum Value	92	92	92
Mean	67.8	66.6	69.1

The comparison between pet categories and involvement is minor, but does show that dog owners have a slightly higher involvement with their dog than cats. Dogs are more likely to be humanised than cats, however this is not supported by the recorded difference of respondent's involvement of cat owners compared to dog owners. Cats require much less care and attention from owners than dogs (i.e, no requirement to be walked or groomed and less training requirements), which may explain the slightly higher involvement with dogs. However, given the extra requirements dogs have over cats, it could be expected that the difference in the involvement levels would be much larger than the recorded results. This high recorded involvement with cats could explain why New Zealand has the highest level of cat ownership per capita worldwide (NZCAC, 2011) and why cats are the most popular choice of a pet by New Zealanders; i.e, New Zealanders place a very high emotional value on their cats. This suggests that value adding activities of pet food in New Zealand should more often include the cat food segment as cat owners have just as much involvement with their cats as owners do with their dogs.

To follow from the pet involvement scores, EQ7b sought to identify a relationship between type of pet food and involvement. A chi-square and crosstab analysis showed there was no significant relationship between the two variables ($\chi^2=8.50$, $P=.204$). As no literature was found on this relationship, it suggests that pet food knowledge is a greater indicator of pet food type than pet food involvement which is perhaps due to confusion from pet owners as to which food is best for their pet. EQ7c asked if there was a relationship between involvement with pets and weekly

spend. Analysis revealed no significant result to this exploratory question ($\chi^2=18.657$, $P=.413$).

However the next question did show a significant relationship. EQ7d measured the relationship between involvement with pets and product attributes. Involvement scores were recoded into high involvement (a score of 77-105), medium involvement (59-76) and low involvement (15-58) groups based on a bell curve of the frequency of scores across the total sample. Through a series of chi-square and crosstab statistics, claims of additional health benefits and level of involvement with pets showed to be significant ($\chi^2=25.85$, $P=.011$). The group of respondents with high involvement scores was largest who said claims of additional health benefits were important or extremely important (59.1%). This is compared to the medium involvement (44%) and low involvement (24.1%) groups. This indicates that involvement level and importance of claims of additional health benefits have a positive relationship. This could be due to owners who care strongly about their pets rely on pet food claims so they know they are feeding their pet the best food. This would also explain why there was no relationship found between type of pet food and involvement or weekly spend, as they are making decisions based on what is marketed on pet food packaging. It would also support the idea that New Zealand pet owners are naïve, as earlier mentioned in the data analysis, as they rely on marketers to tell them what is best to feed to cats and dogs.

EQ8a investigated whether pet owners had their current pet food recommended by someone. The results were similar across the total sample (35.3%), cat owners (36.5%) and dog owners (37.5%) as shown in Table 4.16 below. This shows that less than half of pet food is bought based on a recommendation, which emphasises the importance of product attributes that consumers find most important as these will encourage the purchase of pet food. No literature was found regarding the recommendation of pet food to pet owners, however the study from NZCAC (2011) also showed that vets were rated the most trusted source of information for pets in general; 76% of cat owners and 75% of dog owners said they trusted them as a source. This was followed by the internet (58% of cat and dog owners) and then the SPCA (38% of cat owners and 29% of dog owners) and pet shops (35% of cat owners

and 33% of dog owners). The SPCA and retail stores did not show to be as highly used for sources of recommendation as they were trusted sources of information.

Table 4-16 Recommended Current Pet Food

Recommended	Total Sample (%)	Cat Owner (%)	Dog Owner (%)
Yes	35.3	36.5	37.5
No	64.7	63.5	62.5

To further investigate those pet owners who said they had their current pet food recommended, EQ8b asked respondents who had received a recommendation to specify who the recommendation came from. Figure 4.7 below shows the source of pet food recommendations from the total sample.

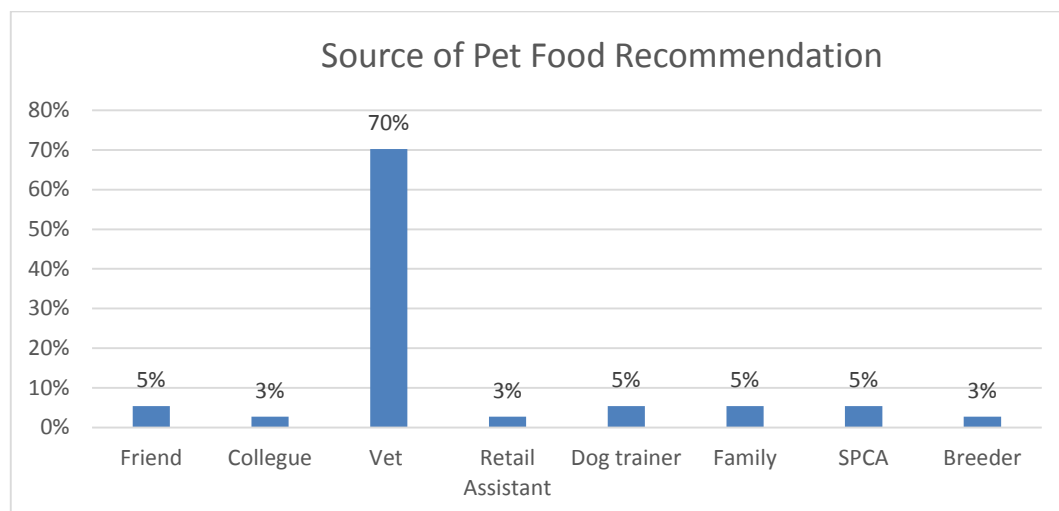


Figure 4-8 Source of Pet Food Recommendation

The 'other' field was expanded into specified sources as some sources were mentioned more than once. Vets were largely the greatest source of recommended pet food (70%). This is 65% above the next most common recommendation source. For marketers this means that vets are important opinion leaders in the pet food industry. This is also supported by the literature review which states that vets are important advocates in the pet food industry (NZCAC, 2011). Due to the low awareness of pet owners as shown by the subjective knowledge scores and low rating given to "country of origin" as an attribute, vets are clearly the most trusted source to convey the key messages of pet nutrition and New Zealand made pet food.

Strong relationships should be built with vets to ensure they advocate the benefits of the attributes of pet food products. Given the scientific nature of a veterinarian's job, evidence or research should be supplied to support pet food product claims.

4.2.3 Influences on Pet Food Purchases

EQ9a asked what influence gender, age, education, income and ethnicity have on pet food purchasing behaviour. A series of crosstab and chi-square were computed to identify the effects. As the respondents of this survey were majority female, gender was not used in this analysis.

Age has significant relationships with several variables including involvement ("pet is a family member") ($\chi^2=20.53$, $P=.009$), treat purchases ($\chi^2=28.80$, $P=.004$), confidence in knowledge ($\chi^2=23.5$, $P=.024$), the importance of cheapest price ($\chi^2=29.83$, $P=.003$) and the importance of nutritional value ($\chi^2=20.67$, $P=.008$). Age and treat purchases showed that the over 50 age bracket was more likely to regularly buy treats for their pet (respondent selected agree or strongly agree) (60%) compared with those aged 30-49 (35.9%) and those under 30 (12.5%). Availability of disposable income could be a contributing factor to this finding. Furthermore, those over the age of 50 were more likely to care less about the price of pet food, as 49.1% said that the price of pet food was not at all important or unimportant to them compared to those aged 30-49 (22.5%) and those under 30 (14.3%). In fact, 71.5% of those under the age of 30 said the price of pet food was important or slightly important to them. This shows that marketing premium pet food and pet food that goes above the necessities of pet ownership (such as treats) should be largely targeted at those over the age of 50. Those over the age of 50 are an appropriate audience for value adding to purchases such as treats as they have greater disposable income. These two findings to an extent supports the literature review that the highest expenditure on pet products is from pet owners aged 45-54 (Brennan, 2014).

In addition to age as a demographic factor, there were significant results found between income and involvement ($\chi^2=17.76$, $P=.001$). The respondents in the low involvement group were more likely to be a high income earner (76%). This is

unwelcome news for pet food manufacturers as high income earners have more disposable income to spend on pet food. However high involvement respondents were more likely to be middle income earners (47.1%), therefore this group will have some disposable income to spend on pet food or other luxury pet care products. The literature review reported that middle income families were spending higher portions of their disposable income on pets (Ravallion, 2010) which means this group is still justified as a target audience for pet food marketers. Income also showed a significant relationship with the type of pet food fed ($\chi^2=13.92$, $P=.031$). Of those who earned a high income, 57.6% fed a dry diet. However, high income earners were more likely to purchase raw food (64.7%). Medium income earners were more likely to purchase a dry pet food (60.7%) while low income earners had a close split between dry and wet food (45.1% and 41.9% respectively). Education also had a significant relationship with the level of pet involvement ($\chi^2=14.20$, $P=.028$).

EQ9b sought to find relationships between household structure and pet food purchasing behaviour. A significant relationship was found between household structure and involvement level ("pet is primary companion") ($\chi^2=44.34$, $P=.000$), and also importance of nutritional value ($\chi^2=18.90$, $P=.015$). Household structure was recoded into "live alone", "live with others" and "live with children". The involvement level and household structure relationship showed that 86.7% of those who live alone strongly agreed that their pet was their primary companion, which is not a surprising result given they live alone. In addition to this, 24.4% of those who live with others said they strongly agreed that their pet was their primary companion and 17.1% said they agreed. This means that 41.5% of those who live with other flatmates or partners consider their pet as their primary source of companionship. In comparison, only 12.8% of those who live with children said they strongly agreed that their pet was their primary companion. Those who lived alone also considered the nutritional value of their pet food extremely important (66.7%) compared with those who lived with others (47.5%) and those who lived with children (42.6%). This could relate to the respondents who lived alone having a closer relationship with their pet and therefore feeling their pet needs the same nutritional standards as they do. The literature review supported these claims of popularity of those who live

alone owning a pet through the reported decrease in loneliness (Krause-Parello, 2012; Pikhartova et al., 2014) and increase of pet ownership in single people from 26.9% in 2006 to 54.7% in 2011 (Lee, 2013).

4.3 Summary of Results

Table 4.17 below shows a summary of the results discussed in Chapter four.

Table 4-17 Summary of results

Exploratory Questions		Summary
EQ1	What is the composition of pet owning households in New Zealand?	76% of pet owners owned at least one cat, 50% owned at least one dog and 25% owned at least one cat and one dog
EQ2	How much do New Zealand pet owners spend on cat food and dog food each year?	The average weekly spend on dogs was \$15.01-20 compared to cats \$10.01-15
EQ3a	What are the demographics of pet owners in New Zealand?	There is little difference in the demographics of cat and dog owners however a higher income and older age was more common among dog owners
EQ3b	What are the household structures of pet owners in New Zealand?	Living with children was the most common household structure for pet owners
EQ3c	Which roles (pet food decision maker, purchaser and server) are played by members of pet owning households in New Zealand?	Those respondents who did the purchasing were likely to also be the decision maker and the server
EQ4a	What are the types of food fed to dogs and cats in New Zealand?	Biscuit/kibble was the dominant type of pet food purchased
EQ4b	What are the most important pet food product attributes to New Zealand pet owners?	Palatability and nutrition were the two most important attributes of pet food with no difference between cat owners and dog owners. Unimportant attributes were country of origin for both cat and dog owners and cheapest price for dog owners.
EQ5a	Where do New Zealand pet owners purchase pet food?	Supermarkets were the most common place for pet owners to purchase pet food
EQ5b	How often do New Zealand consumers purchase pet food?	The most common frequency for purchasing pet food was weekly
EQ5c	How loyal are New Zealanders to pet food brands?	Over half of respondents reported to be loyal to a pet food brand. Dog owners were found to be more loyal than cat owners

EQ6a	How highly do New Zealand pet owners rate their knowledge of pet food?	Subjective knowledge of New Zealand pet owners was high
EQ6b	Does pet food knowledge influence the types of pet food purchased?	The largest segment of pet owners was those who fed dry food and had a medium level of knowledge
EQ6c	Does pet food knowledge influence the amount spent on pet food?	Respondents who believed they were feeding their pet what is best for its health and wellbeing spent more on pet food each week
EQ6d	Does pet food knowledge influence which pet food product attributes are most important?	Nearly all those with a high level of pet food knowledge consider nutrition extremely important
EQ7a	How highly involved are New Zealanders with their pets?	Involvement with pets was ranked highly by respondents. There was little to no difference between involvement with cats versus dogs
EQ7b	Does involvement with pets influence the type of pet food purchased?	No significant relationship was found
EQ7c	Does involvement with pets influence the amount spent on pet food?	No significant relationship was found
EQ7d	Does involvement with pets influence which pet food product attributes are most important?	Over half of pet owners with a high level of involvement said claims of additional health benefits were important or extremely important to them
EQ8a	What percentage of pet owners had their current pet food recommended?	Less than half (35.3%) of the total sample had their current pet food recommended
EQ8b	Of those who had their pet food recommended, who was it recommended by?	The most common recommendation came from a vet
EQ9a	What influence do pet owner's demographics have on pet food purchasing behaviour?	Various significant relationships were found. Demographics do influence pet food purchasing behaviour.
EQ9b	What influence does household structure have on pet food purchasing behaviour?	A strong relationship was found between those who live alone and the belief that their pet was their primary companion

5.0 Conclusions

5.1 General

The increasing importance of animal-human relationships, pet care expenditure and the lack of literature on the pet food behaviour of New Zealanders were key drivers behind this study. Purchasing behaviour, pet involvement levels, pet food knowledge and pet ownership roles were examined to determine the behaviour of pet owners and to fill these gaps in the literature.

5.1.1 Purchasing Behaviour

Attributes of pet food products have an influence on purchasing behaviour. The global trend of “pet parenting” has influenced pet owners to have greater concern for the health and wellbeing of their pets. As a result there have been increasing product ranges that include premium pet food with superior nutritional value to the low cost manufactured kibble/biscuit product. Nutritional value and palatability of pet food are important product attributes which are considered by New Zealand pet owners while country of origin and cheapest price have little effect on their purchasing behaviour. This shows that pet owners are actively following the health and wellbeing trend for pets, yet there may still be a lag between New Zealand pet owners and global pet owners on concern for country of origin of pet food.

The type of pet food purchased, frequency of purchases and weekly spend on pet food was revealed in this study. In addition to this, place of purchase and loyalty were included in the results. The results showed kibble/biscuit is still the mainstream choice of pet food and that pet food is most commonly purchased from supermarkets; both of these results follow global trends. Pet food is purchased most commonly on a weekly basis.

5.1.2 Demographics and Pet Ownership

This study recorded the composition of pet ownership in New Zealand households. Over three quarters of New Zealand pet owners owned at least one cat, while half owned at least one dog. Single pet households made up 55 percent of the total sample while multiple pet households made up 45 percent of the sample. A high

multiple pet household representation demonstrates the popularity of pets in New Zealand.

Demographic characteristics and household structure were shown to affect the purchasing behaviour of pet owners. Significant relationships were found between some of the measured demographic characteristics and variables such as important attributes, involvement and pet food knowledge.

The results of this study provide insight into what pet food New Zealand pet owners are purchasing and the reasons behind their purchasing decisions. It also presents evidence to support the idea that the “pet parenting” trend has a presence in New Zealand by linking involvement to attribute importance and pet ownership compositions.

5.2 Theoretical Contributions

The results of this study assist in filling the gaps that currently exist in research in the purchasing behaviour of pet owners. The literature review showed a gap in both global and local contexts.

The first exploratory question measured the composition of pet owning households in New Zealand, which appears to not have been measured in detail to date. The results showed that nearly half of pet owners have multiple pets and that nearly a quarter of pet owners own some combination of both cat/s and dog/s. Little literature was found regarding demographics, household structure and purchase decision making roles of pet owners in New Zealand. This research showed that for demographics there was little difference between cat and dog owners, however higher income and older age were more common among dog owners. In addition, households with children were the most common for pet owners. The results regarding the purchasing decision making showed that the person who did the purchasing was also likely to be the decision maker and the server.

There was research found on types of pet food, however no literature was found on the importance of product attributes. The results of types of pet food fed showed that this research supported the global data that dry food is still the most common

pet food purchased. The results of the important attributes of pet food showed that palatability and nutritional value are most important to pet owners. Respondents ranked country of origin as least important.

There was literature found on the location of pet food purchases, however no literature was found on the frequency of purchases or the loyalty of pet owners to brands. This study supported the report by Coriolis (2014) which showed supermarkets as the most common place to purchase pet food. This study also revealed that the most common frequency of pet food purchases was weekly, which is most likely to align with weekly supermarket visits. Over half of pet owners were loyal to a certain pet food brand, however cat owners were less likely to be loyal than dog owners. Vets were clearly the most common source for recommendations of pet food products.

This is the first research that measures the involvement level with pets and subjective knowledge of pet food. Given the rise of the pet parenting trend and food safety concerns, these are important aspects of pet food purchasing behaviour. Respondents generally ranked their pet food knowledge to be high overall, however those who fed dry food only had a medium level of pet food knowledge. In addition, those who reported they believed they were feeding their pet what is best for its health and wellbeing spent more on pet food each week. The results regarding the involvement levels with pets showed that involvement was ranked highly across all pet owners, and there was little difference between levels of involvement with cats versus dogs. There was no significance between level of involvement and types of pet food fed or amount spent on pet food. The final aspect of this study sought to find relationships between purchasing behaviour with demographic characteristics or household structure. Various significant relationships were found.

The results of this study contribute to the literature on pet food purchasing behaviour and is the first significant to do so. The scales developed in this study to measure involvement with pets, subjective knowledge of pet food and the importance of pet food product attributes can be used in future research projects.

5.3 Practical Contributions

Practical contributions from this study may offer benefits to pet food manufacturers and marketers. Significant contributions include which pet owners to target through marketing messages, important product attributes, distribution channels, the importance of the cat food market and education of pet owners.

The results of pet ownership in New Zealand show the value of producing both cat and dog food under the same brand, as significant numbers of households own both types of pets can purchase food for both animals under the same brand. The demographic results showed that most commonly pet owners were in the high income and older age brackets, slightly more so with dog owners. This is positive news for pet food manufacturers as these pet owners will have greater disposable income. Promotional material should be targeted to appeal to these groups. Also, the decision maker, purchaser and server was most likely the same person, therefore marketers do not need to consider different roles pet owners have. The two most important product attributes, nutritional value and palatability should be communicated through marketing messages and packaging, especially with the increase of pet owners reading the labelling of pet food (Creasey, 2014). This should also be considered during product development.

This study showed that supermarkets were the most common place of pet food purchases. This illustrates the importance for pet food manufacturers to distribute products through supermarkets, however the report by Coriolis (2014) stated that pet retail stores have a CAGR of 17%, which indicates that pet food manufacturers should also develop a strong relationship with specialised pet retail stores.

Another important contribution came from involvement levels. Cat owners showed just as high involvement with their cat as dog owners did with their dogs. This is a surprising finding, and might relate to why New Zealand has the highest pet ownership per capita worldwide (Coriolis, 2014; NZCAC, 2011). The study also found that a quarter of households own some combination of both cats and dogs. Pet food manufacturers can then understand the importance of producing both cat and dog food products under the same brand. This would allow owners to develop loyalty for

a single brand for both their cat and dog food needs. Supporting this, 62% of the total sample were loyal to a pet food brand.

The results also showed that pet owners may be confused about which pet food is best for their pet, there was no relationship between type of food purchased and pet food knowledge. The results also revealed that country of origin was least important, despite recent events of pet food contaminations around the world (e.g, Adams, 2013; Behravesch et al., 2010; Hogan, 2012). These two findings show that New Zealanders are naïve in their knowledge of pet food despite self-reporting high levels of knowledge; there is an opportunity for pet food manufacturers to provide educational information to pet owners. Vets clearly are the most common source for recommendations; as important opinion leaders producers should ensure they receive information about the benefits of their pet food brands.

5.4 Limitations

This research was affected by various limitations. The first limitation is the size of the sample. The total sample consisted of 103 respondents, which is a relatively small sample size. Also, the sample was not representative of the New Zealand population as illustrated by Table 5.1. Females over the age of 30 and those with an undergraduate degree were over represented. The surveying was carried out in Christchurch, a single New Zealand city, which may not reflect the total New Zealand population. It was not possible to achieve a truly representative sample due to the convenience sampling method that was utilised, and time and budget constraints.

The next limitation was that the respondents were surveyed from only Foodstuffs supermarkets (PaknSave and New World). This may have affected the generalisability of the responses in that consumers with different purchasing behaviours may shop at different supermarkets or other types of stores.

Furthermore, a social desirability bias may be present in the sample. This may particularly be in affect when respondents were asked personal questions such as their involvement with their pet, their weekly spend or their total income. The survey was however constructed with the aim of reducing this bias.

A limitation in the measurement of pet food knowledge was that it is based on a subjective valuation. The questions asked were based on health and wellbeing and the results were purely based on the respondent's perception of their knowledge on the topic. This could potentially not show a true representation of knowledge as this study measured the respondent's subjective knowledge rather than objective or actual knowledge.

The place of purchase and frequency of purchase may show skewed results, as the survey was taken in a supermarket; therefore those who purchased pet food at other places (such as vets and pet stores) are not included in the sample. The frequency of purchase may also show bias, as pet owners may regularly buy pet food at the supermarket as opposed to less frequent visits to other store types.

5.5 Direction for Future Research

Undertaking this research in other cities in New Zealand would assist in the reliability of this research and therefore would be of benefit. It would also offer an indication if pet food purchasing behaviour varies across different regions of New Zealand. This study could also be repeated in other countries.

As previously mentioned, the pet food knowledge of consumers was based on a subjective evaluation. Given the naivety of New Zealand pet owners that this study has suggested (based on the dominance of biscuit/kibble diets and the lack of importance ascribed to country of origin), it would be of benefit to further investigate objective pet food knowledge and the quantity of pet food fed to pets to see if pets are in fact served a healthy diet based on an animal's dietary requirements.

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7.0 Appendices

Appendix A

LOCATION:

STORE NAME:

DATE/TIME:

Q1. Do you own a pet? 1 Yes / 2 No

Q2a. Do you own a dog? 1 Yes / 2 No

Q2b. How many? _____

Q2c. What size? Small / medium / large

Q2d. What breed is your dog?

1 Retriever/2 Terrier/3 Sheppard/4 Spaniel/5 Boxer/6 Border

Collie/7 cross/8 bullbreed/9 other/10 don't know

Q3. Do you own a cat? 1 Yes / 2 No How many? _____

Q4. Referring to **SCALE 1** indicate the degree to which you agree or disagree with these statements

	Strongly disagree	Strongly agree
a. My pet is treated as a member of the family	1 2 3 4 5 6 7	
b. My pet is my primary companion	1 2 3 4 5 6 7	
c. My pet is a nuisance	1 2 3 4 5 6 7	
d. I treat my pet like a child	1 2 3 4 5 6 7	
e. I treat my pet as an animal	1 2 3 4 5 6 7	
f. I can't imagine my life without my pet	1 2 3 4 5 6 7	
g. My pet is not a big focus of my life	1 2 3 4 5 6 7	
h. I find pet ownership takes a lot of my time and energy	1 2 3 4 5 6 7	
i. I take my pet for regular vet check-ups	1 2 3 4 5 6 7	
j. I don't mind my pet on household furniture	1 2 3 4 5 6 7	
k. My pet sleeps in my room most nights	1 2 3 4 5 6 7	
*l. It is important to me that I walk my dog every day	1 2 3 4 5 6 7	
m. I regularly buy treats for my pet	1 2 3 4 5 6 7	
n. I buy gifts for my pet on special occasions for example Christmas or birthdays	1 2 3 4 5 6 7	
o. I regularly buy accessories for my pet such as clothes and prams	1 2 3 4 5 6 7	
p. I know very little about the nutritional value of pet foods	1 2 3 4 5 6 7	
q. I am confident in my knowledge about food for pets	1 2 3 4 5 6 7	
r. I know that I'm feeding my pet what's best for its health and wellbeing	1 2 3 4 5 6 7	
s. I regularly groom my pet	1 2 3 4 5 6 7	

Q5. Referring to **SCALE 2** rate these factors in terms of their importance to you when purchasing pet food

a. Recyclable Packaging	1 2 3 4 5 6 7
b. Brand Name	1 2 3 4 5 6 7
c. Cheapest price	1 2 3 4 5 6 7
d. Country of origin	1 2 3 4 5 6 7
e. Easy to serve	1 2 3 4 5 6 7
f. Nutrition value	1 2 3 4 5 6 7
g. Tolerable smell	1 2 3 4 5 6 7
h. Claims of additional health benefits	1 2 3 4 5 6 7
i. Portion size	1 2 3 4 5 6 7
j. My pet likes it	1 2 3 4 5 6 7

Q6a. Did anyone recommend your current pet food? 1 Yes / 2 No

Q6b. If so, who? 1 friend / 2 colleague / 3 vet / 4 retail assistant / 5 other _____

Q7a. Refer to **SCALE 3** for the next questions

Q7b. Who in your household typically decides which pet food is purchased?

1 I do/2 partner/3 flatmate/4 children/5 parents/6 other

Q7c. Who in your household typically purchases the pet food?

1 I do/2 partner/3 flatmate/4 children/5 parents/6 other

Q7d. Who in your household typically serves the pet food?

1 I do/2 partner/3 flatmate/4 children/5 parents/6 other

Q9a. Are you typically loyal to one pet food brand? 1 Yes / 2 No

Q9b. If you have one brand how long have you been using it?

1 <1 month/2 <6 months/3 <1 year/4 1-2 years/5 3-5 years/6 longer

Q10. How often do you purchase pet food?

1 Daily / 2 weekly / 3 fortnightly / 4 monthly / 5 longer

Q11. Where do you most often buy your pet food from?

1 Online / 2 Supermarket / 3 Pet store / 4 Vet /

5 Other _____

Q12. What type of pet food do you usually feed your pet?

1 Biscuits/kibble

2 Wet (can)

3 Wet (pouch)

4 Human food What type? _____

5 Freeze dried

6 Frozen raw

7 Fresh roll

8 Fresh meat chunks

9 Other What type of food? _____

Q13. How much do you spend on pet food each week?

1 up to \$5 2 \$5.01-10 3 \$10.01-15 4 \$15.01-20

5 \$20.01-25 6 \$25.01-30 7 \$30.01-35 8 \$35.01-40

9 \$40.01-45 10 \$45.01-50 11 \$50+ 12 don't know

Please turn your cue card to **SIDE B**

Q14. What best describes your household?

1 Live alone

2 Live with partner

3 Live with parents

4 Live with flatmates

5 Live with children (with/without partner)

Q15. What age bracket do you belong to (you can use the numbers indicated on the cue card to answer)

1. 15-19 2. 20-24 3. 25-29 4. 30-34

5. 35-39 6. 40-44 7. 45-50 8. 50-54

9. 55-60 10. 60-64 11. 65-70 12. 70+

13. Decline

Q16. What is your highest level of education?

1. High school 2. Trade or Tech Qualification

3. Undergraduate Degree 4. Postgraduate Degree

Q17. What is your annual household income bracket?

(you can use the numbers indicated on the cue card to answer)

1. \$1-\$5,000 2. \$5,001- 10,000 3. \$10,001- 15,000

4. \$15,001- 20,000 5. \$20,001- 25,000 6. \$25,001- 30,000

7. \$30,001- 35,000 8. \$35,001- 40,000 9. \$40,001-50,000

10. \$50,001- 70,000 11. \$70,001- 100,000 12. \$100,001-150,000

13. \$150,000+ 14. Decline to answer

Q18. Gender? 1. Male 2. Female

Appendix B

Side A

Scale 1

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
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Scale 2

Not at all important	1	2	3	4	5	6	7	Extremely important
-------------------------	---	---	---	---	---	---	---	------------------------

Scale 3

1. I do
2. My partner does
3. My flatmate does
4. My children do
5. My parents do
6. Someone else does (please specify)

Side B

Living Situation

- 1 Live alone 2 Live with partner 3 Live with parents
4 Live with flatmates 5 Live with children (with/without partner)
-

Age bracket

- | | | |
|-----------------------|-----------|----------|
| 1. 15-19 | 2. 20-24 | 3. 24-29 |
| 4. 30-34 | 5. 35-39 | 6. 40-44 |
| 7. 45-49 | 8. 50-54 | 9. 55-59 |
| 10. 60-64 | 11. 65-69 | 12. 70+ |
| 13. Decline to answer | | |
-

Annual household income

- | | | |
|----------------------|-----------------------|-----------------------|
| 1. \$1-\$5,000 | 2. \$5,001- 10,000 | 3. \$10,001- 15,000 |
| 4. \$15,001- 20,000 | 5. \$20,001- 25,000 | 6. \$25,001- 30,000 |
| 7. \$30,001- 35,000 | 8. \$35,001- 40,000 | 9. \$40,001-50,000 |
| 10. \$50,001- 70,000 | 11. \$70,001- 100,000 | 12. \$100,001-150,000 |
| 13. \$150,001+ | 14. Decline to answer | |

Appendix C

Monday 16/06	Tuesday 17/06	Wednesday 18/06	Thursday 19/06	Friday 20/06	Saturday 21/06	Sunday 22/06	Monday 23/06
		9:00- 11:00am New World Ilam Yes 8 No 11	9:00- 11:00am New World South City Yes 8 No 15	9:00- 11:00am Pak n Save Northlands Yes 10 No 6	9:00- 11:00am New World Ilam Yes 10 No 4		9:00- 11:00am New World Halswell Yes 8 No 5
				12:00- 2:00pm New World Lincoln Yes 10 No 4	12:00- 2:00pm New World South City Yes 10 No 5		12:00- 2:00pm Pak n Save Wainoni Yes 7 No 1
3:00- 5:00pm Pak n Save Northlands Yes 8 No 5			3:00- 5:00pm Pak n Save Wainoni Yes 12 No 5	3:00- 5:00pm New World Halswell Yes 12 No 10			
Total Yes 8 Total No 5		Total Yes 8 Total No 11	Total Yes 20 Total No 20	Total Yes 32 Total No 20	Total Yes 20 Total No 9		Total Yes 15 Total No 6

Total stores surveyed	6
Total number of store visits made	11
Total number of pet food customers	176
Total number of customers surveyed	103
Response rate	59%