COMPANION ANIMAL VETERINARY SERVICES IN AUSTRALIA:
ENVIRONMENT, MARKETING PRACTICES AND PERFORMANCE

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STATEMENT OF ORIGINAL AUTHORSHIP

The work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in full or in part, for a degree at this or any other institution.

John Baguley
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## ABBREVIATIONS

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<th>Description</th>
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<tbody>
<tr>
<td>AAHA</td>
<td>American Animal Hospital Association</td>
</tr>
<tr>
<td>AAVMC</td>
<td>Association of American Veterinary Medical Colleges</td>
</tr>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
</tr>
<tr>
<td>ACAC</td>
<td>Australian Companion Animal Council</td>
</tr>
<tr>
<td>ASGC</td>
<td>Australian Standard Geographic Classification</td>
</tr>
<tr>
<td>AVA</td>
<td>Australian Veterinary Association</td>
</tr>
<tr>
<td>AVBA</td>
<td>Australian Veterinary Business Association</td>
</tr>
<tr>
<td>AVJ</td>
<td>Australian Veterinary Journal</td>
</tr>
<tr>
<td>AVMA</td>
<td>American Veterinary Medical Association</td>
</tr>
<tr>
<td>AVPMA</td>
<td>Australian Veterinary Practice Management Association</td>
</tr>
<tr>
<td>BVA</td>
<td>British Veterinary Association</td>
</tr>
<tr>
<td>BVJ</td>
<td>British Veterinary Journal</td>
</tr>
<tr>
<td>DAFF</td>
<td>Department of Agriculture, Fisheries and Forestry</td>
</tr>
<tr>
<td>GCA</td>
<td>Graduate Careers Australia</td>
</tr>
<tr>
<td>LSD</td>
<td>Least significant difference</td>
</tr>
<tr>
<td>PIAS</td>
<td>Petcare Information Advisory Service</td>
</tr>
<tr>
<td>RSPCA</td>
<td>Royal Society for the Prevention of Cruelty to Animals</td>
</tr>
<tr>
<td>SEM</td>
<td>Structural Equation Modelling</td>
</tr>
<tr>
<td>UAM</td>
<td>Urban Animal Management</td>
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Abstract

COMPANION ANIMAL VETERINARY SERVICES IN AUSTRALIA: ENVIRONMENT, MARKETING PRACTICES AND PERFORMANCE

by John Baguley

The marketing of professional services is a relatively recent discipline driven by a changing political and social environment. The services marketing literature has evolved within this changing environment from an initial focus upon the distinction between products and services; to the importance of quality, relationships, inter-functional coordination and processes; and most recently to the contemporary marketing practices framework and the service dominant logic.

In this thesis, secondary data were analysed to understand trends within the major forces affecting the attractiveness of the companion animal veterinary services industry in Australia. Case studies complemented this analysis by describing individual organisations operating within local environments, their marketing practices and performance. A survey of the industry was subsequently administered and analysed to describe the relative importance of industry forces upon incumbents, the range of contemporary marketing practices adopted, and to test relationships between environment, marketing practices and marketing performance.

Whilst secondary data revealed that pet ownership and household demographic trends were leading to stabilisation of the number of potential buyers for companion animal veterinary services at a national level, this research has found that changing attitudes towards pets, pet care and the human animal bond, together with advances in technology and individual veterinary hospital marketing practices, had generally resulted in a positive impact on veterinary revenue within the last 10 years. For individual veterinary hospitals competing within this industry, external environmental and industry structural forces were of varying importance and both functional and process approaches to marketing were evident within the industry.
Specifically with respect to the contemporary marketing practices framework, companion animal veterinary hospitals in Australia mostly related to their markets through interaction marketing but also employed transaction, database and network marketing practices. Network marketing practices were found to be effective for acquiring clients and interaction marketing practices were effective in driving revenue growth.

This research has provided potential contributions to extant literature in the areas of industry analysis, services marketing and more specifically within the discipline of veterinary business management. Firstly, the framework combining external forces (political, economic, social, technological and natural) with industry structural forces analysis was an effective method for analysing the marketing environment affecting the companion animal veterinary services industry in Australia. Secondly, industry attractiveness was significantly related to industry profitability and transaction marketing practices were associated with less attractive environments. Thirdly, whilst secondary data defined the industry as mature, marketing practices adopted by industry incumbents have resulted in significant revenue growth in recent years. Finally, whilst the marketing literature has emphasised the distinction between transactional and relational perspectives, this research has highlighted the possibility of considering a functional and process approach to the marketing of professional services. Linked to this latter finding, this research has highlighted the value of the contemporary marketing practices framework for understanding the marketing of professional, high-involvement services, and integrating theoretical and empirical perspectives in marketing.
Chapter 1

1. INTRODUCTION

1.1. BACKGROUND TO THE RESEARCH

The alignment of business and marketing strategies with the internal and external environment is vital to achieve optimal business performance (Galbraith 1977; Porter 1980; Miller 1988; Venkatraman & Prescott 1990; Aaker 1995; Lin & Brian 1996; McGahan 2000; Kotler 2003; Kotler & Keller 2006). Galbraith and Nathanson (1978) and Walker and Ruekert (1987) however, have suggested that clearly defining this relationship is difficult. Moreover, the alignment of capabilities (internal environment) with strategy and key success factors derived from an understanding of the market environment will enable the organisation to compete effectively (Voss 2005) and from a systems perspective (Porter 1980), achieve effective, efficient and sustainable levels of performance.

Buyers of companion animal veterinary services are best described as households with pets (Ehlert 1997; Catanzaro & Seibert 2000). Companion animals or pets are distinguished from production animals based upon their primary purpose (production of income or companionship). Companion animal species are typically classified within industry analyses as dogs and cats and an ‘other’ category (BIS Shrapnel 1993; 1995; 1999; 2003; 2006). The latter consists of birds, fish, horses, rabbits, guinea pigs, ferrets, reptiles and a variety of other animals kept primarily for companionship. It is possible for an animal to provide or assist with the production of income and act as a companion and examples include working dogs and horses. Industry revenue analyses have separated the racehorse and horse breeding industries from horses owned for leisure; revenue from the latter is recorded as ‘other’ companion animal revenue (ABS 2001). For the veterinary services industry in Australia, approximately 83% of revenue is derived from companion animals,
10% from farm production animals, and 7% from racehorse breeding and horse and dog racing (ABS 2001). Revenue from dogs and cats represents approximately 95% of companion animal veterinary services industry revenue (BIS Shrapnel 2006) and therefore approximately three-quarters of industry revenue.

The market and potential demand for companion animal veterinary services is a function of household demographics, pet ownership and veterinary service purchasing needs. Salt (2001), Ryan (2002) and ABS (2004a) have analysed demographic trends in Australia and ABS (2004a) predict there will be proportionately fewer family couples with children, an ageing population and increased numbers of lone person households. Significantly for the veterinary profession, pet ownership has been greatest in households with children and lowest in lone person households and the elderly (Baldock 2004). In addition to the impact of these demographic changes upon pet ownership, Baldock (2004) concluded that there has been a significant decline in the household cat population and probable decline in the household dog population in Australia.

Despite these environmental changes, veterinary services industry revenue has continued to grow from estimates of approximately $404 million in 1992 (BIS Shrapnel 1993) to approximately $990 million in 2005 (BIS Shrapnel 2006). Further analysis reveals that returns to veterinary hospital owners with respect to operating profit margins (ABS 2001), remuneration to owners (Heath & Neithe 2001) and starting salaries to veterinarians (GCA 2008) are low compared to other professions. Significantly, Heath (2002; 2008) has noted high numbers of veterinarians per million people compared to the UK, US and Canada. Whittington (2006) has presented data revealing that new graduate veterinarian numbers are likely to continue to experience significant growth. Hence, it is possible that in an environment already characterised by relatively poor returns to incumbents there is a trend toward increasing supply and decreasing demand.

Research by the Australian Bureau of Statistics in 2000 analysed veterinary services industry revenue and economic contribution (ABS 2001) and there have been a number of industry reports on the value pet care industry, including veterinary companion animal services, to the Australian economy (BIS Shrapnel 1993; 1995;
From the discussion above, it is apparent that for this industry to remain sustainable in the presence of relatively poor returns to owners, comparably low salaries, increasing debt levels of graduates, stable or declining pet populations and increased competition, many individual veterinary hospitals will need to develop business and marketing strategies that contribute to financial viability in more competitive, mature or declining markets. Moreover, there is a clear need for an integrated program of research to better define and analyse the market for companion animal veterinary services in Australia and the possible relationship between environment, marketing strategy and performance.

1.2. **Research Objectives**

The underlying research objective for this thesis is to provide an improved understanding of the macroenvironment and task environment experienced by companion animal veterinary services industry incumbents within Australia and the marketing practices of veterinary hospitals. The potential relationships among environment, marketing and performance for these predominantly small businesses may then be better understood. Specifically, the thesis of this research is:

External environmental forces and industry structural forces have affected the attractiveness of the companion animal veterinary services industry in Australia. The perceived attractiveness of this industry influences marketing practices which in turn influence marketing performance aligned with the structure-conduct-performance model.

This thesis was examined by formulating the following specific research objectives:

1. To analyse trends within the macroenvironment over the last 5-10 years and assess the impact of these trends upon industry structural forces and the current and future attractiveness of the companion animal veterinary services industry in Australia
2. To provide an in-depth analysis of inter-relationships between environment, marketing strategies and marketing performance within this industry through case studies

3. To develop a theoretical framework for assessing the impact of environment and services marketing practices upon marketing performance and to test this modified structure-conduct-performance model using survey research

Essentially, this thesis analysed the companion animal veterinary services industry within Australia using the established framework of industry structural analysis; tested the relationship between industry attractiveness and performance; analysed the marketing practices of companion animal veterinary services industry incumbents through the contemporary marketing practices framework; and analysed the interrelationships between environment (structure), contemporary marketing practices (conduct) and marketing performance.

1.3. **Justification for the Research**

Justification for this research was based upon potential contributions to the extant literature in the areas of industry analysis, marketing strategy and practice, and the relationship between environment, marketing and performance. Further, the veterinary services industry was argued to be relatively under-researched and this thesis has the potential to address this gap and benefit a variety of industry stakeholders.

1.3.1. **Contribution to Theory**

The need for business and marketing strategies to understand the business environment for optimum performance is well established within the extant literature (Galbraith 1977; Porter 1980; Miller 1988; Venkatraman & Prescott 1990; Aaker 1995; McDonald 1995; Lin & Brian 1996; Menon, Bharadwaj, Adidam & Edison 1999; McGahan 2000; Yanos & Lioukas 2001; Kotler 2003; Voss 2005;
Frameworks for analysing the external environment in relation to strategy and marketing planning have focused upon forces within the macroenvironment including demographic, social-cultural, economic, politico-legal, technological and natural, and industry structural forces within the task environment (Porter 1980; McDonald 1995; Yanos & Lioukas 2001; Kotler 2003; Kotler & Keller 2006). As such, one of the aims of this research was to examine the relevance of this framework and the theory of industry attractiveness within the context of the companion animal veterinary services industry in Australia.

Vargo and Lusch (2008) have suggested that marketing theory is moving toward a focus upon service as a process rather than services as intangible goods and this is aligned with a previous shift from a transactional to a relational perspective guiding marketing strategy planning and implementation (Berry 1983; 1995). Whilst Grönroos (2000) has previously suggested that service industries are inherently relational, Coviello, Brodie, Danaher and Johnston (2002) and Coviello, Winklhofer and Hamilton (2006) have demonstrated, through their contemporary marketing practices framework, that the marketing practices of service organisations are pluralistic and reveal a combination of transactional, relational and hybrid approaches. This study was undertaken to complement the work of Coviello, Winklhofer and Hamilton (2006, p. 51) by focusing upon ‘smaller non-contractual service firms that have higher switching barriers and/or are more predisposed to repeat purchases (e.g., dentists)’.

Finally, Palmer (2007) hypothesised that within the business to business market, an imbalance of power results in relationships becoming increasingly transactional and there is theoretical and empirical support for the proposition that greater seller power leads incumbents to emphasise transaction marketing practices (Lindgreen, Palmer & Vanhamme 2004; Lindgreen, Palmer & Trienekens 2005; Palmer 2007). Similarly, Pels, Coviello and Brodie (2000) noted that for sellers operating in a closed economy with minimal competitive pressure, there is limited incentive to develop a unique offer or relationship with customers. Porter (1980) has previously described seller or incumbent power in terms of industry attractiveness and hence varying perceptions of industry attractiveness or power may result in varying
marketing practice emphases or conduct. A further aim of this thesis was to test the hypothesis that incumbent power affects marketing practices within the companion animal veterinary services industry in Australia.

1.3.2. Benefits from this Research to Industry

This research has the potential to provide a greater understanding of the market for companion animal veterinary services in Australia and the influence of environment upon the marketing practices and marketing performance of industry incumbents. Hence, there are benefits linked directly to companion animal veterinary services delivery and the planning and allocation of resources to this industry. The relationship of companion animal veterinary services to the Australian veterinary industry and the broader pet care industry, which contributed $4.6 billion to the Australian economy in 2005 (BIS Shrapnel 2006), suggests that other industry stakeholders may also be influenced by the findings of this research.

The major benefit to the industry is the potential for the findings of this research to assist the companion animal veterinary services industry and the individual hospitals competing within this industry with strategic marketing advice. Using an industry structural analysis framework (Figure 1.3.1), improved knowledge for planning may benefit veterinary incumbents; pet owners and the buyers of companion animal veterinary services; veterinary wholesalers, suppliers of equipment, universities and other suppliers of labour, and financial institutions and other suppliers of capital; potential new entrants into the companion animal veterinary services industry; and other pet care service and product providers such as animal chiropractors, alternative therapists and pet shops (substitutes).

As previously noted in section 1.1, the delivery of companion animal veterinary services provides the financial foundation to the veterinary services sector and sustainable economic base to veterinary education. City-based companion animal veterinary hospitals account for approximately 50% of veterinary hospitals in Australia (ABS 2001) and services to companion animals in rural areas also underpin the viability of most rural mixed species hospitals (Frawley 2003; Maxwell, Costa, Layman & Robertson 2008).
Figure 1.3.1 Veterinary industry external forces and structural analysis

Adapted from Porter (1980) and Kotler (2003)
Financial performance within the Australian veterinary profession generally is poor compared to similar professions (ABS 2001; Heath & Neithe 2001; GCA 2008) and its continued economic viability and ability to attract and retain a highly skilled workforce may be further reduced as a result of detrimental pet population and demographic trends (McGreevy, Fougere, Collins, Bartimote & Thomson 2002; Baldock, Alexander & More 2003; Baldock 2004). An improved understanding of the impact of these forces upon the industry and the implementation of marketing practices that optimise performance within this environment therefore has the potential to assist the financial sustainability of the profession as a whole.

Ultimately, companion animal veterinary services form part of the pet food and pet care industry within Australia and BIS Shrapnel (1995) defined the major beneficiaries as government (taxes), retailers of pet food and other products, exporters of pet food and other products, primary producers, packaging suppliers, and the most recently estimated (BIS Shrapnel 2006) 45,000 people directly and indirectly employed within this industry. All these participants may derive some benefit from a greater understanding of the industry environment and in particular, the economic impact of pet ownership and demographic trends previously discussed.

With respect to government policy, this research has potential benefits for local government agencies in the areas of social capital (Wood, Giles-Corti & Bulsara 2005), urban animal management (Murray & Penridge 1997) and veterinary services planning (Clancy & Rowan 2003) through an analysis of industry trends and future growth in pet populations; state governments in relation to GST revenue and human healthcare budgets (Headey 1999; Headey 2003); and federal governments in relation to income tax revenue, veterinary resource planning, quarantine and animal health and welfare.

1.4. METHODOLOGY

Bonoma (1985), Romano (1989) and Parkhe (1993) have suggested that theories are developed from either inductive inferences or deductive testing with the former
representing the phenomenological paradigm and the latter the positivist paradigm. Whilst Perry (1998) has noted that it is difficult for the researcher to clearly separate induction and deduction, research techniques are generally divided into phenomenological or positivist paradigms (Heller 1986; Winter 1989; Miles & Huberman 1994; Perry 1994; Zikmund 1994; de Vaus 1995; Papineau 1996; Pidd 1996; Audi 1998; Perry 1998; Moore 2000; Perran & Ram 2004). Specifically, case study research is most commonly described as being placed within the phenomenological paradigm (Zikmund 1994; Perry 1998), and therefore utilised to support theory building, and survey based research is most commonly described as positivist (Perry 1994; de Vaus 1995) and therefore undertaken for theory testing. This research proceeded in three phases, the first two aligned with the development of inductive inferences and the third phase devoted to deduction or hypothesis testing.

During the first phase of this research, available secondary data from the companion animal veterinary services industry in Australia were analysed through an established theoretical framework created by integrating theories summarised by Porter (1980), McDonald (1995), Klepper (1997), Kotler (2003) and Kotler and Keller (2006). The results from this secondary data analysis stimulated further examination of available secondary data both in Australia and overseas to quantify and forecast the impact of social changes upon market size and revenue. The results of this analysis have been provided in the appendix of this thesis.

A second phase of multiple case study research was implemented to explore the relationship between environment, marketing practices and marketing performance at the disaggregated level and in greater depth. Theory from industry analysis and services marketing together with results from case study research was then used to develop hypotheses which were tested in a third, survey-based positivist phase of research. Survey items developed to understand the marketing environment were complemented with an established instrument describing contemporary marketing practices (Coviello, Winklhofer & Hamilton 2006). This final phase of survey research tested a marketing adaptation of the structure-conduct-performance framework within the companion animal veterinary services industry.
1.5. **Delimitations of Scope and Key Assumptions**

This research has focused upon the companion animal veterinary services industry and the results specifically relate to this industry, although these results may be used to inform theory building within other industries and contexts.

The companion animal veterinary services industry was analysed using an established framework developed for the assessment of individual business opportunities (Porter 1980) and marketing strategy planning (McDonald 1995; Kotler 2003; Kotler & Keller 2006). A variety of other industry analysis techniques have been described (Hannan & Freeman 1977; Dess & Beard 1984; Klepper 1997; McGahan 2004) but this perspective was most suited to the structure-conduct-performance framework and the construct of incumbent power, both of which underlie the thesis of this research.

Case study research focuses upon ‘how’ and ‘why’ research questions about a contemporary issue over which the researcher has little control (Yin 2003a). Whilst this method is valuable for understanding context and supporting or disproving theory, its principal focus within this thesis is exploratory. Hence, case studies in this thesis were designed to complement secondary data analysis and facilitate theory building through inductive inference as suggested by Perry (1998).

Most analyses of survey data were performed using indices created from individual responses and theoretically such indices should either represent all (Diamantopolous & Winklhofer 2001) or at least the major causes (Rossiter 2002) of the underlying construct. This research assumes that the indices created adequately represent the major causes of these theoretical constructs and a MIMIC model for external validity as suggested by Diamantopoulos and Winklhofer (2001) was not applied. Aligned with Rossiter (2002) content validity was assumed to override external validity with respect to index creation. Some analyses rely upon single item measures and therefore assume that these items represent concrete, singular focal objects or attributes (Rossiter 2002).

Individual Likert scale items are best described as ordinal data (Hair, Black, Babin, Anderson & Tatham 2006). Summated five-point Likert scale items have been
treated as interval scale variables as there is minimal error in this approach (Kerlinger 1986). Moreover, Velleman and Wilkinson (1993) have argued that restricting statistical analyses based on level of measurement typology is fundamentally flawed. Five-point scales were used for simplicity as Dawes (2008) found that five-point scales produce similar findings to seven and nine-point Likert scales. Five-point scales also provided a consistent format for respondents as they were aligned with questions from an established instrument used in this research. As suggested by Hair et al. (2006), variables derived from five-point Likert scale items in the questionnaire administered as part of this research were also tested for skewness and kurtosis prior to applying structural equation modelling techniques for analysis.

1.6. **Definitions of Terms Used in this Thesis**

A list of definitions and terms used in this thesis is provided below in Table 1.6.1 to assist the reader.

1.7. **Outline of the Thesis**

This chapter has provided a brief background, specifically identifying areas of consideration in the literature including changes in household types, pet ownership and veterinary population data within Australia. Data related to pet population and veterinary services financial performance have been introduced and the need for further analysis of forces affecting the market environment of the companion animal veterinary services industry in Australia has been established. An understanding of this environment, the marketing practices adopted within the industry and marketing performance will facilitate testing of the potential relationships between environment, marketing practices and marketing performance.
Table 1.6.1 Definitions of terms used in this thesis

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active client</td>
<td>Veterinary client who has visited a veterinary practice within the last year (contributed to revenue generation for that period)</td>
</tr>
<tr>
<td>Companion animal</td>
<td>Mostly pet dogs and cats but will also include other species such as birds, fish, rabbits, ferrets, guinea pigs and horses (BIS Shrapnel 2006)</td>
</tr>
<tr>
<td>Contemporary marketing practices</td>
<td>Transaction marketing, database marketing, interaction marketing and network marketing practices with the last three representing relational marketing practices (Coviello, Brodie &amp; Munro 1997)</td>
</tr>
<tr>
<td>Potential market</td>
<td>Customers with a sufficient level of interest in the market offer (Kotler 2003)</td>
</tr>
<tr>
<td>Total market potential</td>
<td>Maximum sales available to all industry incumbents over a given period, for a given marketing effort and environment; it is equal to the potential number of buyers multiplied by average quantity purchased and average price (Kotler 2003)</td>
</tr>
<tr>
<td>Veterinary hospital</td>
<td>A veterinary practice, clinic, surgery or hospital which provides veterinary services to animal owners.</td>
</tr>
<tr>
<td>Veterinary services</td>
<td>Includes all the services and products provided by a veterinary hospital or practice, typically used for the purpose of generating revenue</td>
</tr>
</tbody>
</table>

A brief review of methodology in this chapter has revealed that the research objectives will be addressed through secondary data analysis, case study research and survey research. Previously, this research was justified in a discussion demonstrating potential contributions to industry analysis theory, professional services marketing theory and the under-researched veterinary services profession in Australia.

This chapter is followed by two chapters devoted to analysing the companion animal veterinary services industry in Australia. Firstly, chapter two provides an historical overview of the industry in Australia extended by an examination of the major macroenvironmental forces that have impacted upon this industry in recent years using a framework adapted from Porter (1980), McDonald (1995) and Kotler (2003). Further analysis of broad social and economic forces was achieved through an adaptation of the revenue equation as described by Hagerty (1997). The latter analysis has provided the foundation for a more detailed description of past, present
and future industry performance with respect to market size and revenue and this complementary analysis has been provided in an appendix to this thesis. Chapter three uses frameworks linked to industry structural analysis (Porter 1980) and industry life cycle analysis (Klepper 1997) and concludes with a discussion of industry structural forces and overall industry attractiveness.

The market for companion animal veterinary services is geographically segmented due to the nature of professional services and hence, whilst chapters two and three provide a broad understanding of industry trends, one of the significant conclusions from this discussion is that macroenvironment and industry structural forces may vary with location. Hence, within chapter four, environment, marketing and performance trends are further analysed at the local, disaggregated level using multiple case studies.

Chapter five reviews theories linked to professional services marketing and the contemporary marketing practices framework. This discussion and findings from previous chapters inform the development of a conceptual framework and research hypotheses which are presented in chapter six. A description of the methods used in the development, administration and analysis of primary data collected for testing these hypotheses is provided in chapter seven.

Survey data presented in chapter eight provide a population based perspective to the preceding exploratory analysis of environment, marketing practices and marketing performance. Initially, this chapter presents data that complement the previous description of the companion animal veterinary services industry in Australia. Survey data are further analysed through structural equation modelling and regression techniques to test a series of research hypotheses regarding the relationships among environment, marketing practices and marketing performance in the Australian companion animal veterinary services industry.

The final chapter presents the conclusions and implications derived from this research. The implications of these conclusions for theory and policy and practice are outlined with limitations of the research clearly defined and avenues for further research considered.
Chapter 2

2. COMPANION ANIMAL VETERINARY SERVICES INDUSTRY: EXTERNAL FORCES ANALYSIS

The demand for companion animal veterinary services is derived from companion animal ownership and the need for households owning pets to provide for their welfare. The reasons for pet ownership are varied (Murray & Penrose 1997) but the underlying human-animal bond is the fundamental motivation for initiating and maintaining companion animal ownership (Brown & Silverman 1999). Australia has one of the highest rates of household pet ownership in the world with approximately 63% of all households owning a pet (BIS Shrapnel 2006). Dogs and cats are the most popular pets, although the popularity of other pets, particularly fish and reptiles has increased during the last decade, possibly due to greater compatibility with an increasingly urban lifestyle (Bilowol 2006; BIS Shrapnel 2006).

McCormick, McFerson and List (2006) state that in the US, small animal practices initially appeared in the 1930s and 1940s and reasons for veterinarians shifting from large animal practice appear mostly supply related: improved working conditions, decreased hours, ability to practice at a higher level of medicine, opportunity to specialise in one area or species, and improved financial outcomes. Nevertheless, an unmet need for companion animal veterinary services must have been emerging.

Fisher (2002) states that there was little or no demand for private veterinary practice in Australia until after World War II with private veterinary practice struggling prior to this period due to the impact of World War I and the depression. Baker (2002) reports founding one of a very few small animal practices in Sydney in 1949. From a personal perspective, this author stated health and the demands of large animal practice as reasons for starting a small animal practice. Again, the number of small animal practices in Australia during this time was reported to be low (Baker 2002). Innovators and early adopters in Sydney’s Eastern Suburbs in Australia were described by Baker (2002) as European rather than born in Australia; the former
revealed a higher level of acceptance of the need for companion animal veterinary services and respect for the veterinary profession.

Increasing momentum and associated growth of small animal practice in the US occurred in the 1950s and 1960s (McCormick, McFerson & List 2006). Baker (2002) suggests expansion in Sydney Australia was from the 1960s and associated with increasing educational opportunities for small animal practitioners, including new veterinary courses in Australia and visits from specialists based overseas. Mahan (1983) argued that despite deregulation with respect to advertising restrictions on professional services, decreasing fees and increasing numbers of veterinary graduates in the early 1980s there was minimal growth in demand for veterinary services in the US by the 1980s.

Industry growth appears to have continued in Australia until the 1990s when further growth appeared to slow to the level of the general economy and by the late 1990s the industry was considered to be in maturity (IBISWorld n.d.). Lee (2006) similarly suggests that the percentage of households owning pets in the US remained relatively flat during the 1990s. Due mostly to household number increases, the population of dogs and cats increased by 17% and 21% respectively during the period between 1991 and 2001 (Lee 2006).

Despite evidence from the US, UK and Australia that pet ownership is stable or falling (Baldock 2004; BIS Shrapnel 2003; BIS Shrapnel 2006), and therefore that the demand for companion animal veterinary services has reached maturity, industry revenue has grown significantly. Lee (2006) states that total household expenditure on dogs and cats in the US increased by almost 100% over the 10 year period between 1991 and 2001. This 10 year period also coincides with a significant expansion of companion animal veterinary specialist services in the US, Australia and Europe. Increased consumer willingness to spend more on pet healthcare in the US has been associated with an evolving human-companion animal bond which has resulted in the majority of dogs and cats now considered family members (Lloyd 2006). Industry revenue also grew by approximately 7% annually between 1992 and 2006 in Australia (BIS Shrapnel 2003; BIS Shrapnel 2006) and there is evidence to support a similar change in attitudes towards pets (McHarg, Baldock,

Aligned with changing attitudes towards pets, technological advances in medicine, surgery, communication and information management, and favourable economic conditions have all contributed to increases in industry revenue and increased demand for specialist veterinary services (Lloyd 2006). The following section will further examine the influence of specific external environmental forces upon the companion animal veterinary services industry in Australia in recent years.

2.1. **EXTERNAL ENVIRONMENTAL FORCES ANALYSIS**

External environmental forces influencing the macroenvironment of industries have been broadly defined as political, economic, social, technological and natural (Porter 1980; McDonald 1995; Kotler & Keller 2006). All these forces are capable of affecting power relationships among the industry structural forces and therefore industry profitability or attractiveness (Porter 1980). Essentially, business and marketing strategic decisions are made within a dynamic macroenvironmental context which affects industry attractiveness and influences the effectiveness of incumbent strategic decisions (Maher & Whittington 2003; Colpan & Hikino 2005; Johnson, Scholes & Whittington 2005; Miller & Shamsie 2006; Chakrabarti, Singh & Mahmood 2007; Goll & Rasheed 2007; Colpan 2008). Hence, an understanding of the external macroenvironment is valuable for determining business and marketing strategies.

2.1.1. **Social Forces**

Social forces are formed by the demographic and social-cultural environment. The former is derived from population, age, ethnic, educational, household and geographic components and the latter from societal beliefs, values and norms (Kotler & Keller 2006). These factors determine the size and growth rate of the
market (Kotler & Keller 2006), creating what Hagerty (1997) has described as the industry sales component of the revenue equation.

Companion animal veterinary services industry data reported by Baldock (2004) and BIS Shrapnel between 1993 and 2006 reveal that the demographic, social-cultural environment has played a significant role in affecting the size, sustainability and economic performance of the companion animal veterinary services industry in Australia. The major social forces of significance to the industry at both the national and local industry level are trends in pet ownership and household demographics. Pet ownership is the underlying driver of demand for companion animal veterinary services and reflects cultural values and norms. Pet ownership and household demographic trends will together determine market size for this industry (Ehlert 1997; Catanzaro & Seibert 2000), aligned with general theory described by Porter (1980), Hagerty (1997) and Kotler (2003).

2.1.1.1. Trends in pet ownership

The most comprehensive source for pet ownership trends in Australia is the Australian Companion Animal Council and BIS Shrapnel reports into the contribution of the pet care industry to the Australian economy. These data are based upon annual household telephone surveys mostly conducted by ACNielsen (BIS Shrapnel 2003) and provide industry statistics from 1993 to 2006. Whilst the sample size has varied from 12,000 (1979 to 1997) to 6,000 in 1998 and 9,000 from 1999 (Baldock, Alexander & More 2003), these are stratified random samples based upon ABS statistical regions, designed to provide reliable estimates of pet ownership for national, state and regional populations (Baldock, Alexander & More 2003). These data mostly present dog and cat ownership figures and whilst a variety of other species have been adopted as companion animals or pets within Australia (see section 1.1), as previously stated, expenditure on dogs and cats accounts for 95% of companion animal veterinary services industry revenue (BIS Shrapnel 2006).

Trends for cat ownership by household type are only available from 1995 to 2002 and are shown in Table 2.1.1. These data are also depicted in Figure 2.1.1 with linear regression trend lines. Figure 2.1.1 clearly demonstrates the fall in the
percentage of all household types owning at least one cat during this period. Whilst these linear regression trend lines are negative sloping for all propensities indicating decreasing ownership, only those for family couples with children and one parent family households are significant (p<0.001 and p=0.001 respectively). Baldock, Alexander and More (2003) describe a corresponding fall in the household cat population of 19% between 1988 and 1999. Cat numbers were estimated to have fallen from 3.24 million in 1988 to 2.6 million in 1999 (Baldock, Alexander & More 2003), and 2.47 million in 2002 (BIS Shrapnel 2003) with an estimated 2.2 million cats in 2005 (Baldock, Alexander & More 2003). There appears to have been some recovery in cat ownership in more recent years with the cat population estimated to be 2.4 million in 2005 (BIS Shrapnel 2006). Unfortunately, cat ownership by household type is not available beyond 2002.

These data also describe a fall in the proportion of Australian households owning at least one cat from 31.1% in 1994 to 25.8% in 1999 (Baldock, Alexander & More 2003) and 23.1% in 2002 (BIS Shrapnel 2003). Whilst there is a clear trend within these statistics, the percentage of households owning cats estimated by this research was higher than ABS (1995) statistics (26.7% in 1994) and more recent reports suggest a stabilisation of household cat ownership levels at around 25%. Time series data modelling using SPSS 15.0 (autoregressive integrated moving average model) with predictions to 2026 are provided in Table 2.1.2 and reveal that household type cat ownership percentages are likely to stabilise around 2002 levels for most household types.

Baldock, Alexander and More (2003) reported that the number of cats per cat owning household has remained relatively constant at 1.47 to 2003, although more recent data suggest a fall to around 1.40 in 2005 (BIS Shrapnel 2006). Overall, it appears that cat ownership is most likely to stabilise at around 2002 levels both in terms of percentage of households and number per household.
Table 2.1.1 Cat ownership trends in Australia: Proportion of households with at least one cat

<table>
<thead>
<tr>
<th>ABS Household Type</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person</td>
<td>17%</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>37.4%</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>27.6%</td>
</tr>
<tr>
<td>One parent families</td>
<td>38.4%</td>
</tr>
<tr>
<td>Group households</td>
<td>20%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ABS Household Type</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person</td>
<td>17.2%</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>36%</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>26.6%</td>
</tr>
<tr>
<td>One parent families</td>
<td>36.8%</td>
</tr>
<tr>
<td>Group households</td>
<td>19%</td>
</tr>
</tbody>
</table>

1 Using Autoregressive Integrated Moving Average Model function provided in SPSS 15.0
Figures presented in Table 2.1.1 also reveal significant differences in cat ownership among ABS household types. Lone person and group households typically reveal the lowest levels of cat ownership; initially around 20% in 1995 and falling to around 15% in 2002. Family households with children reveal the highest level of cat ownership but, again, there has been a decrease from approximately 38% in 1995 to 30% in 2002. Similarly, cat ownership for couple family households without children fell during this period from approximately 28% to 24%. Overall, in 2005 it was estimated that 1.9 million households in Australia owned a cat (BIS Shrapnel 2006).

There was some variation reported in the number of cats per head of population among the states and territories although the national average in 2002 was the same as 1998. BIS Shrapnel (2006) reports the national average of 12 cats per 100 people in 2005 was higher than in NSW/ACT and Queensland (both with 11), similar to Victoria, lower than Western Australia, South Australia and the Northern Territory (all with 13) and lower than Tasmania (19).
BIS Shrapnel (2003) also reported that the dog population started to decline in 2002 and suggested a potential repeat of the cat population trend with a ten year lag. Overall, industry data describe a marginal decline in the percentage of Australian households owning dogs from 39.7% in 1994 to 37.8% in 2005 and a slight increase in the dog population over this period from 3.64 million to 3.75 million in 2005 (BIS Shrapnel 2006). Again, ABS (1995) estimates of dog ownership were lower (37.5%) in 1994, hence dog ownership remained relatively flat over this period. The number of dogs per dog owning household has held constant at around 1.45 (BIS Shrapnel 2006) and hence the increased population of dogs is attributable to household growth.

Household dog ownership percentages by ABS household categories are only available from 1995 to 2002. These statistics are presented in Table 2.1.3 and graphically with linear regression trend lines in Figure 2.1.2. Whilst industry reports reveal a fall in the proportion of households owning dogs from 38% in 1998 to 37% in 2002 (BIS Shrapnel 2003), the level of dog ownership by household type has remained relatively stable. Time series data modelling using SPSS 15.0 with predictions to 2026 are provided in Table 2.1.4 and similarly suggest that household type dog ownership percentages will stabilise around 2002 levels for most household propensities.

Lone person and group households have the lowest levels of dog ownership at around 21% (relatively stable over the period from 1995 to 2002); family couples without children a mid range level of around 38%; and family couples with children the highest levels at around 50% in 2002 (dropping from around 52% in 1995). In 2005, approximately 2.8 million households in Australia were estimated to own at least one dog (BIS Shrapnel 2006).

Dog numbers per head of population nationally have declined in recent years, although there are variations amongst the states and territories. The national average in 2005 was 18 dogs per 100 head of population and this was higher than New South Wales/ACT and Western Australia (17), similar to Victoria, and lower than Queensland, South Australia and Northern Territory (21) and Tasmania (23) (BIS Shrapnel 2006).
Table 2.1.3 Dog ownership trends in Australia: Proportion of households with at least one dog

<table>
<thead>
<tr>
<th>ABS Household Type</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person</td>
<td>20.6%</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>52.1%</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>38.6%</td>
</tr>
<tr>
<td>One parent families</td>
<td>53.2%</td>
</tr>
<tr>
<td>Group households</td>
<td>23%</td>
</tr>
</tbody>
</table>

Table 2.1.4: Time series modelling and predictions of household dog ownership 1996-2026

<table>
<thead>
<tr>
<th>ABS Household Type</th>
<th>1996</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person</td>
<td>21.0%</td>
<td>21.0%</td>
<td>20.9%</td>
<td>20.9%</td>
<td>20.9%</td>
<td>20.9%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>53.4%</td>
<td>53.5%</td>
<td>52.4%</td>
<td>52.4%</td>
<td>52.4%</td>
<td>52.4%</td>
<td>52.4%</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>38.5%</td>
<td>39.0%</td>
<td>38.3%</td>
<td>38.3%</td>
<td>38.3%</td>
<td>38.3%</td>
<td>38.3%</td>
</tr>
<tr>
<td>One parent families</td>
<td>54.5%</td>
<td>54.5%</td>
<td>53.3%</td>
<td>53.3%</td>
<td>53.3%</td>
<td>53.3%</td>
<td>53.3%</td>
</tr>
<tr>
<td>Group households</td>
<td>24.0%</td>
<td>24.0%</td>
<td>22.6%</td>
<td>22.6%</td>
<td>22.6%</td>
<td>22.6%</td>
<td>22.6%</td>
</tr>
</tbody>
</table>
Overall, the proportion of households owning dogs and cats has remained constant from 1998 to 2005 at 53% (BIS Shrapnel 2006). The percentage of households owning pets is also relatively static at around 63% with an estimated 38.2 million pets including dogs, cats, birds, fish and other pets in Australia in 2005 (BIS Shrapnel 2006). Table 2.1.5 shows trends in the estimated pet population between 1988 and 2005 and apart from dog and cat population data previously presented, the key feature is the increase in the population of fish and other pets in recent years. The latter category contains a variety of species including pleasure horses, rabbits, guinea pigs and chickens (BIS Shrapnel 2006).

Whilst industry data suggest either a stabilisation or decline in dog and cat ownership in Australia, a number of authors have reported that pet owners are assuming greater responsibility for pet care (MacCallum & Beaumont 1992; Burke 2006); increasingly regard pets as playing important roles in their lives (Murray & Penridge 1997; Swabe 1999; Franklin & White 2001); and that the strength of the human-animal bond has increased in recent years in both Australia (MacCallum 1993; McHarg et al. 1995) and the US (Atkinson 2005; Brockman, Taylor & Brockman 2008). Pet owners are reportedly more willing to seek veterinary care.
and more willing to spend more money on their pets (MacCallum & Beaumont 1992; MacCallum 1993; Schmelzer 2005; Holbrook 2008; Holbrook & Woodside 2008). These changes have been associated with social trends regarding attitudes towards animals (Swabe 1999; Franklin & White 2001) and a changing regulatory environment (Burke 2006; Miller & Howell 2008).

Table 2.1.5 Estimated Australian pet population from 1988 to 2005

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Dogs</td>
<td>2.90</td>
<td>3.20</td>
<td>3.80</td>
<td>4.00</td>
<td>3.97</td>
<td>3.75</td>
</tr>
<tr>
<td>Cats</td>
<td>2.70</td>
<td>2.80</td>
<td>2.90</td>
<td>2.60</td>
<td>2.47</td>
<td>2.43</td>
</tr>
<tr>
<td>Birds</td>
<td>6.60</td>
<td>7.00</td>
<td>9.70</td>
<td>8.40</td>
<td>8.70</td>
<td>9.00</td>
</tr>
<tr>
<td>Fish</td>
<td>10.00</td>
<td>10.50</td>
<td>11.90</td>
<td>11.90</td>
<td>12.20</td>
<td>20.00</td>
</tr>
<tr>
<td>Other pets</td>
<td>0.70</td>
<td>0.70</td>
<td>0.80</td>
<td>2.00</td>
<td>2.10</td>
<td>3.00</td>
</tr>
<tr>
<td>Total pets</td>
<td>22.90</td>
<td>24.20</td>
<td>29.10</td>
<td>28.90</td>
<td>29.44</td>
<td>38.18</td>
</tr>
</tbody>
</table>

Source: BIS Shrapnel (1995); BIS Shrapnel (1999); BIS Shrapnel (2003); BIS Shrapnel 2006

Frank (2001) has hypothesised that there is significant uncertainty in determining the costs and benefits in a rational decision making model of pet purchasing. Further, this author states that if the costs and benefits have a large degree of variation, the result will be excess volatility and frequent reversal of decisions. Recent strategies of community education focusing upon responsible pet ownership (Murray & Penridge 1997) may have improved pet owner awareness of costs and benefits and contributed to lowered levels of ownership, decreased levels of relinquishment (Burke 2006) and increased levels of commitment or attachment overall (Serpell 1996). There is also the potential that stabilisation or decline in the levels of pet ownership has been due to changing household propensities (Balock
2004) rather than reflecting specific attitudes towards pets and these household trends are discussed in the following section.

2.1.1.2. Demographic trends

Australia has experienced a relatively high rate of population growth in recent decades compared to other countries within the developed world and this has largely been achieved through immigration (Maher & Stimson 1994). The rate of natural increase of Australia’s population declined for most of the 1990s due to a trend toward later marriages and smaller families and an increase in the number of family couples without children (Ryan 2002).

Generally, small towns have experienced population loss to a selected number of large provincial towns and capital cities. Significantly for pet ownership, young people and families with dependent children form the bulk of the population leaving rural and regional areas for the cities (Salt 2001; Ryan 2002). Socioeconomic factors appear to be important in these choices with young people and families seeking improved economic circumstances and services (Maher & Stimson 1994; McKenzie 1994; Salt 2001).

Whilst total population data demonstrate a small annual percentage rise, there is considerable variation by state and even greater variability by Statistical Local Area (Maher & Stimson 1994). During the period from 1986 to 1991 for example, two thirds of all Statistical Local Areas (SLAs) revealed an increase in population but, only one third experienced growth at a rate above the national average (Maher & Stimson 1994). Overall, population growth appears to be concentrated in a few locations and these locations are generally either suburban or peri-urban areas of expansion or coastal areas (Maher & Stimson 1994).

Contrasting these regions of population growth, McKenzie (1994) has suggested that population decline in a number of areas may be due to: employment decline; changing market conditions such as resource depletion and agricultural restructuring; the growing influence of urban values and expectations and the perceived disparities between urban and rural living; a lack of educational
opportunities; service decline; and greater personal mobility leading to growth in some regional centres. A survey of veterinarians who have left rural for city practice included similar reasons such as work demands, poor financial returns, employment opportunities (for veterinarians, spouses and family members), and secondary school opportunities (Heath & Niethe 2001). According to McKenzie (1994), for regions where there has been long term population decline, this trend may be cumulative and self-perpetuating.

The ageing population and population growth through immigration are potentially challenging trends for the size of the companion animal veterinary services market. There is evidence to support lower levels of pet ownership in older households (Ballock 2004) and whilst there are suggestions for both positive and negative effects of immigration on veterinary services purchasing intentions (Williams 1982; Hood 1998; Brown 2002; Baker 2002; Nolen 2003), Australia has consistently revealed one of the highest levels of pet ownership in the developed world (BIS Shrapnel 2006).

Similarly, at the individual community level there may be positive trends due to growth in the population or the negative impact of declining populations. As the consumer unit for veterinary services is more aptly described as a household (Ehlert 1997; Catanzaro & Seibert 2000), an examination of trends in household numbers will further assist in examining future changes in the size of the market for companion animal veterinary services.

2.1.1.3. Household trends

The number of households in Australia has generally grown faster than the population due to changes in fertility and mortality rates which have resulted in an ageing population and a decrease in household size (NSW Department of Planning 1994). Ryan (2002) reported that the average size of Australian households has fallen from 4.5 persons in 1911 to 2.6 persons in 1999. This fall was mainly due to a decrease in the size of family households, an increase in family couples without children and an increase in lone person households (Ryan 2002). Again, these changes are mostly due to the ageing of the population, although increases in
divorce and separation rates and trends toward delaying marriage until later in life have also been significant (Ryan 2002).

Together with the absolute number of households increasing at a rate greater than the population and increasing urbanisation of the population, overall trends in household numbers are favourable to the potential demand for companion animal veterinary services in Australia. Clearly, there will be variations within geographic areas as described previously. Due to the varying levels of pet ownership by household type previously described, more accurate information regarding potential demand may be obtained from examining changes in household propensities.

ABS projections of household type numbers are provided in Tables 2.1.6, 2.1.7 and 2.1.8. Projections from Series I (Table 2.1.6) are based upon living arrangements the same as in 1996 (ABS 2004a). Series II and III incorporate trends in these living arrangements from 1986 to 1996; for Series II (Table 2.1.7) these trends are applied in full between 1996 and 2001, in fractions to 2011 and then held constant until 2026, whilst for Series III (Table 2.1.8) the rate of change from 1986 to 1996 is applied in full throughout all the projection years (ABS 2004a). These household projections were created in 2004 and comparisons with actual data from 1996-2006 (ABS 2008), reveal that Series I projections have provided the most accurate predictions of household numbers and propensities.

Significantly for future pet ownership, all projections reveal an increase in the number and percentage of lone person households and a decrease in the percentage of households described as family couples with children. Figure 2.1.3 which more clearly depicts the level of change between lone person households and family couples with children households for Series III. This series will have the most significant impact upon these household type numbers. In Series II and Series III projections, the number of lone person households overtakes the number of family couples with children households by 2016 or 2011 respectively. For Series I, the number of lone person households remains lower than the number of households described as family couples with children throughout the projected period.
### Table 2.1.6 Australian household type projections by number and percentage of total 1996-2026 Series I

<table>
<thead>
<tr>
<th>Household Type</th>
<th>1996</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person households</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,588,200 (22.9%)</td>
<td>1,805,300 (24.3%)</td>
<td>1,988,400 (24.7%)</td>
<td>2,181,200 (25.2%)</td>
<td>2,390,600 (25.9%)</td>
<td>2,615,800 (26.7%)</td>
<td>2,842,000 (27.5%)</td>
</tr>
<tr>
<td>Couple families with children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,483,800 (35.8%)</td>
<td>2,491,500 (33.5%)</td>
<td>2,633,100 (32.7%)</td>
<td>2,740,900 (31.7%)</td>
<td>2,831,400 (30.6%)</td>
<td>2,910,000 (29.7%)</td>
<td>2,976,300 (28.8%)</td>
</tr>
<tr>
<td>Couple families without children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,735,100 (25.0%)</td>
<td>1,917,600 (25.8%)</td>
<td>2,119,300 (26.3%)</td>
<td>2,343,600 (27.1%)</td>
<td>2,572,500 (27.8%)</td>
<td>2,781,900 (28.4%)</td>
<td>2,948,600 (28.6%)</td>
</tr>
<tr>
<td>One parent families</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>742,300 (10.7%)</td>
<td>838,200 (11.3%)</td>
<td>895,200 (11.1%)</td>
<td>945,700 (10.9%)</td>
<td>993,000 (10.7%)</td>
<td>1,038,600 (10.6%)</td>
<td>1,082,300 (10.5%)</td>
</tr>
<tr>
<td>Group households</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>299,000 (4.3%)</td>
<td>293,200 (3.9%)</td>
<td>309,800 (3.8%)</td>
<td>323,900 (3.7%)</td>
<td>336,100 (3.6%)</td>
<td>343,300 (3.5%)</td>
<td>345,700 (3.3%)</td>
</tr>
</tbody>
</table>

Source: ABS (2004a)

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2 Total for percentage calculation also includes the category of 'other families' not shown
Table 2.1.7 *Australian household type projections by number and percentage of total* 1996-2026 Series II

<table>
<thead>
<tr>
<th>Household Type</th>
<th>1996</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person households</td>
<td>1,588,200 (22.9%)</td>
<td>1,805,300 (24.3%)</td>
<td>2,135,300 (26.2%)</td>
<td>2,415,100 (27.5%)</td>
<td>2,674,900 (28.4%)</td>
<td>2,910,000 (29.1%)</td>
<td>3,149,400 (29.9%)</td>
</tr>
<tr>
<td>Couple families with children</td>
<td>2,483,800 (35.8%)</td>
<td>2,491,500 (33.5%)</td>
<td>2,435,000 (29.9%)</td>
<td>2,438,900 (27.7%)</td>
<td>2,473,100 (26.2%)</td>
<td>2,546,300 (25.4%)</td>
<td>2,610,300 (24.8%)</td>
</tr>
<tr>
<td>Couple families without children</td>
<td>1,735,100 (25.0%)</td>
<td>1,917,600 (25.8%)</td>
<td>2,188,200 (26.9%)</td>
<td>2,450,800 (27.9%)</td>
<td>2,705,900 (28.7%)</td>
<td>2,928,200 (29.2%)</td>
<td>3,108,100 (29.5%)</td>
</tr>
<tr>
<td>One parent families</td>
<td>742,300 (10.7%)</td>
<td>838,200 (11.3%)</td>
<td>954,200 (11.7%)</td>
<td>1,035,300 (11.8%)</td>
<td>1,099,000 (11.7%)</td>
<td>1,146,600 (11.5%)</td>
<td>1,192,300 (11.3%)</td>
</tr>
<tr>
<td>Group households</td>
<td>299,000 (4.3%)</td>
<td>293,200 (3.9%)</td>
<td>325,800 (4.0%)</td>
<td>347,500 (4.0%)</td>
<td>363,300 (3.9%)</td>
<td>370,000 (3.7%)</td>
<td>371,500 (3.5%)</td>
</tr>
</tbody>
</table>

Source: ABS (2004a)

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3 Total for percentage calculation also includes the category of ‘other families’ not shown.
Table 2.1.8 *Australian household type projections by number and percentage of total* 1996-2026 Series III

<table>
<thead>
<tr>
<th>Household Type</th>
<th>1996</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person households</td>
<td>1,588,200 (22.9%)</td>
<td>1,805,300 (24.3%)</td>
<td>2,135,300 (26.2%)</td>
<td>2,492,200 (28.2%)</td>
<td>2,874,400 (30.1%)</td>
<td>3,277,400 (32.0%)</td>
<td>3,693,000 (33.8%)</td>
</tr>
<tr>
<td>Couple families with children</td>
<td>2,483,800 (35.8%)</td>
<td>2,491,500 (33.5%)</td>
<td>2,435,000 (29.9%)</td>
<td>2,342,700 (26.5%)</td>
<td>2,235,400 (23.4%)</td>
<td>2,123,400 (20.7%)</td>
<td>2,010,400 (18.4%)</td>
</tr>
<tr>
<td>Couple families without children</td>
<td>1,735,100 (25.0%)</td>
<td>1,917,600 (25.8%)</td>
<td>2,188,200 (26.9%)</td>
<td>2,481,800 (28.1%)</td>
<td>2,782,400 (29.1%)</td>
<td>3,067,500 (29.9%)</td>
<td>3,312,000 (30.4%)</td>
</tr>
<tr>
<td>One parent families</td>
<td>742,300 (10.7%)</td>
<td>838,200 (11.3%)</td>
<td>954,200 (11.7%)</td>
<td>1,064,000 (12.0%)</td>
<td>1,169,600 (12.2%)</td>
<td>1,271,700 (12.4%)</td>
<td>1,369,300 (12.6%)</td>
</tr>
<tr>
<td>Group households</td>
<td>299,000 (4.3%)</td>
<td>293,200 (3.9%)</td>
<td>325,800 (4.0%)</td>
<td>354,400 (4.0%)</td>
<td>379,000 (4.0%)</td>
<td>395,300 (3.9%)</td>
<td>403,600 (3.7%)</td>
</tr>
</tbody>
</table>

Source: ABS (2004a)

* Total for percentage calculation also includes the category of ‘other families’ not shown.
Percentage changes for these statistics over the period from 1996 to 2026 and annual percentage changes (compounded) are provided in Table 2.1.9. Predictions for Series III represent significant population shifts with lone person households increasing by 132.5% (1,588,200 to 3,693,000) or 2.9% compounded annually, and family households with children decreasing by 19.1% (2,483,800 to 2,010,400) or 0.7% compounded annually over the period from 1996 to 2026.

Given that lone person households have traditionally been associated with the lowest level of pet ownership in Australia and couple families with children associated with the highest level of pet ownership, it is clear that as suggested by Baldock (2004), these demographic changes could further exacerbate the overall trends to decreasing pet ownership in Australia (section 2.1.1.1) and therefore the future demand for companion animal veterinary services.

In summary, there is evidence from the secondary literature that changing social forces in Australia have resulted in decreasing owned dog and cat populations. Countering these trends and aligned with US data, the bond between pet owners and pets in Australia has been increasing with pets providing greater levels of...
companionship and being more consistently regarded as family members. The apparent decrease in dog and cat ownership in recent years has also been mitigated by increased populations of fish and other companion animal species. Those choosing to own pets appear to be more actively involved in this decision than in the past and are spending more time and money on their pets.

Table 2.1.9 Summary of average annual and (total) percentage changes in household number types for ABS projection series I to III from 1996 to 2026

<table>
<thead>
<tr>
<th>Household type</th>
<th>ABS projection series</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>Lone person households</td>
<td>2.0% (78.9%)</td>
</tr>
<tr>
<td>Couple families with children</td>
<td>0.6% (19.8%)</td>
</tr>
<tr>
<td>Couple families without children</td>
<td>1.8% (69.9%)</td>
</tr>
<tr>
<td>One parent families</td>
<td>1.3% (45.8%)</td>
</tr>
<tr>
<td>Group households</td>
<td>0.5% (15.6%)</td>
</tr>
<tr>
<td>Other families</td>
<td>1.0% (33.8%)</td>
</tr>
</tbody>
</table>

Source: Adapted from ABS (2004a)

Whilst evidence has been presented for a decline in cat ownership, it appears that both dog and cat ownership across the different household propensities has stabilised. Household projection estimates suggest that pet ownership will stabilise or decline in the future due to an ageing population and a lower proportion of households with children. Further analysis of these data (see appendix) reveals that these trends are countered by increasing household numbers. In summary, this analysis suggests that with maintenance of current household growth rates and propensities and continuation of current pet ownership trends, the market for companion animal veterinary services in Australia will remain stable. Market
growth rates will be slightly less than household population growth rates and are predicted to average approximately 1.0% per annum from 2006 to 2026.

2.1.2. Economic Forces

Economic forces affect markets through their impact upon purchasing power and this specifically relates to income levels and credit availability (Kotler & Keller 2006). For companion animal veterinary hospitals the cost of credit, as measured by interest rate fluctuations and disposable income derived from local economic fluctuations, provide the most significant economic effects upon profitability. Broadly, these forces are related to monetary and fiscal policy of the government affecting economic growth, interest rates, inflation, taxation, credit availability and income (Kotler & Keller 2006). The significance of economic (and demographic) forces upon the profitability of the veterinary industry is manifest in the following statement from an early symposium on money management in the US (Hamlin 1976, p. 53):

Nearly 30 years of rising economy and rising fees have made an incredible difference in the practice of veterinary medicine... given the rising economy, it has been extremely hard for the competent practitioner not to succeed, regardless of his abilities as a businessman. The fringe-of-town lot where he built 15 or 20 years ago has become valuable mid-suburban real estate. Population increases and increased fee schedules have masked potential management problems, and through it all, a good number of men in practice have managed to maintain the same spending attitudes that they had 20 or 30 years ago.

An ABS household expenditure survey in 1988-1989 (ABS 1995) reported expenditure on veterinary fees for pet owners of $169.6 million and this figure represented 13% of total household expenditure on pets; total household expenditure on animals was $1,260.4 million and 61% of this total was animal food.
The first BIS Shrapnel report into the contribution of the pet care industry to the Australian economy estimated the value of the pet care industry overall at $2 billion in 1992 and veterinary charges at 21% of this figure or $404 million (BIS Shrapnel 1993). Veterinary charges were mostly associated with expenditure on dogs $230 million (57%) and cats $148 million (37%) with the remainder ($26 million) attributed to other pets. This survey again concluded that food was the major expense category accounting for 53% of total expenditure on pets (48% for dogs, 60% for cats and 64% for other pets).

By 2005, the contribution of the pet care industry to the Australian economy was estimated at $4.6 billion, with veterinary services and products representing approximately 22% of this figure or $990 million; 71% dogs, 24% cats and 5% other species (BIS Shrapnel 2006). Consumer expenditure changes for dogs, cats and other companion animal species as estimated by BIS Shrapnel Reports between 1992 and 2005 are presented, with linear trend lines, in Figure 2.1.4. This graph reveals that veterinary fees for dogs have been the major contributor to overall expenditure with fees derived from cats and other companion animal species remaining relatively static during this time.

The changes in percentages of total expenditure represented by food and veterinary fees for dogs and cats are illustrated in Figure 2.1.5. During the 13 year period from 1992 to 2005, the percentage spending on food and veterinary fees for cats has been more cyclical than linear with a relatively flat trend overall. For dogs the relationship is more linear, with an increase in the percentage of total expenditure described as veterinary fees corresponding with a fall in food expenditure over the same period.

Economic trends for the industry indicate significant increases in revenue for veterinary hospitals in Australia since the mid 1990s due to increased expenditure on veterinary services by dog owners in particular. These data are aligned with stable dog ownership and declining cat ownership statistics previously presented (section 2.1.1.1). Unfortunately, economic performance data from this source are only available to 2005.
Figure 2.1.4 Consumer expenditure on veterinary fees for dogs and cats from 1992 to 2005 with linear regression trend lines

Figure 2.1.5 Percentage of total dog and cat pet care expenditure on food and veterinary fees from 1992 to 2005 with linear regression trend lines
Specifically, with respect to the opening comments in this section, these trends in Australia have been apparent during favourable economic growth rates compared to most OECD countries (Colecchia & Schreyer 2002). ABS (2003) has reported that between March 1993 and March 2003, the average annual rate of growth in real gross domestic product in Australia was 3.8%. Further, ABS (2004b) also reports that inflation in Australia began to slow down in the early 1990s and remained at relatively low levels into the early 2000s. Hence, economic performance data for the companion animal veterinary services industry in Australia do not factor the recent period of interest rate increases and higher mortgage costs followed by the global financial crisis, all of which according to Hamlin (1976), may have a negative impact upon veterinary services expenditure.

Finally, as for social trends, economic trends in the macroenvironment are likely to vary according to region. ABS (2001) for example, reported that operating profit margins for veterinary hospitals varied among Australian states and territories and similar variations in financial performance have been reported across the US (AVMA 2005). US data (AVMA 2005) also support the potential for differences within regions or states in urban and non-urban areas with non-urban veterinary hospitals and hospitals located in smaller communities recording lower levels of financial performance. Unfortunately, similar analyses of veterinary hospital financial performance within Australia are not available.

2.1.3. Political Forces

Political forces include the impact of legislation, government agencies and the various industry bodies and pressure groups upon supply and demand (Porter 1980; McDonald 1995; Kotler & Keller 2006). The main pieces of legislation specifically affecting the delivery of companion animal veterinary services are state based regulations governing veterinary practice, the ownership of companion animals and protection of animal welfare. Broader legislative changes have occurred at the national level, which have affected the industry and the delivery of professional services more generally through employment conditions and occupational health and safety. The main industry bodies are the Australian Veterinary Association,
Australian Small Animal Veterinary Association, Australian Veterinary Practice Management Association, Australian Veterinary Business Association and employee groups and organisations.

Within Australia, each state is responsible for governing the practice of veterinary science and the registration of veterinarians. In 1995, the Australian Government established the National Competition Council and this body has driven a number of national competition reforms, including changes to state-based legislation governing the practice of veterinary science in Australia (National Competition Council 2004). For example, in NSW, replacement of the Veterinary Surgeons Act 1986 with the Veterinary Practice Act 2006 created options for broader ownership of veterinary hospitals (beyond just veterinarians) and reduced specific governance in areas such as advertising of veterinary services, moving this function to trade practice legislation. Similar changes in other states may have assisted early movements towards industry consolidation. The first veterinary practice group to be listed on the Australian Stock Exchange was offered to the public in 2007, providing part ownership to shareholders of veterinary hospitals in Queensland, Victoria and South Australia (McCullough 2007). This follows trends within the US which have resulted in increasing domination of the industry by large corporations and specialist centres (Marshak 2005). A further influence on future consolidation is local council zoning control which may restrict the number of veterinary hospitals within an area (Catanzaro, Deegan & Guidicci 2000).

In a presentation at the Annual Australian Veterinary Association Conference in May 2007, Michael Woger from Guild Insurance stated that Australia had become an increasingly litigious society and that complaints about the conduct of veterinarians had increased in recent years. He argued that managing complaints and compliance with occupational health and safety legislation were priority risk areas for veterinarians. The NSW Veterinary Practitioners Board presented the need for changes to veterinary legislation in NSW based upon an increasing level of complaints (Board of Veterinary Surgeons of NSW 2000). Subsequent changes to legislation in NSW created a compulsory system of continuing professional development (Board of Veterinary Surgeons of NSW 2006). Lacroix (2006) has similarly suggested that the major legal trends affecting veterinary practice in the US
are the development of ‘animal law’ movements, increased scrutiny of veterinarians by the legal profession and state veterinary boards, and related emphasis upon record keeping (Lacroix 2006).

Legislation governing the ownership of companion animals in Australia has moved with social trends towards increasing responsibility for pet owners and addressed issues such as environmental concerns and dangerous dogs (Miller & Howell 2008). Murray and Penridge (1992) reported that in 1975, the mining city of Mt Isa was faced with a crisis with respect to dog ownership (p. 1):

No-one walks in Mt Isa because the place is overrun by packs of dogs.

Almost every day someone reports an attack. Some attacks have been serious.

Murray and Penridge (1992) further reported that in 1988 a state wide survey of local government in Queensland ranked dogs as the second major problem faced in municipal management with 31% of councils rating the dog problem as either serious or very serious. A survey of US mayors produced similar results in the mid 1970s (Clancy & Rowan 2003). The response in Queensland was for the local council to develop a new dog policy on public education, appropriate by-laws and enforcement (Murray & Penridge 1992). This was the start of a trend toward responsible pet ownership in Australia focusing upon both political and social change through education and legislation, again similar to the US response of legislation, education and sterilisation (Clancy & Rowan 2003). Compulsory microchipping of dogs and cats and the banning of specific breeds of dogs in NSW provide examples of the impact of companion animal legislation (and technology) upon pet ownership in Australia (Miller & Howell 2008). Baldock, Alexander and More (2003) suggested that increased regulatory restrictions on cat ownership due to perceived threats to wildlife together with high desexing rates in the potential female cat breeding population have contributed to a decline in cat ownership in Australia.

The veterinary profession in Australia is organised into a number of groups, most of which are classified as special interest groups of the Australian Veterinary
Association (AVA). The AVA was formed in 1921 to promote and represent the profession (AVA 2008) and approximately 50% of registered veterinarians in Australia are members of the AVA (BIS Shrapnel 2006). Whilst the purpose of the AVA is in part to unite the political power of the profession, within the AVA there are special interest groups which promote excellence in specific areas such as species or disciplines including small animals (Australian Small Animal Veterinary Association), dentistry (Australian Veterinary Dental Society) and practice management (Australian Veterinary Practice Management Association) (AVA 2008). Previous groups included the Urban Animal Management Committee, which promoted responsible pet ownership, in part through working with local governments; and the Employed Veterinarians Association, which focused upon the needs of employed veterinarians and aided in the creation of the Veterinary Surgeons Award in conjunction with the Association of Professional Engineers, Scientists and Managers Australia (APESMA).

The organisation of labour within the veterinary profession was consolidated with the certification of the Australian Veterinary Surgeons Interim Award 1998 by the Australian Industrial Relations Commission, and in July 2001 when the Veterinary Surgeons Award 2001 came into effect nationally. Changes to workplace legislation by the Howard Liberal Government reduced the significance of the Award system and organised labour in Australia through an emphasis upon Australian Workplace Agreements. The recently elected Rudd Labour government and the new Liberal Party leadership are committed to reversing many changes associated with this previous legislation (Norington & Hannan 2007) suggesting a future increase in the power of organised labour.

One of the major political forces affecting the supply of veterinarians to the industry has been the creation of new veterinary schools within Australia. The number of veterinarians entering the industry has grown in recent years (Heath 2002; Heath 2008) due to increases in undergraduate numbers at the four established veterinary schools (Murdoch University, The University of Melbourne, The University of Queensland and The University of Sydney). The number of new graduate veterinarians will to continue to grow due to the number of veterinary schools increasing from four to seven (Whittington 2006; Heath 2008). New
veterinary schools have been established at Charles Sturt University, James Cook University and The University of Adelaide to address a possible shortage of veterinarians in rural areas and veterinarians in production animal and public health careers (The University of Adelaide 2007; Charles Sturt University 2009; James Cook University 2008). Justification for these additional university placements was provided in a government response to the *Rural Veterinary Review 2003* which supported the development of a rural based veterinary science program (DAFF 2004). Frawley (2003) in the *Rural Veterinary Review* had argued that numbers of veterinary graduates were currently sufficient but, there was potential for a shortage of rural veterinarians in the future due to low retention rates in these areas. Low retention rates were believed to be associated with rising costs associated with private practice, limited numbers of individual producers regularly utilising veterinary services (20-30%), extended working hours and limited social and schooling opportunities (Frawley 2003).

Veterinary nurses may become members of the Veterinary Nurses Council of Australia and in 2006 there were 1,319 members of this organisation (BIS Shrapnel 2006). Veterinary nurses and administrative staff are covered by a variety of state based Awards in Australia although in Victoria, the ACT and the Northern Territory, workplace reform has resulted in a greater emphasis upon individual workplace agreements as discussed above due to greater Commonwealth legislative powers in these areas.

In summary, broad political forces in recent years have been conducive to increased competition within the profession and greater individual responsibility for veterinarians and pet owners. As previously described, the governance of veterinary services has changed to enable wider ownership, facilitate potential industry consolidation and stimulate competition. Veterinarians are potentially more accountable for their actions as both practicing veterinarians through an increasingly litigious society and as employers with responsibilities to their employees, particularly in the area of occupational health and safety. Companion animal ownership has become more regulated and individual owners are required to take greater responsibility for the management of their pets. Whilst these trends have been driven to some extent at a national level, there is likely to be significant
variation at the local, regional and state level as much of this legislation is state-based and some specific issues such as zoning and dog and cat control have been driven by, or delegated to, local councils.

2.1.4. Technological Forces

The pace of technological change, opportunities for innovation, varying research and development budgets and regulation of technological change are important elements of the technological environment (Kotler & Keller 2006). Advances in science and technology directly affect veterinary clinical practice through improving the level of sophistication in approaches to managing pet health (Lee 2006). As in human health from where many of these health care technologies are derived (Brockman, Taylor & Brockman 2008; Bryant 2008), technological forces can impact upon the profitability of veterinary practice through capital investment requirements, procedural efficiencies (Lee 2006), increased veterinary fees (Brockman, Taylor & Brockman 2008) and attraction and retention of both clients and veterinarians (Lee 2006).

In addition to equipment, technological advances in pharmaceuticals have resulted in greater options for care, higher inventory costs and higher average transaction fees for veterinary services. Whilst trend analysis data for Australia are not available, ABS (2001) reported that consultations and medications represented approximately 44% of average veterinary hospital revenue in 2000 compared to approximately 22% reported by Gebhart (1976) for a US veterinary hospital group in 1975. Whilst this comparison should be interpreted with caution, it is likely that advances in pharmaceuticals have resulted in significant increases in revenue derived from medications, particularly antibiotic, anti-parasitic and anti-inflammatory preparations.

Taylor (1983) noted the emergence of computers in veterinary business management with the main potential benefits linked to reminder systems, accurate charging and record keeping, potential efficiencies in administrative processes and retrieval of financial and medical data. Catanzaro, Deegan and Guiducci (2000) have more recently reported that advantages from technology in veterinary services
include the use of equipment such as digital imaging, ultrasound and endoscopy; the use of advanced pharmacological agents to improve safety and increase the range of services available; improved records management; and the creation of targeted communications for specific client segments. These advances in equipment and medical technology have also facilitated differentiation of services and the development of the veterinary specialist market.

Web-based technologies have enabled veterinarians to communicate more efficiently and effectively with current and potential clients as well as access information and assistance from specialists for managing cases. Similarly, clients may more readily retrieve information regarding diseases and products from the internet and as a result may be more informed and demanding of the veterinarian. These technologies have therefore not only facilitated changes in products and services delivered but also the way these services are delivered and promoted.

Hence, technological advances have driven higher quality medical procedures and outcomes for pets and, aligned with an increased willingness of pet owners to spend money on their pets. They have also created opportunities for differentiation, specialisation and increases in revenue from both professional services and medication. Further, technology has potentially enabled veterinary hospitals to better manage and market their services through improvements in communication and data retrieval and analysis.

Catanzaro, Deegan and Guiducci (2000) believe that the recent, constant technological change has created both advantages and additional costs for veterinary hospitals and this opinion has more recently been supported in Australia by Bryant (2008). Finally, Lee (2006) suggests that information technology is ‘having a profound impact upon the supply and demand sides of the market for veterinarians and veterinary services’ (p. 276) resulting in increased veterinary capabilities and higher expected outcomes and that these trends are likely to continue into the future. National trends in pet ownership and industry revenue previously presented suggest that technology has played a significant role in facilitating increased veterinary transaction fees due to limited growth in market size.
2.1.5. Natural Forces

The major trends in the natural environment generally capable of affecting marketers are potential shortages in finite, non-renewable resources, pollution and energy costs (Kotler & Keller 2006). The physical or natural environment may impact upon veterinary hospital profitability, most significantly through climate and disease although as suggested by Kotler and Keller (2006) it is likely that pollution and energy costs will increasingly affect industries in the future.

In addition to climate fluctuations such as drought impacting upon local economies and businesses, and therefore veterinary hospitals in some regions, there is also the potential for more significant climate change to exacerbate the seasonality of veterinary revenue and promote the spread of endemic and exotic diseases, particularly arthropod-borne diseases (Shope 1991; Dukes & Mooney 1999; Daszak, Cunningham & Hyatt 2000; Reiter 2001). The exact impact of these forces upon companion animal services is difficult to determine at this stage. Predictions of climate change suggest that natural forces may play an increasingly important role in determining the profitability of veterinary practice in the future.

Whilst climatic factors may influence the spread of disease, other natural forces such as emerging diseases, importation of exotic diseases and drug resistance may become increasingly important in companion animal veterinary medicine. Historically, natural and technological forces combined leading to the development of vaccination programs which stimulated significant revenue growth in companion animal veterinary services in Australia during the 1970s. Philosophically, this also initiated a movement from treatment of companion animal disease to a focus upon preventative medicine (Lin & Brian 1996). The emergence of heartworm disease and development of heartworm preventative medication (anti-parasitic compounds) for dogs, further stimulated veterinary hospital visits and average transaction fees from the mid 1980s in Australia and continued this theme, eventually leading to the next phase of veterinary clinical medicine which has focused upon quality, wellness and compliance (Catanzaro, Deegan & Guidicci 2000).
2.2. **SUMMARY**

Broad macroenvironment forces at the national level have resulted in a stable, more regulated market for companion animal veterinary services in Australia. It is likely that the market for companion animal veterinary services in Australia will grow at approximately 1.0% per annum between 2006 and 2026. Pet owners are more informed, more willing to spend money on their pets and more bonded to their pets. These changes in the social environment are aligned with changes that have occurred within the technological environment facilitating revenue growth greater than that of the general economy. Political forces have enabled broader ownership of veterinary hospitals and growth in industry revenue is likely to make this industry more attractive to corporate buyers seeking to gain advantages over incumbents through economies of scale. Hence, whilst social forces (pet ownership and household numbers) are generally leading to stable demand, political, economic, social (attitudes and values), technological and natural forces are driving increased revenue, countering market maturity and suggesting a relatively attractive industry. The following chapter will examine the impact of these macroenvironmental forces upon industry structural forces and will close with a summary of industry attractiveness.
Chapter 3

3. COMPANION ANIMAL VETERINARY SERVICES INDUSTRY: INDUSTRY STRUCTURAL ANALYSIS

Porter (1980) described an industry as ‘an inter-related system’ (p. 184) and suggested industry attractiveness is a result of changing competitive intensity derived from five industry structural forces: threat of new entrants; intensity of rivalry among incumbents; threat of substitutes; power of buyers; and power of suppliers. This model is broadly accepted as one of the most significant contributions to the understanding of industry dynamics, strategy formulation, market power and the structure-conduct-performance relationship (Rumelt, Schendel & Teece 1991; Hoskisson, Hitt, Wan & Yiu 1999; Perrott 2007).

Attractiveness of an industry, as defined by the ability of incumbents to derive profits (Porter 1980), is a function of how these industry structural and external forces interact and change over time to affect the market power of incumbents. Similarly, the alignment of capabilities (internal environment) with key success factors derived from an understanding of this external environment will enable an organisation to compete effectively (Voss 2005). Dodge, Fullerton and Robbins (1994) have suggested that the competitive environment is particularly important for small businesses.

In support of the elements within this general framework, research on how specific industries change has found evidence for the role of labour (supply), competition, buyers and social forces in the legal industry (Van Doren, Smith & Biglin 1985); labour (supply), social and networking (political) forces in the film-making industry (Arthur, DeFillippi & Lindsay 2001); new entrants and competition (Carree & Thurik 2000) and technology, firm size and physical location forces in the US tyre industry (Klepper & Simons 2000); competition and technology in the computer industry (Christensen, Suárez & Utterback 1998); political and economic forces in the Spanish banking industry (Zúñiga-Vicente, de la Fuente-Sabaté & Rodríguez-
Industry structural analysis has been criticised as being static as it focuses upon an analysis of investor attractiveness and competition at a specific point in time; is affected by definitions of industry boundaries (McGahan 2000); is based upon underlying assumptions of relative homogeneity of incumbents and mobility of resources (Spanos & Lioukas 2001); and because it emphasises a reactive response to forces external to the organisation rather than a more deterministic approach (Barney 1991). However, as competition has been identified as a primary driver of industry attractiveness and change within this model (Leavy 1991), there is potentially a significant role for industry incumbent business and marketing strategies in leading industry change. The latter is supported by the structure-conduct-performance framework (Porter 1981; Lusch & Laczniak 1989; Spanos & Lioukas 2001).

This chapter will analyse trends in secondary data available from the companion animal veterinary services industry in Australia using the framework of industry structural forces established by Porter (1980) and previously presented in Figure 1.3.1. By examining trends over time and incorporating elements of population ecology (Hannan & Freeman 1977) and life cycle theory (Porter 1980; Rogers 1983; Klepper 1997; Kotler 2003) this analysis will attempt to overcome some of the major criticisms of industry structural analysis presented above.

The purpose of this chapter is therefore to provide a greater understanding of the generic environment for incumbents within the companion animal veterinary services industry in Australia in relation to the concept of industry attractiveness. The results of this analysis will inform subsequent case study research to describe this environment at a disaggregated level, and a survey of incumbents to test the relative significance of these forces as perceived by incumbents generally. Survey
research will provide the basis for analysing the potential relationship between perceptions of industry attractiveness, marketing practices and performance within the companion animal veterinary services industry.

3.1. INDUSTRY STRUCTURAL ANALYSIS

The intensity of competition is determined by the influence of macroenvironmental forces discussed in chapter two together with specific interactions among five basic competitive forces as described by Porter (1980): threat of new entrants, intensity of rivalry among incumbents, threat of substitutes, power of buyers and power of suppliers. Trends in these five forces for the companion animal veterinary services industry in Australia are presented in the following section and will ultimately form the basis of an assessment of current and future industry attractiveness at the national level.

3.1.1. Threat of New Entrants

The entry of new firms to an industry has the ability to intensify competitive forces and further drive industry evolution and Porter (1980) suggested a variety of structural barriers that inhibit the growth of new entrants. These barriers include factors within the industry such as degree of capital intensity; market growth rates; switching costs; and factors external to the industry such as licensing restrictions. Lee (2006), in an analysis of industry structural forces within the companion animal veterinary services industry in the US, defined the main barriers to entry as the need to acquire specialist education, licensing restrictions and the achievement of sufficient market share to achieve economies of scale. Whilst Audretsch (1995) suggested that organisations may enter an industry despite these apparent barriers, Audretsch, Houweling and Thurik (2004) found that barriers to entry such as industry growth rate and the number of new entrants may affect new entrant survival.
Capital requirements with respect to facilities, equipment and inventories have risen substantially with increasing costs of real estate in Australia and advances in technology (section 2.1.4); the latter has affected the delivery of services, the range and cost of pharmaceutical supplies and contributed to rising expectations of clients (Lee 2006; Brockman, Taylor & Brockman 2008). There is some recent evidence for changing ownership structures of veterinary hospitals in Australia (McCullough 2007) linked to changing political forces (section 2.1.3) and these are aligned with US trends (Marshak 2005). The majority of veterinary hospitals in Australia are partnerships and sole proprietors (ABS 2001) limiting capital raising opportunities and increasing the significance of this barrier to entry. Increasing capital requirements and political forces facilitating broader ownership of veterinary hospitals may increase the threat of entry from corporate owners. The model for corporate ownership adopted in Australia and in the US has been one of acquisition and hence, this trend is more likely to affect the type of competitors rather than the absolute number of competitors.

Whilst potential demand appears to be flat or declining in Australia (section 2.1.1) indicating low level market growth, industry revenue increased by approximately 126% (9% annually) over the 10 year period between 1992 and 2002, including a 187% (11% annually) increase in revenue from dogs and 49% (4% annually) increase in revenue from cats (BIS Shrapnel 1993, 1995, 1997, 2003, 2006). Hence, despite maturity, industry revenue has grown significantly in recent years, creating a potentially more attractive industry to new entrants.

In the UK, pet insurance has been argued to be a significant factor in increasing veterinary industry revenue despite stagnant or falling pet ownership levels. According to Dunn (2006), 17% of dog owners and 11% of cat owners in the UK have pet insurance compared to 0.5% (Dunn 2006) to 1% (Brockman, Taylor & Brockman 2008) of US pet owners. Research has suggested insured pets visit the veterinarian more often and that their owners spend more on core and ancillary services (Dunn 2006). BIS Shrapnel (2006) reported that the levels of pet insurance in Australia were similar to those in the US and aligned with US data, the market has been growing. Hence, this external factor may facilitate further growth in
industry revenue and industry attractiveness from the perspective of new entrants, despite stable pet population trends.

Switching costs are a further barrier to new entrants (Porter 1980). Limited data for the veterinary profession are available regarding reasons for selecting a veterinarian (see Table 3.2.1) and these are provided from surveys of pet owning households in the US. Based upon over 54,000 individual responses, approximately 82% of dog owning households and 76% of cat owning households in the US had a regular veterinarian (AVMA 2002) suggesting relatively high switching costs. Lee (2006) added that switching costs in the US may have fallen in recent years due to the greater utilisation of practice management software for client record keeping.

Table 3.2.1 Reasons for selecting a veterinarian as a percentage of all pet owner households in 2001 (US)

<table>
<thead>
<tr>
<th></th>
<th>Dogs</th>
<th>Cats</th>
<th>Birds</th>
<th>Horses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular veterinarian</td>
<td>82.2%</td>
<td>75.7%</td>
<td>52.0%</td>
<td>75.4%</td>
</tr>
<tr>
<td>Fees</td>
<td>16.0%</td>
<td>16.8%</td>
<td>9.3%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Location</td>
<td>34.2%</td>
<td>34.9%</td>
<td>22.3%</td>
<td>17.6%</td>
</tr>
<tr>
<td>Hours</td>
<td>15.3%</td>
<td>15.6%</td>
<td>8.4%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Advertising</td>
<td>1.0%</td>
<td>1.1%</td>
<td>0.0%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Recommendation</td>
<td>10.1%</td>
<td>10.4%</td>
<td>9.6%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Yellow Pages</td>
<td>1.2%</td>
<td>1.8%</td>
<td>1.2%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Outdoor sign</td>
<td>1.2%</td>
<td>1.3%</td>
<td>1.0%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Website</td>
<td>0.2%</td>
<td>0.1%</td>
<td>0.0%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Specialist</td>
<td>2.5%</td>
<td>2.8%</td>
<td>24.2%</td>
<td>7.3%</td>
</tr>
<tr>
<td>None of the above</td>
<td>2.7%</td>
<td>2.5%</td>
<td>2.5%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Source: AVMA (2002)
Overall, a combination of trends in the political, economic, social and technological macroenvironment have increased capital requirements, provided growth in industry revenue and potentially created an industry more attractive to corporate ownership. Whilst switching costs are likely to be relatively high, there is a suggestion that these may fall, and there is the potential for larger, corporate veterinary hospitals to achieve economies of scale in areas such as procurement and advertising. However, as suggested by Lee (2006), sufficient market share is required to achieve economies of scale and hence corporate ownership is likely to be less attractive in rural areas or areas with lower population densities.

Macroenvironmental forces and barriers to entry are therefore likely to result in a relatively stable population of veterinary hospitals in the future with changes in ownership structures and trends toward consolidation, particularly in urban areas. Changes in industry structure from fragmentation (see section 3.1.2) to consolidation are aligned with theoretical discussions on industry life cycles and industry evolution described by Porter (1980) and Kotler (2003) and the creation of a more attractive industry.

3.1.2. Intensity of Rivalry

A number of factors increase the intensity of rivalry among incumbents including slow industry growth; large numbers of similar competitors; high fixed costs; lack of differentiation; and high exit barriers (Porter 1980). The preceding discussion has presented evidence for slow industry growth in terms of market size but, evidence has also been presented to suggest significant revenue growth over the same period.

The number of veterinary hospitals in Australia in 2005 was estimated from state registration authorities at 2,166 (BIS Shrapnel 2006) which is similar to estimates from an ABS survey in 2000 which reported 1,792 employing veterinary hospitals operating from 2,325 locations (ABS 2001). Over half of the 1,792 employing hospitals were described as one-veterinarian (522) or two-veterinarian (550) hospitals, and there were approximately 790 non-employing veterinary hospitals indicating a fragmented industry of mostly small businesses. Hence, it is likely that veterinary hospital numbers have remained relatively stable or fallen slightly in...
recent years. At the same time, the number of veterinarians entering the industry has grown and is likely to continue to grow due to the number of veterinary schools increasing from four to seven (section 2.1.3). Given the increased number of veterinarians, the average size of a veterinary hospital (measured as number of full time equivalent veterinarians) is likely to increase, aligned with US figures (Lloyd 2006), and this may create more opportunities for differentiation with smaller, sole trader and partnership owned veterinary hospitals competing in the future with larger, corporate owned veterinary hospitals.

The intensity of rivalry among veterinary hospitals may be better understood by considering life cycle, population ecology and resource based theories (Hannan & Freeman 1977; Dess & Beard 1984; Astley 1985; Young 1988; Barney 1991; Amburgey & Rao 1996; Hannan 2005; Winter, Kaniovski & Dosi 2003). Baum and Mezias (1992) stated that within these models, competition for resources drives organisational selection and population change, and evidence has supported similarities in size, structure, strategic group, customers, suppliers, distribution channels, geographic location and price as being critical determinants of competition intensity and potential organisational failure. Hence, whilst there is evidence from the general external environment that the companion animal veterinary services industry within Australia has progressed to a stage of market maturity, varying levels of intensity of rivalry may be apparent at particular geographic locations due to varying market sizes, price sensitivity, management strategies and access to suppliers.

A survey of veterinary hospitals in Australia (ABS 2001) revealed fixed costs are around 70% of total costs (approximately 65% of total revenue). Together with seasonality of veterinary hospital revenue created by climatic forces which influence the incidence of disease and requirements for disease control (section 2.1.5), this suggests the potential for stronger rivalry (Porter 1980). Hence, further capital requirements created by continuing advances in technology (section 2.1.4) are likely to ensure that as in the US, ‘most practices concern themselves a great deal with the activities of their neighboring competitors’ (Lee 2006, p. 282).
Lack of differentiation may also result in greater levels of competitive intensity and there is some evidence to suggest that the delivery of companion animal veterinary services is poorly differentiated. US data provided in Table 3.2.1 reveal that whilst the majority of veterinary clients have a regular veterinarian (suggesting relatively high switching costs), it is likely that the majority of dog and cat owners have selected their regular veterinarian or would select a veterinarian on the basis of convenient location. Further, convenient hours and reasonable fees appear to be more important to dog and cat owners than personal recommendations. These data are similar to results reported by Freiden and Goldsmith (1989) who found that consumers entering a new area were significantly less likely to use personal sources in their search for a veterinarian than in their search for doctors, dentists and lawyers.

Finally, greater levels of rivalry among incumbents may be created by high exit barriers. Industry research has generally suggested relatively poor returns to hospital owners, experienced employees and new graduate veterinarians compared with other professional services and comparable industries (ABS 2001; Heath & Niethe 2001; Frawley 2003; GCA 2008). The ABS (2001) reported low operating profit margins for the industry of around 16% compared to dentistry and general medicine of around 30% and coupled with limited sales volume due to market maturity, the relatively poor financial performance of average veterinary hospitals may limit opportunities for sale. Frawley (2003) has reported that veterinary hospital owners in non-urban areas have found it difficult to exit the industry due to a shortage of potential buyers. Hence, the decision to purchase a veterinary hospital in the past may largely be related to either the potential to earn more than as an employee or a lifestyle choice; both these factors are likely to discourage hospital owners from exiting the industry despite relatively poor returns.

Clearly, local and regional demographic trends and local management factors will be particularly significant in determining the level of rivalry among veterinary hospitals. Lee (2006) has suggested that greater management knowledge has resulted in generally lower levels of destructive price-based competition within the US. The entry of larger or corporate owned hospitals into the industry has the potential to create greater differentiation and more clearly defined strategic groups. Medium or
average sized veterinary hospital survival is most likely to be threatened under these conditions (Baum & Mezias 1992; Windrum & Birchenhall 1998) and there are potentially more opportunities for smaller or specialist hospitals to operate within market niches in the future. Given market maturity, the significance of these opportunities will be dependent upon sufficient target market size. Overall, it appears that a moderate level of competitive intensity is likely within the industry and that trends within the external environment are likely to increase competitor rivalry.

3.1.3. Threat of Substitutes

Substitute products or services are capable of performing a similar function (Porter 1980) which for this industry may be defined as companion animal healthcare services. Lee (2006) further states that substitutes for veterinary services may be classified as substitutes-in-kind or substitutes-in-use. The former fulfil the same client need, such as differing classes and brands of antibiotic or anti-parasitic agents whilst the latter more closely relate to function and are therefore of greater significance to industry attractiveness.

Substitutes for providing companion animal healthcare are restricted by state based legislation which define acts of veterinary science and restrict the delivery of such acts to registered veterinarians, primarily on the basis of animal welfare (section 2.1.3). Whilst technically a further option for a pet owner is not to seek veterinary care, this form of substitution may breach animal welfare legislation.

Lee (2006) suggests that the main substitute threat for veterinarians is among veterinarians themselves. The adoption of new technology, the addition of veterinary specialist staff or services (with respect to discipline or species) and the utilisation of non-veterinary support labour may lead to additional services or alternative delivery mechanisms and create potential substitutes for existing companion animal healthcare services (Lee 2006).
Table 3.2.2 Major sources of income for all Australian veterinary hospitals in 2000

<table>
<thead>
<tr>
<th>Income Source</th>
<th>Value ($m)</th>
<th>Percentage of Total Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income from professional services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultation</td>
<td>228.7</td>
<td>23.0</td>
</tr>
<tr>
<td>Medication (drugs used in treatment)</td>
<td>204.4</td>
<td>20.6</td>
</tr>
<tr>
<td>Vaccination</td>
<td>96.6</td>
<td>9.7</td>
</tr>
<tr>
<td>Surgery</td>
<td>109.9</td>
<td>11.1</td>
</tr>
<tr>
<td>Income from other services</td>
<td>24.7</td>
<td>2.5</td>
</tr>
<tr>
<td>Sales of merchandise</td>
<td>95.5</td>
<td>9.6</td>
</tr>
<tr>
<td>Other income</td>
<td>9.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Total income</td>
<td>993.9</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: ABS (2001)

The only major study of the veterinary services industry in Australia was conducted in 2000 and identified that the majority of revenue for a veterinary hospital is derived from professional services (see Table 3.2.2 above). Only 10% of revenue was derived from the sale of merchandise (ABS 2001). Although less comprehensive, data presented by Bryant (2008) reinforce that around 10% of revenue is therefore available to alternative pet care providers.

Vaccines are available to pet owners in the US from non-veterinarians and deregulation in the UK has required the option of medication being acquired from pharmacies by prescription. Similar changes to industry regulation in Australia would significantly increase the threat of substitutes for companion animal veterinary hospitals by potentially affecting an additional 30% of veterinary hospital revenue.
Overall, pressures from substitutes are likely to be relatively low for this professional services industry, although market maturity and changes to the political environment in the future are likely to increase these pressures based upon international comparisons.

3.1.4. Power of Buyers

Buyers are able to force industry incumbents to lower prices and provide higher quality or a wider range of services (Porter 1980). Buyers have greater bargaining power when they purchase relatively large volumes; when the product or service represents a significant percentage of the buyer’s income; when the product or service is poorly differentiated; when switching costs are low; the product or service is not considered as important; or when the buyer is more informed (Porter 1980). Further, if the number of incumbents is high or they are competing more aggressively for market share, buyer power will be relatively greater. Evidence has been presented which suggests stable pet populations with limited potential for growth in market size (section 2.1.1), poor differentiation of veterinary services (sections 3.1.1 and 3.1.2), increasing buyer knowledge (Lee 2006) and a relatively fragmented industry (section 3.1.2), and therefore the potential for high buyer power. Ultimately, the level of buyer power will be manifest through buyer behaviour and price sensitivity.

The variety of people within the household if available, the relationship of the pet within the household, and the species of pet may all contribute to the initial stimulus or recognition of the need to seek (or not to seek) companion animal veterinary services. Brockman, Taylor and Brockman (2008) have highlighted potential buyer power within this industry by suggested that ‘pet-owning consumers act as micro-level health-policy decision-makers’ (p. 397) as they are responsible for making decisions about the healthcare of their pets and because in general they are directly responsible for the costs.

The purchase of veterinary services due to high levels of risk (Freiden & Goldsmith 1989), relative infrequency and the perception by many that pets are part of the family (McHarg et al. 1995; Atkinson 2005; Brockman, Taylor & Brockman 2008) is
most likely to result in high buyer involvement and power. Perception of significant differences between brands or veterinary hospitals and high buyer involvement leads to complex buyer behaviour, whilst minimal differences promote dissonance reducing buyer behaviour (Kotler 2003). Dissonance reducing buyer behaviour is most likely as most veterinary hospitals ‘look very similar from the consumer’s perspective’ (Lee 2006, p. 282) and the main reasons for selecting a veterinarian (see Table 3.2.1) are based around convenience and price (particularly for dogs and cats). Freiden and Goldsmith (1989) did find that 72% of respondents to their study perceived differences in quality among veterinary service providers (although this was lower than for medical, dental and legal services) suggesting more complex buyer behaviour in some market segments and associated greater buyer power. Hence, word of mouth communication may play an important role for veterinary clients as for other high credence services (Buttle 1998; Sweeney, Soutar & Mazzarol 2008) in both the pre-purchase and post purchase phases of buyer behaviour (Freiden & Goldsmith 1989; Harrison-Walker 2001). Alternatively, as the majority of dog and cat owning households have a regular veterinarian (see Table 3.2.1), there is also the potential for veterinary marketing techniques to bond clients to the veterinary hospital, reduce buyer power, and move clients toward habitual buyer behaviour.

Research from Canada (Ipsos-Reid 2001) found that on average 81% of pet owners visited the veterinarian each year, and US data has reported that approximately 85% of households with dogs and 67% of households with cats visited the veterinarian at least once annually in 2001 (AVMA 2002). The most recent National Pets and People Survey in Australia (Headey 2007) found that 72% of pet owners visited the veterinarian each year. Household pet ownership, visit and expenditure data from the US are summarised in Table 3.2.3. Visits to the veterinarian by other pet owning households in the US varied from approximately 13% for bird owners, 57% for horse owners, 55% for ferrets, 16% for rabbits, 15% for guinea pigs, and 14% for other exotic species (AVMA 2002) indicating that buyer power is also dependent upon the species of companion animal.

Individual relationships within the household, between household members and the pet, or the level of emotional attachment; recovery expectations; financial sacrifice;
owner guilt; and external decision influencers including other family members and
the veterinarian, have all been proposed as factors affecting decisions regarding the
amount and type of veterinary services purchased (Daneshvary & Schwer 1993;
Brockman, Taylor & Brockman 2008). Research supporting these assertions has
been described by Hart (1990) in relation to level of attachment and is further
evidence by US studies indicating that the species of pet is important in determining
the frequency of visits to the veterinarian, level of veterinary expenditure (AVMA
2002), and the uptake of pet insurance (Swiecki 1983).

Table 3.2.3 US household pet ownership and veterinary expenditure data for 2001

<table>
<thead>
<tr>
<th>Item</th>
<th>Dogs</th>
<th>Cats</th>
<th>Birds</th>
<th>Horses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of households owning pets</td>
<td>36.1%</td>
<td>31.6%</td>
<td>4.6%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Average number owned</td>
<td>1.6</td>
<td>2.1</td>
<td>2.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Households obtaining veterinary care</td>
<td>85%</td>
<td>66.8%</td>
<td>12.9%</td>
<td>56.7%</td>
</tr>
<tr>
<td>Average visits per household per year</td>
<td>2.7</td>
<td>1.8</td>
<td>0.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Veterinary expenditure per household per year (mean)</td>
<td>$261</td>
<td>$160</td>
<td>$18</td>
<td>$263</td>
</tr>
<tr>
<td>Veterinary expenditure per animal (mean)</td>
<td>$179</td>
<td>$85</td>
<td>$9</td>
<td>$112</td>
</tr>
</tbody>
</table>

Source: AVMA (2002)

Ipsos-Reid (2001) has segmented the Canadian pet care market into four areas.
Their survey of 50,000 households resulted in the following distribution: pet
humanists (31%); conscientious pet owners (24%); pet pleasers (25%); and pet
traditionalists (20%).

Humanists are described as caring and devoted pet owners, had the second highest
level of income, were single, female, young (38% under 35 years), most likely to
own a purebred dog and accounted for the majority of visits to the veterinarian with
90% visiting within the last year (Ipsos-Reid 2001). For this group, the attitude of
the veterinarian towards pets, professional appearance of staff and the relationship
between the pet owner and veterinarian were vital factors in selecting a veterinarian (price was least important) (Ipsos-Reid 2001).

Conscientious pet owners were more likely to reflect average households in terms of size and number of children, were the highest income group and were mostly represented by males (Ipsos-Reid 2001). This group recorded the second highest level of expenditure on pets in the last 12 months and visited the veterinarian an average number of times (Ipsos-Reid 2001). When selecting a veterinarian they behaved similarly to humanists but also emphasised the importance of location and hours, with price again being least important (Ipsos-Reid 2001).

Pet pleasers were more likely to reflect the average with respect to marital status and education and were typically female with lower incomes (Ipsos-Reid 2001). Approximately 77% had visited the veterinarian in the last 12 months but this group was the most likely to consider price important in selecting a veterinarian (Ipsos-Reid 2001).

Pet traditionalists were more likely to own their own home than rent, have larger households and incomes slightly lower than average (Ipsos-Reid 2001). They were slightly older on average (43 years) and more likely to be male (Ipsos-Reid 2001). This group was also more likely to own more than one pet, keep their pets outside and viewed their pets as pets rather than family or babies (Ipsos-Reid 2001). This segment spent the least on veterinary services, visited the veterinarian less than average (68% compared to 81% in the last year) and was the most likely to have never visited the veterinarian or only for emergency procedures (Ipsos-Reid 2001). Pet traditionalists were also more likely to switch veterinarians based upon cost considerations (Ipsos-Reid 2001).

The lower level of attachment indicated by pet traditionalists compared to humanists and conscientious pet owners is an important factor in determining price sensitivity (Brockman, Taylor & Brockman 2008) and the importance of price to both pet pleasers and pet traditionalists indicates the potential for income to be a determinant of price sensitivity as previously suggested by Daneshvary and Schwer (1993). There is some evidence from US research to indicate a relationship between
pet ownership and income (AVMA 2002) as well as evidence from Canadian pet ownership market segmentation (Ipsos-Reid 2001) and US in-depth interviews (Brockman, Taylor & Brockman 2008) which suggests income and price are important in veterinary purchasing decisions.

Studies by Ehlert (1997) have provided evidence that the demand for veterinary services in the US is income inelastic overall. For some market segments price is more important and linked to household income (pet traditionalists), whilst for others the level of attachment is strong enough to remove any link with household income (Ipsos-Reid 2001; Brockman, Taylor & Brockman 2008). More specifically, research has found that 13% of pet owners with incomes less than $45,000, 19% with incomes between $45,000 and $85,000, and 35% with incomes greater than $85,000, were willing to spend in excess of $1,000 on veterinary care (Ipsos-Reid 2001).

US data have also linked veterinary income levels to household income and community size (AVMA 2005). Veterinarians play an important role in determining final pet health-care decisions and expenditures (Brockman, Taylor & Brockman 2008) suggesting that apparent level of attachment, price sensitivity, income elasticity and community values affect veterinarian perceived buyer power and influence incumbent profitability.

A number of features of the generic environment for companion animal veterinary services reveal increasing buyer power including stable market size, lower switching costs, poor differentiation of services, industry fragmentation and increasing competitive intensity. If pet ownership is stabilising or falling due to the higher costs of veterinary care, individual veterinary clients are potentially more powerful due to a greater ability to influence price. However, for some market segments, the increasing strength of the bond between pets and humans and the availability of insurance and human quality medical services for pets may reduce buyer power and price sensitivity. Further, corporate ownership and growth in market segments such as other companion animal species are providing opportunities for greater differentiation and less buyer power. Industry market segmentation data suggest that approximately 55% of veterinary clients are relatively price insensitive and if pet
ownership has fallen in recent years due to price considerations, this percentage is most likely to have increased.

3.1.5. Power of Suppliers

Suppliers of labour, facilities, equipment, stock and finance are able to exert power over industry incumbents through affecting the price or quality of these inputs and therefore the ability of incumbents to derive profits (Porter 1980). Suppliers will have greater power when their industry is more concentrated, when there are minimal substitutes, when the incumbents are of minimal importance to the suppliers, when the products or services are particularly important to incumbents, or when the products or services are differentiated or incur high switching costs (Porter 1980). It was also noted by this author that the power of labour is greater when it is well organised and when it is scarce.

Pharmaceutical supplies represent approximately 30% of veterinary hospital revenue (ABS 2001) and almost all variable costs for most veterinary hospitals in Australia. BIS Shrapnel (2006) estimated that there are four main distributors of veterinary pharmaceuticals in Australia and a variety of other pharmaceutical importers and manufacturers who have limited involvement in distribution. Pharmaceutical companies are mostly large multi-national organisations also involved in human health products (Baur, Hehner & Nederegger 2003) and companion animal veterinary products generally represent a small percentage of overall sales. The relatively high costs to veterinary hospitals of pharmaceuticals and the limited number of pharmaceutical distributors suggest the power of suppliers is greater than veterinary hospitals and limits industry profitability. The recent creation of some large group hospitals in Australia (McCullough 2007) may alter the buying power of some industry incumbents in the future; the larger hospitals may increase their buying power and reduce the buying power of smaller veterinary hospitals (Lee 2006).

In 2005, there were 9,435 registered veterinarians in Australia (BIS Shrapnel 2006) and according to Heath (2002), 80-85% of veterinarians in Australia are in private practice and on average spend 78% of their time on small animals (mostly dogs and
cats), 10% on cattle and 10% on horses; figures similar to the UK. Heath (2008) has reported that the number of veterinarians per million people in Australia increased by 73% between 1981 and 2006 to 360; the veterinary population increasing at a greater rate between 2001 and 2006 than over the previous 20 years. In 2001, there were 330 veterinarians per million people in Australia compared to 213, 218 and 250 veterinarians per million people in the UK, US and Canada respectively (Heath 2002). Additionally, the number of veterinary students in 2005 was estimated at 1,941 (BIS Shrapnel 2006) and whilst approximately 10-20% of these are international students, some may remain in Australia to work in veterinary hospitals and take advantage of permanent residency options.

Remuneration for new graduate and experienced veterinarian employees in Australia is low compared to other professions (ABS 2001; GCA 2008; Heath 2008) and compared to the US (AVMA 2005) and the costs of veterinary education in Australia, the UK and the US are high (Brown & Silverman 1999; BVA 2005b; Whittington 2006; Lee 2006). Despite the move to an Award based system of pay in 2001 and greater organisation of veterinary labour in Australia, it appears that the power of veterinary labour is relatively low and this is likely to remain so into the future due to increasing numbers of veterinary graduates (section 2.1.3). There are likely to be local variations, particularly between city and rural areas due to population trends (section 2.1.1) which may create local shortages of veterinarians (Heath & Neithe 2001; Frawley 2003).

The supply of veterinarians to the industry is further complicated by the changing demographic of the profession. Feminisation of the profession has been documented in Canada and the US (Brown & Silverman 1999; Cron, Slocum, Goodnight & Volk 2000; Lofstedt 2003; Lloyd 2006), in the UK (Aitken 2003; Harrison 2003) and Australia (Heath & Lanyon 1996; Heath & Niethe 2001; Heath et al. 2006). Similar to US studies (Brown & Silverman 1999), Heath et al. (2006) found that the majority of undergraduates in Australia enter veterinary science due to an affinity for animals. Previous research has found that women have a stronger affinity for animals than men (Heath & Lanyon 1996; Brown & Silverman 1999) and that men are more likely to be discouraged by the growing disparity between veterinary starting salaries and other career opportunities (Heath & Lanyon 1996).
Approximately 80% of undergraduates in Australia are now female (Heath et al. 2006) and industry research has suggested that female veterinarians prefer more flexible working conditions, work less hours, are more likely to work part time, and are less likely to be motivated by financial rewards and future business ownership than their male counterparts (Heath & Lanyon 1996; Brown & Silverman 1999; Heath 2002). Whilst Lincoln (2004) has revealed that the reasons for and impact of feminisation is less clear, greater flexibility in working hours and less interest in business ownership by the growing majority of female veterinarians may further drive moves toward industry consolidation and corporate ownership of veterinary hospitals. Lack of motivation by financial rewards would also appear to explain the continued strong demand for undergraduate placements by women and potentially, the lower levels of income reported by female employees and employers (Brown & Silverman 1999; Heath & Niethe 2001; Smith 2002). It is clear from demand, that a veterinary career is relatively more attractive to females due to a combination of factors.

From an industry structural perspective, the requirement for a more flexible workforce and greater levels of part-time employment derived from feminisation may mitigate the apparent disparity between demand and supply. The issue of supply of labour is further complicated by increasing non-veterinarian to veterinarian ratios (Lloyd 2006) movements towards increasing the efficiency of delivery of companion animal veterinary services (Brown & Silverman 1999; Lloyd 2006).

3.2. **Industry Attractiveness**

Industry attractiveness is derived from the interaction of industry structural forces and together with incumbent conduct will determine performance as expressed by the structure-conduct-performance framework (Porter 1980; Spanos & Lioukas 2001). Further, industry structure is dynamic and subject to the actions of industry incumbents as well as external macroenvironmental forces (Porter 1980). Ultimately, industry attractiveness will be manifest by the ability of incumbent firms
to generate profit (Porter 1980) and this will be determined by three factors: industry growth, industry structural forces, and price sensitivity (Bruce 2000).

The national market for companion animal veterinary services is most likely mature with limited opportunity for growth due to low level household growth and stable levels of pet ownership. Changing attitudes towards pets have facilitated significant revenue growth despite these conditions, mostly due to services to dog owners. Pet owners in general are more strongly bonded to their pets, increasingly regard them as family members, seek higher quality veterinary services and are more willing to spend money on their pets. These social forces have been complemented by technological innovation which has driven progress in the level of sophistication of veterinary services and products as well as changes in their delivery and management. Together these forces have also combined to create more demanding and knowledgeable clients. Hence, whilst market growth in terms of client numbers has been low due to stable or declining pet ownership and low level household growth, there has been substantial growth in industry revenue (approximately 7% per annum between 1992 and 2005).

More specific industry revenue trends are provided in Table 3.3.1 and reveal that revenue growth has most recently fallen to around 2.7% per annum after a peak of approximately 11% in 1998. Hence, future revenue growth through price increases as well as market size growth will be low. The exception may be market size and revenue from other companion animal species which has the potential to grow at a higher rate, at least in the short term, based upon recent pet ownership trends. It should be noted that this sector currently only represents 5% of total industry revenue (BIS Shrapnel 2006) and US studies have found that other companion animal owners are less likely to seek veterinary care (Brown & Silverman 1999). In summary, in terms of both market size and revenue, the industry is relatively unattractive.

With respect to industry structural forces analysis, the intensity of rivalry among incumbents is likely to increase due to the entry of corporate ownership and fewer restrictions upon advertising created by political forces. The mature market and limited opportunities for growth indicated above will stimulate increased
competition. The actual number of competitors is likely to remain stable or fall as this fragmented industry moves towards greater levels of consolidation. There is further potential for increased competition from substitutes, again due to political forces leading to industry deregulation.

Table 3.3.1 Average annual percentage revenue growth for companion animal veterinary services in Australia

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</thead>
<tbody>
<tr>
<td>Revenue from dogs</td>
<td>10.3%</td>
<td>15.6%</td>
<td>7.2%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Revenue from cats</td>
<td>0.7%</td>
<td>0.0%</td>
<td>10.1%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Revenue from other pets</td>
<td>3.8%</td>
<td>5.0%</td>
<td>0.7%</td>
<td>12.6%</td>
</tr>
<tr>
<td>Total revenue</td>
<td>6.5%</td>
<td>10.6%</td>
<td>7.6%</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

From the perspective of labour, the power of suppliers is likely to remain low due to increasing numbers of veterinary graduates and minimal evidence is available for changes in the power balance with respect to suppliers of pharmaceuticals, equipment and finance. In general, due to the relatively small size of the veterinary market, the latter are all expected to maintain relatively greater power over incumbents. Large corporate owners may be able to achieve lower prices from suppliers but this will most likely be at the expense of smaller veterinary hospitals.

Buyer power is likely to increase in the future due to market maturity, increasing intensity of competition, greater relevance of substitute products and services and the increased value of individual clients to veterinary hospitals. Further, more knowledgeable clients may be able to stimulate continuing developments in quality (both functional and technical) in the absence of price increases due to competitive pressures. Greater differentiation in the longer term between larger, corporate style hospitals and smaller hospitals may counter these trends to some extent in urban markets.
Hence, from an industry structural forces perspective, the key features of the industry are increasing competitive intensity, increasing buyer power and the potential for increasing supplier power, particularly with respect to suppliers of pharmaceuticals, equipment and finance to smaller hospitals. These are increasing pressures upon profitability in an industry with comparatively low profit margins and limited opportunities for growth in market volume.

Finally, with respect to price sensitivity, whilst some limited studies from the US have suggested that the market for companion animal veterinary services is both price and income inelastic (Ehlert 1997; Lee 2006), market segmentation data has indicated that at least 20% of veterinary clients will reveal a greater degree of price sensitivity (Ipsos Reid 2001). Further increases in fees will therefore result in a decline in pet ownership and the uptake of veterinary services, particularly for the growing older and lone person households representing this ‘traditional’ price sensitive segment. Moreover, this research has demonstrated the need for further exploration of the relationship between pet ownership, veterinary client numbers and fees within Australia.

Specifically, the range in which demand remains inelastic with respect to price will be of particular significance to incumbents; recent price trends will most likely have affected the relative size of each of market segment. Strategically, opportunities may arise for veterinary hospitals capable of achieving greater efficiency of operations (such as through branding, power over suppliers or utilisation of non-veterinary labour) to stimulate growth in market segments through pricing or to achieve improvements in performance through economies of scale.

Whilst national trends in industry attractiveness have been presented, there will be local variations in political, economic, social, technological and natural forces. Similarly, as the market for companion animal veterinary services is geographically based (Catanzaro & Seibert 2000), industry structural forces will be influenced by geographic boundaries, management practices, local area disposable income, and varying price and income elasticity, creating a range of competitive environments and values for local industry attractiveness. In summary, local industry conditions
will provide a more significant guide to the development of optimal business and marketing strategies for individual incumbents.

3.3. SUMMARY

Hence, from the above analysis the effect of continuation of current social trends with respect to household propensities and pet ownership is that the market for companion animal veterinary services is mature. Despite good revenue growth in recent years, industry profitability and returns to owners and employees remain low compared to other professions and any significant growth in industry profitability will be based upon increased fees and or decreased costs rather than organic growth. These conclusions are similar to those previously expressed in a report to the US veterinary industry approximately 10 years ago (Cron, Slocum Jr, Goodnight & Volk 1999).

Increased fees must be accompanied by marketing practices which result in increased perceived value (Bruce 2000); this will be particularly significant due to limited market growth and potential over-capacity. Continued utilisation of technology improvements in the delivery of veterinary services and improved technical and functional skill levels of staff are examples of management strategies that can be used to complement marketing practices. Such strategies are also aligned with changes in attitudes towards pets and an increased propensity to spend more on high quality veterinary services. Increased fees may also lead to a reduction in pet ownership and the market entering decline.

An increasing supply of veterinarians may lower labour costs and facilitate increased profits through decreased costs. The increasing costs of veterinary education, low graduate salaries in Australia compared to the US and a global market for veterinarians suggest that cost reduction through this mechanism is unlikely to be sustainable. Increased efficiency of delivery of companion animal veterinary services and improved labour productivity (Brown & Silverman 1999; Catanzaro et al. 2000) or decreased costs through industry consolidation (Catanzaro 2000) are alternative options which may be pursued by companion animal veterinary hospitals.
in Australia. Indeed, corporate veterinary hospitals will rely upon these strategies to achieve superior returns (Greencross 2007).

The following chapter will examine the impact of recent demographic and pet ownership trends and other external environment forces on individual veterinary hospital performance within the Australian industry through a series of case studies. These case studies have been used to develop an improved understanding of the environment, marketing strategy and marketing performance relationship at the individual veterinary hospital level and together with the preceding analysis, informed a survey designed to test research hypotheses linking the environment, marketing practices and marketing performance.
According to the structure-conduct-performance framework (Porter 1981; Spanos & Lioukas 2001), industry structure and industry attractiveness will in part be derived from the actions of incumbents. Further, as the market for companion animal veterinary services is geographically based (Catanzaro & Seibert 2000) and the various macroenvironment forces are likely to vary with geographic area, any potential relationship between environment, marketing practices and marketing performance will vary with geographic location. The following section provides the results of an analysis of both quantitative and qualitative industry data obtained through a series of six case studies. The objectives of this research were to examine the potential relationships between environment, marketing practices and marketing performance at the disaggregated level over time and therefore complement the analysis of aggregated data provided previously and provide a foundation for subsequent research hypotheses.

Case study participants were obtained from an email invitation sent to hospital owners who are members of the Australian Veterinary Practice Management Association and this research was approved by the Human Ethics Committee of the University of Western Sydney (Approval Number 06/033). Eight veterinary hospital owners or managers responded to this request but only six were able to provide most of the financial data required for this analysis.

These case studies describe the environment, marketing practices and marketing performance for each incumbent over the period of time for which financial data were available (at least 2001-2006). Data used in these descriptions include secondary data from ABS population censuses and national pet ownership statistics incorporated into an Excel-based model derived from the revenue equation (Hagerty 1997) and a refinement of the model described by Catanzaro and Seibert.
(2000) as a mechanism for estimating the size of the market for companion animal veterinary services. A full description of the model and demonstration of its application to estimate current and future market size and revenue at the industry level is available in the appendix of this thesis.

Specific quantitative data describing financial and marketing performance were derived from hospital financial reports, collected via a questionnaire (see appendix) and analysed for trends using Microsoft Excel. Qualitative data were collected via semi-structured personal interviews, recorded using an MP3 device and written summaries were created from these recordings using a standard template (see appendix). Qualitative data from these summaries and related quotes from recordings were used to augment descriptions provided by quantitative data and explore the relationship between environment, marketing practices and marketing performance in greater depth.

Whilst the previous chapter provided an analysis of environment, industry attractiveness and performance from available secondary data at an aggregated level, this chapter will analyse the relationship between environment, marketing strategy and marketing performance at the disaggregated level using a combination of secondary and primary data. The chapter will proceed with a description of each case study followed by a discussion which integrates the results of this research and provides a foundation for research hypotheses which will be developed later in this thesis and tested through survey research.

4.1. Case Study I

This case describes a well-established companion animal practice (over 20 years since founded) in a stable, wealthy, capital city suburb of Australia. The hospital is staffed by 6 full time equivalent veterinarians, 8 nursing staff and numerous weekend staff (students and volunteers). The hospital uses RxWorks software for client management and administration and reports generated from this program provided the quantitative data for this case study.
4.1.1. Environment

This section will review the major demographic characteristics of the statistical local area (SLA) and therefore those most typical of the client base served by this practice. Census data from 1996 to 2006 are provided in Tables 4.1.1 and 4.1.2.

The demographic characteristics of Case Study I are generally more favourable to pet ownership and the delivery of companion animal veterinary services than those of Australia overall. The percentages of households as separate dwellings and family couples with children are higher than average for Australia and median weekly household income is 2-3 times the national average. In addition, the percentage of dwellings being rented is less than half the national statistic.

However, household numbers for Case Study I area were stagnant during the period from 1996 to 2006 (0.01% annual growth) compared to Australia overall (1.6% annual growth) indicating limited growth opportunities for individual veterinary hospitals servicing this population and hence on demographic figures alone, a mature or possibly declining market depending upon household propensities and pet ownership.

The percentage of the population born in Australia within the case study area in 2006 was 64% compared to the Australian average of 71% which arguably could result in slightly lower than average ownership of companion animals in this area. Apart from Australia, the main countries of birth for the case study area in 2006 were United Kingdom, South Africa, Hong Kong, New Zealand and China.

Based upon national average pet ownership data for each household type, there was a potential market of approximately 13,994 households with dogs and 9,684 households with cats in 1996, and 14,332 households with dogs and 8,637 households with cats in 2001. This represents a potential increase in clients owning dogs of 0.5% annually and a potential decrease in clients owning cats of 2.3% annually. For this period, the estimated dog population using national averages increased from 20,819 to 21,330 and the estimated cat population decreased from 14,373 to 12,821.
Table 4.1.1 Demographic characteristics for Case Study I SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th>2001 Census Data</th>
<th>2006 Census Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study I</td>
<td>Australia</td>
<td>Case Study I</td>
</tr>
<tr>
<td>Number of persons</td>
<td>99,030</td>
<td>17,892,423</td>
<td>101,346</td>
</tr>
<tr>
<td>Number of households</td>
<td>32,966</td>
<td>6,496,072</td>
<td>33,673</td>
</tr>
<tr>
<td>Born in Australia</td>
<td>67%</td>
<td>74%</td>
<td>64%</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>39</td>
<td>34</td>
<td>40</td>
</tr>
<tr>
<td>Separate house dwellings</td>
<td>86%</td>
<td>76%</td>
<td>86%</td>
</tr>
<tr>
<td>Apartment dwellings</td>
<td>10%</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>Rented dwellings</td>
<td>14%</td>
<td>29%</td>
<td>12%</td>
</tr>
<tr>
<td>Median weekly household income</td>
<td>$1,198</td>
<td>$619</td>
<td>$1,716</td>
</tr>
</tbody>
</table>

Source: ABS 2007 Census Data Time Series Profile
Table 4.1.2 Household characteristics for Case Study I SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th></th>
<th>2001 Census Data</th>
<th></th>
<th>2006 Census Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study I</td>
<td>Australia</td>
<td>Case Study I</td>
<td>Australia</td>
<td>Case Study I</td>
<td>Australia</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>15,588 (47%)</td>
<td>2,297,818 (35%)</td>
<td>15,889 (47%)</td>
<td>2,311,067 (33%)</td>
<td>15,926 (47%)</td>
<td>2,345,640 (31%)</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>7,992 (24%)</td>
<td>1,552,154 (24%)</td>
<td>8,286 (25%)</td>
<td>1,722,948 (24%)</td>
<td>8,405 (25%)</td>
<td>1,887,693 (25%)</td>
</tr>
<tr>
<td>One parent families</td>
<td>2,443 (7%)</td>
<td>648,800 (10%)</td>
<td>2,516 (7%)</td>
<td>743,153 (11%)</td>
<td>2,590 (8%)</td>
<td>799,747 (11%)</td>
</tr>
<tr>
<td>Lone person households</td>
<td>5,316 (16%)</td>
<td>1,432,816 (22%)</td>
<td>5,281 (16%)</td>
<td>1,616,213 (23%)</td>
<td>5,370 (16%)</td>
<td>1,740,483 (23%)</td>
</tr>
<tr>
<td>Group households</td>
<td>606 (2%)</td>
<td>266,002 (4%)</td>
<td>497 (1%)</td>
<td>262,551 (4%)</td>
<td>406 (1%)</td>
<td>280,852 (4%)</td>
</tr>
</tbody>
</table>

Source: ABS 2007 Census Data Time Series Profile
Applying 2001 pet ownership data to 2006 census data, there was a potential increase in the number of households with dogs to 14,484 (0.34% annually over the full 10 year period) and a potential decrease in the number of households with cats over the full 10 year period of 1.0% annually (from 9,684 in 1996 to 8,730 in 2006). For 2006, the estimated dog population using these assumptions was 21,483 and the estimated cat population was 12,913.

Given relatively stagnant household population and pet ownership trends, it is most likely that this hospital will operate in a stable to declining market in the future and an understanding of this environment locally by the interviewee was apparent:

Yes, I am aware of these trends [in pet populations] and these are very important trends and absolutely have impacted on our practice. But this is not all bad as a lot of people have less pets or no pets and for those that do they are now very much part of the family. For example, the names that pets have these days are more often human names – many less Rover’s and more Max’s. They see them as part of the family and certainly if they have a young family, kids see them as part of the family even if the parents do not quite see it that way. They’re often forced to do what needs to be done.

From the interviewee’s perspective, national trends were particularly noticeable with respect to cat numbers and a reluctance to replace pets, with wildlife in the local environment potentially acting as a stimulus for both trends:

Cats and wildlife is a big thing out our way and the cat numbers, and I would be surprised if our numbers are different. Yeah people are funny about it: try to be as responsible as they can; get as many bells as cat can cope with. Some comment that no cat due to wildlife. Some see wildlife as pets – no need for another dog as we get all the possums and the parrots coming around and we like that.
4.1.2. Marketing Strategy

The hospital was aware of industry trends with respect to dog and cat ownership as well as general demographic trends and believed these were being reflected in their client base:

Numbers of clients go down every year, the average client value goes up every year, basically less animals but people spending more on them and prepared to do more; more part of the family from what I can see.

Aligned with these comments the interviewee believed the organisational life cycle stage to be decline. The marketing goal for this particular hospital was to provide high quality services to the client base in order to maintain market share and generate referrals and recommendations through reputation. The interviewee believed that differentiation through quality would enable continued growth in revenue despite stagnant or declining pet ownership.

The main competition for this particular hospital was thought to be low cost mobile veterinary services, and the hospital was attempting to position itself in the high quality, high price market segment and thus differentiate their market offer from their perceived main competitors. It was believed that this strategy would be sustainable as the veterinary market would most likely move towards consolidation:

Consolidation of industry at some point of time in the future is inevitable and I think the practices that will do OK are big practices. They can offer all the services and make up income from extra stuff that other practices that might not be equipped or skilled to do. The really small almost house call type practices with low overheads will also survive.
4.1.2.1. **Product modification**

The delivery of a high quality services to the market has been achieved through staff training and products and services evolving with the industry to incorporate advanced medical, diagnostic and surgical services into the product offering. In addition, the hospital has expanded its product range to include export certificates for quarantine services and increased its level of mobile services, the latter mostly as a response to local mobile service competition.

With respect to delivery of these services the ratio of support staff to veterinarians had increased slightly from 1.09 to 1.33.

4.1.2.2. **Market modification**

There was a strong emphasis in the discussions on marketing with respect to providing quality services in terms of technology, approach and client perception. Aligned with this philosophy the interviewee expressed the need to educate the market regarding the availability and desirability of these higher quality services. The additional export service provided by this organisation also enabled the hospital to enter a broader geographic market as the availability of this service is limited.

4.1.2.3. **Marketing mix modification**

Aligned with a strategy focusing upon quality and perceptions of a stagnant market, this hospital has attempted to increase revenue through annual price increases (around 5% for all services) and through providing more services to clients and thereby increasing the average transaction fee and total revenue.

Promotional strategies have not varied significantly over this period with the main comment being to reduce spending on advertising through traditional means such as *Yellow Pages* and focus more upon promoting services to existing customers and encouraging word of mouth through the provision of quality, added value services. The purpose of *Yellow Pages* advertising was to maintain a presence for potential new clients. In addition, the hospital has engaged in open days, mail outs and produces a newsletter.
Measuring achievement of marketing goals is largely based upon hospital turnover, gross profit and net profit and the hospital surveys its clients to collect feedback.

4.1.3. Marketing Performance

Data for this hospital (Figure 4.1.1) reveal that the numbers of new clients (dogs, cats and other species) fell from 943 in 1996 to 612 in 2001 and have since remained relatively constant. For the full period of data collection 1996-2006, the average annual falls in all new clients, clients with dogs and clients with cats were 7.7%, 7.2% and 17.0% respectively. These data clearly support comments from the interviewee regarding client numbers and more specifically clients with cats.

Countering these changes in the potential market and actual client numbers, the hospital achieved significant revenue growth during the period from 1996 to 2006 as revealed in Figure 4.1.2.

Figure 4.1.1 Case Study I new client numbers by species from 1996 to 2006
Figure 4.1.2 Case Study I revenue trends by species from 1996 to 2006

Figure 4.1.3 Case Study I percentage of total revenue by species from 1996 to 2006
The average annual increase in average transaction fees was 10.2% and the average annual increase in total revenue was 13.1% for the period from 1996 to 2006. As revealed in Figure 4.1.3, the percentage of income obtained from dogs rose during the period 1996 to 2006 from approximately 71% to 74%; there was a corresponding fall in the percentage of income from cats (28% to 25%) and a relatively constant percentage of income from other species (1%).

Increases in revenue have therefore been achieved through annual price increases and through providing higher value services to clients and thereby increasing the average transaction fee and total revenue. The interviewee believed there had been good uptake of these services and that the associated increase in the price of veterinary services was not impacting significantly on the decision to own a pet within this market:

> [Price] is always a consideration but not a make or break factor. If people lose a pet, the decision to have another is not generally related to money and certainly with insurance products around at the moment it is less of an issue. It’s [insurance] increasing a lot and we are starting to push it; it’s great, if I have one I am happy as they are generally willing to do what needs to be done.

Price elasticity of demand for this hospital was estimated for all new clients only as species specific information for average fee was not available. The price elasticity for new clients over the full period of data was 0.83 using the mid-point method of change in quantity (new client numbers) divided by average change in price (average transaction fee) and therefore inelastic; increases in prices will result in increases in revenue with respect to new clients in general. This data however should be interpreted with some caution as species specific, active client numbers and average fees for each species were not available for analysis.
4.2. Case Study II

This case describes a more recently established companion animal hospital (1996) with the current ownership taking over from 2001. The hospital is located in a capital city urban area and is staffed by 2.5 full time equivalent veterinarians and 4 full time equivalent non-veterinary staff. The hospital was computerised in 1999 and uses RxWorks practice management software. Quantitative data describing financial and marketing performance were derived from reports created by this program.

4.2.1. Environment

The major demographic characteristics of the statistical local area and comparisons between 1996, 2001 and 2006 census data are provided in Table 4.2.1. More specific household data comparisons using census periods for this area and Australia in general are provided in Table 4.2.2.

Table 4.2.1 data suggest that the demographic characteristics of Case Study II are generally less favourable to pet ownership and the delivery of companion animal veterinary services than those of Australia overall. The percentage of households as separate dwellings is lower, the percentage of apartments and rental dwellings is higher and the median age of the population is higher than Australian averages. Median weekly household income has remained lower than the national average over all census periods.

Growth in household numbers for Case Study II area was approximately 0.7% annually over the period from 1996 to 2006 compared to 1.6% annually for Australia indicating limited growth opportunities for veterinary companion animal practice in this area.
### Table 4.2.1 Demographic characteristics for Case Study II SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th>2001 Census Data</th>
<th>2006 Census Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study II</td>
<td>Australia</td>
<td>Case Study II</td>
</tr>
<tr>
<td>Number of persons</td>
<td>17,906</td>
<td>17,892,423</td>
<td>18,930</td>
</tr>
<tr>
<td>Number of households</td>
<td>8,578</td>
<td>6,496,072</td>
<td>8,939</td>
</tr>
<tr>
<td>Born in Australia</td>
<td>75%</td>
<td>74%</td>
<td>74%</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>42</td>
<td>34</td>
<td>43</td>
</tr>
<tr>
<td>Separate house dwellings</td>
<td>44%</td>
<td>76%</td>
<td>43%</td>
</tr>
<tr>
<td>Apartment dwellings</td>
<td>39%</td>
<td>13%</td>
<td>41%</td>
</tr>
<tr>
<td>Rented dwellings</td>
<td>36%</td>
<td>29%</td>
<td>35%</td>
</tr>
<tr>
<td>Median weekly household income</td>
<td>$439</td>
<td>$619</td>
<td>$708</td>
</tr>
</tbody>
</table>

Source: ABS 2007 Census Data Time Series Profile
Table 4.2.2 Household characteristics for Case Study II SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th>2001 Census Data</th>
<th>2006 Census Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study II</td>
<td>Australia</td>
<td>Case Study II</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>1,453 (17%)</td>
<td>2,297,818 (35%)</td>
<td>1,523 (17%)</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>1,967 (23%)</td>
<td>1,552,154 (24%)</td>
<td>2,161 (24%)</td>
</tr>
<tr>
<td>One parent families</td>
<td>574 (7%)</td>
<td>648,800 (10%)</td>
<td>634 (7%)</td>
</tr>
<tr>
<td>Lone person households</td>
<td>3,681 (43%)</td>
<td>1,432,816 (22%)</td>
<td>3,625 (41%)</td>
</tr>
<tr>
<td>Group households</td>
<td>447 (5%)</td>
<td>266,002 (4%)</td>
<td>455 (5%)</td>
</tr>
</tbody>
</table>

Source: ABS 2007 Census Data Time Series Profile
Similarly, as revealed in Table 4.2.2 there is an unfavourable distribution in household type propensities compared to Australian averages. Specifically, the percentage of households with children has remained lower than the national average and the percentage of lone person households higher than the national average for all census periods. However, trends in household types over the census period indicating a fall in lone person households (0.4% annually) and a rise in couple family with children households (1.3% annually) suggest the development of conditions more favourable to pet ownership within this area.

Using national average pet ownership data, there was a potential market of approximately 2,726 households with dogs and 1,978 households with cats in 1996, and 2,874 households with dogs and 1,791 households with cats in 2001 within this statistical local area. These figures represent a potential growth in households with dogs of 1.06% annually and a potential decrease in households with cats of 1.96% annually. The estimated dog population increased over this period from 3,920 to 4,143 and the estimated cat population decreased from 2,841 to 2,581.

Using 2001 pet ownership data with 2006 census data, dog ownership and dog numbers grew annually by approximately 0.8% and cat ownership and cat numbers fell by approximately 0.7% for the full 10 year period. Between 2001 and 2006, both dog ownership and numbers and cat ownership and numbers increased slightly.

4.2.2. Marketing Strategy

The respondent was aware of industry trends with respect to dog and cat ownership as well as general demographic trends although the latter were not believed to be significant for this hospital. Data suggesting an increase in family couples with children and a fall in cat numbers are supported by comments by the interviewee:

Although the pet shops say they are selling kittens, we are just not seeing them.
We see families with children and they are buying pet dogs and the kids have a strong influence on this decision.

The marketing emphasis for this hospital is customer service – both face to face and over the telephone. The interviewee defined marketing as ‘everything we do’ with the current marketing goal being to maintain their position as a ‘top end provider’, keeping their existing clients happy and generating referrals.

4.2.2.1. Product modification

Aligned with a focus on high quality service to the market, this hospital has created policies, protocols and established standards in order to achieve consistency in the delivery of quality service, emphasising face to face and telephone interactions with clients. Staff training was specifically mentioned in the interview as being important in this process.

The hospital developed an alliance with local pet shops to deliver a service of new puppy and new kitten examinations and vaccinations at a discounted price. Other hospitals in the area had been involved in this program previously but reduced their involvement in recent years. Estimations were that pet shop referrals currently provide around 20-30 new pups per month by rough estimate yet only approximately 1 kitten per week.

The hospital maintains equipment levels aligned with this approach to high quality services and is an ASAVA Accredited Hospital of Excellence. A grooming service is also offered to support a more comprehensive pet care service.

With respect to delivery of these services there has been minimal change in the ratio of support staff to veterinary staff from 1.50 in 1999 to 1.60 in 2006 with a peak of 2.00 in 2002.
4.2.2.2. **Market modification**

The pet shop alliance and service for new puppy and kitten owners enables this hospital to reach a broader geographic market than would typically be available. Promoting the value of a high quality service to clients with varying experience as well as clients possibly attracted by a price discount, is a vital adjunct to this strategy.

Market modification may also involve increasing the usage rate of veterinary services and this may be depicted in the total number of invoices and the average number of visits per active client; the latter was estimated by dividing invoice numbers by active client numbers. The number of average visits per active client has remained relatively stable from 2000 to 2006 at around 4 for cat owners and 6 for dog owners.

4.2.2.3. **Marketing mix modification**

Prices are based upon an analysis of the market (competitor based) and the hospital generally aims to set prices above competitors to further emphasise the perception of quality complemented through policies and standards.

With respect to distribution of services, the hospital offers a mobile home visit service and also a pick up and delivery service.

Promotional strategies have mostly involved an alliance with local pet shops, newsletters and reduced spending on advertising through traditional means such as *Yellow Pages*. Cinema advertising has been used in the past but is unlikely to be used again in the future due to low perceived impact.

4.2.3. **Marketing Performance**

Data for this hospital (Figure 4.2.1) reveal that active client numbers have increased steadily over the available period from 2000 to 2006. The numbers of new clients (dogs, cats and other species) however, fell from 1,344 in 2000 to 1,171 in 2006 after a significant recovery in 2006 (Figure 4.2.2). This represents a fall in new client
numbers overall of approximately 2.3% annually. The annual fall in the number of new cat clients was much greater than the annual fall in the number of new dog clients (8.9% and 1.2% respectively).

Figure 4.2.1 Case Study II active client numbers by species from 2000 to 2006

The hospital has managed to reverse falling new client trends in the last 3 years of data (2004-2006 inclusive) with Figure 4.2.2 revealing an increase in new client numbers from 572 to 1,171 or 43.1% annually. New dog clients formed the bulk of this improvement 479 to 881 (47.7% annually) but new cat clients also increased significantly from 187 to 300 (26.7% annually).
With respect to revenue, this hospital achieved average annual increases in average client fees of 7.9% and average annual increases in total fees collected of 17.0% (Figure 4.2.3). The numbers of active clients and invoices have grown steadily and consistently during the period and average client visit numbers have remained relatively constant.

As revealed in Figure 4.2.4, the percentage of income obtained from dogs rose during the period 2000 to 2006 from approximately 70% to 78%, there was a fall in the percentage of income from cats (22% to 20%), and a significant fall in the percentage of income derived from other species and over-the-counter sales (not separated) from 8% to 2%.
Figure 4.2.3 Case Study II revenue trends by species and other sales from 2000 to 2006

Figure 4.2.4 Case Study II percentage of total revenue by species and other sales from 2000 to 2006
Price elasticity data (estimated using the mid-point formula and based upon changes in numbers of clients and average fees between 2000 and 2006) are available for both new clients and active clients for this hospital. These data are summarised in Table 4.2.3. Data for all active clients suggest the market is possibly elastic (1.1) however, more specific data for dogs and cats reveal inelastic demand (0.96 and 0.69 respectively). For new clients price elasticity for dog households is 0.14 whilst new cat clients are price elastic 1.09. Once active however, clients with dogs are more price sensitive and clients with cats are less price sensitive.

Table 4.2.3 Case Study II price elasticity of demand

<table>
<thead>
<tr>
<th>Species</th>
<th>Change in quantity</th>
<th>Change in Price</th>
<th>Elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>New clients</td>
<td>Dogs</td>
<td>0.08</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>Cats</td>
<td>0.54</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>0.14</td>
<td>0.45</td>
</tr>
<tr>
<td>Active clients</td>
<td>Dogs</td>
<td>0.51</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>Cats</td>
<td>0.35</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>0.49</td>
<td>0.45</td>
</tr>
</tbody>
</table>

4.3. Case Study III

This case describes a cat only hospital established by the current owner in the mid 1990s and located in an established capital city suburb in Australia. The hospital is located in a relatively wealthy area of Australia and is staffed by 1.5 full time equivalent veterinarians and 2.8 full time equivalent non-veterinary staff. The management software was changed in 2006 but was able to provide estimates for the data required in most cases back to 2001.
4.3.1. Environment

The major demographic characteristics of the statistical local area most likely representing the market for this hospital are provided in Table 4.3.1 and more specific household data comparisons using census periods for these areas and Australia in general are provided in Table 4.3.2. As the hospital is species specific the owner believes that it draws from a broader geographic area than a standard companion animal practice and hence statistical local area data should be viewed with some caution; they are however used to maintain consistency in the case study data collection process.

Tables 4.3.1 and 4.3.2 suggest that the demographic characteristics of Case Study III are generally slightly less favourable to pet ownership and the delivery of companion animal veterinary services than those of Australia overall. The percentage of the population born in Australia is lower than the national average and this percentage decreased from 60% in 1996 to 53% in 2006. The percentage of households as separate house dwellings is lower than the national average at 50% and apartment dwellings (41%) much greater. The percentage of rented dwellings is also slightly higher at 32% although has remained stable over the 10 year period of analysis. However, the median age remained stable over the census periods and in 2006 had fallen to one year less than the national average in a slightly more favourable trend. This is also a comparatively wealthy area of Australia with a median weekly household income approximately twice the national average. Household type propensities were similar to national averages and remained relatively constant over the 10 year period.

Growth in household numbers for Case Study III area was approximately 2.1% annually over the period from 1996 to 2006 compared to 1.6% annually for Australia indicating better growth opportunities for veterinary companion animal practice in this area and an external environment suggestive of low level market growth.
Table 4.3.1 Demographic characteristics for Case Study III SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th>2001 Census Data</th>
<th>2006 Census Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study III</td>
<td>Australia</td>
<td>Case Study III</td>
</tr>
<tr>
<td>Number of persons</td>
<td>53,735</td>
<td>17,892,423</td>
<td>59,354</td>
</tr>
<tr>
<td>Number of households</td>
<td>20,577</td>
<td>6,496,072</td>
<td>22,857</td>
</tr>
<tr>
<td>Born in Australia</td>
<td>60%</td>
<td>74%</td>
<td>56%</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>36</td>
<td>34</td>
<td>36</td>
</tr>
<tr>
<td>Separate house dwellings</td>
<td>60%</td>
<td>76%</td>
<td>54%</td>
</tr>
<tr>
<td>Apartment dwellings</td>
<td>30%</td>
<td>13%</td>
<td>35%</td>
</tr>
<tr>
<td>Rented dwellings</td>
<td>32%</td>
<td>29%</td>
<td>31%</td>
</tr>
<tr>
<td>Median weekly household income</td>
<td>$978</td>
<td>$619</td>
<td>$1,371</td>
</tr>
</tbody>
</table>

Source: ABS 2007 Census Data Time Series Profile
Table 4.3.2 Household characteristics for Case Study III SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th>2001 Census Data</th>
<th>2006 Census Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study III</td>
<td>Australia</td>
<td>Case Study III</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>6,613 (32%)</td>
<td>2,297,818 (35%)</td>
<td>7,235 (32%)</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>4,863 (24%)</td>
<td>1,552,154 (24%)</td>
<td>5,521 (24%)</td>
</tr>
<tr>
<td>One parent families</td>
<td>1,743 (8%)</td>
<td>648,800 (10%)</td>
<td>1,932 (8%)</td>
</tr>
<tr>
<td>Lone person households</td>
<td>4,881 (24%)</td>
<td>1,432,816 (22%)</td>
<td>5,093 (22%)</td>
</tr>
<tr>
<td>Group households</td>
<td>1,334 (6%)</td>
<td>266,002 (4%)</td>
<td>1,353 (6%)</td>
</tr>
</tbody>
</table>

Source: ABS 2007 Census Data Time Series Profile
There was a potential market of approximately 7,699 households with dogs and 5,417 households with cats in 1996, and 8,471 households with dogs and 5,174 households with cats in 2001 within this statistical local area. These figures represent a potential growth in households with dogs of 1.93% annually and a potential decrease in households with cats of 0.91% annually. The estimated dog population using national averages would have increased over this period from 11,335 to 12,487 and the estimated cat population would have decreased from 7,951 to 7,603.

However, using 2001 pet ownership data with 2006 Census data, dog numbers grew annually by approximately 1.87% and cat numbers grew by approximately 0.43% for the full 10 year period.

4.3.2. Marketing Strategy

The respondent was aware of national dog and cat ownership trends and general demographic trends such as the ageing population and lower fertility rates however suggested that in recent years the number of couples with children was increasing as indicated from previously presented census data:

Ageing are not replacing as worried about what will happen when they die, or do not want to be attached anymore, kids gone, want to be able to leave. Used to be young couples coming in and girls would want a kitten. People were testing relationship with a pet, after 2001 went straight to making babies and coming in now to get a pet for small children. I think three groups of women are now having babies: ones that have delayed, ones that have seen what happens when you delay and ones who realise that babies are easy if you want one. Interesting to see what these trends will do.
The most important aspect of marketing for this hospital is consistency of service:

Consistency. It is most important to get inside the client’s mind and find out what they want so that you can provide what each individual client wants.

For this hospital, consistency and quality are important in relation to service delivery and include telephone manner, call-backs and newsletters or value added elements. Aligned with this philosophy is the importance of staff training and ensuring that there are capable, motivated staff to attend to clients.

Overall the interviewee believed the hospital was now in the decline phase of its life cycle and that a new product or a more favourable external environment was required to reverse these trends:

We are probably in the decline so I am looking for the new product to kick us off.

Decline is mine or economic, difficult to know but expect that if local economy picked up we would.

4.3.2.1. Product modification

Providing products and services that are of benefit to the companion animal were described as the most important guiding principles for this hospital. In this market, most cats were healthy so the focus with respect to product has moved to preventative measures to maintain health such as health screens, dentistry and packaging of similar items for clients. Additional services also include behaviour counselling and focusing upon educating clients:
The set up same today is the same as when I started but I have been driven from reactive to proactive as we no longer see sick cats. There were baby cat health issues which then changed to behaviour issues so this became important. It is now less about preventative and more about anticipating what can go wrong, and less about medicine and more about advice, nutrition, worming, and flea treatment all important.

In response to figures indicating declining levels of cat ownership, this hospital initiated a cat adoption service which has been successful and since developed at other hospitals. Cats can be adopted from the hospital for a discounted fee in an attempt to bond the new client to the hospital. The geographic range for this service is considered broad however, and the owner believed some of these new clients do not return, preferring to attend a local veterinarian.

The hospital has also more recently attempted to rationalise its product range which included an extensive range of cat related merchandise.

With respect to delivery of these services there has been minimal change in the ratio of support staff to veterinary staff from 1.92 in 1999 to 1.87 in 2006.

4.3.2.2. Market modification

Changing the attitude of clients towards the value and need for veterinary services with respect to wellness checks aligned with product modification above and expanding advertising of the cat adoption service to a broader geographic market were the main market modification strategies identified from discussions with the hospital owner.

The number of visits per active client was estimated by dividing the number of invoices by the number of active clients to suggest usage rates. From 2002 to 2006 the average number of visits per client fell from 6.0 to 5.7 with a low of 5.2 in 2005.
4.3.2.3. **Marketing mix modification**

Consultation prices were believed to be the highest in Australia based upon a recent benchmarking survey completed by the owner (not including specialist hospital pricing) and the owner believed strongly that veterinarians have traditionally undervalued their services. Over the 10 year period from 1996 to 2006 for which data are available, there was an average annual increase in the consultation fee of 6.2%. This hospital also offered a differential pricing policy since 2004; the consultation fee with the hospital owner is approximately 13% higher than the consultation fee with the associate.

The hospital moved to a new site across the road from the original premises in 2000 to provide improved parking for clients. Distribution of products to clients is also possible via email ordering and the hospital has a Petalia website however, the latter has not proven to be a revenue generator according to the owner.

Promotional strategies have involved newspaper advertisements, *Yellow Pages*, newsletters and a personal selling approach which focuses on providing written material to complement verbal instructions and advice to clients. The written material is considered vital to the overall aim of consistency which as previously emphasised is considered vital for creating recommendations and referrals.

The theme of consistency was also being applied more specifically to promotional strategies recently with the aim of examining all written communications and engaging the services of a Public Relations professional to assist in this process.

4.3.3. **Marketing Performance**

Active client numbers (Figure 4.3.1) have fluctuated over the available period from 2000 to 2006; the average annual trend represented by a fall of 1.4%. The numbers of new clients (with cats only) revealed a steady decline overall from 471 in 2002 to 364 in 2006 (Figure 4.3.2). This represents a fall in new client numbers overall of approximately 6.2% annually.
Figure 4.3.1 Case Study III active client numbers from 2000 to 2006

Figure 4.3.2 Case Study III new client numbers by species (cats only) from 2002 to 2006
Revenue for this hospital has similarly seen a reasonable level of fluctuation. Overall however, average annual increases in average client fees were 2.5% and average annual increases in total fees collected were 2.6% (Figure 4.3.3). Despite falling numbers of active and new clients, the average number of invoices each year has remained relatively static.

The number of visits per active client fell between 2002 and 2006 from 6.0 to 5.7 with a low of 5.2 in 2005.

Price elasticity of demand for new clients was 2.01 whilst for active clients the ratio is 0.56. Hence, pricing policy appears to have contributed to decreased numbers of new clients however once active, these clients are relatively price insensitive.
4.4. **Case Study IV**

This case describes a veterinary hospital in a relatively wealthy and growing capital city suburb. The hospital was established by the current ownership in the mid 1980s and is staffed by 2.1 full time equivalent veterinarians and 2.1 full time equivalent non-veterinary staff. The hospital uses RxWorks practice management software.

4.4.1. **Environment**

The major demographic characteristics of the statistical local area representing the target geographic market for this hospital and comparisons among census data are provided in Table 4.4.1. More specific household data comparisons using census periods for this area and Australia in general are provided in Table 4.4.2.

The demographic characteristics of Case Study IV are highly favourable to pet ownership and the delivery of companion animal veterinary services. The percentage of households as separate dwellings is higher and has increased between census periods, apartments and rental dwellings are lower and Australia was the birthplace for a larger percentage of the population. Median weekly household income is also higher than the national average and this has been maintained over census periods. Similarly, the distribution of household types as revealed in Table 4.4.2 strongly favours pet ownership with over half the households in the area described as family couples with children in 2006 and the lone person household propensity much less than the national average. Further, these distributions have remained relatively constant between census periods.

Growth in household numbers for Case Study IV area was approximately 4.6% annually during the period from 1996 to 2006 compared to 1.6% annually for Australia, again indicating a favourable environment for companion animal veterinary practice growth.
Table 4.4.1 Demographic characteristics for Case Study IV SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th>2001 Census Data</th>
<th>2006 Census Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study IV</td>
<td>Australia</td>
<td>Case Study IV</td>
</tr>
<tr>
<td>Number of persons</td>
<td>32,109</td>
<td>17,892,423</td>
<td>43,945</td>
</tr>
<tr>
<td>Number of households</td>
<td>10,370</td>
<td>6,496,072</td>
<td>14,270</td>
</tr>
<tr>
<td>Born in Australia</td>
<td>80%</td>
<td>74%</td>
<td>79%</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>30</td>
<td>34</td>
<td>30</td>
</tr>
<tr>
<td>Separate house dwellings</td>
<td>89%</td>
<td>76%</td>
<td>92%</td>
</tr>
<tr>
<td>Apartment dwellings</td>
<td>3%</td>
<td>13%</td>
<td>1%</td>
</tr>
<tr>
<td>Rented dwellings</td>
<td>19%</td>
<td>29%</td>
<td>19%</td>
</tr>
<tr>
<td>Median weekly household income</td>
<td>$856</td>
<td>$619</td>
<td>$1,143</td>
</tr>
</tbody>
</table>

Source: ABS 2007 Census Data Time Series Profile
Table 4.4.2 Household characteristics for Case Study IV SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th>2001 Census Data</th>
<th>2006 Census Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study IV</td>
<td>Australia</td>
<td>Case Study IV</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>5,092 (49%)</td>
<td>2,297,818 (35%)</td>
<td>6,882 (48%)</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>2,441 (24%)</td>
<td>1,552,154 (24%)</td>
<td>3,350 (23%)</td>
</tr>
<tr>
<td>One parent families</td>
<td>929 (9%)</td>
<td>648,800 (10%)</td>
<td>1,464 (10%)</td>
</tr>
<tr>
<td>Lone person households</td>
<td>1,442 (14%)</td>
<td>1,432,816 (22%)</td>
<td>1,888 (13%)</td>
</tr>
<tr>
<td>Group households</td>
<td>219 (2%)</td>
<td>266,002 (4%)</td>
<td>278 (2%)</td>
</tr>
</tbody>
</table>

Source: ABS 2007 Census Data Time Series Profile
There was a potential market of approximately 4,521 households with dogs and 3,120 households with cats in 1996, and 6,249 households with dogs and 3,753 households with cats in 2001 within this statistical local area. These figures represent a growth in households with dogs of 6.69% annually and an increase in households with cats of 3.77% annually. The estimated dog population using national averages would have increased over this period from 6,738 to 9,319 and the estimated cat population would have increased from 3,120 to 3,753.

Using 2001 pet ownership data with 2006 census data, dog numbers grew annually by approximately 5.87% and cat numbers increased by approximately 3.07% for the full 10 year period.

4.4.2. Marketing Strategy

The respondent suggested that although this hospital was located in a significant growth area consisting predominantly of young families, the numbers of clients had stabilised or declined due to increased competition in the area.

Marketing for this hospital is the ability to sell your services to both existing and potential clientele. The interviewee believed that the most important aspect of this is quality of service as distinct from technical quality as it was believed that the latter is not easily detected by clients. Similarly, the owner believed that follow-ups and delivering what you say you will are vital elements of service quality. As indicated above, marketing has become more important in recent years for this hospital due to an increasingly competitive environment:

[Marketing] goals would have remained relatively constant but before in years gone by it would have just happened without too much effort, you always just seemed to grow but nowadays you have to work harder. I imagine this has been driven by the competition.

Services offered are constantly reviewed by the hospital and there are regular meetings to ensure the achievement of goals with respect to quality.
4.4.2.1. Product modification

In addition to an emphasis upon quality products and services, this hospital initiated a loyalty program in 2003 and this was perceived to have been reasonably successful. Prior to 2002 the owner rented space within the facility to a groomer and pet supplies store but has since taken over this business to align the quality of these services with the hospital in a form of horizontal integration. The hospital also offers cat boarding.

Merchandising and over-the-counter sales have been particularly successful for this hospital in recent years and it is ideally situated for this purpose adjacent a shopping complex.

4.4.2.2. Market modification

The main market modification strategy utilised by this hospital was a letter-box drop using discount vouchers which was considered reasonably successful in increasing client numbers. Actual performance was not specifically measured and there was an impression that it was most successful for the groomer.

The loyalty program rewards clients that are more frequent (and loyal) users of the hospital and hence persuades clients to increase their usage rate and bonds them to the hospital using the incentive of a discount. The discount is mostly in the form of product and the hospital has developed a good alliance with pharmaceutical companies who effectively provide this product at limited or no cost to the hospital. Analysis of average visits per client suggests that this program has been successful. Between 1996 and 2002 average visits for all clients was around 3 per year and has since grown steadily to over 4.5 visits per year by 2006.

4.4.2.3. Marketing mix modification

Prices are generally increased by around 6-8% on an annual basis and whilst there have been some years when this did not occur, prices have never been lowered. Data collected are aligned with this strategy and indicate average fees for dogs have
increased annually by 8.0% and for cats by 6.2% with overall fees increasing annually by 8.2% from 1996 to 2006.

This hospital also uses a Petalia website and hence some clients are able to purchase over the internet but this revenue was believed to be miniscule. The website and service were promoted initially with a computer set up within the hospital however the owner believed that this form of distribution has not been embraced by clients.

Promotional strategies have included the website, letter-box drops, seminars addressing a particular topic such as obesity, an open day prior to one by a new entrant, and the loyalty card.

4.4.3. Marketing Performance

The pattern for active clients by species reveals numbers increasing to 2001, falling significantly in 2002 and 2003, a smaller fall in 2004 and then more significant falls again in 2005 and 2006. These figures are revealed in Figure 4.4.1. As suspected by the interviewee, falls in client numbers have been associated with competitor numbers; the number of competitors increased from 1-2 in 2002 and 2 to 3 in 2005.

New client numbers (dogs, cats and other species) similarly fell from 534 in 1996 to 354 in 2006 (Figure 4.4.2). This represents a fall in new client numbers overall of approximately 4.0% annually. The annual fall in the number of new cat clients was much greater at 11.2% than the annual fall in the number of new dog clients (7.8%). Figure 4.4.2 clearly reveals growth in new client numbers being maintained until 1997, a subsequent stabilisation, growth in 2000 and then relatively constant and significant decline to 2003 followed by stabilisation, slow decline and finally stabilisation again during 2006.
Figure 4.4.1 Case Study IV active client numbers by species from 1996 to 2006

Figure 4.4.2 Case Study IV new client numbers by species from 1996 to 2006
Corresponding changes in revenue for this hospital are depicted in Figure 4.4.3 and reveal a period of significant growth to 2001, relative stabilisation in 2002 and decline in 2003 followed by a relatively stable period of revenue to 2006. More specifically, revenue grew at an annual rate of 16% from 1996 to 2001 and from 2001 to 2006 grew by only 2% annually. The latter period included a fall in revenue from dogs annually of 1% and an increase in revenue from cats annually of 5%. The hospital was able to increase over-the-counter sales by 19% annually during this latter period and this has been vital to maintaining overall hospital revenue in 2006.

As revealed in Figure 4.4.4, the percentage of revenue obtained from dogs rose during the period 1996 to 2002 and has since fallen and the percentage of revenue from cats fell from 1996 to 2003 and has since increased; trends which contrast previous case study and industry data. From 2002, there has been an increase in over-the-counter sales whilst revenue from other species has remained flat.
Price elasticity of demand data are provided in Table 4.4.3 and reveal that active clients and new clients except cat owning households are not price sensitive. Hence, it is possible that pricing policies have contributed to a decrease in cat client numbers. Again, once bonded to the hospital these clients are price insensitive. Data for other species was also available for this hospital and the price elasticity of demand was 1.18 for new clients and 0.04 for active clients and hence revealed a similar trend to cat clients.
Table 4.4.3 Case Study IV price elasticity of demand

<table>
<thead>
<tr>
<th>Species</th>
<th>Change in quantity</th>
<th>Change in Price</th>
<th>Elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>New clients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dogs</td>
<td>0.50</td>
<td>0.74</td>
<td>0.68</td>
</tr>
<tr>
<td>Cats</td>
<td>0.77</td>
<td>0.58</td>
<td>1.32</td>
</tr>
<tr>
<td>All</td>
<td>0.41</td>
<td>0.75</td>
<td>0.54</td>
</tr>
<tr>
<td>Active clients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dogs</td>
<td>0.05</td>
<td>0.74</td>
<td>0.07</td>
</tr>
<tr>
<td>Cats</td>
<td>0.12</td>
<td>0.58</td>
<td>0.21</td>
</tr>
<tr>
<td>All</td>
<td>0.05</td>
<td>0.75</td>
<td>0.07</td>
</tr>
</tbody>
</table>

4.5. Case Study V

This case study involves a large rural area hospital, mostly dairy based but also providing companion animal veterinary services to the local area. The hospital was established in the mid 1960s with the current number of owners increasing to its present level from the mid 1980s. This is an 11 veterinarian hospital and there are 4 full time equivalent support staff. The hospital is computerised and uses VetAid practice management software which was used to generate reports for this analysis.

4.5.1. Environment

The major demographic characteristics of the statistical local area and comparisons among census data are provided in Table 4.5.1. More specific household data comparisons using census periods for this area and Australia in general are provided in Table 4.5.2. This rural statistical local area is much larger than urban based populations previously described and the potential diversity within this large target geographic market suggests some caution be applied in interpretation of these data.
Table 4.5.1 Demographic characteristics for Case Study V SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th></th>
<th>2001 Census Data</th>
<th></th>
<th>2006 Census Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study V</td>
<td>Australia</td>
<td>Case Study V</td>
<td>Australia</td>
<td>Case Study V</td>
<td>Australia</td>
</tr>
<tr>
<td>Number of persons</td>
<td>7,520</td>
<td>17,892,423</td>
<td>7,581</td>
<td>18,972,350</td>
<td>7,467</td>
<td>20,061,646</td>
</tr>
<tr>
<td>Number of households</td>
<td>2,632</td>
<td>6,496,072</td>
<td>2,667</td>
<td>7,072,202</td>
<td>2,763</td>
<td>7,596,182</td>
</tr>
<tr>
<td>Born in Australia</td>
<td>91%</td>
<td>74%</td>
<td>88%</td>
<td>72%</td>
<td>87%</td>
<td>70%</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>33</td>
<td>34</td>
<td>35</td>
<td>35</td>
<td>38</td>
<td>37</td>
</tr>
<tr>
<td>Separate house dwellings</td>
<td>95%</td>
<td>76%</td>
<td>95%</td>
<td>75%</td>
<td>93%</td>
<td>75%</td>
</tr>
<tr>
<td>Apartment dwellings</td>
<td>3%</td>
<td>13%</td>
<td>2%</td>
<td>13%</td>
<td>3%</td>
<td>14%</td>
</tr>
<tr>
<td>Rented dwellings</td>
<td>21%</td>
<td>29%</td>
<td>21%</td>
<td>28%</td>
<td>22%</td>
<td>27%</td>
</tr>
<tr>
<td>Median weekly household income</td>
<td>$568</td>
<td>$619</td>
<td>$753</td>
<td>$786</td>
<td>$1,035</td>
<td>$1,025</td>
</tr>
</tbody>
</table>

Source: ABS 2007 Census Data Time Series Profile
Table 4.5.2 Household characteristics for Case Study V SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th>2001 Census Data</th>
<th>2006 Census Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study V</td>
<td>Australia</td>
<td>Case Study V</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>1,121 (43%)</td>
<td>2,297,818 (35%)</td>
<td>1,028 (39%)</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>657 (25%)</td>
<td>1,552,154 (24%)</td>
<td>729 (27%)</td>
</tr>
<tr>
<td>One parent families</td>
<td>174 (7%)</td>
<td>648,800 (10%)</td>
<td>189 (7%)</td>
</tr>
<tr>
<td>Lone person households</td>
<td>517 (20%)</td>
<td>1,432,816 (22%)</td>
<td>549 (21%)</td>
</tr>
<tr>
<td>Group households</td>
<td>62 (2%)</td>
<td>266,002 (4%)</td>
<td>45 (2%)</td>
</tr>
</tbody>
</table>

Source: ABS 2007 Census Data Time Series Profile
Data from Table 4.5.1 suggest a generally favourable environment for pet ownership compared to national averages with respect to background, separate dwellings and rental dwellings. Similarly, data from Table 4.5.2 reveal a favourable distribution of household types; couple families with children are higher than the national average and lone person and group households are lower than the national average. A potentially negative influence in the future may result from the decreasing propensity for family couple with children households and increasing propensity for couple family without children households revealed between census periods.

However, household population data is relatively static within this statistical local area; total households grew by 0.3% annually between 1996 and 2001 and by 0.5% annually between 1996 and 2006. These data are considerably less than the national average of 1.6% annually and indicate limited growth opportunities for veterinary companion animal services and an external environment suggestive of maturity and low level growth.

There was a potential market of approximately 1,070 households with dogs and 744 households with cats in 1996, and 1,063 households with dogs and 647 households with cats in 2001. The estimated dog population using national averages would have decreased slightly from 1,586 to 1,574 and the estimated cat population would have decreased from 1,100 to 954. Applying pet ownership data from 2001 to 2006 data result in the number of dog owning households increasing to 1,107 and the number of cat owning households increasing to 675. In 2006, the estimated dog population using these data was 1,579 (virtually static over the 10 year period) and the estimated cat population was 959 (representing an average annual decrease of 1.4% over the 10 year period).

The hospital is aware of industry trends with respect to dog and cat ownership and general demographic trends however suspects that national pet ownership data may not apply due to lower levels of policing of legislation in rural compared to urban areas of Australia:
I am conscious that these trends [pet ownership] are there and the information is around and at some point in time they will occur. This is a slightly less regulated environment – there, but not as strict implementation; typical of a country town.

Ageing population certainly fits but there are more people electing to have children – best way to move a kitten is to show it to a 4 year old.

As a result, the owner believed that the number of clients was increasing, possibly due to local pet ownership variations and possibly derived from clients based outside this area, such as clients on holiday from urban areas bringing their dogs:

Numbers of dogs and cats coming through the door is increasing. More dogs on farms with cross breed litters, dairies have cats to be given away free. Also turnover as country area – car accidents, costs of purchase are low, often free to good home.

4.5.2. Marketing Strategy

The goal of marketing for this hospital is to achieve the best fit possible between the product or service and the people who acquire or seek to acquire it. This goal is achieved through modification of the elements of the marketing mix and ensuring that these elements are being utilised to their potential or as needed to achieve this fit. The interviewee believed that for a veterinary hospital operating in a small community, the focus should be to integrate the business and its values with the community. Achieving this integration assists in achieving the goal of establishing the best fit between the product and the market.

The owner also believed that the hospital was significantly affected by the external environment (weather, commodity prices) and diversity has been perceived to be the key to managing this environment. It was suspected for example, that the companion animal services component was on the cusp of growth due to changing
attitudes towards pets and that revenue in this area would grow significantly if provided with resources.

4.5.2.1. Product modification

The marketing goal for this hospital as mentioned above is aligned with strategies to modify products and services to fit client needs. For farm animal services the range of products and services is very broad from traditional veterinary services to agricultural, financial and training advice and support. A similar approach in small animal work would extend from traditional veterinary work to behaviour consulting although this level of diversification in the companion animal business had not yet been explored due to resource constraints previously indicated.

This hospital also offers its services to local sports clubs, assisting in administration of these clubs pro-bono and aligned with the philosophy of integrating the veterinary business with the community.

4.5.2.2. Market modification

Although not a deliberate strategy, the owner believed that the hospital attracts companion animal clients from urban areas as the area is used as a holiday destination and many of these people bring their pets with them and use the time to schedule veterinary care. Prices are typically lower than those of urban hospitals and the owner believed this feature may further encourage this broader market.

Agricultural consulting and training services are also offered to markets outside this state and the country and it was apparent from discussions with the owner that there is a culture within the organisation that promotes diversification.

Whilst average visit number data are not available for dog and cat species from this hospital, the number of invoices by species (Figure 4.5.4) reveals growth in dog invoices in particular. Active client numbers are not known and therefore the increase in invoice numbers may simply be a function of increased numbers of active clients rather than increased numbers of visits per client.
4.5.2.3. Marketing mix modification

There is an extensive range of products and services provided by the hospital accompanied by a general policy to set prices that are believed to be fair and appropriate; rewarding the hospital and the clients. Where there is competition the hospital will generally meet the market.

The hospital offers a mobile home visit service and much of the small animal work is associated with visits to farm animal clients. In addition products may be ordered over the telephone and the hospital distributes some products from a separate branch office used for administration.

Promotional strategies include local media, newspapers, newsletters, a website, Yellow Pages and direct mail outs to clients. In addition, the owner believed there is the importance of providing points of contact; farm animal visits attract companion animal work and involvement in the local sports clubs promotes the theme of availability and presence in the community.

4.5.3. Marketing Performance

In contrast to owner perceptions, Figure 4.5.1 reveals that the number of new dog owning clients fell from 188 in 1997 to 87 in 2006; representing a fall in new dog client numbers overall of approximately 8.2% annually. Other species clients for this hospital mostly represent farm animal rather than companion animals and these numbers increased from 75 to 115 or approximately 4.9% annually. Unfortunately, the number of new cat owning clients was not available.

Revenue is mostly derived from farm animal species although this fell from 98% to 95% of total revenue between 1997 and 2006. Over this same period, revenue from dogs increased from 1.5 to 4.0% (14% annually) and revenue from cats increased from 0.5 to 1% or 12% annually compared to a 1% annual increase from farm animal species (Figure 4.5.2). Figure 4.5.3 suggests however that revenue trends for both dogs and cats have more recently stabilised.
Figure 4.5.1 Case Study V new client numbers by species from 1997 to 2006

Figure 4.5.2 Case Study V percentage of total revenue by species (dogs and cats only) from 1997 to 2006
Figure 4.5.3 Case Study V revenue trends by species (dogs and cats only) from 1997 to 2006

Figure 4.5.4 Case Study V number of invoices by species from 1997 to 2006
The price elasticity of demand was 1.22 based upon the available data of new dog client numbers and average dog invoice fee (previous comparisons have used average client fee) and suggests that increases in prices may reduce revenue from dog owners although these data should be interpreted with some caution due to the varied methodology.

4.6. **Case Study VI**

The final case study describes a mixed animal species hospital established in a mostly rural area in the early 1980s and now located in an increasingly urban, regional area of Australia. Initially, the workload was approximately 50% large animal however, over the years the percentage of companion animal work has increased and in the mid 1990s the existing hospital was re-established as a purpose built hospital with a focus on companion animal work; the production animal workload has since decreased substantially. There are currently 3 full time equivalent veterinarians and 7 full time equivalent support staff.

4.6.1. **Environment**

The major demographic characteristics of the statistical local area representative of the target geographic market for this hospital and comparisons among census data are provided in Table 4.6.1. More specific household data comparisons using census periods for this area and Australia in general are provided in Table 4.6.2.

Table 4.6.1 data suggest that the demographic characteristics of Case Study VI are variable with respect to their impact upon pet ownership compared to national averages. The percentage of persons born in Australia is higher, separate house dwellings are higher and apartment dwellings are lower; all potentially favourable to pet ownership. A higher median age, more rental dwellings and median weekly household income below the national average are all potentially less favourable to pet ownership.
Table 4.6.1 Demographic characteristics for Case Study VI SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th>2001 Census Data</th>
<th>2006 Census Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study VI</td>
<td>Australia</td>
<td>Case Study VI</td>
</tr>
<tr>
<td>Number of persons</td>
<td>42,842</td>
<td>17,892,423</td>
<td>43,549</td>
</tr>
<tr>
<td>Number of households</td>
<td>15,916</td>
<td>6,496,072</td>
<td>16,805</td>
</tr>
<tr>
<td>Born in Australia</td>
<td>88%</td>
<td>74%</td>
<td>86%</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>35</td>
<td>34</td>
<td>37</td>
</tr>
<tr>
<td>Separate house dwellings</td>
<td>81%</td>
<td>76%</td>
<td>82%</td>
</tr>
<tr>
<td>Apartment dwellings</td>
<td>7%</td>
<td>13%</td>
<td>9%</td>
</tr>
<tr>
<td>Rented dwellings</td>
<td>31%</td>
<td>29%</td>
<td>33%</td>
</tr>
<tr>
<td>Median weekly household income</td>
<td>$473</td>
<td>$619</td>
<td>$546</td>
</tr>
</tbody>
</table>

Source: ABS 2007 Census Data Time Series Profile
Table 4.6.2 Household characteristics for Case Study VI SLA compared to Australia from 1996, 2001 and 2006 census data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1996 Census Data</th>
<th>2001 Census Data</th>
<th>2006 Census Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study VI</td>
<td>Australia</td>
<td>Case Study VI</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>5,035 (32%)</td>
<td>2,297,818 (35%)</td>
<td>4,624 (28%)</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>4,328 (27%)</td>
<td>1,552,154 (24%)</td>
<td>4,470 (27%)</td>
</tr>
<tr>
<td>One parent families</td>
<td>1,798 (11%)</td>
<td>648,800 (10%)</td>
<td>2,160 (13%)</td>
</tr>
<tr>
<td>Lone person households</td>
<td>3,630 (23%)</td>
<td>1,432,816 (22%)</td>
<td>4,384 (26%)</td>
</tr>
<tr>
<td>Group households</td>
<td>517 (3%)</td>
<td>266,002 (4%)</td>
<td>478 (3%)</td>
</tr>
</tbody>
</table>

Source: ABS Census Data Time Series Profiles 2007
The distribution of household types is revealed in Table 4.6.2. There is a lower percentage of family couple households with children and higher percentage of couple households without children suggestive overall of a lower level of pet ownership in this area. More significantly, household propensity trends generally favour a fall in pet ownership for this area; falling percentage family couple households with children (-1.1% annually over the 10 year period) and increasing lone person households (2.2% over the 10 year period). The exception is an increase in one parent families (average annual rate of 2.8% for the full 10 year period).

Growth in household numbers for Case Study VI area was approximately 1.2% annually from 1996 to 2006 compared to 1.6% annually for Australia and suggestive of a mature market.

There was a potential market of approximately 6,221 households with dogs and 4,355 households with cats in 1996, and 6,430 households with dogs and 3,931 households with cats in 2001. The estimated dog population increased over this period from 9,182 to 9,459 and the estimated cat population decreased from 6,404 to 5,768. Applying pet ownership data from 2001 to 2006 data result in the number of dog owning households increasing to 7,224 and the number of cat owning households increasing to 4,428. In 2006, the estimated dog population using these data was 9,937 (average annual increase from 1996 of 0.8%) and the estimated cat population was 6,068 (representing an average annual decrease of 0.5% over the 10 year period).

The interviewee was aware of national dog and cat ownership as well as general demographic trends believed that these trends were represented at the hospital level. As a result of these low growth conditions, the owner believed that a new approach to veterinary business management was required (for this hospital and more generally by the profession):
Internal environment is very important to address these issues in the external environment which are largely out of our control. The internal environment makes it pleasant or not. We can’t just put the prices up anymore we need to make the business more profitable and sell more services.

4.6.2. Marketing Strategy

Marketing for this hospital is the ability to sell services to the public and make the public aware of your merchandise and services. Aligned with this it is vital for the veterinary hospital to be in the mind of the customer. For this hospital, the most important aspect of marketing is differentiating your services from the competition:

Every veterinary practice is the same – we can all vaccinate, spey etc – and I don’t think owners can tell the difference so I need to be able to demonstrate a higher level of skill as a professional. We spend a lot of time making sure we service the needs of each client – they need to feel part of the practice and that everybody cares. I do not advertise that I am a vet and that I care as these are the same as everyone else so we look for what others are not doing and that owners want.

In particular, the owner believes that to be successful in the future the hospital (and profession) must move from traditional veterinary hospital towards a more integrated and proactive approach to healthcare. The overall goal of marketing for this hospital is to increase profit and to achieve this through greater efficiency of the healthcare team within the hospital.

Aligned with this strategy and the goal of increased efficiency is staff training and the hospital has recently embarked on a new strategy of high density scheduling which will require greater involvement of all staff in the management of cases and changing the attitude of clients to value the advice and service provided by all members of the hospital team and not just the veterinarians.
Overall the achievement of marketing goals is linked to gross revenue and profit:

Turnover and profit absolutely are driving the goals and everything reflects back to an average client. We realise we will not increase these now so what we are looking at is the number of services we offer and what people are spending.

In addition, the hospital has monthly marketing goals related to a variety of services such as routine work, consultations, vaccinations, reception sales, grooming and hospitalisation as well as active clients and new clients (although these are not disaggregated by species) and these goals are benchmarked against the same month for the previous 2 years. However, these goals are modified in light of external environmental conditions:

There are still significant variations due to some months just get more sick animals and high fee cases and goals are adjusted due to this. Our area and incomes are also dependent upon local industry which is different from the city – we feed off the local primary industry.

4.6.2.1. Product modification

With differentiation vital for this hospital, product modification is an important aspect of marketing strategy. Searching for services that are of value to existing and potential clients and not being offered by competitors (for example grooming) is therefore an integral component of the overall marketing strategy.

The focus in this strategy however is with services or products and services rather than products:

We are not a shop, we are part of a team to supply animal welfare and health.
4.6.2.2. Market modification

Educating clients regarding the value of veterinary services being delivered is an important component of the marketing strategy for this particular hospital. As mentioned previously, with the move to high density scheduling, the hospital will also have to provide an environment of greater involvement of all staff in the management of cases and changing the attitude of clients to value the advice and service provided by all members of the hospital team and not just the veterinarians.

4.6.2.3. Marketing mix modification

Prices are generally based upon cost with a mark up applied to achieve a target profit and quarterly and half yearly reports on activities are used to provide estimates of costs. There is generally no attempt to compete with other hospitals in the area using price however this hospital will occasionally look at prices for standard items such as vaccinations and speys.

For the period from 2000 to 2006 average fees increased by 4.6% annually. For cats, average annual increases in fees for 2000 to 2006 were 3.4% whilst for dogs, average fees fell annually by 3.1%. Hence, increases in average fees during this period have been driven by other species and cats.

Distribution of goods and services is largely limited to the hospital, home visits are generally discouraged in companion animal work and there has been no attempt to enable ordering or purchasing via other channels. Establishing a branch hospital was suggested as an option for growth in the future.

Promotion strategies include a monthly newsletter for all clients visiting that month, a bi-monthly newsletter for all clients who spend over a specified level within a 2 year period, newspaper articles, Yellow Pages and a website.
4.6.3. Marketing Performance

Data for this hospital (Figure 4.6.1) reveal that active client numbers remained relatively flat between 2000 and 2006. Specifically, active clients with dogs have increased whilst active clients with cats have remained flat, suggesting that active clients with other species have fallen significantly; the latter most likely associated with increasing urbanisation of the area. The numbers of new clients (dogs, cats and other species) however, fell from 1,312 in 2000 to 779 in 2006 (Figure 4.6.2). This represents a fall in new client numbers overall of approximately 8.3% annually however, given active client data, it is most likely that this fall has been driven by other (mostly production) animal species. It appears that new client cat numbers are sufficient to maintain active cat client numbers and new client dog numbers have been sufficient to stimulate growth in active client dog numbers.

*Figure 4.6.1 Case Study VI active client numbers by species from 2000 to 2006*
This hospital achieved average annual increases in average client fees of 4.6% and average annual increases in total fees collected of 5.0% between 2000 and 2006. Figure 4.6.3 provides revenue trends by species and Figure 4.6.4 reveals changes in percentage revenue from 2000 to 2006. The percentage revenue from dogs has fallen, percentage revenue from cats remained relatively stable, and percentage revenue from other sources has increased. Specifically, revenue from dogs reveals an increase of 3%, revenue from cats increased by 6%, and revenue from other sources increased by 16% (average annual figures from 2000 to 2006). Case study interview data suggest that these increases in other revenue have been driven by provision of para-veterinary services such as grooming rather than merchandise. Average client fee data presented in Figure 4.6.5 suggest that growth in the number of clients with dogs has been countered by decreasing average fees for clients with dogs. Total average client fees have risen and average cat client fees have remained relatively stable (Figure 4.6.5).
Figure 4.6.3 Case Study VI revenue trends by species, other and total revenue from 2000 to 2006

Figure 4.6.4 Case Study VI percentage of total revenue by species and other from 2000 to 2006
For this hospital, the average number of visits per client from 2001 has remained relatively stable at around 3.8.

Hence, for this hospital average fees per dog household have in general been decreasing and active dog client numbers have been increasing whilst for cat clients both have been increasing. Price elasticity of demand data are provided in Table 4.6.3 and reveal that active clients are price inelastic except in the case of dog owning households who are price elastic (1.91). Data for all new clients are available and price elasticity is 1.90 suggesting that pricing policy may be reducing new client numbers although species variations could not be determined.
<table>
<thead>
<tr>
<th>Species</th>
<th>Change in quantity</th>
<th>Change in Price</th>
<th>Elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>New clients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>0.51</td>
<td>0.27</td>
<td>1.90</td>
</tr>
<tr>
<td>Active clients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dogs</td>
<td>0.36</td>
<td>0.19</td>
<td>1.91</td>
</tr>
<tr>
<td>Cats</td>
<td>0.16</td>
<td>0.20</td>
<td>0.80</td>
</tr>
<tr>
<td>All</td>
<td>0.01</td>
<td>0.27</td>
<td>0.02</td>
</tr>
</tbody>
</table>

4.7. **Discussion**

The following discussion will focus on exploring potential relationships between the environment, marketing strategies and marketing performance from the above case studies. The results of this discussion will inform the development of hypotheses elucidated in a later chapter and tested through survey research.

4.7.1. **Environment and performance**

Table 4.7.1 provides a summary of the major environmental trends for each case study area compared to national trends assuming continuation of 2001 pet ownership levels. These data reveal that for most case studies, average annual growth in dog and cat ownership was similar to average annual growth in household number. The exceptions are Case Study V and Case Study VI which experienced average annual growth in dog and cat ownership much lower than household number growth; both these case studies revealed a fall in couple family with children households, reinforcing the importance of children in determining the level of pet ownership in the area and the potential significance of household propensity trends previously discussed.
Table 4.7.1 Average annual percentage change in demographic and pet ownership characteristics between 2001 and 2006 for each case study area

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household number</td>
<td>0.1%</td>
<td>0.5%</td>
<td>2.0%</td>
<td>2.6%</td>
<td>0.7%</td>
<td>1.4%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>0.1%</td>
<td>1.7%</td>
<td>2.2%</td>
<td>2.0%</td>
<td>-0.8%</td>
<td>-0.4%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Lone person households</td>
<td>0.3%</td>
<td>-0.5%</td>
<td>2.1%</td>
<td>3.4%</td>
<td>1.6%</td>
<td>0.6%</td>
<td>2.0%</td>
</tr>
<tr>
<td><strong>Pet ownership</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dog owning households</td>
<td>0.1%</td>
<td>0.5%</td>
<td>1.8%</td>
<td>2.4%</td>
<td>0.1%</td>
<td>1.0%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Cat owning households</td>
<td>0.1%</td>
<td>0.5%</td>
<td>1.8%</td>
<td>2.4%</td>
<td>0.1%</td>
<td>1.0%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

5 Based upon model ABS Time Series Profiles for 2006 and assuming 2001 levels of pet ownership
Table 4.7.2 Marketing performance: average annual growth rates for the period between 2001 and 2006 for each case study area

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
</tr>
</thead>
<tbody>
<tr>
<td>New clients with dogs</td>
<td>0.0%</td>
<td>10.7%</td>
<td>n/a</td>
<td>-8.7%</td>
<td>-0.7%</td>
<td>n/a</td>
</tr>
<tr>
<td>New clients with cats</td>
<td>-4.2%</td>
<td>1.1%</td>
<td>-6.2%</td>
<td>-16.9%</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>New clients total</td>
<td>0.6%</td>
<td>7.7%</td>
<td>-6.2%</td>
<td>-10.5%</td>
<td>9.7%</td>
<td>-5.6%</td>
</tr>
<tr>
<td>Active clients with dogs</td>
<td>n/a</td>
<td>8.0%</td>
<td>n/a</td>
<td>-7.7%</td>
<td>n/a</td>
<td>8.0%</td>
</tr>
<tr>
<td>Active clients with cats</td>
<td>n/a</td>
<td>4.8%</td>
<td>1.8%</td>
<td>-6.9%</td>
<td>n/a</td>
<td>4.0%</td>
</tr>
<tr>
<td>Active clients total</td>
<td>n/a</td>
<td>7.6%</td>
<td>1.8%</td>
<td>-7.3%</td>
<td>n/a</td>
<td>-0.8%</td>
</tr>
<tr>
<td>Revenue from dogs</td>
<td>6.0%</td>
<td>16%</td>
<td>n/a</td>
<td>-0.6%</td>
<td>10.3%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Revenue from cats</td>
<td>4.0%</td>
<td>12%</td>
<td>1.6%</td>
<td>4.8%</td>
<td>7.9%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Revenue total</td>
<td>5.5%</td>
<td>14%</td>
<td>1.6%</td>
<td>1.9%</td>
<td>-0.6%</td>
<td>4.0%</td>
</tr>
</tbody>
</table>
Table 4.7.3 Relationships between new client numbers and fees for each case study

<table>
<thead>
<tr>
<th></th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>VI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average fee for all clients in 2006</td>
<td>$350.07</td>
<td>$593.89</td>
<td>$430.83</td>
<td>$379.87</td>
</tr>
<tr>
<td>Median weekly household income</td>
<td>$959</td>
<td>$1,664</td>
<td>$1,351</td>
<td>$674</td>
</tr>
<tr>
<td>Average fee as a percentage of median weekly household income</td>
<td>37%</td>
<td>36%</td>
<td>32%</td>
<td>56%</td>
</tr>
<tr>
<td>Price elasticity of demand – all new clients</td>
<td>0.31</td>
<td>2.05</td>
<td>0.54</td>
<td>1.90</td>
</tr>
<tr>
<td>Price elasticity of demand – new cat clients</td>
<td>1.09</td>
<td>2.05</td>
<td>1.32</td>
<td>n/a</td>
</tr>
<tr>
<td>Price elasticity of demand – new dog clients</td>
<td>0.14</td>
<td>n/a</td>
<td>0.68</td>
<td>n/a</td>
</tr>
</tbody>
</table>

6 Data not available for Case Studies I and V
7 Calculated using the mid-point method and based on all available years of data
### Table 4.7.4 Relationships between active client numbers and fees for each case study

<table>
<thead>
<tr>
<th></th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>VI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average fee for all clients in 2006</td>
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<td>$1,351</td>
<td>$674</td>
</tr>
<tr>
<td>Average fee as a percentage of median weekly household income</td>
<td>37%</td>
<td>36%</td>
<td>32%</td>
<td>56%</td>
</tr>
<tr>
<td>Price elasticity of demand(^9) – all active clients</td>
<td>1.10</td>
<td>0.56</td>
<td>0.07</td>
<td>0.02</td>
</tr>
<tr>
<td>Price elasticity of demand – active dog clients</td>
<td>0.96</td>
<td>n/a</td>
<td>0.07</td>
<td>1.91</td>
</tr>
<tr>
<td>Price elasticity of demand – active cat clients</td>
<td>0.69</td>
<td>0.56</td>
<td>0.21</td>
<td>0.80</td>
</tr>
</tbody>
</table>

\(^8\) Data not available for Case Studies I and V

\(^9\) Calculated using the mid-point method and based on all available years of data
Table 4.7.2 summarises marketing performance for each case study using client numbers and revenue. Case Study II achieved the highest average annual increase in both client numbers and revenue but, it should be noted that data from this hospital are also associated with a recovery in client numbers and revenue. Increases in new client numbers for this hospital appear to be aligned with forming an alliance with local pet shops and offering a discounted price to these referrals. The latter strategy was reinforced by data indicating that new clients are generally price elastic (particularly cat clients as revealed in Table 4.7.3) and that active clients are generally price inelastic (Table 4.7.4). Apart from this case study, other participants suggested that word-of-mouth referrals were the main method for attracting new clients and most specifically mentioned a reduced focus on advertising. These data suggest that word-of-mouth promotion is insufficient to achieve growth in client numbers and that active networking through strategic alliances and price incentives for new clients will prove to be more effective strategies for client acquisition.

Case Studies III and IV experienced growth in household numbers and dog and cat ownership greater than the national average whilst all other case studies are operating in markets of lower growth; Case Studies I and V are virtually stagnant. Case Study III and Case Study IV both experienced significant falls in new client numbers due to competitive pressures suggesting that industry structural forces, particularly incumbent rivalry, have a more significant impact upon industry attractiveness than market growth rates and this is aligned with the structure-conduct-performance framework. Higher growth rates are likely to attract new entrants and stimulate these competitive pressures.

Unfortunately, active client data by species were not available for all case studies. Again, Case Study II revealed the greatest increase in active client numbers; slightly less than the rate of new dog clients, more than the rate of increase in new cat client numbers and approximately the same as total new client numbers. Case Study IV revealed a fall in dog, cat and all new client numbers and a similar, although smaller fall in active dog, cat and all client numbers. Across the case studies, it appears that increases and decreases in new client numbers are less than proportional to increases and decreases in active client numbers. Case Study III also demonstrated
that a significant negative average annual fall in new cat numbers (6.2%) was not sufficient to result in a fall in active cat numbers. Generally, each hospital achieved growth in active client numbers greater than or equal to growth in new client numbers or a decrease in active client numbers less than the decrease in new client numbers. These data emphasise the importance of client retention for this industry as despite negative average annual growth rates in new clients, Case Studies I, III, IV, V and VI all revealed positive average annual growth in revenue from dogs and cats.

Price elasticity data are considered in greater detail in Tables 4.7.3 and 4.7.4. New cat clients are generally price elastic and this was greatest for Case Study III; the interviewee believed that this hospital’s prices were the highest in Australia. Hence, it is likely from this data that the reported decline in cat ownership in recent years is in part due to increasing veterinary fees. Daneshvary and Schwer (1993) previously found that cat owners in the US were more sensitive to price than dog owners. Active clients were generally price inelastic and the lowest levels were achieved for Case Study IV which had implemented a loyalty program which provided discounted product to regular clients, again suggesting the importance of price to veterinary clients. Based on analysis of all active clients, Case Study II revealed the highest level of price elasticity and together with Case Study IV data, this suggests that discounted pricing to attract clients may be best complemented with a loyalty program in order to optimise client retention; the latter being more aligned with revenue than client acquisition.

For Case Study VI all new clients were price elastic (1.90); this hospital was located outside a capital city area, revealed the lowest median weekly household income and the interviewee had previously mentioned the area’s dependence upon the local primary industry economy. Similarly, data from Case Study V which is located in a rural area suggested that all new dog clients were price elastic (1.22). New client price elasticity of demand in these case studies appears to be independent of median weekly household income and average fee as a percentage of this figure. There is some evidence to suggest a link between location (non-capital cities) or community size and new client price elasticity of demand which is aligned with US studies.
demonstrating lower levels of veterinary income from rural areas and smaller communities (AVMA 2005).

Tables 4.7.3 and 4.7.4 also compare price elasticity data with median household income for each case study statistical local area. Average client fees for Case Study VI represent the highest percentage of median weekly household income and all new clients were generally price elastic for both Case Study III and Case Study VI; the former was a cat only hospital and previous analyses suggested that new cat clients are generally more price elastic. Case Study II was the only hospital for which all active clients were price elastic. From these analyses, it is difficult to define a potential relationship between income and new or active clients. Hence, this suggests that potential differences in price sensitivity between urban and non-urban areas are more likely to be related to the relative distribution of market segments previously described by Ipsos-Reid (2001) rather than income levels. Rural or non-urban areas are likely to be less attractive compared to urban areas from the perspective of price sensitivity.

4.7.2. Marketing Practices and Marketing Performance

The marketing practices of all case study participants were described from a functional perspective or a framework linked to the marketing mix and strategies to modify the offer provided (products and services), the target market and marketing mix elements. It was clear that all hospitals emphasised relational or process approaches to marketing when describing how marketing strategies were being implemented. Specifically, achieving quality, loyalty, delivering on promises, matching the marketing offer with market needs and expectations, staff training and protocol development were all discussed during interviews despite the focus on a conventional, transactional framework to interview questions. The transactional approach traditionally utilised in the development of marketing plans (Kotler & Keller 2006; McDonald 2006) is capable of describing what marketing strategies and practices are being implemented and a process approach typical of the relationship marketing literature more readily enables analysis of how these strategies are implemented.
Table 4.7.5 presents selected marketing performance indicators related to client acquisition (new clients), client retention (total active clients) and revenue, all of which have been described as important indicators of marketing performance (Blattberg & Deighton 1996; Hagerty 1997). These indicators are compared with inferred marketing emphases as defined by the contemporary marketing practices framework (Coviello, Brodie & Munro 1997). These data reveal that all case study participants practised a form of interaction marketing and those that complemented this with a form of network marketing achieved superior performance in terms of client numbers and revenue.

4.7.3. Environment and Marketing Practices

The approach to marketing taken by each case study participant was guided by experience, reflection and/or business management continuing education. In areas where competition was believed to be significant this was particularly influential in guiding marketing decisions. All participants were aware of recent demographic and pet ownership trends and all were responding to the challenge of stable or declining client numbers through a variety of strategies.

Table 4.7.6 compares marketing definitions and emphases for each case study with marketing performance data and perceptions of competitive intensity. Whilst all interviewees mentioned the importance of quality, implementation of a quality approach varied from emphasis on technical (Case Study I) to functional, with the latter interviewees most likely to discuss staff management and training. Again, these data support the strategies implemented by Case Study II as being most effective and the marketing definition provided by this interviewee encompassed not only staff management but also culture and operations management or protocol development and therefore strong inter-functional coordination. Case Studies IV and VI were more likely to define marketing in terms of selling, suggesting a greater emphasis upon transaction marketing practices than other case studies and both hospitals had experienced falling numbers of new and active clients.
### Table 4.7.5 Marketing performance and marketing practices

<table>
<thead>
<tr>
<th>Marketing performance indicator</th>
<th>Case study average annual performance change (2001-2006)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>New clients</td>
<td>0.6%</td>
</tr>
<tr>
<td>Total clients</td>
<td>n/a</td>
</tr>
<tr>
<td>Revenue</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contemporary marketing practice emphasis</th>
<th>Interaction</th>
<th>Interaction</th>
<th>Interaction</th>
<th>Interaction</th>
<th>Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Transaction</td>
<td>Networking</td>
<td>Transaction</td>
<td>Networking</td>
<td>Database</td>
</tr>
</tbody>
</table>

\(^{10}\) Total revenue declined due to revenue from other species, revenue from dogs and revenue from cats revealed average annual increases of 10.3% and 7.9% respectively and this figure represents an average of these results.
<table>
<thead>
<tr>
<th>Case Study</th>
<th>Marketing definition</th>
<th>Marketing emphasis</th>
<th>Marketing performance</th>
<th>Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Quality services</td>
<td>Technical quality</td>
<td>0.6%</td>
<td>n/a</td>
</tr>
<tr>
<td>II</td>
<td>Everything we do</td>
<td>Quality through practice standards and staff</td>
<td>7.7%</td>
<td>7.6%</td>
</tr>
<tr>
<td>III</td>
<td>Consistency</td>
<td>Understanding individual clients, staff training and alignment</td>
<td>-6.2%</td>
<td>1.8%</td>
</tr>
<tr>
<td>IV</td>
<td>Selling services</td>
<td>Functional quality and loyalty</td>
<td>-10.5%</td>
<td>-7.3%</td>
</tr>
<tr>
<td>V</td>
<td>Best fit</td>
<td>Client needs, community integration</td>
<td>9.7%</td>
<td>n/a</td>
</tr>
<tr>
<td>VI</td>
<td>Selling services</td>
<td>Service client needs, growth</td>
<td>-5.6%</td>
<td>-0.8%</td>
</tr>
</tbody>
</table>

11 Revenue for Case Study V overall fell but for dogs and cats increased by 10.3% and 7.9% respectively
4.8. **Summary**

This chapter has presented data from six case studies of individual veterinary hospitals. Four of these hospitals are companion animal only and operate in capital city urban locations, one is a predominantly companion animal hospital operating in an urban regional location and another case study predominantly services the local livestock industry with a small amount of companion animal work in a rural area of Australia.

Specifically this chapter has presented evidence which suggests that overall industry trends are having a variable impact upon individual veterinary hospitals due to a variety of external and internal influences. External influences included differing demographic trends at the local area, differing pet ownership trends at the local area, varying approaches to the application of technological trends including advances in veterinary science, varying levels of competitive rivalry and, particularly for rural and regional areas, the variable impact of local economic forces and the natural or physical environment. Internal factors were described in terms of marketing strategies and practices. Four of the six case studies were experiencing increasing levels of competition and for three of these case studies the result was negative growth in average annual new client numbers. Case Study II, which was recovering from a downturn and experiencing increasing competition, was able to achieve growth in new clients largely attributed to an alliance with local pet stores and a discount pricing policy for these referrals.

Marketing approaches for individual hospitals were generally derived from experience, reflection and awareness of business management theories. All hospitals appeared successful to varying degrees in addressing local external environmental conditions to achieve growth in revenue from companion animal veterinary services, even in the presence of stable or declining client numbers. Marketing strategies were described in terms of product, market and marketing mix modification aligned with the traditional, transactional approach to marketing although interview data clearly revealed a strong relational emphasis to implementation. These case studies have presented evidence that the conduct component of the structure-conduct-performance framework may be applied to
marketing practices and hence prior to the development of hypotheses linking environment, marketing practices and performance, the following chapter will review professional services marketing theory and the companion animal veterinary services marketing literature.

Finally, the lack of availability of data for some case study participants should also be noted. Some participants expressed particular difficulty with extracting data for these case studies and this study revealed limitations to veterinary business management software which inhibit the ability of owners to monitor marketing performance.
Chapter 5

5. COMPANION ANIMAL VETERINARY SERVICES MARKETING

The marketing of professional services is a relatively recent discipline driven by changing political forces, such as deregulation initiated in the US during the late 1970s (Shapiro & Majewski 1983; Hite & Fraser 1988), which have spread to other economies; the resultant increased focus on competition (Bloom 1984; Freiden & Goldsmith 1989; Fisk, Brown & Bitner 1993); and social forces such as attitude changes within the professions and the public (Bloom 1984; Hite & Fraser 1988; Moser, Johns & Kittrell 1995). The service industries and the services marketing literature itself have been described as mature (Fisk, Brown & Bitner 1993) and consequently, the primary focus of services marketing has moved from differentiation and attraction of new clients to establishment and maintenance of existing clients. Within this environment the relationship marketing literature itself described as most appropriate for customer retention has experienced significant growth (Srinivasan & Moorman 2005).

In order to analyse the marketing practices of companion animal veterinary service providers and examine potential relationships between these practices, the environment and marketing performance, this chapter will review the distinguishing features of professional services, professional services marketing functions, professional services marketing processes, the contemporary marketing practices framework and integrate the extant literature in these fields with veterinary marketing literature.

This discussion will therefore complement secondary data analysis from the previous chapter and initiate an examining of the links between environment, marketing practices and marketing performance within the Australian companion animal veterinary services industry. The next chapter will further develop these discussions to create specific research hypotheses linked to the research problem and objectives of this thesis.
5.1. **Features of Professional Services**

Rathmell (1966) distinguished goods and services succinctly by stating that a good refers to a noun describing an object, article, device or material whilst a service refers to a verb and describes a deed, performance or effort. As economic products, most goods require supporting services and most services require facilitating goods (Rathmell 1966; Bharadwaj, Varadarajan & Fahy 1993; Kotler 2003). Shostack (1977) similarly argued for the concept of service-based and product-based market entities, or combinations of tangible and intangible elements which represent the marketing offer. This author specifically focused on the intangible feature of services, widely regarded as the fundamental difference between products and services (Zeithaml, Parasuraman & Berry 1985; Vargo & Lusch 2008). Lovelock (1983) alternatively suggested that services could be both tangible and intangible and focused upon people or things. Finally, Grönroos (1998) has defined the market for services as involving process consumption and the market for goods as consisting of outcome consumption.

According to Gummessson (1979), professional services are distinct from other services in that they involve skilled professionals providing services that are mostly advisory in nature to businesses and/or consumers. Maister and Lovelock (1982) distinguished professional services as being high in customer contact and extent of service customisation. Hill and Motes (1995) noted extended academic preparation, an established group identity, self-regulation and an historical lack of interest in marketing. Greenwood and Lachman (1996) further emphasised underlying ‘expert power’ (p. 568) and Thakor and Kumar (2000) found a strong positive correlation between service professionalism, criticality of the outcome, required expertise, credence qualities and the importance of recommendations. Hausman’s (2003) discussion of professional services also noted the significance of often repeated one-on-one interactions, customisation of services, and client involvement and co-production of the service and outcomes.

Greenwood and Lachman (1996) suggested that the nature of interaction between clients and professionals is changing; clients have become both sources of knowledge and co-producers of the professional service (Johnston 1989;
Greenwood & Lachman 1996; de Chernatony & Segel-Horn 2001; Bowers & Martin 2007). Hence, arguably these and similar definitions of a professional service may be challenged as the traditional role of the client shifts from being a passive recipient (Greenwood & Lachman 1996, p. 566) to an active participant in the performance or process, and professional service providers develop a greater interest in marketing (Thakor & Kumar 2000).

The companion animal veterinary services industry in Australia provides skilled, advisory services to companion animal owners, products complementing these services, and performs these services for companion animals often in the presence of the client. The industry is self-regulated through state based veterinary boards guided by an administrative or legislated code of professional conduct, and through the Australian Veterinary Association and its official (Tannenbaum 1995) code of ethics. Further, as described by Greenwood and Lachman (1996), de Chernatony and Segal-Horn (2001) and Hausman (2003), the industry has experienced significant change in the nature of the interaction between companion animal owners and veterinarians. The changing nature of this interaction is exemplified in the movement from traditional doctor centred, to patient centred or relationship centred care as reported in the medical literature (Suchman 2006) and reflected in the veterinary literature through increased emphasis upon promotion of the human animal bond (Catanzaro 2001).

Brown, Fisk and Bitner (1994) reported that during the late 1970s and early 1980s the focus of the services marketing literature was the ‘goods versus services marketing debate’ (p.23) and this period gave rise to theories of the distinguishing features of services that were significant from a marketing perspective: intangibility, inseparability, heterogeneity and perishability. Zeithaml, Parasuraman and Berry (1985) argued that the relative importance of these issues varied among service organisations based upon customer type, geographical spread, duration of benefits and presence or absence of the customer during service delivery. The following section will discuss these features of services as outlined by Zeithaml, Parasuraman and Berry (1985) in the context of companion animal veterinary services.
5.1.1. Intangibility

Intangibility refers to the general lack of physical, sensual clues available prior to purchase and the inability of the purchaser to know the outcome prior to purchase (Shostack 1977; Zeithaml, Parasuraman & Berry 1985; Edgett & Parkinson 1993; Kotler 2003). Devlin (1998) has further reported that services may be both physically and mentally intangible. The lack of ability to evaluate elements of service quality leads to greater reliance upon credence qualities prior to service delivery (Taylor & Miyazaki 1995) and experience qualities during service delivery which may be considered the most tangible component of the service (Grönroos 1978). Professional services marketing strategies and tactics must therefore be designed to ‘tangibilize the intangible’ (Levitt 1981) through physical and sensual clues; promote positive word-of-mouth advertising through focusing upon the experience (Edgett & Parkinson 1993; Silvestro 1999; Harrison-Walker 2001); create a brand image for the organisation (Thomas 1978; Onkvisit & Shaw 1989; Brodie, Glynn & Little 2006); and utilise post-purchase communications (Zeithaml 1981).

Lovelock (1983) specifically defined veterinary services as tangible as these services are directed toward property and therefore provide a tangible outcome for the pet owner. Most companion animal veterinary hospitals offer a range of services from retailing which is high in search qualities, to client education and vaccination programs high in experience qualities, to major surgery which is high in credence qualities (Brush & Artz 1999). Overall, a number of authors have focused on intangibility when examining aspects of the marketing of veterinary professional services (Freiden & Goldsmith 1989; Lin & Brian 1996; Brush & Artz 1999; Bansal & Voyer 2000; Harrison-Walker 2001) and whilst physical clues may provide a tangible outcome during or immediately after the service delivery in some cases, other long-term health outcomes may not be apparent for some time (Brush & Artz 1999). For companion animal veterinarians the situation is further complicated by these outcomes being perceived and assessed by pet owners and veterinarians rather than through direct communication with the patient. Jevring-Bäck & Bäck (2007) have emphasised the importance of establishing trust to overcome the difficulties created by the intangibility of veterinary services; the importance of trust is further
emphasised by the changing nature of the human-animal bond previously discussed and the veterinarian-client-animal triad (Nestel, Robbé & Jones 2005).

5.1.2. Inseparability

Inseparability refers to the feature that services are produced and consumed simultaneously and therefore that the provider and the buyer become embedded within the service (Zeithaml, Parasuraman & Berry 1985; Edgett & Parkinson 1993; Silvestro 1999; Kotler 2003); marketing and production are highly interactive (Grönroos 1978). As a result, clients and individual staff members may build long term bonds which create high switching costs for the client (Silvestro 1999). In order to attain a sustainable competitive advantage, Bharadwaj, Varadarajan and Fahy (1993) suggested that service firms may provide service delivery options through multiple sites and achieve economies of scale in human resource functions, purchasing functions, specialised technology and marketing functions, although these must be managed in a way that facilitates maintenance of strong relationships between providers and clients.

The veterinary-client-pet interaction or triad is a significant feature of companion animal veterinary service delivery (Saunders 1994; Tannenbaum 1995; Rollin 2006; Nestel, Robbé & Jones 2005) and as previously discussed, clients are becoming more active participants in the service delivery system. The varying nature of the human animal bond and the specific needs of clients require that veterinarians develop individual rapport with clients and their pets in order to achieve optimal patient outcomes (Catanzaro 2003; Shaw, Adams & Bonnett 2004; Jevring-Bäck & Bäck 2007). Hence, as for other service industries, buyers become interested in a specific provider (Kotler 2003) and in order to operate with greater efficiency, veterinary hospitals need to develop marketing practices to overcome limitations imposed by inseparability. A variety of strategies and tactics have been presented in the veterinary literature including attempts to achieve economies of scale (Haywood-Farmer & Nollet 1985) such as through the acquisition of multiple sites (McCullough 2007); creation of a brand image (Stowe 1999; Harris, Lloyd & Marrinan 2004) or to bond clients to a veterinary practice rather than an individual
veterinarian; and increased utilisation of non-veterinary labour to improve the efficiency of service delivery (Haywood-Farmer & Nollet 1985; Catanzaro, Haig, Weinstein, Leake & Howell 2000; Lloyd 2006). Haywood-Farmer and Nollet (1985) further noted the importance of professionals focusing on individual areas of expertise and networking with other professionals for service delivery and management.

5.1.3. Variability

Dependence upon individual providers and the service environment creates the potential for variability or heterogeneity in the service offering (Zeithaml, Parasuraman & Berry 1985; Kotler 2003) and Kinard and Capella (2006) have suggested that inseparability and variability are the most important of the distinguishing features of services with respect to marketing strategy development. Variability has stimulated the development of the services quality literature (Edgett & Parkinson 1993) and stressed the importance of human resource functions of selection and training (Grönroos 1981; Brown & Swartz 1989; Kotler 2003) and operations management functions implemented through standardisation and protocol development (Booms & Bitner 1981; Parasuraman, Zeithaml & Berry 1985; Porter 1990).

Within the veterinary marketing literature, the importance of recruitment, selection, training and remuneration of staff together with team and practice culture development for ensuring quality and achieving marketing goals have been emphasised by a number of authors (Harris, Lloyd & Marrinan 2004; Jevring-Bäck & Bäck 2007).

5.1.4. Perishability

The final feature of services presented by Zeithaml, Parasuraman and Berry (1985) relates to the inability to store or create an inventory of services (although the ability to perform the service can be stored). A variety of tactics may be implemented to address this issue, generally based upon coping with fluctuations in demand
(Lovelock 1991), or adjusting the mismatches between capacity and demand (Sasser 1976). Silvestro (1999) has reported a number of supply or capacity strategies including multi-skilling, cross training, job rotation and transferring staff between multiple sites. Other examples include differential pricing, scheduling systems, the use of part time employees and shared services (Kotler 2003).

The demand for companion animal veterinary services varies over time and the services provided by veterinarians are not able to be stored, hence the final feature of services, perishability, is also evident in this industry. Aligned with the broader marketing literature, the veterinary marketing literature has addressed this issue specifically though strategies and tactics such as locating specialist centres in after-hours hospitals, decreasing reliance upon more expensive veterinary labour (Catanzaro et al. 2000; Lloyd 2006), implementation of appointment systems, part time labour and differential pricing systems (Catanzaro & Seibert 2000).

Marketing strategies and tactics therefore traditionally have attempted to manage the distinguishing features of services through attention to pricing; the type, range and timing of available services; promotion techniques including branding; and strategic alliances. The validity of these distinguishing features has more recently been questioned and Ottenbacher, Gnoth and Jones (2006) have noted that current marketing theory recognises that they may apply to both products and services. Further, it is clear from the above summary that most significantly, other management functions such as human resource management and operations management strategies and tactics need to be coordinated with marketing functions. Following the goods marketing literature, these functions were initially examined separately, but as the services marketing literature expanded, and in particular the relationship marketing literature developed, a more integrated approach emerged.

5.2. PROFESSIONAL SERVICES MARKETING FUNCTIONS

Marketing theory initially focused upon the transaction process or exchange of goods (Bagozzi 1975; Fisk, Brown & Bitner 1993; Vargo & Lusch 2004) and the corresponding functional approach to marketing stressed the importance of
product, price, place and promotion (4Ps or the marketing mix) to facilitate exchange (McCarthy 1960; Bagozzi, 1975; van Waterschoot & van den Bulte 1992).

Fundamental questions for marketing under this theory are concerned with why people enter relationships in order to exchange, and how these exchanges are resolved (Bagozzi 1975). The functions of creating an offer of value, the level of compensation required, making the offer available, and communicating the offer have been argued by van Waterschoot and Van den Bulte (1992) to be the generic functions required for a transaction to occur. The following section will analyse these functions from the perspective of companion animal veterinary services.

5.2.1. Product

Lee (2006) has applied marketing mix theory to veterinary services in the US and described product as consisting of both the physical products provided and veterinary medical services. This author emphasised the importance of the service offer aligning with the mission, values and strategy of the veterinary practice as well as the fundamental features that clients use when selecting a veterinarian. The latter were defined by Brown and Silverman (1999) as being kind and gentle; being respectful and informative; and being recognised for high quality care. These interpersonal factors are aligned with previous research by Hart (1990) and complement research stressing the role of more operational factors such as convenient location and hours, and reasonable pricing (Brown & Silverman 1999; AVMA 2002) in selecting a veterinarian.

5.2.2. Price

Lee (2006) argued that veterinarians have undervalued their services in the past and research previously presented has revealed that demand is likely to be price inelastic. Indeed, research from other professional services suggests that price is often the main indicator of quality (Silvestro 1999). Methods for pricing of companion animal veterinary services and products include cost based pricing, competitor based pricing, demand based pricing and value based pricing (Lee 2006) and this
author generally recommends a combination of approaches. The importance of local competitive pressures as described by Porter (1980) is significant for veterinary hospitals (Lee 2006), and marketing strategies designed to differentiate veterinary hospitals through the marketing offer (product), delivery or image (Kotler 2003), rather than price, have been widely recommended in the veterinary marketing literature (Stowe 1999; Catanzaro & Seibert 2000; Jevring-Bäck & Bäck 2007).

5.2.3. Placement

For companion animal veterinary services, placement or distribution is exemplified by physical location and convenience (Lee 2006). In addition to alternative distribution channels such as home visit services (Geissler 2003) historically linked to mixed species veterinary services, advances in technology have enabled companion animal veterinarians to distribute a range of offerings such as physical products, information, record systems and reports with clients. Further, advances in telemedicine and imaging have enabled companion animal veterinarians to provide specialist services more effectively and efficiently to their clients (Lee 2006).

5.2.4. Promotion

The promotion of veterinary services in the US was considered unethical prior to 1977 (Lee 2006) and over the years Yellow Pages, direct mail, newsletters, television, radio, cinema and website advertising techniques as well as publicity and public relations activities have been recommended or adopted (Stevens, Loudon & Williamson 1995; Catanzaro & Seibert 2000; Catanzaro 2001; Geissler 2003; Tran & Moser 2005; Lee 2006). Kotler (2003) has defined promotional tools as advertising, sales promotion, public relations, personal selling and direct marketing. There is evidence for these tools being recommended and utilised within the companion animal veterinary services profession (Catanzaro & Seibert 2000; Lee 2006; Jevring-Bäck & Bäck 2007) although Lee (2006) noted the importance of client retention compared to client attraction, and the benefits of creating loyal clients who are less price sensitive. Client loyalty leads to better compliance, higher quality patient care and increased revenue (Lee 2006). As argued by File, Cermak and Prince (1994),
Buttle (1998), Silvestro (1999), Harrison-Walker (2001) and Sweeney, Soutar and Mazzarol (2008), word-of-mouth advertising stimulated by satisfied clients has traditionally been considered one of the most effective forms of promotion for companion animal veterinary services (Stevens, Loudon & Williamson 1995).

5.2.5. People, Processes and Physical Facilities

This traditional, transactional approach to marketing and the functional approach of the 4Ps have been criticised by a number of authors. Grönroos (1997) has suggested that the 4Ps model was a misinterpretation of the original marketing mix concept and that it constitutes a production orientated approach to marketing rather than the more favoured market or customer orientated approaches. The latter are particularly important in service industries and hence it has been argued that the marketing requirements for service industries are beyond the framework provided by the 4Ps.

Booms and Bitner (1981) previously suggested that the traditional 4P approach should be complemented with the additional functional elements of people, processes and physical facilities for the marketing of services. The people and processes focused upon addressing inseparability and variability by emphasising service quality and the importance of human resource management and operations management functions. Physical facilities assist in addressing intangibility and were later complemented by Bitner (1992) who emphasised the importance of the servicescape on potential clients, clients and employees. Reimer and Kuehn (2005) have reported the significant impact of servicescape on customer perceptions of quality in the restaurant and financial services industries and Kim and Smith (2007) have shown the importance of servicescape or so-called non-interpersonal dimension on perceived satisfaction with child care services. Hence, this 7P framework is clearly aligned with an inter-functional coordination approach designed to manage the features of services.

Building upon the inter-functional framework, Grönroos (1984b) developed a model for services marketing which incorporated internal marketing, external marketing and interactive marketing. Internal marketing referred to training staff
and was aligned with creating a service culture required for optimal client outcomes (Johnston 1989; Bloom & Dalpe 1993; Meyer Goldstein, Johnston, Duffy & Rao 2002) through human resource management. External marketing was associated with the traditional marketing functions previously presented or defining how the organisation related to its clients and potential market. Interactive marketing further emphasised quality through people and the diffusion of marketing functions to virtually all front-line employees; as suggested by Gummesson (1991) all employees could be regarded as part-time marketers. The services marketing literature began to shift towards the importance of developing and maintaining relationships with customers rather than marketing functions required for exchange. The latter were considered more aligned with goods marketing (Fisk, Brown & Bitner 1993) and Gummesson (1991) argued that an inter-functional approach needed to move beyond the traditional 4P framework or its potential modifications. Bowers and Martin (2007) have extended this approach by recognising that as customers in service organisations increasingly assume employee-like roles and employees increasingly assume customer-like roles, greater integration of these functions will be required for service organisations to achieve success.

5.3. **Professional Services Marketing Processes**

The traditional product approach to marketing of the 4Ps framework, or goods dominant logic focusing upon providing outputs of value to customers, has been challenged by the service dominant logic literature. Rather than focusing upon the distinguishing features of services compared to goods, the latter considers service as a process resulting in the co-creation of value (Vargo & Lusch 2008). Arguably, this movement has evolved from the more customer orientated approach aligned with relationship marketing (Berry 1983) which Grönroos (1997) and Silvestro (1999) suggested provides the foundation for services marketing. Grönroos (1990, p. 138) has defined marketing with this emphasis upon relationships leading to mutually beneficial exchanges:
Marketing is to establish, maintain and enhance relationships with customers and other partners, at a profit, so that the objectives of the parties are met. This is achieved by mutual exchange and fulfilment of promises.

Service firms increase market share through attracting new customers, increasing the level of business with existing customers and through greater customer retention (Berry 1995). The transactional approach achieves these marketing objectives through focusing upon the functions required for exchange whilst the relational approach focuses upon the development of relationships which facilitate future exchange. Exchange becomes either the primary or the secondary purpose respectively of these broader marketing strategies. Similarly, transaction marketing from its goods based approach focuses upon the offering providing value, whilst relational marketing from its services marketing base focuses upon management processes (Brodie, Coviello & Winklhofer 2008) and the co-creation of value. This distinction is evident from the following two definitions provided by Kotler (2003):

Marketing is a societal process by which individuals and groups obtain what they need and want through creating, offering, and freely exchanging products and services of value with others (p. 9).

Relationship marketing has the aim of building mutually satisfying long-term relations with key parties – customers, suppliers, distributors – in order to earn and retain their business (p. 13).

Berry (1995) has noted that relationship marketing addresses a number of issues of significance to services marketing including intangibility by reducing post purchase dissonance and increasing customer loyalty. Further, the issues of inseparability, variability and perceived quality can be addressed through developing a greater understanding of the customer; relationship marketing enables the organisation to better tailor its services to the needs of individual customers (Berry 1995; Pels, Coviello & Brodie 2000) and thereby fulfil the desires of customers (Parsuraman, Berry & Zeithaml 1991). Hence, as argued by Grönnroos (2000) and Silvestro (1999)
professional services may be considered relational by nature because relationship marketing addresses the specific features of services and the requirement for close interaction between customers and sellers (Palmatier, Dant, Grewel & Evans 2006; Eisingerich & Bell 2007). Recent trends towards increased participation by customers in the delivery of professional services (Greenwood & Lachman 1996; de Chernatony & Segel-Horn 2001) further emphasise the importance of relationship marketing within these industries. Relationship marketing theory has largely been founded upon either service as a process or the associated management processes required to earn and retain customers. The relationship marketing literature in general has facilitated examination of the service encounter itself, the design of services, internal marketing (O’Malley, Patterson & Kelly-Holmes 2008) and the effective management and integration of marketing with human resource and operations management functions and processes (Gummesson 1991; Grönroos 1998). Management processes and the service process itself therefore have focused upon concepts such as satisfaction achieved through quality and the development of trust and loyalty.

5.3.1. Service Quality

Ostrum and Iacobucci (1995) have reported that quality is particularly important for high credence services. Service quality has been linked to processes, personnel and equipment (Sasser, Olsen & Wyckoff 1978) and hence the links to both human resource and operations management functions. Grönroos (1998) suggested that there were two components to service quality; technical quality linked to what is delivered and assessed through outcomes, and functional quality which is linked to how the service is delivered and therefore the management of relationships with customers. Eisingerich and Bell (2007) found that in the financial services industry, both technical and functional quality were important for developing, maintaining and promoting trust and loyalty and subsequent repurchase behaviour and word-of-mouth advertising.

Parasuraman, Zeithaml and Berry (1985) asserted that quality occurs during the service process and consists of a comparison between client expectations and
perceptions of performance. Svensson (2003) has more recently suggested that interactive service quality is a function of both the client and the provider’s expectations and perceptions and is hence more aligned with the concept of mutual benefit or co-creation of value promoted by Grönroos (2006b) and Vargo and Lusch (2008). Similarly, Bowers and Martin (2007) have highlighted the significance of the quality of the customer-employee interface in the determination of perceived quality of service. Alternatively, Johnston and Silvestro (1990) and Johnston (1995) have found evidence to support an alternative theory of quality linked to dissatisfiers and satisfiers. Despite these problems in defining and managing service quality which have been further reviewed by Robinson (1999), Bell, Auh and Smalley (2005) report that the provision of quality services has been associated with customer satisfaction, word of mouth referral, price insensitivity, sales growth and market share.

Service quality is a dynamic relationship that changes with customer experience, knowledge and confidence in expectations, and similarly increased customer expenditure and transaction complexity (Bell, Auh & Smalley 2005). These authors found that whilst both technical and functional service quality were linked to customer loyalty in the financial services industry, increasing customer investment expertise strengthened the value of technical service quality and reduced the significance of functional service quality. Berry (1995) previously suggested that a social bond with customers, whilst not able to overcome a non-competitive core product, may be able to create greater tolerance of service failure. The dynamic nature of this relationship is further highlighted by customers becoming increasingly demanding as they become more familiar with the service or as the service matures (Silvestro 1999; Kotler 2003). Traditionally, quality has been perceived as an antecedent to satisfaction, although Spiteri and Dion (2004) have suggested that an assessment of quality should also include price, and both quality and price are important for determining customer value and satisfaction.

Donabedian (1980) defined three main approaches to healthcare quality aligned with a systems quality framework: structure or the inputs to the service which mostly focus upon people; treatments, protocols, sequencing and coordination of services or processes; and measurement of patient and business outcomes.
The veterinary marketing literature has most recently noted the situational, relative, symbolic and dynamic nature of quality service; the alignment between perception and expectations in determining satisfaction and perceived quality; the importance of leadership, management commitment and staff training; and process design and control (Jevring-Bäck & Bäck 2007). Lin and Brian (1996) reported that quality healthcare had received increased attention in the veterinary community and these authors argued that business strategy must focus upon cost control and improvement of quality and services through an improved understanding of client needs. These authors also stressed the importance of benchmarking, technical and human resource management processes, and the implementation of total quality management principles. Understanding clients and their needs is apparent in Lin and Brian’s (1996) focus on veterinary healthcare as it is in the general quality management literature (Gilmore & Hunt 1995).

5.3.2. Customer Loyalty

Customer satisfaction, in part achieved through quality, has been defined as an important antecedent to customer loyalty (Spiteri & Dion 2004). Khatibi, Ismail and Thyagarajan (2002) and Yi and La (2004) have reported that whilst quality is linked to loyalty, satisfaction does not readily lead to loyalty. Organisational and customer goals are ultimately achieved through exchanging and fulfilling promises; the implementation of marketing strategy involves making realistic promises, keeping promises and enabling employees and the service delivery system to ensure delivery of promises (Bitner 1995; Grönroos 1998). Delivering what is promised (Grönroos 2006a) may also be linked to the development of loyalty through trust which is considered particularly important for professional services due to their general reliance upon credence compared to experience and search qualities (Zeithaml 1981; Parasurman, Zeithaml & Berry 1985; Brush & Artz 1999; Eisingerich & Bell 2007). Kim and Smith (2007) have further noted the value of trust in promoting word-of-mouth advertising.

Gutek, Cherry, Bhappu, Schneider and Woolf (2000) have suggested that it is possible for service organisations to form pseudo-relationships (same organisation
and different provider) that are relatively high in trust although there is also evidence that trust between customers and individual sellers will be stronger and more closely linked to outcomes than trust between customers and organisations (Doney & Cannon 1997). There is an implication that these pseudo-relationships can lead to service brand loyalty.

An emphasis upon customer loyalty is linked by Palmatier et al. (2006, p. 139) to ‘customer-focused antecedents’ and derived from the organisation’s investments in promoting benefits to customers through service attributes and processes which promote relational bonds. Customer loyalty may be associated with effective or calculative commitment or behaviour loyalty (high switching costs or lack of time to investigate alternatives), or affective commitment (emotional loyalty) with its stronger relational bonds (Ball, Coelho & Vilares 2006). This theory is aligned with organisational commitment previously described by Allen and Meyer (1990) and Nyhan (1999; 2000). Emotional loyalty has been found to be more strongly associated with word of mouth advertising in professional services (File, Cermak & Prince 1994; Palmatier et al. 2006). Similarly, service attributes may be linked to providing satisfiers or overcoming dissatisfiers; the former promoting loyalty and word of mouth advertising (File, Cermak & Prince 1994) and the latter explaining continued commitment and loyalty in a similar mechanism to that described by Herzberg’s hygiene factors (Johnston 1995). Clearly, there is the potential to consider a functional approach to marketing through the 4Ps framework as providing the basis for exchange, a relationship or fulfilment of lower order needs, and a managerial process or relationship approach to marketing for fulfilment of higher order needs. In a similar critique to that of need-value-motive theories (Ivancevich, Olekalns & Matteson 1997), the existence of a definitive hierarchy may be questioned and other motivational theories linked to intensity may be more valuable in explaining word-of-mouth advertising and persistence theory may be more valuable in describing loyalty.

Loyalty to veterinary services providers similarly consists of behavioural and affective components; the former recognised through repeat visits, frequent visits and increased spending, whilst the latter leads to generation of positive word-of-mouth (Jevring-Bäck and Bäck 2007).
Palmatier et al. (2006) have found that relationship marketing strategies are more effective when the relationship between the firm and the customer is more critical and when relationships are developed between individuals involved in the exchange, and Kinard and Capella (2006) report that relationship marketing is most effective when customers are interested in achieving long-term goals and when there are high switching costs. Ultimately, Berry (1995), Blois (1996) and Pels, Coviello and Brodie (2000) argue that some customers may prefer, and therefore will be more profitable to the organisation through a transactional approach, suggesting that both transactional and relational marketing practices may be appropriate across market segments. The purpose of the exchange between client and provider may therefore vary for different customer segments, different services and different situations and the management and marketing focus will need to change in order to more effectively achieve that purpose. Hence, the varying emphases upon transactional and relational approaches to marketing professional services may be combined to create a range of marketing practices.

5.4. CONTEMPORARY MARKETING PRACTICES

Overall, transaction marketing practices focusing upon function and relational marketing practices focusing upon process appear to be complementary rather than representing extremes of a continuum (Coviello, Winklhofer & Hamilton 2006; Brodie, Coviello & Winklhofer 2008). The dual goals of marketing regarding both acquisition and retention of customers and the distinction between offensive efforts to attract customers and defensive efforts to retain customers (Zeithaml 2000), further led Coviello, Winklhofer and Hamilton (2006) to define this complementary nature; transaction marketing practices facilitate offensive marketing strategies aimed at attracting customers and relational marketing practices provide both offensive and defensive strategies to facilitate both attraction and retention.

Coviello, Brodie and Munro (1997) described four different forms of marketing practice: transactional marketing, database marketing, interaction marketing and network marketing. Database, interaction and network marketing practices
represent varying interpretations of relationship marketing strategies (Coviello, Brodie, Danaher & Johnston 2002); strategies that typically focus on outcomes mediated through trust, commitment, satisfaction and quality (Palmatier et al. 2006). Coviello, Milley and Marcolin (2001) added an e-marketing approach which emphasised the use of the internet and other interactive technologies. The distinction between these contemporary marketing practices is based upon five elements associated with the exchange process itself and four managerial approaches (Pels, Coviello & Brodie 2000) as described in Table 5.4.1.

The following section will examine the four initial contemporary marketing practices defined by Coviello, Brodie and Munro (1997) and this attempt to provide a framework for analysing marketing in a variety of industries, involving both small and large firms.

5.4.1. Transaction Marketing

Coviello et al. (2002) have stated that in transaction marketing the managerial intent is customer attraction and satisfaction, the focus is therefore on managing the offering or brand through investing in assets that develop the product (or service), price, placement or promotion capabilities (see Table 5.4.1). In contrast to relational marketing practices, the marketing effort is directed to the customer rather than with the customer (Pels, Coviello & Brodie 2000) and correspondingly, there is an emphasis on the mass market and a relatively impersonal approach (Coviello et al. 2002).
Table 5.4.1 Marketing practices and managerial dimensions

<table>
<thead>
<tr>
<th>Purpose of exchange</th>
<th>Transactional perspective</th>
<th>Relational perspective</th>
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<tbody>
<tr>
<td>Generate profits and other financial measures of performance</td>
<td>Transaction marketing</td>
<td>Database marketing</td>
</tr>
<tr>
<td>Customer information and financial performance</td>
<td>Interaction marketing</td>
<td>Network marketing</td>
</tr>
<tr>
<td>Build long term relationships with customers</td>
<td>Build relationships with a variety of stakeholders</td>
<td></td>
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<tr>
<td>Build relationships with a variety of stakeholders</td>
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<tr>
<td>Nature of communication</td>
<td>Mass market</td>
<td>Targeted customer segments</td>
</tr>
<tr>
<td>Personal interactions with individual customers</td>
<td>Interpersonal</td>
<td>Managers networking with managers from other stakeholders</td>
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<tr>
<td>From impersonal to interpersonal across stakeholders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary contact with customers</td>
<td>No individualised or personal contact</td>
<td>Somewhat personalised such as through direct mail</td>
</tr>
<tr>
<td>Ongoing contact with customers</td>
<td>Ongoing interpersonal contact with customers</td>
<td></td>
</tr>
<tr>
<td>Ongoing contact with stakeholders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of relationship with customers</td>
<td>Discrete transactions</td>
<td>Occasional contact such as through direct mail</td>
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<tr>
<td>Ongoing contact with stakeholders</td>
<td></td>
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<tr>
<td>Formality of exchange</td>
<td>Mainly formal</td>
<td>Mainly informal yet personalised via database technologies</td>
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<td>Managerial intent</td>
<td>Transactional perspective</td>
<td>Relational perspective</td>
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<td></td>
<td>Transaction marketing</td>
<td>Database marketing</td>
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<td></td>
<td>Customer attraction and satisfaction for profit</td>
<td>Customer retention, satisfaction, profit, loyalty and decreased customer risk</td>
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<tr>
<td>Managerial focus</td>
<td>Product or brand</td>
<td>Product or brand and target market</td>
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<td></td>
<td>Internal marketing assets focusing upon offering, price, distribution and promotion capabilities</td>
<td>Internal marketing assets focusing on communication, information and technology capabilities</td>
</tr>
<tr>
<td>Managerial investment</td>
<td>Functional marketers</td>
<td>Specialist marketers</td>
</tr>
</tbody>
</table>

Adapted from Coviello et al. (2002) and Coviello, Winklhofer and Hamilton (2006)
There is some evidence that mass communication and impersonal sources of information are more effective in reaching potential veterinary clients compared to clients of other professional services (Freiden & Goldsmith 1989; Hill & Motes 1995). The importance of convenient hours and location (AVMA 2002) and the reported significance of Yellow Pages entries and outdoor signage (Catanzaro & Seibert 2000) and the emphasis on price by some veterinary clients (AVMA 2002; Ipsos-Reid 2001), further suggest that transaction marketing strategies may be of value to companion animal veterinary hospitals. For some incumbents of the companion animal veterinary services industry there is the additional complication of providing a range of retail products and services (Brush & Artz 1999) such as pet food, grooming and boarding also offered by non-veterinary competitors.

Within the contemporary marketing practices framework, the limited personal contact, focus on discrete transactions, and the use of functional marketers associated with a transaction marketing approach are unlikely to be supported by many small professional service firms (Gummesson 1979; Silvestro 1999).

5.4.2. Database Marketing

Kotler (2003) has defined database marketing as ‘the process of building, maintaining, and using customer databases and other databases (products, suppliers, resellers) for the purpose of contacting, transacting, and building relationships’ (p. 53). Coviello, Brodie and Munro (2000) defined database marketing as ‘a tool or technique used by businesses to develop and manage long-term relationships between the company and its targeted customers’ (p. 528). Through a greater understanding of demographic and psychographic factors combined with actual purchase behaviour, the firm is better able to understand its individual customers and target offerings and communication to their market segment (Kotler 2003).

Database marketing has been argued to involve the adoption of a more relational rather than transactional perspective to marketing (Coviello, Brodie & Munro 1997) although Pels, Coviello and Brodie (2000) later suggested it may be more transactional than relational as it involves marketing to the customer rather than marketing with the customer. More commonly, the contemporary marketing
practices literature classifies database marketing as relational; rather than communication strategies directed at a mass market the marketing strategy targets market segments or individuals and hence is directed toward the development of more personalised relationships. Moreover, the managerial intent is customer retention through increased loyalty and reduced customer perceived risk which then leads to increased profits (Coviello et al. 2002); the primary focus is the process of relationship building rather than exchange.

In order to implement this type of marketing practice, the organisation needs to develop a greater level of knowledge about the target market and this is facilitated by the use of information technology which enables the marketing relationship to become more personalised (Coviello, Winklhofer & Hamilton 2006); greater personalisation of the service leads to stronger loyalty (Ball, Coelho & Vilares 2006). Relational marketing strategy focuses upon the offering, brand and the target market and hence the organisation invests in internal marketing assets that provide a competitive advantage in areas such as communication and information technology management.

Database marketing from a relational perspective must provide a personalised and valuable service in order to achieve higher levels of loyalty and repeat purchase behaviour (Eisingerich & Bell 2007). Database marketing for selling is clearly more appropriately classified as a transactional marketing practice and it is likely that varying interpretations regarding the purpose of database marketing exist for both sellers and buyers.

For a professional service organisation such as a veterinary hospital, the main problems with database marketing are related to the resources necessary for building and maintaining the required information, training employees in the optimal use of related technology, ensuring that such database marketing programs are tailored to the individual needs and expectations of the buyer-seller relationship, and balancing the requirement to be respectful of privacy issues (Kotler 2003). These difficulties are particularly relevant to small businesses and Coviello, Winklhofer and Hamilton (2006) found lower levels of database marketing
compared to network, interaction and transaction marketing practices in their study of small businesses operating in the tourist accommodation sector.

Christy, Oliver and Penn (1996) noted the potential for these targeted communications to be perceived by the customer as a mechanism for sales promotion rather than trust or relationship building. In order to develop trust (Berry 1995) and loyalty (Eisingerich & Bell 2007) from a relationship marketing perspective, the focus of these targeted communication strategies must be to establish and maintain close relationships (Barnes 1994; Catanzaro & Seibert 2000), create the perception of ‘special status’ (Czepiel 1990), and deliver information that veterinary clients value (Catanzaro & Seibert 2000).

5.4.3. Interaction Marketing

Coviello, Brodie and Munro (2000) state that ‘interaction marketing implies face-to-face interaction within relationships’ and hence that marketing is ‘with’ rather than ‘to’ the customer and occurs at an individual level (p. 528). Coviello et al. (2002) later stress the importance of mutual benefit for buyers and sellers aligned with the concept of co-creation of value. The primary purpose of exchange is the development of close interpersonal relationships between clients and providers, marketing is decentralised to almost all employees, and management invests in resources such as employee training and development to achieve this purpose (Coviello et al. 2002; Coviello, Winklhofer & Hamilton 2006). Hence, there is a close alignment with interaction marketing as previously described by Grönroos (1984a); all employees become part time marketers (Gummesson 1991).

Professional services have previously been distinguished by their emphasis upon repeated one-on-one interactions, customisation and client involvement in a co-production of value (Silvestro 1999; Hausman 2003; Grönroos 2006a) and hence it is likely that interaction marketing practices will be most favoured within the companion animal veterinary services industry. The veterinary marketing literature emphasises the importance of communication with clients, understanding clients and the human animal bond and developing trust to retain clients, gain repeat
business and attract new clients through word-of-mouth communications (Catanzaro 2001; Jevring-Bäck & Bäck 2007).

The challenges for veterinary hospitals in implementing interaction marketing relate to the difficulties of inter-functional coordination, the potential costs to these mostly small businesses of adequately resourcing the human resource and operations management functions, and the increased difficulties associated with managing inseparability and variability when greater numbers of employees are involved. As suggested by Grönroos (1990), Bloom and Dalpe (1993) and Edvardsson and Enquist (2002) this inter-functional coordination must also lead to a service culture for optimal outcomes. Further, as veterinary hospitals evolve from single veterinarian to multiple veterinarian hospitals and higher non-veterinary to veterinary staff ratios, there may be the challenge of moving from this traditional, interactive, personalised service offering to a less personalised, corporate approach required to derive planned economies of scale.

5.4.4. Network Marketing

Coviello et al. (2002) define network marketing as ‘developing interfirm relationships to allow coordination of activities among multiple parties for mutual benefit’ (p. 34), further extending the concept of relational marketing to clearly involve other stakeholders in a definition more aligned with the relationship marketing approach of Gummesson (1997) and Kotler (2003). The purpose is to enable the creation of greater value for customers through a collaborative rather than competitive model of business (Gummesson 1997) built upon a systems framework (Grönroos 1997).

Achrol and Kotler (1999) state that networks of organisations providing customer products and services will be increasingly important in the ‘knowledge’ society of the 21st century. The changing environment and movement from firms and markets to complex webs of relationships is arguably more aligned with network organisations and network marketing approaches (Cravens, Ship & Cravens 1994). An important role for marketing within this changing environment is environmental sensing (Day 1994; Achrol & Kotler 1999) and with responsibility for traditional
marketing diffusing across the organisation (Gummesson 1991), there will be a more significant role for the traditional marketing department in training staff, managing information and managing relationships (Achrol & Kotler 1999). Coviello et al. (2002) argued that as a result, there was greater responsibility for higher level management in marketing compared to interaction marketing practices.

The organisation’s investments need to be devoted to improving its position within the network to effectively and efficiently manage the creation of customer value (Coviello et al. 2002). Gummesson (1997) espouses the ‘30R’ approach to ensure that these relationships among the variety of stakeholders are tangible and managed effectively whilst Holmlund and Tornroos (1997) stated that network marketing relationships were built upon structural, economic or social dimensions.

From a structural perspective, network relationships are dependent upon shared or linked resources (Holmlund & Tornroos 1997). Within veterinary practice for example, this dimension is particularly apparent in the relationship between general practice and referral or specialist practice with the latter having to manage both veterinarians and pet owners as clients and the former having to develop relationships with referral veterinarians to provide standards of care increasingly required by pet owners (MacCallum 1993; Atkinson 2005; Brockman, Taylor & Brockman 2008) and licensing authorities (Board of Veterinary Surgeons NSW 2006; Lacorix 2006).

The economic perspective is particularly associated with monetary costs and benefits of managing relationships (Holmlund & Tornroos 1997). Whilst the management of relationships is costly to the organisation, this may represent a lower cost than traditional transactional approaches to attracting new clients (Blois 1996). The management of a number of relationships may derive benefits such as stability, legitimacy and reciprocity (Oliver 1990). It may also create greater costs and the dynamics of these relationships with respect to power and value may change over time (Blois 1996), creating potential problems and increased costs for the organisation. Again, there can be educational, technological and financial benefits for general veterinary hospitals working with specialist hospitals and
potentially other organisations such as wholesalers, pet shops, pharmaceutical companies and educational institutions.

The social dimension refers more specifically to the behaviour of people involved in these network relationships and in particular the development of social bonds and trust which facilitate the creation of benefits from network marketing (Holmlund & Tornroos 1997). General practitioners referring clients to specialist veterinary practitioners and the sharing of a customer base among organisations within a small community both suggest the possibility of increased importance of the social dimension for veterinary hospitals.

Despite advantages associated with relationship marketing practices, Berry (1995) notes that some segments may be more profitable as transactional customers and hence both approaches are not mutually exclusive. Similarly, a relationship marketing approach for a transactional customer segment by definition suggests a transactional approach, and according to Coviello and Brodie (1998) and Pels, Coviello and Brodie (2000) both types of customers may be present within the firm’s market. Coviello et al. (2002) and Coviello, Winklhofer and Hamilton (2006) have demonstrated that the marketing practices of service organisations are pluralistic and reveal a combination of transactional, relational and hybrid approaches similar to business to business (Dadzie, Johnston & Pels 2008) and consumer goods organisations.

Professional services marketing strategies must be developed to both attract and retain customers (Blattberg & Deighton 1996) and the veterinary literature also focuses upon repeat business through increased numbers of visits (Catanzaro, Deegan & Guiducci 2000; Jevring-Bäck & Bäck 2007). Whilst Fisk, Brown and Bitner (1993) argue that the emphasis should be upon retention as markets mature, for companion animal veterinary services Catanzaro and Seibert (2000) have suggested that in mature markets approximately 10% of total client numbers should be new clients.

Hence, from this discussion whilst relational approaches are most appropriate for professional service organisations, some incumbents may adopt relational strategies
to varying levels as described by Berry (1995) and Coviello et al. (2002). Further, based upon the findings of Coviello, Winklhofer and Hamilton (2006) it is likely that transactional, relational and hybrid approaches incorporating both relational and transactional marketing practices will exist in the veterinary industry as they do in other service industries. These strategies may be driven by owner and management preferences, experience, or marketing intelligence regarding specific industry conditions or the range of specific customer needs.

5.5. **Summary**

A number of authors have noted that a paradigm shift has occurred within the marketing literature associated with a movement from a goods based, transaction focus to a service based, relationship focus (Webster 1992; Piercy 1998; Vargo & Lusch 2008). This chapter has examined the development of the services marketing literature from an emphasis upon the distinguishing features of services compared to goods, to application and modification of the marketing mix to accommodate services marketing, to the focus upon relationships, emphasis on management processes rather than functions to achieve marketing objectives, and service as a process. Whilst transactional and relational marketing perspectives appear to lie at opposite ends of a continuum (Grönroos 1997) there is evidence from the contemporary marketing practices framework that service industries adopt transactional, relational and hybrid marketing practices (Coviello et al. 2002; Coviello, Winklhofer & Hamilton 2006). The contemporary marketing practices framework has enabled an examination of marketing across a variety of industries (Brodie, Coviello & Winklhofer 2008) and Coviello, Winklhofer and Hamilton (2006) have specifically identified a need to examine smaller, noncontractual service firms with higher switching barriers and reliant upon repeat business. These are environmental conditions likely to promote relational marketing practices and reduce the value of transaction marketing practices. Hence, in addition to specifically developing a greater understanding of veterinary services marketing and professional services marketing, this study will contribute to the services marketing literature in general by addressing this identified research gap.
Research in the area of companion animal veterinary services marketing is limited and evidence has been presented within this chapter of previous international research examining this industry through both functional or transactional and relational or process approaches. The companion animal veterinary services industry in Australia presents an opportunity to further review the contemporary marketing practices framework within in a professional service industry context and add to the current dearth of literature specifically examining the marketing of veterinary services. Further, the contemporary marketing practices framework provides a method for examining the relationship between the changing environment for companion animal veterinary services previously described, marketing practices and marketing performance. The following chapter will develop a series of hypotheses regarding relationships between environment, marketing practices and marketing performance within the companion animal veterinary services industry, based upon extant literature and data presented in previous chapters.
6. RESEARCH FRAMEWORK AND DEVELOPMENT OF HYPOTHESES

The preceding chapter suggested that marketing theory could be broadly divided into functional and process approaches; what marketing strategies or tactics are available to the organisation and how to implement those strategies and tactics. The marketing planning literature manifests this distinction through its focus on an initial understanding of the environment, the development of functional strategies based upon the 4Ps or modifications of this framework, and an emphasis upon people and processes for implementation (McDonald 1995; Kotler 2003; Kotler & Keller 2006; Lee 2006; McDonald 2006). More specifically with respect to the context of this thesis, forces within the macroenvironment are leading to a relatively stagnant pet population; demand for higher level, high quality services for pets and integration of human medical technological advances; increasing levels of competition and the potential for future consolidation of the industry due to a combination of economic, social, technological and political forces.

Saren and Pels (2008) have suggested that the contemporary marketing practices framework provides a method for examining multiple perspectives apparent within marketing theory. Further, these authors state that this framework represents a more readily testable, middle-range theory capable of linking empirical research with general marketing theory. Finally, this theory has been used to examine marketing practices in a variety of industries, markets and countries utilising both positivist and phenomenological paradigms (Coviello, Brodie & Munro 2000; Coviello & Brodie 2001; Lindgreen 2001; Coviello, Brodie, Brookes & Palmer 2003; Brady & Palmer 2004; Wagner 2005; Coviello, Winklhofer & Hamilton 2006; Domegan 2008; Dadzie, Johnston & Pels 2008; Little, Brookes & Palmer 2008).

The previous chapters in this report have provided an aggregated analysis of the companion animal veterinary services industry in Australia through an established
framework complemented with individual case study research exploring the relationship between environment, marketing practices and marketing performance over time. Links have also been established between the extant veterinary services marketing literature and the broader professional services marketing literature. This chapter will establish a framework and research hypotheses to examine the relationships between environment, contemporary marketing practices and marketing performance.

6.1. MARKETING PRACTICES AND MARKETING PERFORMANCE

The contemporary marketing practices literature has presented evidence for the co-existence of both transactional and relational marketing practices within service industries (Coviello et al. 2002; Coviello, Winklhofer & Hamilton 2006). The latter study specifically related to predominantly small businesses operating in the tourism accommodation sector in Canada and these authors called for research into industries with higher switching costs and/or greater reliance upon repeat purchases; such conditions have previously been argued to be antecedents to effective relationship marketing practices (Palmatier et al. 2006). Companion animal veterinary services meet these criteria and exemplify professional services and therefore are arguably relational by nature (Gummesson 1987; Grönroos 1991). Hence, in examining the relationship between marketing practices and performance within the companion animal services industry in Australia, research hypotheses will be developed to replicate and complement previous research by Coviello, Winklhofer and Hamilton (2006). These hypotheses will also be informed by previous case study research presented within this thesis.

6.1.1. Contemporary Marketing Practices

Grönroos (2000), Silvestro (1999) and Berry (1995) have stated that professional services are relational by nature because relationship marketing addresses the intangible, inseparable, variable and perishable features of services and the requirement for close interaction between customers and sellers (Palmatier, Dant,
Grewel & Evans 2006; Eisingerich & Bell 2007). Further, clients are increasingly involved in the delivery of professional services (Greenwood & Lacman 1996; de Chernatony & Segel-Horn 2001) and these trends emphasise the importance of relational marketing practices, and in particular interaction marketing within these industries. Interaction marketing practices facilitate the development of trust and functional quality and with this, customer satisfaction, word of mouth referral, price insensitivity, sales growth and market share (Svensson 2003; Bell, Auh & Smalley 2005; Bowers & Martin 2007).

Markets will contain customers or clients with preferences for both transactional and relational marketing approaches and hence that these practices are not mutually exclusive (Berry 1995; Coviello & Brodie 1998; Pels, Coviello & Brodie 2000); research has demonstrated a pluralistic approach to marketing in a number of industries (Coviello et al. 2002; Coviello, Winklhofer & Hamilton 2006; Dadzie, Johnston & Pels 2008).

Assuming that the need structures of buyers vary and therefore that the market consists of buyers that favour both transactional and relational exchange, it is anticipated that the companion animal veterinary services industry will reveal evidence of transactional, relational and hybrid marketing practices similar to other industries studied (Lindgreen, Davis, Brodie & Buchanan-Oliver 2000; Lindgreen 2001; Brady & Palmer 2004; Wagner 2005; Coviello, Winklhofer & Hamilton 2006; Dadzie, Johnston & Pels 2008). Indeed, case study research previously presented has provided evidence of transactional, database, interaction and network marketing approaches. All cases studies implemented some form of interaction marketing, most likely due to the interpersonal nature of professional service delivery.

**Hypothesis 1a:** Companion animal veterinary hospitals relate to their markets through transactional, database, interaction and network marketing practices

**Hypothesis 1b:** Interaction marketing is the dominant form of contemporary marketing practice implemented by companion animal veterinary hospitals
By nature, larger veterinary hospitals will be more reliant upon transaction marketing practices due to greater staff numbers and therefore greater difficulty with employing interaction marketing practices. Hence, as found by Coviello, Winklhofer and Hamilton (2006), larger organisations (as defined by the number of full time equivalent employees) will be more likely to implement transaction marketing practices:

*Hypothesis 1c: Transaction marketing practices are positively influenced by veterinary hospital size as measured by the number of full time equivalent employees*

### 6.1.2. Client Acquisition

Blattberg and Deighton (1996) have suggested that marketing performance can be assessed through examining customer acquisition and customer retention and Berry (1995) has similarly noted that service firms need to both attract and retain customers through marketing. More specifically, Catanzaro and Seibert (2000) recommend that companion animal veterinary hospitals need to achieve new client numbers of approximately 10% of their total client database in order to maintain existing market share within a mature market; for growing markets this figure would be larger. This figure is most likely based upon movements of the household population, with up to 20% of households moving annually (Freiden & Goldsmith 1989), and the average life span of the dog (8-15 years depending upon breed) (Patronek, Waters & Glickman 1997) and cat population (14-18 years) (Taylor, Adams & Neville 1995).

Approximately 60% of households own a pet in Australia and approximately 50% of non-pet owning households owned a pet within the last 5 years (McHarg et al. 1995) and these data suggest that not all households (veterinary clients) whose pets die choose to replace them. The reported decline in dog and cat ownership in more recent years further suggests that fewer veterinary clients are choosing to replace their deceased pets. Hence, in addition to the clear requirement to attract veterinary clients in the early stages of the organisational life cycle, there is good evidence to support the need for the marketing strategies of companion animal veterinary
hospitals to continue to attract clients in the mature stage of the organisational life cycle.

Reasons for selecting a veterinarian have previously been discussed and evidence has been provided to suggest that the majority of people moving into a new area (64%) use only one source of information and that approximately 30% of potential veterinary clients use either Yellow Pages or other advertising (Freiden & Goldsmith 1989). Approximately 32% of veterinary clients in this study used personal sources (24% used co-workers) which was approximately half the percentage for doctors, dentists and lawyers. The remaining 36% of veterinary clients physically searched for a veterinarian. The results of this study are supported by industry research which consistently reveals that the majority of clients to a veterinary practice are attracted by convenient location and hours, reasonable fees, Yellow Pages advertising and outdoor signs (AVMA 2002). Hence, as found by Coviello, Winklhofer and Hamilton (2006) in their study of the tourism accommodation sector, it is likely that transaction marketing practices assist in the attraction of new clients:

**Hypothesis 2a: Transaction marketing practices are positively associated with client acquisition**

The inherent risk of the professional service purchasing decision (Bansal & Voyer 2000) provides theoretical support for the importance of word-of-mouth advertising in attracting potential veterinary clients. There is also empirical research within the companion animal veterinary services industry which emphasises the role of personal sources of information in client acquisition (Freiden & Goldsmith 1989; Bansal & Voyer 2000; Harrison-Walker 2001). Hence, it is likely that aligned with previous research by Coviello, Winklhofer and Hamilton (2006), relational marketing practices will also be positively associated with client acquisition.

Specifically, Coviello, Winklhofer and Hamilton (2006) found that of three relational marketing practices examined, interaction marketing practices were significantly associated with client acquisition in the tourism accommodation sector. Harrison-Walker (2001) has found that affective commitment is required for word-of-mouth praise within the companion animal veterinary services industry, and evidence has previously been presented linking emotional bonds with trust, service
quality and loyalty. Experience factors derived from both tangible (such as servicescape) and intangible elements are more likely to stimulate affective commitment and hence as suggested by Jaakkola (2007), the direct interaction between provider and client associated with interaction marketing practices will be more powerful in stimulating word-of-mouth advertising than less direct efforts such as database marketing practices. There is evidence from prior case study research presented within this thesis that network marketing practices may be more effective than more passive interaction marketing practices at generating new clients. For companion animal veterinary service providers, there is good theoretical evidence to support the value of all relational marketing practices in promoting new client numbers:

Hypothesis 2b: Database marketing practices are positively associated with client acquisition

Hypothesis 2c: Interaction marketing practices are positively associated with client acquisition

Hypothesis 2d: Network marketing practices are positively associated with client acquisition

6.1.3. Client Retention

The companion animal veterinary professional services industry consists mostly of small, non-contractual service organisations, focused on local markets and more reliant upon repeat purchases than the tourism accommodation sector investigated by Coviello, Winklhofer and Hamilton (2006). The increasing strength of the human-animal bond and associated treatment of pets as family members (McHarg et al. 1995; Atkinson 2005; Dotson & Hyatt 2008); greater willingness to spend more money on pets (MacCallum & Beaumont 1992; MacCallum 1993; Brockman, Taylor & Brockman 2008); client research demonstrating the importance of trust and empathy (Hart 1990); and the high credence and intangible nature of professional services previously discussed (Hausman 2003) all indicate that relational marketing practices will be dominant within this industry. As such, industry incumbents will be seeking the purported benefits of relational marketing strategies such as increased access to markets, client retention, repeat purchases, higher switching costs, and positive word of mouth advertising (Fruchter & Sigué
Further, the close personal relationships characteristic of professional services interactions and required for the development of trust and empathy are likely to promote client retention (Anderson & Weitz 1989) and relational marketing practices (Palmatier et al. 2006). Given both the offensive and defensive nature of relational marketing practices compared to the purely offensive nature of transaction marketing practices (Coviello, Winklhofer & Hamilton 2006), it is hypothesised that relational marketing practices will positively affect client retention as well as client acquisition.

Hypothesis 3a: Database marketing practices are positively associated with client retention

Hypothesis 3b: Interaction marketing practices are positively associated with client retention

Hypothesis 3c: Network marketing practices are positively associated with client retention

As found by Coviello, Winklhofer and Hamilton (2006), it is likely that within the companion animal veterinary services industry both offensive and defensive marketing strategies will lead to client acquisition and subsequent defensive, relational marketing practices will bond clients to the veterinary practice thereby further confirming that client acquisition affects client retention (Thomas 2001). As noted previously, approximately 80% of veterinary clients are returning to their regular veterinarian (AVMA 2002). Further, case studies presented previously found that in general active clients were less price sensitive than new clients, and the rate of change in active clients numbers was similar, although less than, the rate of change in new client numbers. It is therefore anticipated that this research will replicate the findings of Coviello, Winklhofer and Hamilton (2006) regarding the relationship between client acquisition and client retention.

Hypothesis 4: Client acquisition positively affects client retention.

6.1.4. Revenue

Murphy, Trailer and Hill (1996) suggested that revenue or sales growth and profit are the most commonly used financial performance measures for small business
and these data were collected by Coviello, Winklhofer and Hamilton (2006) in their assessment of the relationship between marketing practices and marketing performance within the tourism accommodation sector in Canada. Hagerty (1997) has argued that revenue is the most reliable measure of performance of the marketing function. This author believes that the role of marketing is to increase market share, influence the number of purchases, and influence average price paid, all of which contribute to revenue generation as per the revenue equation; revenue is equal to market share multiplied by the number of visits or purchases, multiplied by average price per visit or purchase. Hence, aligned with Berry (1995), the purpose of marketing is therefore to attract and retain clients and increase the amount of business with these clients and therefore achieve increased revenue.

In contrast to research from the tourism accommodation sector which found that revenue was positively influenced by client acquisition but not client retention, companion animal veterinary services are more likely to experience revenue growth through client retention due to their reliance upon repeat business. The latter has been highlighted above through statistics from the US indicating that over 80% of clients to a veterinary hospital are attending their regular veterinarian. Further, the local geographic market (data previously presented has highlighted that most clients choose a veterinarian initially on the basis of convenient location) and the fact that most veterinary hospitals are likely to be in the mature phase of their life cycle (Schofield & Arnold 1988) as well as industry conditions previously described (BIS Shrapnel 2006), indicate that client retention will be particularly important for revenue growth within this industry. Again, case study research previously demonstrated that whilst new client numbers were declining for many participants, revenue was growing for all case studies examined and these results were more aligned with active client number data.

Hypothesis 5a: Revenue is positively influenced by client retention

For mature veterinary hospitals, market share is maintained through achieving new client numbers equal to approximately 10% of the client database (Catanzaro & Seibert 2000). Further, case study research suggested changes in active client numbers were generally a better predictor of changes in revenue compared to
changes in new client numbers. Overall, it is unlikely that this relatively small percentage of clients will have as a significant effect upon sales as the bulk of veterinary clients are repeat purchasers. Regular clients will have developed stronger relationships with their veterinarian, will be more likely to be influenced by their veterinarian, follow treatment recommendations and spend more money (Catanzaro & Seibert 2000; Jevring-Bäck & Bäck 2007; Brockman, Taylor & Brockman 2008). As previously argued by Svensson (2003); Bell, Auh & Smalley (2005) and Bowers and Martin (2007), interaction marketing practices will promote price insensitivity and revenue.

Hypothesis 5b: Revenue is positively influenced by interaction marketing practices

6.1.5. Profitability

Coviello, Winklhofer and Hamilton (2006) found a direct relationship between revenue and profitability in their study. These authors also argued from Murphy, Trailer and Hill (1996) that profit was a commonly used and relevant measure of marketing performance for small businesses. It is anticipated that a similar relationship to that found by Coviello, Winklhofer and Hamilton (2006) will be manifest within the companion animal veterinary services industry.

Hypothesis 6: Profitability is positively influenced by revenue

Hence, this research is generally expected to yield similar findings to Coviello, Winklhofer and Hamilton (2006) regarding the range of contemporary marketing practices and the relationship between marketing practices and performance. The most notable differences between these two industries are the higher switching costs, greater reliance upon repeat business and greater reliance upon repeated close interactions between providers and clients associated with professional services. These features have been argued to result in a significant relationship between revenue and client retention and revenue and interaction marketing practices; the tourism accommodation sector with its apparent decreased reliance upon repeat business revealed a significant relationship between sales growth and customer acquisition but not revenue and customer retention and no direct relationship
between contemporary marketing practices and revenue. The conceptual model summarising these hypotheses is provided in Figure 6.1.1.

6.2. ENVIRONMENT, MARKETING PRACTICES AND MARKETING PERFORMANCE


Research has suggested a positive relationship between marketing orientation, which assumes a greater understanding of the environment and is aligned with relationship marketing practices, and marketing performance (Narver & Slater 1990; Slater & Narver 1994; Pelham 1999; Kumar 1999; Sin, Tse, Yau, Lee & Chow 2002; Matear, Osborne, Garrett & Gray 2002). However, a number of studies have provided conflicting evidence regarding any relationship between business environments, marketing practices and marketing performance (Venkatraman & Prescott 1990; Menon et al. 1999; Pelham 1999; Coviello, Winklhofer & Hamilton 2006).
Figure 6.1.1 Conceptual model and hypotheses linking marketing practices and marketing performance

Adapted from Coviello, Winklhofer and Hamilton (2006)
Difficulties in defining any relationship between environment, marketing practices and marketing performance may relate to problems in measuring the environment, marketing practices or marketing performance and the richness created by the many combinations of external forces, internal capabilities, industry structural relationships and derived local contexts. The external and industry structural forces model described by Porter (1980) and Kotler (2003) has provided a thorough framework for analysing the forces affecting incumbents and buyers in a number of industries as previously presented, and the contemporary marketing practices framework provides a mechanism for assessing the variety of marketing perspectives linked to general marketing theory (Saren & Pels 2008). Whilst internal business environments and capabilities are beyond the scope of this thesis, the following section will develop hypotheses based upon relationships between environmental factors identified from industry analysis and contemporary marketing practices and marketing performance measured in terms of client acquisition, client retention, sales and profitability.

6.2.1. Industry Attractiveness and Marketing Practices

Pels, Coviello and Brodie (2000) suggested that choice between transactional or relational marketing practices is partially a function of the seller’s perception of the environment. The Buyer-Seller Exchange Situation Model depicted in Figure 6.2.1 suggests that the seller’s perception of the environment and the alignment between the seller’s offer proposition and the buyer’s need structure will determine the level of marketing performance; mismatches between the seller’s offer propositions and the buyer’s needs and subsequent mismatches in exchange will result in decreased performance.

Within this model, the generic offer proposition refers to a core service or product which may be further customised to varying degrees to create a unique offer proposition; within these extremes there is a continuum of potential offer propositions tailored to the market (Pels, Coviello & Brodie 2000).
Industry structural analysis will determine perceptions of industry attractiveness as measured by the power of incumbents to earn profits (Porter 1980). Palmer (2007) hypothesised that within the business to business market, an imbalance of power between sellers and buyers results in relationships becoming increasingly transactional and there is theoretical and empirical support for the proposition that greater seller power will result in incumbents engaging in more transaction marketing practices (Lindgreen, Palmer & Vanhamme 2004; Lindgreen et al. 2005; Palmer 2007). Similarly, Pels, Coviello and Brodie (2000) suggested that for sellers operating in a closed economy with minimal competitive pressure there is limited incentive to develop a unique offer or relationship with customers. Moreover,
Hingley (2005) has argued that asymmetric power relationships are associated with greater conflict and less stability and are therefore detrimental to relationship marketing which requires symmetry, mutuality and trust.

Dadzie, Johnston and Pels (2008) proposed that as markets become more demanding and competitive, relational marketing practices become increasingly integrated with transaction marketing practices and therefore marketing practices become more pluralistic. This is aligned with the development of the relationship marketing literature itself and its increasing importance within mature, more competitive markets (Fisk, Brown & Bitner 1993; Vargo & Lusch 2004; Lindgreen, Palmer & Vanhamme 2004; Srinivasan & Moorman 2005). Further, Lusch and Laczniak (1989) concluded that incumbents emphasise non-price marketing strategies more in response to increased competition and Edgett and Thwaites (1990) similarly suggested that as financial services customers became increasingly sophisticated and knowledgeable, more complex services were demanded, forcing greater inter-functional coordination and utilisation of technology. Aligned with Pels, Coviello and Brodie (2000), this suggests that as buyer power increases, sellers engage in greater customisation of the offer leading to a focus on relational exchange. Hence, within the companion animal veterinary services industry, it is anticipated that in markets where competitive intensity and buyer power are perceived to be high, companion animal veterinary hospitals will be more likely to engage in relational marketing practices. Conversely, when industry attractiveness is perceived to be high, this will favour transactional marketing practices.

**Hypothesis 7a:** Industry attractiveness positively affects transactional marketing practices

**Hypothesis 7b:** Industry attractiveness negatively affects relational marketing practices

### 6.2.2. Industry Attractiveness and Marketing Performance

The industry structural forces framework described by Porter (1980) ultimately determines industry profitability and therefore it is hypothesised that there will be a direct, positive relationship between industry attractiveness and marketing performance as measured by profit. More specifically, competitive intensity will
exert its effects upon the revenue equation and therefore profit through market share or client numbers, and buyer power will exert its effects upon the revenue equation through price and therefore sales growth. The power of suppliers will mostly exert its effect upon profit through costs. Due to geographical segmentation and variations in individual firm environments, for veterinary hospitals these forces will be working at the local level.

**Hypothesis 8: Industry attractiveness at the local level positively affects the firm’s profitability**

**6.3. SUMMARY**

The marketing literature has shifted to a service orientated, relationship marketing approach emphasising process from a transactional, marketing management focus on discrete transactions and the functional approach of the 4P model (Vargo & Lusch 2004). Given this change and the ‘inherent relational’ focus of service firms, as well as the theory that marketing practices can be described along a continuum from transactional to relational (Grönroos 2000), the findings of Coviello et al. (2002), Coviello, Winklhofer and Hamilton (2006) and Dadzie, Johnston and Pels (2008) describing a range of transactional, relation and hybrid marketing practices in service industries are particularly interesting.

Research pertaining to the mostly small businesses within the tourism accommodation sector by Coviello, Winklhofer and Hamilton (2006) indicates that relational marketing and transactional marketing practices work together to attract and retain customers and that profit and sales growth are affected by customer acquisition more so than retention. These authors suggested that smaller non-contractual services with higher switching costs and more predisposed to repeat purchases might prove valuable in further investigating these findings.

The companion animal, professional veterinary services industry in Australia represents an industry where relationships are not contractual but with relatively high switching costs and in which incumbents rely upon repeat business and servicing of a reasonably defined geographic market (Catanzaro & Seibert 2000; Jevring-Bäck & Bäck 2007). Veterinary hospitals in Australia are also generally
small organisations (ABS 2001) operating in a mature market with limited population growth and stable or declining pet ownership levels (BIS Shrapnel 2006). Hence this background information suggests that relational approaches will be more dominant in the marketing of companion animal veterinary services in Australia. However, the potential variation in local market environments perceived by incumbents may similarly lead to varying levels of transactional, relational and hybrid marketing practices as observed by Coviello et al. (2002) and Coviello, Winklhofer and Hamilton (2006). Indeed, under contemporary marketing practices theory, it is suggested that these varying approaches are required to meet the varying needs of buyers (Pels, Coviello & Brodie 2000).

The hypotheses developed within this chapter are summarised in Tables 6.3.1 and 6.3.2. The purpose of hypotheses listed in Table 6.3.1 is therefore to replicate the research of Coviello, Winklhofer and Hamilton (2006) to the mostly small businesses in the companion animal veterinary services industry in Australia. Hypotheses provided in Table 6.3.2 have been developed in order to extend this research through integration of ideas provided by Pels, Coviello and Brodie (2000) with the theory of industry analysis developed by Porter (1980) and provide a framework for potentially understanding the impact of environment upon marketing practices and marketing performance. Essentially, sellers assess power relationships within the environment as described by Porter (1980) and their perceptions of industry attractiveness partially affect marketing practice strategy making as revealed through the contemporary marketing practices framework. In summary, marketing environments (structure), as well as marketing practices (conduct), affect marketing performance.

The following chapter will outline the methods used to test the hypotheses presented in this chapter and therefore aid understanding of the relationship between environmental forces, marketing practices and marketing performance within the companion animal veterinary services industry in Australia.
Table 6.3.1 Summary of research hypotheses linking marketing practices with performance

<table>
<thead>
<tr>
<th>Hypothesis 1a:</th>
<th>Companion animal veterinary hospitals relate to their markets through transactional, database, interaction and network marketing practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis 1b:</td>
<td>Interaction marketing is the dominant form of contemporary marketing practice implemented by companion animal veterinary hospitals</td>
</tr>
<tr>
<td>Hypothesis 1c:</td>
<td>Transaction marketing practices are positively influenced by veterinary hospital size as measured by the number of full time equivalent employees</td>
</tr>
<tr>
<td>Hypothesis 2a:</td>
<td>Transaction marketing practices are positively associated with client acquisition</td>
</tr>
<tr>
<td>Hypothesis 2b:</td>
<td>Database marketing practices are positively associated with client acquisition</td>
</tr>
<tr>
<td>Hypothesis 2c:</td>
<td>Interaction marketing practices are positively associated with client acquisition</td>
</tr>
<tr>
<td>Hypothesis 2d:</td>
<td>Network marketing practices are positively associated with client acquisition</td>
</tr>
<tr>
<td>Hypothesis 3a:</td>
<td>Database marketing practices are positively associated with client retention</td>
</tr>
<tr>
<td>Hypothesis 3b:</td>
<td>Interaction marketing practices are positively associated with client retention</td>
</tr>
<tr>
<td>Hypothesis 3c:</td>
<td>Network marketing practices are positively associated with client retention</td>
</tr>
<tr>
<td>Hypothesis 4:</td>
<td>Client acquisition positively affects client retention</td>
</tr>
<tr>
<td>Hypothesis 5a:</td>
<td>Revenue is positively influenced by client retention</td>
</tr>
<tr>
<td>Hypothesis 5b:</td>
<td>Revenue is positively influenced by interaction marketing practices</td>
</tr>
<tr>
<td>Hypothesis 6:</td>
<td>Profitability is positively influenced by revenue</td>
</tr>
</tbody>
</table>
Table 6.3.2 Summary of research hypotheses linking environment, marketing practices and marketing performance

| Hypothesis 7a: | Industry attractiveness positively affects transactional marketing practices |
| Hypothesis 7b: | Industry attractiveness negatively affects relational marketing practices |
| Hypothesis 8:  | Industry attractiveness at the local level positively affects the firm’s profitability |
Chapter 7

7. METHODOLOGY

The first objective for this thesis was to provide a greater understanding of the macroenvironment and task environment experienced by companion animal veterinary services industry incumbents within Australia. The second objective was to examine the potential relationships among environment, marketing practices and marketing performance for these predominantly small businesses. Specifically, the underlying thesis states:

External environmental forces and industry structural forces have affected
the attractiveness of the companion animal veterinary services industry in
Australia. The perceived attractiveness of this industry influences
marketing practices which in turn influence marketing performance
aligned with the structure-conduct-performance model.

The purpose of this chapter is to justify the research approaches taken and describe how the required primary data for this research were collected and analysed to investigate the research problem and associated research objectives and hypotheses.

This phase of research was therefore designed to describe and analyse data relevant to the target population of owners and managers of companion animal veterinary hospitals in Australia and therefore a survey methodology was adopted (De Vaus 1995; Yin 2003a). Moreover, the environment (independent variable) is hypothesised to affect marketing practices (dependent variable) which in turn affect marketing performance (dependent variable). With respect to data analysis, the series of dependence relationships which include a dependent variable (marketing performance as measured by client acquisition and client retention) becoming an independent variable in a subsequent dependent relationship was specifically suited to structural equation modelling (Hair et al. 2006).
7.1. **Measurement of Constructs**

The relevant constructs or phenomena of interest (Edwards & Bagozzi 2000) operationalised and measured were external industry forces, industry attractiveness, marketing practices and marketing performance. Operational definitions of these constructs were used to create survey items for measurement. Specifically for the constructs of external industry forces, industry attractiveness and marketing practices, these items were developed from their theoretical causes enabling the construction of formed or formative indices (Diamantopoulos & Winklhofer 2001; Rossiter 2002; Diamantopoulos 2005; Hair et al. 2006).

Whilst reflective scale development procedures are well documented, formed index construction has received relatively limited attention within the business and marketing literature (Diamantopoulos & Winklhofer 2001; Rossiter 2002; Diamantopoulos 2005). Two main approaches to index construction have been described by these authors and these are briefly outlined below.

Firstly, according to Diamantopoulos and Winklhofer (2001), the key processes for formed index construction involve content specification, indicator specification, indicator collinearity and external validity. Content specification is required to clarify the domain of the latent variable and this process is vital to ensure all facets of the construct are included and represented by causal indicators (Diamantopoulos & Winklhofer 2001; Diamantopoulos & Siguaw 2006). Indicator specification ensures that items used as indicators define the scope of the latent variable defined in the previous step (Diamantopoulos & Winklhofer 2001). Indicator collinearity involves assessing variance inflation factors to ensure redundant information is removed, providing this process does not contradict the previous steps of content specification and indicator specification (Diamantopoulos & Winklhofer 2001; Diamantopoulos 2005). External or construct validity may be assessed through either correlating each of the indicators with another external variable representing a global summary item for the index or assessing the set of indicators using a multiple indicators and multiple causes (MIMIC) model (Diamantopoulos & Winklhofer 2001). For the latter, the latent variable or construct is then represented by its
causal indicators and one or more reflective indicators using a structural model (Diamantopoulos & Winklhofer 2001; Sánchez-Pérez & Iniesta-Bonillo 2004).

Alternatively, Rossiter (2002) has suggested a process of construct definition, object classification, attribute classification, rater identification, scale formation and enumeration as a procedure for both scale development and index construction. The construct is defined in terms of a focal object including its main components if appropriate; dimension of judgement or attribute, again including its main components if abstract, and referenced to a judge or rater (Rossiter 2002). This author argues that the focal object may be concrete singular (a well known, single, homogenous object), abstract collective (heterogenous objects with separate constituents forming a set or category), or abstract formed (open to varying interpretation by raters). Similarly, a concrete attribute ‘has virtually unanimous agreement by raters as to what it is’ (p. 313), an abstract formed attribute is derived from its causes, whilst an abstract eliciting attribute consists of items describing activities which reflect its trait (Rossiter 2002). Rossiter (2002) further argues that in contrast to most analyses, marketing research generally involves formed attributes caused by constituents or components.

For Rossiter (2002), content validity is argued to be ‘all-important’ (p. 332) and overrides other assessments of validity such as construct validity and predictive validity. Reliability is only significant for each application of the scale (Rossiter 2002). Whilst, unlike reflective scales, failure to include a causal indicator will reduce the validity of the construct (Diamantopoulos & Winklhofer 2001; Rossiter 2002), Rossiter (2002) advises that for practical reasons, only the most important causes are included rather than a census of all causes. Further emphasising the significance of content validity, Rossiter (2002), Diamantopoulos and Winklhofer (2001) and Diamantopoulos and Siguaw (2006) suggest caution in removing any indicators based upon subsequent external validity measures. Content specification and indicator specification therefore overrule subsequent steps in this process if there is contradictory evidence for indicator removal. Hence, the proposed steps involving external validity checking suggested by Diamantopoulos and Winklhofer (2001) should either be adopted with caution or as argued by Rossiter (2002), are not required.
The following sections will describe the development of individual questionnaire items and where appropriate related index construction based upon the methods described above.

7.1.1.1. **External industry forces**

Conditions in the macroenvironment are derived from a combination of external political, economic, social, technological and natural forces (Porter 1980; McDonald 1995; Kotler 2003). These various forces have previously been analysed for this industry through an examination of available secondary data. Questionnaire items describing external industry environmental forces and derived from these analyses together with references to the secondary literature are provided in Table 7.1.1 and the following section summarises their development.

Pet ownership, the number of households and the ageing population with its associated impact upon household propensities and pet ownership have been identified previously as the most significant social trends potentially affecting the size of the companion animal veterinary services industry. Evidence has been presented from the available Australian secondary literature that dog ownership is stable or declining, cat ownership is declining and that other pet ownership is increasing (Baldock, Alexander & More 2003; Baldock 2004; BIS Shrapnel 2006). Growth in household numbers in Australia has been greater than population growth although still relatively low at around 1.6% and the ageing population is affecting household type propensities and contributing to reduced pet ownership due to traditionally lower levels of pet ownership in this segment (Ryan 2002; Baldock 2004; ABS 2004a). Changing attitudes towards pet ownership have also previously been identified and these will be expanded in a subsequent section on buyer power.

Technological forces and associated advances in human and veterinary medicine and pharmaceuticals have facilitated higher quality medicine and surgical procedures and improvement in diagnoses and treatment options (Lee 2006; Brockman, Taylor & Brockman 2008). Further, technology has potentially enabled veterinary hospitals to better manage and market their services through improvements in
communication and data retrieval and analysis (Catanzaro, Deegan & Guidicci 2000; Lee 2006).

Economic trends for the industry indicate significant increases in revenue for veterinary hospitals in Australia since the mid 1990s (BIS Shrapnel 1993, 1995, 1999, 2003, 2006) and these trends have been associated with favourable economic growth rates generally (Colecchia & Schreyer 2002). More recent adverse economic conditions may affect this revenue growth (Hamlin 1976) and there is a suggestion from US data that rural and smaller communities may be more susceptible to local economic fluctuations due to greater reliance upon local industry (AVMA 2005).

Political forces have previously been described at the national, state and local government level. At the national level, legislation has potentially affected employment conditions and occupational health and safety requirements and therefore profitability (Woger 2007). At the state level, legislation has mostly affected the governance of veterinary hospitals including ownership of hospitals, registration of veterinarians, ‘restricted acts of veterinary science’ and advertising as well as emphasising greater control of pet ownership (Board of Veterinary Surgeons 2006; Garrett 2006; McCullough 2007). At the local level, as in the US, council regulations may affect entry to the area and building and development approvals (Catanzaro, Deegan & Guidicci 2000; Clancy & Rowan 2003).

Natural forces mostly appear to affect this industry through climate and disease (Shope 1991; Dukes & Mooney 1999; Daszak, Cunningham & Hyatt 2000; Reiter 2001) with the potential for these forces to vary significantly within Australia depending upon location.
<table>
<thead>
<tr>
<th>Macroenvironment component</th>
<th>Code</th>
<th>Item description</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Social Forces</td>
<td>EXFS1</td>
<td>The level of pet ownership is decreasing in my area</td>
<td>Baldock, Alexander and More (2003); Baldock (2004); BIS Shrapnel (2006)</td>
</tr>
<tr>
<td></td>
<td>EXFS2</td>
<td>The number of households is increasing in my area</td>
<td>NSW Department of Planning (1994); Salt (2001); Ryan (2002); ABS (2004)</td>
</tr>
<tr>
<td></td>
<td>EXFS3</td>
<td>The average age of people living in my area is increasing</td>
<td>Ryan (2002); ABS (2004)</td>
</tr>
<tr>
<td>External Technological Forces</td>
<td>EXFT1</td>
<td>Advances in veterinary medicine, surgery and diagnostics have facilitated an increase in our profitability</td>
<td>Lee (2006); Brockman, Taylor and Brockman (2008);</td>
</tr>
<tr>
<td></td>
<td>EXFT2</td>
<td>New pharmaceuticals have facilitated an increase in our profitability</td>
<td>Gebhart (1976); ABS (2001)</td>
</tr>
<tr>
<td></td>
<td>EXFT3</td>
<td>Technology has enabled us to better communicate with our clients</td>
<td>Taylor (1983); Catanzaro, Deegan and Guidicci (2000)</td>
</tr>
</tbody>
</table>
Table 7.1.1 External industry forces questionnaire items (continued)

<table>
<thead>
<tr>
<th>Macroenvironment component</th>
<th>Code</th>
<th>Item description</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Economic Forces</td>
<td>EXFE1</td>
<td>Local industry economic fluctuations have affected our profitability</td>
<td>Hamlin (1976)</td>
</tr>
<tr>
<td></td>
<td>EXFE2</td>
<td>Broader industry economic fluctuations such as changes in interest rates</td>
<td>Hamlin (1976); ABS (1995); Colecchia and Schreyer (2002); BIS Shrapnel (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>have affected our profitability</td>
<td></td>
</tr>
<tr>
<td>External Political Forces</td>
<td>EXFP1</td>
<td>Local council regulations have affected our profitability</td>
<td>Catanzaro, Deegan and Guidicci (2000); Clancy and Rowan (2003)</td>
</tr>
<tr>
<td></td>
<td>EXFP2</td>
<td>State based companion animal legislation has affected our profitability</td>
<td>Murray &amp; Penridge (1992); Miller and Howell (2008)</td>
</tr>
<tr>
<td></td>
<td>EXFP3</td>
<td>State based legislation governing veterinary practice has affected our profitability</td>
<td>National Competition Council (2004); McCullough (2007); Board of Veterinary Surgeons (2006); Lacroix (2006)</td>
</tr>
<tr>
<td></td>
<td>EXFP4</td>
<td>National employment regulations such as the Veterinary Surgeons Award, Work Choices or OH&amp;S have affected our profitability</td>
<td>Woger (2007)</td>
</tr>
<tr>
<td>Macroenvironment component</td>
<td>Code</td>
<td>Item description</td>
<td>References</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>External Natural Forces</td>
<td>EXFN1</td>
<td>Local climate or environmental conditions have affected our profitability</td>
<td>Shope (1991); Dukes and Mooney (1999); Daszak, Cunningham and Hyatt (2000); Reiter (2001)</td>
</tr>
<tr>
<td></td>
<td>EXFN2</td>
<td>There are some diseases in our area that are more or less common compared to other areas and these have affected our profitability</td>
<td>Shope (1991); Dukes and Mooney (1999); Daszak, Cunningham and Hyatt (2000); Reiter (2001)</td>
</tr>
</tbody>
</table>
Each of the items presented in Table 7.1.1 was developed to describe these major external forces derived from the external environment analysis previously presented. Each item describes a concrete singular cause (such as pet ownership) or group of causes (such as national legislation) and based upon secondary data analysis, these items represent the major causes of the focal object (external force). Attributes are similarly argued to be concrete within this classification – increasing or decreasing, better communication and profitability. Hence, as each broad external force is formed or caused by the major constituent parts derived from an analysis of the literature, it is possible to gain a relative sense of the influence of political, economic, social, technological and natural forces upon this industry in recent years. Each item was rated by veterinary owners or managers using a five-point Likert scale (strongly disagree to strongly agree). Finally, as suggested by Diamantopoulos and Winklhofer (2001), indicator collinearity tests (variance inflation factors) were conducted after administration to test for redundant items under the assumption that the implications for content validity were more important in a final determination of item contribution to the respective index. Variance inflation factors were all less than 10 for this sample and hence no item was considered redundant with respect to index creation.

To assist with understanding macroenvironmental conditions and differences associate with location, a formed index for each of these broad external forces was created using the items presented in Table 7.1.1. The indices were developed to relate to favourable political, economic, social, technological and natural environments and hence all political, economic and natural forces items were reversed scored to create these respective indices. Further, EXFS1 and EXFS3 were reverse scored to reflect agreement with more favourable social environmental conditions. Indices were presented as mean values ranging from 1 (low level of favourability or munificence) to 5 (high favourability or munificence).

7.1.1.2. Industry Attractiveness

Porter (1980) has defined the task environment as consisting of five industry structural forces which together determine industry attractiveness. Hence, the attractiveness of the companion animal veterinary services industry in Australia
(abstract collective focal object) will be rated by veterinary hospital owners and managers creating an index developed from the power of suppliers, power of buyers, threat of new entrants, threat of substitutes and competitor rivalry as defined by Porter (1980).

Spanos and Lioukas (2001) previously measured industry forces including barriers to entry, bargaining power of buyers, bargaining power of suppliers and threat of substitutes using single item questions and competitive rivalry using four items adapted from Achrol and Stern (1988). The latter items were developed for a study of the retail industry and related to intensity of competition related to product characteristics, access to distribution channels, promotional strategies and service and arguably a mixture of causes and behaviours derived from competitive intensity. As previously discussed, this research focused upon the development of items specifically linked to the major causes of each of these five industry structural forces identified from the secondary literature to derive a formed index of industry attractiveness for this professional service industry rather than a reflective scale; industry attractiveness is a result of industry forces rather than a trait of the industry.

The major suppliers to veterinary hospitals identified from the literature were labour (veterinary and non-veterinary), finance and pharmaceuticals and hence the relative difficulty of accessing these suppliers was used as the basis for determining questionnaire items. Difficulty in accessing these suppliers, or limited numbers of these suppliers, causes the power of suppliers to increase and decrease industry attractiveness.

Competitor intensity was previously defined as a function of the number of competitors, the level of aggression of competition and the impact of substitutes. Hence, the forces of threat of entry and threat of substitutes combine to create the perceived level of competitive rivalry. Specifically, low barriers to entry will be significant if they lead to increasing numbers of competitors, the threat of substitutes will be significant if they are perceived to provide more direct competition for veterinary hospitals and the attitudes and business and marketing strategies of competitors will determine the levels of competitive rivalry.
The power of buyers is derived from their numbers, attitudes towards the service (such as level of differentiation and importance of quality) and price sensitivity. Similarly, the major trends identified in the social environment, and therefore within the buyers of veterinary services, were pet ownership and household numbers; willingness to spend more on veterinary services; the greater alignment between human health and animal health standards of care; differentiation through focusing on services to other pet species; potentially decreasing switching costs; price sensitivity as measured by comparative price shopping; and the potential impact of buyer income on price sensitivity.

Items derived from this summary of industry structural forces are provided in Table 7.1.2. Each of these constituents of industry attractiveness consists of a variable number of concrete, singular items which together form the major identified causes of the power of suppliers, power of buyers, threat of substitutes, threat of entry and competitive rivalry for this industry. Each item will be rated by veterinary hospital owners and managers and all items except ISFB1 and ISFB3 will be reverse scored to create an index of industry attractiveness which will be converted to a theoretical range varying from 0-1 aligned with the contemporary marketing practices indices provided by replicating the study of Coviello, Winklhofer & Hamilton (2006). Buyer power also relates to market size and hence the level of pet ownership and number of households within the area will be added to create this index (EXFS1 reverse scored and EXFS2 for favourability).

Hence, as recommended by Diamantopoulos and Winklhofer (2001), content specification has been defined by established theory and indicator specification has been derived from theory and secondary data analysis. Indicator collinearity was assessed using variance inflation factors applied to this sample and as none was greater than 10, no item was considered redundant.
<table>
<thead>
<tr>
<th>Industry Structural Forces</th>
<th>Code</th>
<th>Item description</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power of Suppliers</td>
<td>ISFS1</td>
<td>It is difficult to find veterinarians to work in my practice</td>
<td>Heath and Neithe (2001); Frawley (2003); Whittington (2006)</td>
</tr>
<tr>
<td></td>
<td>ISFS2</td>
<td>It is difficult to find non-veterinary staff to work in my practice</td>
<td>Comparison to above conditions to complement analysis</td>
</tr>
<tr>
<td></td>
<td>ISFS3</td>
<td>It is difficult to obtain finance for implementing the things I would like to do with my practice</td>
<td>ABS (2001); McCullough (2007)</td>
</tr>
<tr>
<td></td>
<td>ISFS4</td>
<td>The number of veterinary wholesalers available to service my practice is limited</td>
<td>ABS (2001); BIS Shrapnel (2006)</td>
</tr>
<tr>
<td>Competitor Intensity</td>
<td>ISFC1</td>
<td>The number of veterinary practices competing in my area is increasing</td>
<td>BIS Shrapnel (2006); Lee (2006); Whittington (2006)</td>
</tr>
<tr>
<td></td>
<td>ISFC2</td>
<td>Veterinary practices in my area are competing more aggressively</td>
<td>Lee (2006); BIS Shrapnel (2006)</td>
</tr>
<tr>
<td></td>
<td>ISFC3</td>
<td>There is increasing competition from organisations other than veterinary practices in my area</td>
<td>Lee (2006)</td>
</tr>
<tr>
<td>Industry Structural Forces</td>
<td>Code</td>
<td>Item description</td>
<td>References</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------</td>
<td>----------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Power of Buyers</td>
<td>ISFB1</td>
<td>Clients are willing to spend more money on their pets</td>
<td>MacCallum and Beaumont (1992); MacCallum (1993); Atkinson (2005); Schmelzer (2005); BIS Shrapnel (2006); Dunn (2006); Brockman, Taylor and Brockman (2008); Holbrook and Woodside (2008)</td>
</tr>
<tr>
<td></td>
<td>ISFB2</td>
<td>Clients are seeking higher standards of veterinary care for their pets</td>
<td>MacCallum and Beaumont (1992); MacCallum (1993); Murray and Penridge (1997); Atkinson (2005); Brockman, Taylor and Brockman (2008); Holbrook and Woodside (2008)</td>
</tr>
<tr>
<td></td>
<td>ISFB3</td>
<td>More clients are keeping companion animals other than dogs and cats</td>
<td>AVMA (2002); BIS Shrapnel (2006)</td>
</tr>
<tr>
<td></td>
<td>ISFB4</td>
<td>Clients switch between veterinary practices in my area</td>
<td>Ipsos-Reid (2001); Lee (2006)</td>
</tr>
<tr>
<td></td>
<td>ISFB5</td>
<td>Clients compare prices with other veterinary practices in my area</td>
<td>Swiecki (1983); Ipsos-Reid (2001); AVMA (2002); Brockman, Taylor and Brockman (2008)</td>
</tr>
<tr>
<td></td>
<td>ISFB6</td>
<td>Clients in my area have lower than average disposable income</td>
<td>Ipsos-Reid (2001); AVMA (2005)</td>
</tr>
</tbody>
</table>
7.1.1.3. Marketing Practices

Formed indicators for transactional, database, interaction and network marketing practice index construction were obtained from an existing instrument (Coviello, Winklhofer & Hamilton 2006). As previously discussed, the contemporary marketing practices are derived from five items linked to the nature of exchange and four items linked to management processes. These items are shown in Tables 7.1.3 to 7.1.6 and each item was rated by the veterinary hospital owner or manager using a five-point rating scale ranging from never to always. This instrument has been used by a number of researchers in a variety of industries and countries (Coviello, Brodie & Munro 2000; Coviello & Brodie 2001; Lindgreen 2001; Coviello, Brodie, Brookes & Palmer 2003; Brady & Palmer 2004; Wagner 2005; Coviello, Winklhofer & Hamilton 2006; Domegan 2008; Dadzie, Johnston & Pels 2008; Little, Brookes & Palmer 2008). Some of the wording was modified for this research to achieve greater relevance for the target population. For example, organisation or firm was changed to ‘practice’ and customer was changed to ‘client’.

Content specification, indicator specification, indicator collinearity and external validation procedures recommended for index construction have previously been applied to this existing instrument (Diamantopoulos & Winklhofer 2001; Coviello, Winklhofer & Hamilton 2006). Indicator collinearity was tested for this particular sample and as variance inflation factors were all less than 10, no redundant items were identified through this process. As outlined by Coviello, Winklhofer and Hamilton (2006), an index theoretically varying from 0-1 was then created for each marketing practice to align the two studies. Using an index rather than a summated score means that a value of zero implies that the respective contemporary marketing practice was never utilised. A value of one suggests that the respective contemporary marketing practice was always utilised by the respondent when dealing with their market.
Measurement of marketing performance was based upon concepts used by Coviello, Winklhofer and Hamilton (2006) in an effort to replicate this research in the Australian companion animal veterinary services industry; client acquisition, client retention, revenue and profitability. These authors collected subjective measures of performance in these areas due to perceived difficulties accessing objective data, Dess and Robinson’s (1984) argument that subjective data are strongly correlated with objective data, and further empirical research supporting the validity of subjective performance measures (Brush & Vanderwerf 1992; Chandler & Hanks 1993; Matear et al. 2002; Sin et al. 2002).

The current study deviated from that of Coviello, Winklhofer and Hamilton (2006) in that it did not require respondents to provide assessments regarding the extent of use of each of these measures. This alteration was made due to the length of the questionnaire and the assumption that as owners and managers working as veterinarians within the hospital, perceptions within each of these performance areas would be valid and reliable. These assumptions were supported by previous case study research.

In addition to measures of performance described by Coviello, Winklhofer and Hamilton (2006) the current research also assessed trends in client numbers by species, average number of visits per client per year, revenue by species and average transaction fee trends. These additional data are commonly recommended and used in benchmarking research within this industry (Catanzaro, Deegan & Guidicci 2000; Catanzaro & Seibert 2000; FMRC Benchmarking 1999, 2000, 2002) and complemented the description of the industry provided by broader secondary data previously presented in Chapters two and three. Further, as Hagerty (1997) has noted, numbers of clients, average number of visits and average transaction fee per visit will determine total revenue and provide a basis for marketing decisions. These items are listed in Tables 7.1.7 to 7.1.9. Again, each of these performance measures is linked to a concrete, singular item and rated by veterinary hospital owners and managers (decreasing significantly to increasing significantly or much worse to much better than expected).
### Table 7.1.3 Transaction marketing practices questionnaire items

<table>
<thead>
<tr>
<th>Transaction marketing practices</th>
<th>Code</th>
<th>Item description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPT1</td>
<td>When dealing with our market, our purpose is to generate a profit or other ‘financial’ measures of performance</td>
<td></td>
</tr>
<tr>
<td>CMPT2</td>
<td>Our marketing communication involves communicating to the broad market base</td>
<td></td>
</tr>
<tr>
<td>CMPT3</td>
<td>Contact with our clients is arm’s length, impersonal, with no individualised or personal contact</td>
<td></td>
</tr>
<tr>
<td>CMPT4</td>
<td>The type of relationship with our clients is characterised as transactions that are discrete or one-off</td>
<td></td>
</tr>
<tr>
<td>CMPT5</td>
<td>People from our practice meet clients mainly at a formal business level</td>
<td></td>
</tr>
<tr>
<td>CMPT6</td>
<td>Our marketing activities are intended to attract new clients</td>
<td></td>
</tr>
<tr>
<td>CMPT7</td>
<td>Our marketing planning is focused on issues related to our product/brand/service offering</td>
<td></td>
</tr>
<tr>
<td>CMPT8</td>
<td>Our marketing resources (e.g. people, time, money) are invested in the product or service offering, promotion, price and distribution issues</td>
<td></td>
</tr>
<tr>
<td>CMPT9</td>
<td>In our practice, marketing activities are carried out by functional managers (e.g. marketing or sales manager)</td>
<td></td>
</tr>
</tbody>
</table>
### Table 7.1.4 Database marketing practices questionnaire items

<table>
<thead>
<tr>
<th>Database marketing practices</th>
<th>Code</th>
<th>Item description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CMPD1</td>
<td>When dealing with our market, our purpose is to acquire client information from our database</td>
</tr>
<tr>
<td></td>
<td>CMPD2</td>
<td>Our marketing communication involves targeting specifically identified segments or clients</td>
</tr>
<tr>
<td></td>
<td>CMPD3</td>
<td>Contact with our clients is somewhat personalised (e.g. by direct mail)</td>
</tr>
<tr>
<td></td>
<td>CMPD4</td>
<td>The type of relationship with our clients is characterised as contact (e.g. by direct mail) that is occasional</td>
</tr>
<tr>
<td></td>
<td>CMPD5</td>
<td>People from our practice meet clients mainly at an informal level yet personalised via database technologies</td>
</tr>
<tr>
<td></td>
<td>CMPD6</td>
<td>Our marketing activities are intended to retain existing clients</td>
</tr>
<tr>
<td></td>
<td>CMPD7</td>
<td>Our marketing planning is focused on issues related to clients in our market in addition to our offer</td>
</tr>
<tr>
<td></td>
<td>CMPD8</td>
<td>Our marketing resources (e.g. people, time, money) are invested database technology to improve communications with our clients</td>
</tr>
<tr>
<td></td>
<td>CMPD9</td>
<td>In our practice, marketing activities are carried out by specialist marketers (e.g. customer service manager or loyalty manager)</td>
</tr>
<tr>
<td>Interaction marketing practices</td>
<td>Code</td>
<td>Item description</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>CMPI1</td>
<td>When dealing with our market, our purpose is to build a long term relationship with specific clients</td>
</tr>
<tr>
<td></td>
<td>CMPI2</td>
<td>Our marketing communication involves individuals within the practice personally interacting with their individual clients</td>
</tr>
<tr>
<td></td>
<td>CMPI3</td>
<td>Contact with our clients is interpersonal (e.g. involving one-to-one interaction between people)</td>
</tr>
<tr>
<td></td>
<td>CMPI4</td>
<td>The type of relationship with our clients is characterised as interpersonal interaction that is ongoing</td>
</tr>
<tr>
<td></td>
<td>CMPI5</td>
<td>People from our practice meet clients at both a formal business level and informal social level on a one-to-one basis</td>
</tr>
<tr>
<td></td>
<td>CMPI6</td>
<td>Our marketing activities are intended to develop cooperative relationships with our clients</td>
</tr>
<tr>
<td></td>
<td>CMPI7</td>
<td>Our marketing planning is focused on issues related to one-to-one relationships with clients in our market or individuals in organisations we deal with</td>
</tr>
<tr>
<td></td>
<td>CMPI8</td>
<td>Our marketing resources (e.g. people, time, money) are invested establishing and building personal relationships with individual clients</td>
</tr>
<tr>
<td></td>
<td>CMPI9</td>
<td>In our practice, marketing activities are carried out by many employees throughout the practice</td>
</tr>
<tr>
<td>Network marketing practices</td>
<td>Code</td>
<td>Item description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------</td>
<td>------------------</td>
</tr>
<tr>
<td>CMPN1</td>
<td>When dealing with our market, our purpose is to form strong relationships with a number of organisations in our market or wider marketing system</td>
<td></td>
</tr>
<tr>
<td>CMPN2</td>
<td>Our marketing communication involves individuals within the practice networking with other organisations within our market or wider marketing system</td>
<td></td>
</tr>
<tr>
<td>CMPN3</td>
<td>Contact with our clients is from impersonal to interpersonal across firms in the broader market network</td>
<td></td>
</tr>
<tr>
<td>CMPN4</td>
<td>The type of relationship with our clients is characterised as contact with people in our practice and wider marketing system that is ongoing</td>
<td></td>
</tr>
<tr>
<td>CMPN5</td>
<td>People from our practice meet clients at both a formal business level and informal social level in a wider organisational system or network</td>
<td></td>
</tr>
<tr>
<td>CMPN6</td>
<td>Our marketing activities are intended to coordinate activities between ourselves, clients and other parties in our wider marketing system</td>
<td></td>
</tr>
<tr>
<td>CMPN7</td>
<td>Our marketing planning is focused on issues related to the network of relationships between individuals and organisations in our wider marketing system</td>
<td></td>
</tr>
<tr>
<td>CMPN8</td>
<td>Our marketing resources (e.g. people, time, money) are invested developing our practice’s network relationships within our market or wider marketing system</td>
<td></td>
</tr>
<tr>
<td>CMPN9</td>
<td>In our practice, marketing activities are carried out by practice owners</td>
<td></td>
</tr>
</tbody>
</table>
### Table 7.1.7 Questionnaire items related to client number performance measures

<table>
<thead>
<tr>
<th>Client numbers</th>
<th>Code</th>
<th>Item description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MPES1</td>
<td>Total number of clients visiting each year</td>
</tr>
<tr>
<td></td>
<td>MPES2</td>
<td>Number of new clients visiting each year</td>
</tr>
<tr>
<td></td>
<td>MPES3</td>
<td>Number of clients presenting with dogs</td>
</tr>
<tr>
<td></td>
<td>MPES4</td>
<td>Number of clients presenting with cats</td>
</tr>
<tr>
<td></td>
<td>MPES5</td>
<td>Number of clients presenting with other companion animal species</td>
</tr>
<tr>
<td></td>
<td>MPES6</td>
<td>Average number of visits per client each year</td>
</tr>
</tbody>
</table>

### Table 7.1.8 Questionnaire items related to revenue performance measures

<table>
<thead>
<tr>
<th>Hospital revenue</th>
<th>Code</th>
<th>Item description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MPER1</td>
<td>Overall revenue</td>
</tr>
<tr>
<td></td>
<td>MPER2</td>
<td>Revenue from professional services (surgery, consults, diagnostics, prescription medications)</td>
</tr>
<tr>
<td></td>
<td>MPER3</td>
<td>Revenue from over-the-counter sales</td>
</tr>
<tr>
<td></td>
<td>MPER4</td>
<td>Revenue from other services such as grooming and boarding</td>
</tr>
<tr>
<td></td>
<td>MPER5</td>
<td>Revenue from clients with dogs</td>
</tr>
<tr>
<td></td>
<td>MPER6</td>
<td>Revenue from clients with cats</td>
</tr>
<tr>
<td></td>
<td>MPER7</td>
<td>Revenue from clients with other companion animal species</td>
</tr>
<tr>
<td></td>
<td>MPER8</td>
<td>Average transaction fee</td>
</tr>
</tbody>
</table>
Table 7.1.9 Questionnaire items related to performance expectation measures

<table>
<thead>
<tr>
<th>Performance expectations</th>
<th>Code</th>
<th>Item description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MPEE1</td>
<td>Overall revenue</td>
</tr>
<tr>
<td></td>
<td>MPEE2</td>
<td>Profit</td>
</tr>
<tr>
<td></td>
<td>MPEE3</td>
<td>Return on investment</td>
</tr>
<tr>
<td></td>
<td>MPEE4</td>
<td>Market share</td>
</tr>
<tr>
<td></td>
<td>MPEE5</td>
<td>Performance of marketing initiatives</td>
</tr>
</tbody>
</table>

7.2. **UNIT OF ANALYSIS**

The target population for this research was veterinary hospital owners or managers in Australia involved in the provision of companion animal veterinary services. This population was targeted under the assumption that owners and managers will have a better knowledge of environment, marketing practices and marketing performance than other veterinary or non-veterinary staff. This reliance upon a single, knowledgeable informant has been reported as the most common method of questionnaire administration (Kumar, Stern & Anderson 1993; de Vaus 1995; Zikmund 1997; Rossiter 2002).

7.3. **SAMPLING**

The target population was sampled through two email requests using industry membership databases available from The University of Sydney, Faculty of Veterinary Science Partners in Veterinary Education; the Australian Veterinary Practice Management Association; the Australian Veterinary Business Association;

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12 Derived from Coviello, Winklhofer and Hamilton (2006) except for ‘Performance of marketing initiatives’ (new item)
the Australian Small Animal Veterinary Association; and the Australian Veterinary Association. The availability of the questionnaire was also promoted through an article in the *Australian Veterinary Journal* News Section (Jackson 2008). The second email request for responses coincided with the publication of this article.

7.4. **INSTRUMENTS FOR DATA COLLECTION**

Constructs of marketing environment, marketing practices and marketing performance were placed into a questionnaire in Microsoft Word and subsequently transferred to an online format. The online format enabled respondents to view sections of the questionnaire at a time. Progress through the questionnaire was indicated using a graphical display containing percentage completion information.

In addition to items previously discussed, demographic data was collected regarding hospital size (full time equivalent veterinary and non-veterinary staff); hospital location (area, state and postcode); hospital type (generalist, specialist or both); percentage of revenue from service groups (professional fees, over the counter sales, other services); percentage of income by species; ownership structure; age of hospital and current ownership; membership of the AVPMA; and role within the hospital (owner or manager). These data enable comparison between the respondent population and previous industry estimates. Practice size and location were used as control variables for subsequent analyses.

The Microsoft Word version of the full instrument is provided in the appendix section of this thesis. As previously described and for ease of use, a consistent five-point scale aligned with that used by Coviello, Winklhofer and Hamilton (2006) was used to measure all responses (except for demographic questions). External forces indicators were assessed through a five-point Likert scale moving from *strongly disagree* (1) to *strongly agree* (5); marketing practices were assessed through a five-point rating scale moving from *never* (1) to *always* (5); client acquisition (new clients), client retention (total clients) as well as other client number and revenue items were assessed using a five-point rating scale moving from *decreasing significantly* (1) to *increasing significantly* (5); and performance expectations related to revenue, profit,
return on investment, market share and performance of marketing initiatives were assessed using a rating scale moving from \textit{much worse} than expectations (1) to \textit{much better} than expectations (5). The questionnaire also contained an open response, comment box.

Prior to administration, items in the questionnaire were discussed with three academics involved in this research, three experienced veterinary hospital managers and a statistician in order to assess content validity and reliability. Evidence for inclusion of the main constituent causes of the broad industry external forces and industry attractiveness was firstly discussed among three academics to confirm content validity. Experienced hospital managers were used to confirm that the target population was likely to understand the individual items associated with these constructs and the items linked to contemporary marketing practices and veterinary hospital performance. Assuming respondents are sufficiently knowledgeable to answer concrete attributes such as client numbers, revenue and performance expectations, Rossiter (2002) has suggested that there is no question of reliability and that multiple items are not required. Similarly, self ratings on items that measure a formed index are reliable provided the list of items includes the major causes of the construct (Rossiter 2002).

The Microsoft Word version of the questionnaire was then transferred online, checked for accuracy and five test responses were collected to ensure reliability of the data retrieval process.

7.5. Programs for Data Analysis

Data analysis included both descriptive and explanatory phases. The descriptive phase complemented existing secondary data regarding the environment for companion animal veterinary hospitals within Australia and the explanatory phase tested previously presented research hypotheses. Online responses were captured utilising a MySQL database, downloaded to Microsoft Excel and then exported to SPSS for Windows 15.0 for data analysis. Amos 7.0 was used to test the associations between marketing practices and marketing performance and
regression analyses were used to assess relationships between environment and marketing practices and environment and marketing performance.

7.6. Ethical Considerations

Justification for this research was based upon contribution to theory; the lack of research regarding this industry, particularly in Australia; and the relatively poor financial performance of the veterinary services sector compared to similar professions. Further justification was based upon the contribution of the veterinary services industry to the Australian economy and society and the benefits of pet ownership. The stabilisation or decline in dog ownership, decline in cat ownership and changes to Australian household demographics were provided as the background for the importance of this research. The research problem was also argued to be of strategic importance to individual veterinary hospitals, veterinary industry stakeholders and the pet care industry.

The University of Western Sydney Human Research Ethics Committee has assessed a formal application for this research, considered the justification and potential benefits and has accepted that all reasonable processes have been adopted to protect the interests of individual participants. In accordance with this process, The University of Western Sydney Human Research Ethics Committee granted approval for this research (Approval Number 07/226) based upon a number of conditions. Respondents to the industry questionnaire must remain anonymous and access to the data collected is restricted to the principal researcher and research supervisors involved in this study. Raw data will be kept by the principal researcher with access to this data password protected. Further access to this data would require an application to The University of Western Sydney Human Ethics Committee to modify this research protocol.
7.7. **Summary**

Survey research is able to provide data which may be generalised to the population; contribute to a reliable description of the environment for companion animal veterinary services in Australia; and test hypotheses linking environment, marketing practices and marketing performance. This research therefore complements previous work based upon the contemporary marketing practices framework, adds to the body of literature regarding the marketing of professional services and expands research linking environment, marketing and performance. More specifically, this research was designed to provide a contribution to the extant literature describing the Australian companion animal veterinary services industry and the limited information describing and explaining marketing practices and performance within this industry. The following chapter will present the findings from this phase research.
8. ENVIRONMENT, CONTEMPORARY MARKETING PRACTICES AND MARKETING PERFORMANCE

This chapter will present an analysis of the results of an industry survey examining the marketing environment, marketing practices and marketing performance of companion animal veterinary service industry incumbents within Australia. The initial focus of the chapter is to provide an understanding of the main characteristics of respondents to this survey and then describe their broad perceptions of the environment and marketing performance. This descriptive component will therefore complement secondary data analysis and case study descriptions previously presented, and provide the foundation for a subsequent explanatory focus which will test research hypotheses related to relationships among marketing practices and marketing performance, environment and marketing practices, and environment and marketing performance. The presentation of results will be followed by a discussion integrating these findings with secondary data and extant theory presented previously.

8.1. SAMPLE CHARACTERISTICS

There were 178 responses to the online questionnaire; 79 responses (44%) from capital city based hospitals, 62 responses (35%) from provincial city (>10,000 people) based hospitals and 37 responses (21%) from country town based hospitals. All responses were checked for duplication or error and one response was removed from analysis due to a comment suggesting poor understanding of the contemporary marketing practices items. The majority of responding hospitals were based in New South Wales (Table 8.1.1). The distribution of respondents by Australian state and territory suggests that veterinary hospitals from New South Wales and the Australian Capital Territory were over-represented whilst Queensland, Western Australia and Tasmania were under-represented. However,
the ABS survey used for comparison consisted of all employing hospitals, not just those deriving some income from companion animals, and ABS data were collected in 2000. More recent data suggest there are relatively fewer production animal hospitals based in NSW (Veterinary Practitioners Board of NSW 2007).

Table 8.1.1 Distribution of respondents by Australian state compared to population distribution in 2000

<table>
<thead>
<tr>
<th>Australian State or Territory</th>
<th>Number of respondents</th>
<th>Percentage of respondents</th>
<th>Percentage of population¹³</th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales</td>
<td>84</td>
<td>47%</td>
<td>30%</td>
</tr>
<tr>
<td>Victoria</td>
<td>35</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Queensland</td>
<td>23</td>
<td>13%</td>
<td>21%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>10</td>
<td>6%</td>
<td>11%</td>
</tr>
<tr>
<td>South Australia</td>
<td>15</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>2</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>Australian Capital Territory</td>
<td>6</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>2</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Potential respondents were approached through four private database email addresses and an article in the News section of the *Australian Veterinary Journal* (Jackson 2008). The numbers of veterinary hospital owners or managers available through these individual, private databases are not available, further, as there was likely to be significant overlap in database membership, response rates were difficult to determine. Assuming all AVA members received an invitation and that half of the employing veterinary hospitals have AVA members, this represents a response

¹³ Percentage of Australian population of veterinary hospitals based upon estimates provided by ABS (2001) and hence should be viewed with some caution when comparing with this sample from 2007.
rate of approximately 20%. Further, the sample size of 178 represents approximately 10% of employing veterinary hospitals in Australia (ABS 2001); although this population includes production animal and equine only veterinary hospitals which did not qualify. Similarly, the total number of companion animal veterinary hospitals in each state and territory within Australia is difficult to determine. The 84 responses from hospitals in New South Wales represent approximately 14% of the population within this state based upon statistics from the Veterinary Practitioners Board NSW (2007).

The mean number of FTE veterinarians in respondent veterinary hospitals was 3.8 and the mean number of FTE non-veterinarians was 7.5 creating a mean non-veterinarian to veterinarian or staff ratio of approximately 2.0 for all hospitals. Comparative data from ABS (2001) survey on staff ratios are not available but using total employment statistics from the veterinary services industry in 2000, there were approximately 1.77 non-veterinarians per veterinarian within the industry.

Hospitals were also grouped by size in terms of number of FTE veterinarians using the visual binning function in SPSS with one FTE veterinarian or less classified as a solo hospital, more than 1 and less than 5 veterinarians as a small hospital, more than 5 and up to 10 as a medium sized hospital and greater than 10 FTE veterinarians as a large hospital; the distribution of respondents by hospital size is provided in Table 8.1.2. In 2000, it was estimated that approximately 29% of employing veterinary hospitals in Australia were single practitioners, 58% consisted of 2-5 veterinarians, and 13% consisted of 5 or more veterinarians (ABS 2001). These data suggest that either solo veterinary hospitals have been under-represented or that during the seven years since the ABS survey, there has been a movement away from single practitioner veterinary hospitals.

Figure 8.1.1 reveals that all practice sizes described were represented in each state except Tasmania, the Australian Capital Territory and the Northern Territory. This is most likely due to the fewer responses from these less populated areas.
Table 8.1.2 Distribution of respondents by practice size

<table>
<thead>
<tr>
<th>Veterinary practice size (FTE veterinarians)</th>
<th>Number of respondents</th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solo (≤1 FTE veterinarians)</td>
<td>19</td>
<td>11%</td>
</tr>
<tr>
<td>Small (≤5 FTE veterinarians)</td>
<td>132</td>
<td>75%</td>
</tr>
<tr>
<td>Medium (≤10 FTE veterinarians)</td>
<td>16</td>
<td>9%</td>
</tr>
<tr>
<td>Large (&gt;10 FTE veterinarians)</td>
<td>10</td>
<td>6%</td>
</tr>
</tbody>
</table>

Figure 8.1.1 Distribution of respondents by practice size and state

The majority of hospitals were generalist in type (90.4%) with only a small percentage of respondents describing their hospitals as specialist (2.2%) or generalist and specialist (7.3%). Again, comparative data are not available for the population but, in 2000 approximately 6% of individual veterinarians described themselves as specialists (ABS 2001) although this figure had a standard error between 25-50%.
With respect to ownership structure, 32% of veterinary hospitals in this sample were sole proprietorships, 30.3% partnerships, 37.1% companies and 8.4% trusts (percentages were greater than 100 due to multiple ownership structures). Comparison with a previous survey of the profession (ABS 2001) suggests that sole proprietorships and partnerships may be over-represented (45%) whilst companies (42%) and trusts (14%) may be slightly under-represented.

Respondents to the survey were more likely to be members of the AVPMA (69.1%) and more likely to describe themselves as hospital owners (88.8%) rather than hospital managers.

With respect to normality of data, all metric items and indices reveal skewness and kurtosis values less than 3.0 and 10.0 respectively and therefore are defined as acceptable for the purpose of subsequent structural equation modelling analyses (Kline 1998).

8.2. ENVIRONMENT

The market environment for companion animal veterinary services was described in terms of external forces, industry structural forces, market size and revenue. Details of the perceptions of environmental conditions within the last three years are provided in the following sections.

8.2.1. External Forces

The macroenvironment was described through respondents’ level of agreement with statements representing each of the external forces previously discussed; political, economic, social, technological and natural. Formed indices were created for each of these broad forces by calculating the mean values for responses of all items contributing to or ‘causing’ the index. Mean values rather than a summated value were used for ease of comparison. Values therefore range from 1-5, with 5 representing the most favourable environment. Testing for indicator collinearity
was performed prior to developing these indices as recommended by Diamantopoulos and Winklhofer (2001); individual variance inflation factors were checked and all were found to be less than 10 and hence no items were considered for removal. Values for these indices by location and their standard deviations are presented in Table 8.2.1.

Technological forces and social forces reveal the highest mean values for these indices suggesting these forces have had the most favourable influence upon the companion animal veterinary services industry over the last three years. The impact of social, technological and political forces appears to be independent of location. Economic and natural forces were perceived to be significantly more favourable at the local level for capital city locations and least favourable for country town locations, with provincial city locations perceiving intermediate levels of munificence.

8.2.2. Industry Structural Forces

Industry structural forces within the task environment were described through respondents’ level of agreement with statements representing constituents of the power of buyers, the power of suppliers and competitive rivalry (the latter comprised intensity of rivalry, number of new entrants and competition from substitutes). Formed indices were created for each of these structural forces and again represent mean values for responses of all items contributing to the index. As above, values range from 1-5, with 5 representing the most favourable environment for the incumbent (low supplier power, low buyer power and low levels of competitive rivalry). Again, variance inflation factors for these items were all less than 10 suggesting no items needed to be considered as potentially redundant. Values for these indices by location and their standard deviations are presented in Table 8.2.2 and suggest that industry structural forces do not vary significantly with location except with respect to buyer power. Buyer power is perceived to be greater in provincial cities (LSD, p=0.005) and country towns (LSD, p=0.003) compared to capital city locations.
Table 8.2.1 The effect of hospital location on perceptions of favourable macroenvironmental conditions

<table>
<thead>
<tr>
<th>Macroenvironment force index</th>
<th>Capital city</th>
<th>Provincial city</th>
<th>Country town</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>s.d</td>
<td>Mean</td>
<td>s.d</td>
</tr>
<tr>
<td>Political forces index</td>
<td>3.05</td>
<td>0.80</td>
<td>3.09</td>
<td>0.75</td>
</tr>
<tr>
<td>Economic forces index</td>
<td>2.88</td>
<td>0.85</td>
<td>2.54</td>
<td>0.75</td>
</tr>
<tr>
<td>Social forces index</td>
<td>3.25</td>
<td>0.48</td>
<td>3.33</td>
<td>0.55</td>
</tr>
<tr>
<td>Technology forces index</td>
<td>3.57</td>
<td>0.60</td>
<td>3.54</td>
<td>0.50</td>
</tr>
<tr>
<td>Natural forces index</td>
<td>3.17</td>
<td>0.71</td>
<td>2.67</td>
<td>0.74</td>
</tr>
</tbody>
</table>

14 Broadly indicative of favourable environmental conditions, the higher the index the more favourable the perceived environment.
8.2.3. Market Size

Firstly, with respect to total client numbers, 5.6% of respondents reported that these had decreased over the last 3 years, and 77.5% of respondents perceived total client numbers had increased (27.5% increasing significantly). Similarly, 2.8% of respondents perceived new client numbers to have decreased over the last 3 years and 80.9% believed that new client numbers had increased over the last 3 years.

More specifically, 69.1% of respondents believed the number of clients presenting with dogs had increased over the last 3 years and only 2.2% believed this population to be decreasing. By contrast, the number of clients with cats was perceived to have increased over the last 3 years by 49.5% of respondents and 18.0% perceived a decrease. The number of clients presenting with companion animals other than dogs and cats was perceived to have increased by 57.3% of respondents. The average number of visits per client per year was perceived to be increasing by 66.3% of respondents.

Average responses for items describing market size by location and hospital size together with their respective standard deviations are presented in Tables 8.2.3 and 8.2.4. Respondents from country towns were less likely to perceive the number of clients presenting with other companion animals to be increasing compared to provincial city respondents. The difference in mean response between provincial city and country town respondents was 0.37. Due to lack of homogeneity (Box’s M=74.455, p=0.004), Dunnett’s C was used to assess this difference and it was found to be significant (p=0.05). Medium sized hospitals (5-10 veterinarians) were less likely to perceive the number of clients with cats had decreased over the last 3 years (Dunnett’s C, p=0.05).
Table 8.2.2 The effect of hospital location on perceptions of favourable industry structural forces

<table>
<thead>
<tr>
<th>Industry structural forces</th>
<th>Hospital location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Capital city</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>Power of suppliers index</td>
<td>3.17</td>
</tr>
<tr>
<td>Power of buyers index</td>
<td>2.98</td>
</tr>
<tr>
<td>Competitive rivalry index</td>
<td>2.40</td>
</tr>
</tbody>
</table>
Table 8.2.3 The effect of hospital location on perceptions of market size

<table>
<thead>
<tr>
<th>Market size estimate</th>
<th>Location</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Significance</th>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>s.d</td>
<td>Mean</td>
<td>s.d</td>
<td>Mean</td>
<td>s.d</td>
</tr>
<tr>
<td>Number of clients</td>
<td>All</td>
<td>3.99</td>
<td>0.84</td>
<td>4.04</td>
<td>0.89</td>
<td>3.87</td>
<td>0.80</td>
</tr>
<tr>
<td></td>
<td>Capital city</td>
<td>4.04</td>
<td>0.89</td>
<td></td>
<td></td>
<td>3.87</td>
<td>0.80</td>
</tr>
<tr>
<td></td>
<td>Provincial city</td>
<td>3.87</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Country town</td>
<td>4.11</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New clients</td>
<td>All</td>
<td>4.12</td>
<td>0.79</td>
<td>4.12</td>
<td>0.82</td>
<td>4.08</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>Capital city</td>
<td>4.12</td>
<td>0.82</td>
<td></td>
<td></td>
<td>4.08</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>Provincial city</td>
<td>4.08</td>
<td>0.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Country town</td>
<td>4.19</td>
<td>0.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clients with dogs</td>
<td>All</td>
<td>3.85</td>
<td>0.92</td>
<td>3.81</td>
<td>1.12</td>
<td>3.87</td>
<td>0.71</td>
</tr>
<tr>
<td></td>
<td>Capital city</td>
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<td>1.12</td>
<td></td>
<td></td>
<td>3.87</td>
<td>0.71</td>
</tr>
<tr>
<td></td>
<td>Provincial city</td>
<td>3.87</td>
<td>0.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Country town</td>
<td>3.92</td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clients with cats</td>
<td>All</td>
<td>3.46</td>
<td>0.94</td>
<td>3.59</td>
<td>0.97</td>
<td>3.24</td>
<td>0.88</td>
</tr>
<tr>
<td></td>
<td>Capital city</td>
<td>3.59</td>
<td>0.97</td>
<td></td>
<td></td>
<td>3.24</td>
<td>0.88</td>
</tr>
<tr>
<td></td>
<td>Provincial city</td>
<td>3.24</td>
<td>0.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Country town</td>
<td>3.54</td>
<td>0.90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clients with other companion animal species$^{15}$</td>
<td>All</td>
<td>3.59</td>
<td>0.82</td>
<td>3.59</td>
<td>0.95</td>
<td>3.73</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td>Capital city</td>
<td>3.59</td>
<td>0.95</td>
<td></td>
<td></td>
<td>3.73</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td>Provincial city</td>
<td>3.73</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Country town</td>
<td>3.35</td>
<td>0.54</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Client visits</td>
<td>All</td>
<td>3.76</td>
<td>0.65</td>
<td>3.83</td>
<td>0.65</td>
<td>3.65</td>
<td>0.70</td>
</tr>
<tr>
<td></td>
<td>Capital city</td>
<td>3.83</td>
<td>0.65</td>
<td></td>
<td></td>
<td>3.65</td>
<td>0.70</td>
</tr>
<tr>
<td></td>
<td>Provincial city</td>
<td>3.65</td>
<td>0.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Country town</td>
<td>3.78</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^{15}$ Difference in mean response between provincial city and country towns regarding clients with other companion animal species was significant (Dunnett's C, p=0.05).
Table 8.2.4 The effect of hospital size on perceptions of favourable industry structural forces

<table>
<thead>
<tr>
<th>Market size</th>
<th>All</th>
<th>Solo</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>s.d</td>
<td>Mean</td>
<td>s.d</td>
<td>Mean</td>
<td>s.d</td>
</tr>
<tr>
<td>Number of clients</td>
<td>3.99</td>
<td>0.84</td>
<td>3.84</td>
<td>1.02</td>
<td>4.02</td>
<td>0.83</td>
</tr>
<tr>
<td>New clients</td>
<td>4.12</td>
<td>0.79</td>
<td>4.32</td>
<td>0.67</td>
<td>4.14</td>
<td>0.82</td>
</tr>
<tr>
<td>Clients with dogs</td>
<td>3.85</td>
<td>0.92</td>
<td>3.68</td>
<td>1.52</td>
<td>3.91</td>
<td>0.82</td>
</tr>
<tr>
<td>Clients with cats</td>
<td>3.46</td>
<td>0.94</td>
<td>3.68</td>
<td>0.82</td>
<td>3.47</td>
<td>0.95</td>
</tr>
<tr>
<td>Clients with other companion animal species</td>
<td>3.59</td>
<td>0.82</td>
<td>3.00</td>
<td>1.20</td>
<td>3.68</td>
<td>0.77</td>
</tr>
<tr>
<td>Client visits</td>
<td>3.76</td>
<td>0.65</td>
<td>3.53</td>
<td>0.61</td>
<td>3.80</td>
<td>0.65</td>
</tr>
</tbody>
</table>

16 Difference in mean response between medium sized hospitals and all other sized hospitals regarding number of clients presenting with cats was significant (Dunnett’s C, p=0.05).

17 Whilst differences among mean responses for clients with other companion animal species was significant overall (p=0.005), post hoc tests for differences between individual hospital size types were not significant.
### Table 8.2.5 The effect of location on perceptions of revenue

<table>
<thead>
<tr>
<th>Industry revenue</th>
<th>Location</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>s.d</td>
<td>Mean</td>
<td>s.d</td>
<td>Mean</td>
</tr>
<tr>
<td>Overall revenue</td>
<td>4.23</td>
<td>0.77</td>
<td>4.26</td>
<td>0.84</td>
<td>4.18</td>
</tr>
<tr>
<td>Professional services revenue</td>
<td>4.24</td>
<td>0.79</td>
<td>4.23</td>
<td>0.88</td>
<td>4.19</td>
</tr>
<tr>
<td>Over-the-counter revenue</td>
<td>3.85</td>
<td>0.86</td>
<td>3.90</td>
<td>0.80</td>
<td>3.77</td>
</tr>
<tr>
<td>Other services revenue (such as grooming and boarding)</td>
<td>2.51</td>
<td>1.76</td>
<td>2.44</td>
<td>1.80</td>
<td>2.56</td>
</tr>
<tr>
<td>Revenue from dogs</td>
<td>4.03</td>
<td>1.14</td>
<td>4.08</td>
<td>1.09</td>
<td>4.03</td>
</tr>
<tr>
<td>Revenue from cats</td>
<td>3.81</td>
<td>0.91</td>
<td>3.94</td>
<td>0.90</td>
<td>3.60</td>
</tr>
<tr>
<td>Revenue from other companion animal species</td>
<td>3.42</td>
<td>1.04</td>
<td>3.33</td>
<td>1.29</td>
<td>3.60</td>
</tr>
<tr>
<td>Average transaction fee</td>
<td>4.20</td>
<td>0.58</td>
<td>4.15</td>
<td>0.67</td>
<td>4.19</td>
</tr>
</tbody>
</table>

224
<table>
<thead>
<tr>
<th>Industry revenue</th>
<th>Hospital size</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>s.d</td>
<td>Mean</td>
<td>s.d</td>
<td>Mean</td>
</tr>
<tr>
<td>Overall revenue</td>
<td></td>
<td>All</td>
<td>4.23</td>
<td>0.77</td>
<td>Solo</td>
<td>4.11</td>
</tr>
<tr>
<td>Professional services revenue</td>
<td></td>
<td>All</td>
<td>4.24</td>
<td>0.79</td>
<td>Solo</td>
<td>4.05</td>
</tr>
<tr>
<td>OTC revenue</td>
<td></td>
<td>All</td>
<td>3.85</td>
<td>0.86</td>
<td>Solo</td>
<td>3.58</td>
</tr>
<tr>
<td>Other services revenue</td>
<td></td>
<td>All</td>
<td>2.51</td>
<td>1.76</td>
<td>Solo</td>
<td>2.11</td>
</tr>
<tr>
<td>Revenue from dogs</td>
<td></td>
<td>All</td>
<td>4.03</td>
<td>1.14</td>
<td>Solo</td>
<td>3.58</td>
</tr>
<tr>
<td>Revenue from cats</td>
<td></td>
<td>All</td>
<td>3.81</td>
<td>0.91</td>
<td>Solo</td>
<td>3.74</td>
</tr>
<tr>
<td>Revenue from other companion animal species</td>
<td></td>
<td>All</td>
<td>3.42</td>
<td>1.04</td>
<td>Solo</td>
<td>2.74</td>
</tr>
<tr>
<td>Average transaction fee</td>
<td></td>
<td>All</td>
<td>4.20</td>
<td>0.58</td>
<td>Solo</td>
<td>4.11</td>
</tr>
</tbody>
</table>
8.2.4. Industry Revenue

Overall revenue was perceived to have grown either slightly (51.7%) or significantly (38.2%) by 89.9% of respondents over the last 3 years. Similarly, 50.0% and 39.9% of respondents believed that revenue from professional services had increased either slightly or significantly respectively.

Revenue from over-the-counter sales was perceived to have increased slightly (53.9%) or significantly (19.7%) by 73.6% of respondents. With respect to revenue derived from other services such as grooming and boarding, approximately 30% did not provide a response to this question. Of those that responded, 36.0% believed that revenue from this source had increased over the last 3 years.

The percentage of revenue derived from clients with dogs, cats and other companion animal species was perceived to have increased by 86.5%, 69.7% and 54.5% of respondents respectively. Average transaction fee was perceived to have increased slightly (65.7%) or significantly (27.5%) by 93.2% of respondents.

Average responses for items describing revenue by location and their standard deviations are presented in Table 8.2.5. There were no significant differences among capital city, provincial city or country town respondents regarding perceptions of revenue trends over the last 3 years. Similarly, average responses for items describing revenue by hospital size and their standard deviations are provided in Table 8.2.6. Revenue from cats was less likely to be perceived as increasing by one veterinarian hospitals compared to hospitals with more than 10 veterinarians (Dunnett’s C, p=0.05). Whilst differences among mean responses for revenue from clients with other companion animal species was significant overall (p=0.025), post hoc tests for differences between individual hospital size types were not significant.
### Table 8.2.5 The effect of location on perceptions of revenue

<table>
<thead>
<tr>
<th>Industry revenue</th>
<th>Location</th>
<th>All</th>
<th>Mean</th>
<th>s.d</th>
<th>Capital city</th>
<th>Mean</th>
<th>s.d</th>
<th>Provincial city</th>
<th>Mean</th>
<th>s.d</th>
<th>Country town</th>
<th>Mean</th>
<th>s.d</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall revenue</td>
<td></td>
<td></td>
<td>4.23</td>
<td>0.77</td>
<td>4.26</td>
<td>0.84</td>
<td></td>
<td>4.18</td>
<td>0.76</td>
<td></td>
<td>4.27</td>
<td>0.65</td>
<td></td>
<td>0.790</td>
</tr>
<tr>
<td>Professional services revenue</td>
<td></td>
<td>4.24</td>
<td>0.79</td>
<td>4.23</td>
<td>0.88</td>
<td>4.19</td>
<td>0.74</td>
<td>4.35</td>
<td>0.68</td>
<td>0.624</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over-the-counter revenue</td>
<td></td>
<td>3.85</td>
<td>0.86</td>
<td>3.90</td>
<td>0.80</td>
<td>3.77</td>
<td>0.97</td>
<td>3.86</td>
<td>0.79</td>
<td>0.695</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other services revenue (such as grooming and boarding)</td>
<td></td>
<td>2.51</td>
<td>1.76</td>
<td>2.44</td>
<td>1.80</td>
<td>2.56</td>
<td>1.69</td>
<td>2.57</td>
<td>1.82</td>
<td>0.889</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue from dogs</td>
<td></td>
<td>4.03</td>
<td>1.14</td>
<td>4.08</td>
<td>1.09</td>
<td>4.03</td>
<td>1.13</td>
<td>3.92</td>
<td>1.28</td>
<td>0.787</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue from cats</td>
<td></td>
<td>3.81</td>
<td>0.91</td>
<td>3.94</td>
<td>0.90</td>
<td>3.60</td>
<td>0.95</td>
<td>3.92</td>
<td>0.80</td>
<td>0.065</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue from other companion animal species</td>
<td></td>
<td>3.42</td>
<td>1.04</td>
<td>3.33</td>
<td>1.29</td>
<td>3.60</td>
<td>0.80</td>
<td>3.30</td>
<td>0.78</td>
<td>0.243</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>4.20</td>
<td>0.58</td>
<td>4.15</td>
<td>0.67</td>
<td>4.19</td>
<td>0.51</td>
<td>4.30</td>
<td>0.52</td>
<td>0.471</td>
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<td></td>
</tr>
</tbody>
</table>
### Table 8.2.6 The effect of hospital size on perceptions of revenue

<table>
<thead>
<tr>
<th>Industry revenue</th>
<th>Hospital size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>Overall revenue</td>
<td>4.23</td>
</tr>
<tr>
<td>Professional services revenue</td>
<td>4.24</td>
</tr>
<tr>
<td>OTC revenue</td>
<td>3.85</td>
</tr>
<tr>
<td>Other services revenue</td>
<td>2.51</td>
</tr>
<tr>
<td>Revenue from dogs</td>
<td>4.03</td>
</tr>
<tr>
<td>Revenue from cats</td>
<td>3.81</td>
</tr>
<tr>
<td>Revenue from other companion animal species</td>
<td>3.42</td>
</tr>
<tr>
<td>Average transaction fee</td>
<td>4.20</td>
</tr>
</tbody>
</table>
8.3. MARKETING PRACTICES

The extent to which contemporary marketing practices were being employed by companion animal veterinary service incumbents was determined by converting mean scores for items linked to transaction marketing practices, database marketing practices, interaction marketing practices and network marketing practices to indices ranging from 0-1 as described by Covello, Winklhofer and Hamilton (2006). Specifically, the mean value index which varied from 1-5 was mathematically transformed to create an index from 0-1. Testing for indicator collinearity was performed prior to developing these indices as recommended by Diamantopoulos and Winklhofer (2001); individual variance inflation factors were checked and all were found to be less than 10 and hence as suggested by Hair et al. (2006) no items were considered for removal. For this analysis, one respondent was removed as an outlier which appeared to be explained by an open comment on the questionnaire indicating that the respondent did not understand questions relating to marketing practices.

Table 8.3.1 reveals that within this industry there are higher levels of interaction marketing (0.78) although there was evidence for all forms of contemporary marketing practices being employed with minimum index values for all contemporary marketing practices greater than zero.

Table 8.3.2 reveals correlations between contemporary marketing practices within the companion animal veterinary services industry in Australia based upon these survey responses. All contemporary marketing practices are significantly correlated (p=0.01) except transaction marketing practices and interaction marketing practices. These results also suggest that veterinary hospitals generally employ a combination of contemporary marketing practices in Australia.

Table 8.3.3 similarly reveals that based upon paired samples t-tests, veterinary hospitals implement interaction marketing practices more than network marketing and database marketing practices and all relational marketing practices more than transaction marketing practices.
Table 8.3.1 Companion animal veterinary services industry contemporary marketing practices

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>s.d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transaction marketing</td>
<td>177</td>
<td>.25</td>
<td>.81</td>
<td>.52</td>
<td>.11</td>
</tr>
<tr>
<td>Database marketing</td>
<td>177</td>
<td>.17</td>
<td>.89</td>
<td>.56</td>
<td>.12</td>
</tr>
<tr>
<td>Interaction marketing</td>
<td>177</td>
<td>.28</td>
<td>1.00</td>
<td>.78</td>
<td>.12</td>
</tr>
<tr>
<td>Network marketing</td>
<td>177</td>
<td>.11</td>
<td>.89</td>
<td>.56</td>
<td>.17</td>
</tr>
</tbody>
</table>

Table 8.3.2 Correlations among contemporary marketing practices

<table>
<thead>
<tr>
<th></th>
<th>Transaction marketing</th>
<th>Database marketing</th>
<th>Interaction marketing</th>
<th>Network marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transaction marketing</td>
<td>1</td>
<td>.449(**)</td>
<td>.048 (NS)</td>
<td>.251(**)</td>
</tr>
<tr>
<td>Database marketing</td>
<td>1</td>
<td></td>
<td>.405(**)</td>
<td>.453(**)</td>
</tr>
<tr>
<td>Interaction marketing</td>
<td>1</td>
<td>.472(**)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Network marketing</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Pearson correlation is significant at the 0.01 level (2-tailed); NS Correlation is not significant
Table 8.3.3 Paired samples t tests between contemporary marketing practices

<table>
<thead>
<tr>
<th></th>
<th>Mean difference</th>
<th>t</th>
<th>df</th>
<th>Significance (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transaction marketing – Database marketing</td>
<td>-0.04</td>
<td>-4.45</td>
<td>176</td>
<td>0.000</td>
</tr>
<tr>
<td>Transaction marketing – Interaction marketing</td>
<td>-0.26</td>
<td>-21.76</td>
<td>176</td>
<td>0.000</td>
</tr>
<tr>
<td>Transaction marketing – Network marketing</td>
<td>-0.04</td>
<td>-2.87</td>
<td>176</td>
<td>0.005</td>
</tr>
<tr>
<td>Database marketing – Interaction marketing</td>
<td>-0.22</td>
<td>-22.01</td>
<td>176</td>
<td>0.000</td>
</tr>
<tr>
<td>Database marketing – Network marketing</td>
<td>0.00</td>
<td>0.13</td>
<td>176</td>
<td>0.90</td>
</tr>
<tr>
<td>Interaction marketing – Network marketing</td>
<td>0.22</td>
<td>18.75</td>
<td>176</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Further analysis of marketing practices using MANOVA, ANOVA, LSD procedure for three level factor analyses (area) and post hoc analyses of pair wise comparisons suggests that marketing practices are not affected by location. A one-way MANOVA found significant differences associated with hospital size using the four categories previously described of solo, small, medium and large (Wilks’s $\Lambda=0.861$, $F(12,429)=2.073$, $p=0.018$). Specifically, using the Bonferroni method, large hospitals (more than 10 full time equivalent veterinarians) were more likely to use transaction marketing practices than solo veterinary hospitals ($p=0.003$). Linear regression subsequently revealed a significant influence of size (as measured by the number of FTE veterinarians) upon transaction marketing practices ($r^2=0.064$, $\beta=0.252$, $t=3.447$, $p=0.001$).

In summary, these results support hypotheses 1a, 1b and 1c regarding the extent of contemporary marketing practices within the companion animal veterinary services industry. Specifically, there is evidence supporting the implementation of transaction, database, interaction and network marketing practices but interaction marketing practices dominate this industry. Further, with respect to the control variables of practice size and location, the size of veterinary hospital as measured by
the number of full time equivalent veterinarians, has a positive influence upon transaction marketing practices.

8.4. MARKETING PRACTICES AND MARKETING PERFORMANCE

The relationship between contemporary marketing practices and marketing performance was examined through structural equation modelling using Amos 7.0 in SPSS 15.0 and based upon the model previously developed, derived from Coviello, Winklhofer and Hamilton (2006) and presented in Figure 8.4.1.

Specifically, indices for each marketing practice, perceptions of new client numbers (client acquisition), total client numbers (client retention), revenue growth, and profit compared to expectations were used as variables for the model.

The data fit the model well based upon the criteria recommended by Hair et al. (2006) for a model with 12 variables and sample size less than 250. Specifically, $\chi^2=7.641$, df =12, $p=0.813$, Comparative Fit Index [CFI]=1.000, and Root Mean Square Error of Approximation [RMSEA]=0.000. In addition, the Normed Fit Index [NFI] and the Goodness-of-fit Index [GFI] are 0.981 and 0.989 respectively.

Regression weight estimates with their standard errors, critical ratios and $p$ values are presented in Table 8.4.1. With respect to the specific hypotheses linking transaction and relational marketing practices with client acquisition, there was a significant, positive relationship between network marketing practices and client acquisition ($\gamma=0.888$, $p=0.030$) but no evidence to support a significant relationship between transaction marketing practices or other relational marketing practices with client acquisition.

The only significant antecedent of client retention was client acquisition ($\beta=0.721$, $p<0.001$), and both client retention ($\beta=0.563$, $p<0.001$) and interaction marketing practices ($\gamma=0.757$, $p=0.042$) were significantly associated with revenue. Finally, as also revealed in Table 8.4.1, revenue was significantly associated with profitability ($\beta=0.517$, $p<0.001$).
Figure 8.4.1 Conceptual model of the relationship between marketing practices and performance
<table>
<thead>
<tr>
<th>Hypothesised relationship</th>
<th>Regression weight</th>
<th>Standard error</th>
<th>Critical ratio</th>
<th>p-value¹⁸</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2a Client acquisition &lt;--- Transaction marketing</td>
<td>-.761</td>
<td>.624</td>
<td>-1.220</td>
<td>0.223</td>
</tr>
<tr>
<td>H2b Client acquisition &lt;--- Database marketing</td>
<td>-.833</td>
<td>.620</td>
<td>-1.344</td>
<td>0.179</td>
</tr>
<tr>
<td>H2c Client acquisition &lt;--- Interaction marketing</td>
<td>.525</td>
<td>.565</td>
<td>0.929</td>
<td>0.353</td>
</tr>
<tr>
<td>H2d Client acquisition &lt;--- Network marketing</td>
<td>.888</td>
<td>.410</td>
<td>2.167</td>
<td>0.030</td>
</tr>
<tr>
<td>H3a Client retention &lt;--- Database marketing</td>
<td>-.800</td>
<td>.474</td>
<td>-1.687</td>
<td>0.092</td>
</tr>
<tr>
<td>H3b Client retention &lt;--- Interaction marketing</td>
<td>.635</td>
<td>.431</td>
<td>1.472</td>
<td>0.141</td>
</tr>
<tr>
<td>H3c Client retention &lt;--- Network marketing</td>
<td>.191</td>
<td>.316</td>
<td>.604</td>
<td>0.546</td>
</tr>
<tr>
<td>H4 Client retention &lt;--- Client acquisition</td>
<td>.721</td>
<td>.057</td>
<td>12.574</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>H5a Revenue &lt;--- Client retention</td>
<td>.560</td>
<td>.077</td>
<td>7.303</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>H5b Revenue &lt;--- Interaction marketing</td>
<td>.757</td>
<td>.372</td>
<td>2.035</td>
<td>0.042</td>
</tr>
<tr>
<td>H6 Profit &lt;--- Revenue</td>
<td>.517</td>
<td>.087</td>
<td>5.957</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

¹⁸ Two-tailed
The percentage of variance explained by the model for each of the endogenous variables (new clients, total clients, revenue and profit) was estimated using squared multiple correlations. The proposed model explains approximately 5.6% of the variance in new client numbers; 51% of the variance in total client numbers; 40.6% of the variance in revenue; and 16.8% of the variance in profit.

In summary, these results support hypothesis 2d linking network marketing practices with client acquisition but fail to provide evidence linking transaction, database or interaction marketing practices with client acquisition. Hypotheses 2a, 2b and 2c are therefore rejected. Similarly, there was no evidence to support a relationship between relational marketing practices and client retention for this sample of veterinary hospitals and hypotheses 3a, 3b and 3c are rejected.

There is evidence for a relationship between client acquisition and client retention, client retention and revenue, interaction marketing and revenue, and revenue and profitability hence hypotheses 4, 5a, 5b, and 6 are supported.

8.5. Environment and Marketing Practices

Regression analyses were used to examine the relationship between the marketing environment, as described by the industry attractiveness index created from industry structural forces, and marketing practices. As suggested by Diamantopoulos and Winklhofer (2001), indicator collinearity was assessed using variance inflation factors for individual items. All variance inflation factors were less than 10 as recommended by Hair et al. (2006) and hence all items were retained for the index.

There was a weak, negative relationship between the industry attractiveness index and transaction marketing practices ($r^2=0.023, \beta=-0.150, t=-2.013, p=0.046$) and no significant relationship between industry attractiveness and any of the relationship marketing practices.

Regression analyses with industry attractiveness index, hospital size and location (capital city and country town dummy variables) as the independent variables and
transaction marketing practices as the dependent variable, determined that hospital size ($\beta=0.240, t=3.346, p=0.001$), capital city location ($\beta=0.211, t=2.619, p=0.010$) and industry attractiveness index ($\beta=-0.157, t=-2.197, p=0.029$) influenced transaction marketing practices ($r^2=0.121$).

Hypotheses 7a and 7b are rejected. Whilst industry attractiveness may influence transaction marketing practices, the effect is most likely to be negative rather than positive; that is, a less favourable environment is likely to have a positive influence upon the implementation of transaction marketing practices. Industry attractiveness did not influence database marketing, interaction marketing or network marketing practices.

8.6. **Environment and Marketing Performance**

Industry attractiveness was hypothesised to have a positive affect upon profit and this relationship was tested using linear regression. Perceptions of an attractive local industry environment based upon this index were positively associated with the veterinary hospital performing better than expected in terms of profit ($r^2=0.04, \beta=0.199, t=2.690, p=0.008$). Hence, hypothesis 8 is supported.

8.7. **Discussion**

A summary of research hypotheses and results is presented in Tables 8.7.1 to 8.7.3. Specifically with respect to the contemporary marketing practices framework, this study has found evidence to support the implementation of transaction, database, interaction and network marketing practices within the companion animal veterinary services industry. Industry incumbents mostly rely upon interaction marketing practices. Further, in contrast to the tourism accommodation sector (Coviello, Winkhofer & Hamilton 2006), veterinary hospitals require network marketing practices for effective client acquisition, the latter promotes client retention, and both interaction marketing practices and client retention positively
affect revenue. Finally, as found by Coviello, Winklhofer and Hamilton (2006), there is a positive relationship between revenue or sales growth and profitability. These results are discussed in greater detail below.

8.7.1. Contemporary Marketing Practices

As found in previous studies of both goods and services industries in a range of countries (Lindgreen, Davis, Brodie & Buchanan-Oliver 2000; Lindgreen 2001; Brady & Palmer 2004; Wagner 2005; Coviello, Winklhofer & Hamilton 2006; Dadzie, Johnston & Pels 2008) there is evidence to suggest that companion animal veterinary hospitals relate to their markets through transaction, database, interaction and network marketing practices. Rather than representing a continuum from transactional to relational marketing practices, these findings further suggest the possibility of a range of marketing practices available to professional services organisations (Coviello, Winklhofer & Hamilton 2006; Brodie, Coviello & Winklhofer 2008). Hypotheses and findings related to contemporary marketing practices within the companion animal veterinary services industry in Australia are presented in Table 8.7.1.

Professional services are relational by nature (Silvestro 1999; Grönroos 2000) because of the ability of relational marketing practices to address the specific features of services and the apparent increasing requirement for close interaction between customers and sellers (Greenwood & Lachman 1996; de Chernatony & Segel-Horn 2001; Palmatier, Dant, Grewel & Evans 2006; Eisingerich & Bell 2007). The dominant use of interaction marketing practices by veterinary hospitals in this research further supports this theory and suggests that other contemporary marketing practices are used to complement ‘innate’ interaction marketing practices within this industry. One reason for complementing interaction marketing practices with transaction marketing practices appears to be growth in the size of the veterinary hospital suggesting that as the number of full time veterinarians within the hospital increases, it becomes increasingly difficult to maintain and rely upon close interpersonal contact with all clients.
Table 8.7.1 Contemporary marketing practices implemented by companion animal veterinary hospitals

<table>
<thead>
<tr>
<th>Research hypotheses</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis 1a:</td>
<td>Companion animal veterinary hospitals relate to their markets through transactional, database, interaction and network marketing practices</td>
</tr>
<tr>
<td>Hypothesis 1b:</td>
<td>Interaction marketing is the dominant form of contemporary marketing practice implemented by companion animal veterinary hospitals</td>
</tr>
<tr>
<td>Hypothesis 1c:</td>
<td>Transaction marketing practices are positively influenced by veterinary hospital size as measured by the number of full time equivalent employees</td>
</tr>
</tbody>
</table>

8.7.2. Contemporary Marketing Practices and Performance

Table 8.7.2 summarises hypotheses and findings examining the relationship between contemporary marketing practices and marketing performance. Whilst non-personal sources such as convenient location, hours and pricing are important influences upon client acquisition and retention (AVMA 2002; AVMA 2008), this research is aligned with recommendations by Catanzaro and Seibert (2000) who suggest that referrals from other organisations and community and business leaders may be a more significant source of new clients than referrals from clients in general. Similarly, case study research presented previously found that the greatest impact upon client acquisition was achieved through an alliance with a local pet shop which also addressed the greater price sensitivity of new clients. These results suggest that veterinary hospital owners and managers need to be more active in networking with other firms to promote client acquisition. More passive strategies assuming a link between service quality and positive word of mouth through clients are less likely to be effective.
Table 8.7.2 The relationship between contemporary marketing practices and performance

<table>
<thead>
<tr>
<th>Research hypotheses</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis 2a: Transaction marketing practices are positively associated with client acquisition</td>
<td>Not supported</td>
</tr>
<tr>
<td>Hypothesis 2b: Database marketing practices are positively associated with client acquisition</td>
<td>Not supported</td>
</tr>
<tr>
<td>Hypothesis 2c: Interaction marketing practices are positively associated with client acquisition</td>
<td>Not supported</td>
</tr>
<tr>
<td>Hypothesis 2d: Network marketing practices are positively associated with client acquisition</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 3a: Database marketing practices are positively associated with client retention</td>
<td>Not supported</td>
</tr>
<tr>
<td>Hypothesis 3b: Interaction marketing practices are positively associated with client retention</td>
<td>Not supported</td>
</tr>
<tr>
<td>Hypothesis 3c: Network marketing practices are positively associated with client retention</td>
<td>Not supported</td>
</tr>
<tr>
<td>Hypothesis 4: Client acquisition positively affects client retention</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 5a: Revenue is positively influenced by client retention</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 5b: Revenue is positively influenced by interaction marketing practices</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 6: Profitability is positively influenced by revenue</td>
<td>Supported</td>
</tr>
</tbody>
</table>

As suspected, due to the greater emphasis upon repeat purchases, client retention was positively correlated with revenue. Typical of descriptions of professional services, this industry is particularly dependent upon repeat purchases. Again, case study data presented previously revealed that veterinary hospitals in static or
declining markets have been able to achieve sales growth through client retention and that veterinary hospital marketing strategies can result in lowered price sensitivity for existing compared to new clients. Further, the greater price sensitivity of clients with cats has been demonstrated in this survey research, case study research and the extant literature (Swiecki 1983; Dunn 2006; BIS Shrapnel 2006; AVMA 2008) suggesting that increasing average transaction fees generally may be contributing to a decline in cat ownership within some market segments.

Interaction marketing practices are aligned with developing trust and loyalty (Gummesson 1981; Bell, Auh & Smalley 2005; Grönroos 2006a; Palmatier et al. 2006; Eisingerich & Bell 2007) and there is good evidence from previous research that veterinary communication and functional skills influence client pet care decisions and compliance (Lue, Pantenburg & Crawford 2008). The positive influence of interaction marketing practices upon revenue is consistent with this previous research.

8.7.3. Environment, Marketing Practices and Performance

Table 8.7.3 provides a summary of hypotheses and findings linking environment, marketing practices and performance. This research has suggested a negative relationship between industry attractiveness and transaction marketing practices within this industry and no apparent relationship between industry attractiveness and relationship marketing practices. It appears that for this professional services industry, a relationship marketing approach, particularly as defined by interaction marketing, is innate (Grönroos 2000). All contemporary marketing practices were significantly correlated except interaction marketing practices and transaction marketing practices. Perceptions of a more difficult environment appear to promote movement toward a broader range of marketing practices and in particular a more functional approach to marketing planning as indicated by the implementation of transaction marketing practices.
Table 8.7.3 The relationship between environment, contemporary marketing practices and performance

<table>
<thead>
<tr>
<th>Research hypotheses</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis 7a: Industry attractiveness positively affects transactional marketing practices</td>
<td>Not supported</td>
</tr>
<tr>
<td>Hypothesis 7b: Industry attractiveness negatively affects relational marketing practices</td>
<td>Not supported</td>
</tr>
<tr>
<td>Hypothesis 8: Industry attractiveness positively affects profitability</td>
<td>Supported</td>
</tr>
</tbody>
</table>

The relationship between industry attractiveness and profit expectations supports the model provided by Porter (1980) within this industry and therefore, more broadly the framework of industry structural forces for industry analysis. Industry data from the US revealed that veterinary hospitals operating in smaller communities provide lower returns to owners. This research failed to find a significant difference in industry attractiveness as perceived by respondents from capital cities, provincial cities or country towns but, buyer power was perceived to be greater in provincial cities and country towns than in capital cities. Further, it appears that local economic and natural forces are generally less favourable (more likely to cause fluctuations in profitability) in country towns than in capital city areas. More broadly, there were minimal differences in market size and revenue by location suggesting that the impact of structural forces was upon profitability rather than revenue, and that social and technological forces were acting to affect change generally.

Whilst this research has demonstrated some value in linking the construct of industry attractiveness and therefore seller power with marketing practices and marketing performance as suggested by Pels, Coviello and Brodie (2000), an alternative approach to testing these relationships may be derived from Dess and Beard (1984) which utilises concepts of munificence, turbulence and complexity. This approach has provided some success for example in analysing performance.
and the effectiveness of implementation of a quality strategy (Goll & Rasheed 1997; Fuentes-Fuentes, Albacete-Sáez & Llorêns-Montes 2004).

8.8. CONCLUSION

This chapter has provided the results from a survey which sampled the companion animal veterinary services industry in Australia. These results complemented existing descriptions of this industry and tested hypotheses derived from the extant literature and case study research.

Specifically, the results from this research revealed that elements of the external and industry structural environment as described by Porter (1980) and Kotler (2003) are capable of providing a comprehensive summary of the marketing environment for companion animal veterinary services. The perceived major forces for change within this industry in recent years have been derived from the technological and social environments. In contrast to industry research and forecasting data, respondents to an industry survey believed that companion animal veterinary services were mostly experiencing growth in demand as well as revenue. Political forces, economic forces and natural forces have also affected the macroenvironment and the latter two have proven to be more significant in provincial cities and country towns. With respect to industry structural forces, the power of buyers is more likely to be exerting an adverse effect upon the profitability of veterinary hospitals in country towns and the level of competition is more likely to be exerting an adverse affect upon capital city practice profitability.

The findings of this research complement the study by Coviello, Winklhofer and Hamilton (2006) by specifically addressing small businesses providing non-contractual services with higher switching barriers and more reliant upon repeat purchases. Similar to research in the tourism accommodation sector and a number of other industries, this research has found evidence for a variety of marketing practices being adopted, correlations among these practices and positive relationships between client acquisition and client retention and revenue and profitability. Contrasting this previous research, network marketing practices were
found to affect client acquisition rather than transaction marketing practices, interaction marketing practices or other relational marketing practices; client retention was a significant antecedent to revenue rather than client acquisition; and interaction marketing practices were positively associated with revenue.

Finally, this research has found that industry attractiveness as measured by industry structural forces has a negative affect upon transaction marketing practices within this industry and a positive affect upon veterinary practice profitability.

The following chapter will summarise the implications of the findings of this research for the Australian companion animal veterinary services industry, veterinary hospital owners and managers, marketing theory, policy and future research.
9. CONCLUSIONS AND IMPLICATIONS

The primary research objective for this thesis was to provide an improved understanding of the environment experienced by companion animal veterinary services industry incumbents within Australia given identified changes in pet ownership, household demographics and the population of veterinarians. A further objective of this thesis was to examine the potential relationships among environment, marketing practices and marketing performance for these predominantly small businesses. Specifically, the thesis of this research was broadly supported:

External environmental forces and industry structural forces have affected the attractiveness of the companion animal veterinary services industry in Australia. The perceived attractiveness of this industry influences marketing practices which in turn influence marketing performance aligned with the structure-conduct-performance model.

This chapter will now provide more detail regarding the specific implications of the findings of this research for theory, practice, policy and future research. It will conclude with a discussion regarding some of the limitations of this research.

9.1. INDUSTRY ANALYSIS

The initial problem identified as stimulating this research was the potential decline in dog ownership and significant decline in cat ownership reported in Australia and the need to understand the impact of these and other possible drivers of change upon the companion animal veterinary services industry. Additional background statistics suggested poor returns to veterinary owners and employees and a high,
increasing population of veterinarians. Secondary data were analysed through a framework adapted mostly from Porter (1980) and Kotler (2003) to better understand the evidence for these changes and other possible forces upon the industry.

Evidence was presented revealing that a range of elements from the macroenvironment broadly classified into political, economic, social, technological and natural were affecting industry structural forces. The most significant of these appeared to be technological and social forces. Specifically, technological forces were facilitating improvements in veterinary care, the range of pharmaceuticals available and client management. Whilst pet ownership and household demographic data were identified as the major sources for a stabilisation in market size, a greater willingness to spend money on pets and the stronger human-animal bond were combining with these technological changes to provide opportunities for increasing revenue within the industry.

As noted by Porter (1980) a systems approach to industry analysis is required. Macroenvironmental forces interact, accentuating or diluting the impact of each component, and a thorough analysis requires all elements to be considered. Further, the balance of these forces and industry structural forces is variable. Hence, in addition to an analysis of limited available secondary data from Australia and extrapolations from US research, case study descriptions enabled the context of these forces to be appreciated when examining the relationship between environment, marketing practices and marketing performance. Of note, the competitive environment appeared to be most significant although hospitals were generally able to realise revenue growth through implementing marketing strategies using relationship marketing approaches.

Variability of local environments for veterinary hospitals was also addressed through the creation of an index of industry attractiveness. This index, based upon the industry structural forces model, enabled the marketing environment to be measured and the potential relationships between marketing environment, marketing practices and marketing performance to be assessed. The index was
negatively associated with transaction marketing practices, did not influence relational marketing practices and was positively associated with profit.

9.1.1. Implications for theory

Firstly, the framework for examining industry structural forces described by Porter (1980), McDonald (1995), Kotler (2003) and Kotler and Keller (2006) provided a greater understanding of how the companion animal veterinary services industry in Australia has been changing. Whilst social and technological changes have largely driven industry demand and revenue, other external and industry structural forces were identified as playing a significant role, particularly for individual incumbents. Hence, this composite model was found to provide a valuable framework for analysing this professional service and describing the marketing environment at both an aggregate and disaggregate level.

This research created an index of industry attractiveness based upon the model provided by Porter (1980) with direct reference to features of the marketing environment apparent from secondary data. Whilst this index was positively associated with profit as expected, it was not found to be an antecedent to relational marketing practices and was negatively associated with transaction marketing practices. The latter finding was unexpected and contradicted current theory regarding transaction marketing practices and buyer-seller power hence, this finding suggests a need for further research to understand the antecedents to contemporary marketing practices. As suggested by Grönroos (2000) marketing practices within this industry are innately relational, transactional approaches are adopted by incumbents when the environment is perceived to be unfavourable.

9.1.2. Implications for practice

At the industry level, the potential number of buyers for companion animal veterinary services in Australia is most likely stable. There is evidence for revenue growth greater than growth in demand for the majority of veterinary hospitals from secondary data, industry forecasts, case study and survey research. There is also
some evidence for this growth in revenue to be declining in recent years and for price increases to be negatively affecting pet ownership, particularly cat ownership.

Veterinary services to companion animals provide approximately 85% of industry revenue and hence a similar level of industry employment. With a relatively stable market for these services, a high per capita population of veterinarians compared to other developed countries and significant increases in veterinary graduate numbers in the future, the sustainability of employment and income was questioned. Evidence for changing veterinary staff ratios from the US suggests that the industry may not only improve efficiency but also reduce its requirement for veterinary labour in the future. These concerns were allayed somewhat by further analyses of pet ownership statistics suggesting stable rather than declining levels of pet ownership and perceptions by the majority of respondents to an industry survey of increases in pet ownership and industry revenue. The impact of feminisation on supply was difficult to determine but a greater interest in part time work may mitigate the potential for an oversupply of veterinarians in the future.

There remains some doubt as to the accuracy of perceptions of increasing levels of pet ownership by industry survey respondents due to a reliance upon revenue as an indicator of performance and case study research suggesting that the measurement of client numbers generally, and in particular client numbers by species, was particularly difficult. Industry forecast data (provided in the appendix of this thesis) reveal that small decreases in pet ownership would be very readily masked by increases in average fees smaller than those that had recently been achieved.

9.1.3. Implications for policy

An understanding of the size and trends of pet populations is important in assisting planning and decision making for governments and the veterinary industry (Nasser & Mosier 1991). It is clear from this research that these trends need to be appreciated from a number of perspectives and through different research methodologies to increase their value.
Companion animal legislation changes at the state government level have been particularly effective through working with industry stakeholders to foster responsible pet ownership (Garrett 2006). The impact has been an optimising of the benefits of pet ownership to the community and a decrease in the problems associated with pet ownership for both humans and unwanted pets. Together with social forces, this has seen the development of higher levels of attachment between humans and companion animals. Further benefits associated with human health, social capital and a reduction in the problems associated with pet ownership will be achieved through governments continuing to work with the veterinary profession and other industry stakeholders.

With respect to planning and allocation of resources, the federal government has facilitated the opening of three new veterinary schools in Australia in recent years. The purpose of these schools is to focus on providing training programs for veterinarians to enter rural communities and production animal work. As previously presented, the long-term impact of increased numbers of veterinary graduates in Australia is difficult to define. Veterinary staff ratios, industry consolidation, feminisation of the workforce, an increasingly international and mobile workforce, and the potential loss from the profession of members of the baby boomer generation will all impact variably on the supply of veterinarians.

As an adjunct to this research, industry forecasts provide a method for the determination of potential demand for veterinary services to companion animals and therefore calculations of derived demand for veterinarians. Industry forecasts based upon an adaptation of the revenue equation may serve as a useful tool for governments, educators and the profession to assist in planning the allocation of resources for veterinary education. As the concept of an industry as a system (Porter 1980) suggests, industry trends provide an important context to such estimates.
9.2. **Professional Services Marketing**

The contemporary marketing practices theory developed by Coviello, Brodie and Munro (1997) addressed a range of issues in the marketing literature from the distinction between goods and services marketing, the functional and process perspectives and transactional versus relational approaches. The relevance of this theoretical perspective to a number of industries has been previously researched and this thesis has extended the use of this framework to small businesses involved in professional, high-involvement, non-contractual services, reliant upon repeat purchases. Results from this research have a number of implications for theory, practice and policy within this area.

9.2.1. **Implications for theory**

Evidence from marketing practices within the companion animal veterinary services industry in Australia further suggests that transaction and relational marketing practices do not represent extremes of a continuum. Within this professional service industry, as in other industries studied in a variety of countries, there is evidence for both transaction and relational marketing practices operating together. This also supports the theory presented within this thesis of these marketing practices representing both functional and process approaches to marketing; the functional approach describing what and the process approach describing how.

The high-involvement, non-contractual nature and reliance upon repeat business characteristics of companion animal veterinary services were associated with marketing efforts towards client retention being a more powerful driver of revenue than client acquisition. For this industry, rather than both transaction and relational marketing practices being significantly associated with client acquisition, only network marketing practices were demonstrated to be effective in generating new clients. When complemented with previous research, further investigation of these findings in other professional services industries may clarify the role of contemporary marketing practices in determining marketing performance within the services marketing literature more generally.
9.2.2. Implications for practice

Case study participants were all members of the AVPMA and there was an expectation that they would have a higher level of practice management knowledge compared to many others in the profession. Their understanding of marketing and the strategies being implemented were aligned with those recommended in the literature and with their marketing goals. Ultimately, all participants were managing to achieve increases in revenue despite significant challenges in the external environment. Industry survey data further suggested that revenue was increasing for a significant majority of veterinary hospitals and most perceived to a lesser degree an increase in client numbers and the number of client visits each year.

All case study participants regarded revenue as the most important measure of marketing performance and this was further supported by a direct relationship between interaction marketing practices and revenue from the industry survey. Whilst case study participants also utilised a variety of other data to measure the effectiveness of marketing strategy, it is possible that many veterinarians currently emphasise revenue only in their analyses of marketing performance and therefore declining client numbers may be masked by increases in average fees as suggested above. This research has found that further increases in prices may eventually lead to a sudden decrease in revenue as demand becomes more price elastic. The importance of understanding client acquisition and client retention as suggested by Blattberg and Deighton (1996) and reinforced by Coviello, Winklhofer and Hamilton (2006) has been further substantiated by this research.

Veterinary hospital managers require easy access to reports summarising numbers of new clients; numbers of total clients; active client percentages and non-users; number of visits per active client per year; average fee per visit; and all of these by species or species groupings to inform marketing practices. It appears from case study research presented in this thesis that such information is either not readily available or not readily accessed.

Finally, this research has questioned the effectiveness of database marketing practices in companion animal veterinary services with respect to both client
acquisition and client retention and suggests caution in their implementation and the use of software assisting in this area. It is important for veterinary hospital owners and managers to determine the role of database marketing practices within the overall marketing strategy and understanding the potential value of these practices for clients.

9.2.3. Implications for policy

Deregulation of professional services marketing and veterinary hospital ownership within a climate of increasing veterinary revenue may promote industry consolidation. This research has found that larger veterinary hospitals, particularly in capital city areas are more likely to implement transaction marketing practices and hence niche markets for smaller veterinary hospitals emphasising personalised service are likely to develop. Medium sized incumbents are more likely to be threatened by both large and small hospitals and are therefore likely to experience stronger challenges to their sustainability in the future (Baum & Mezias 1992; Windrum & Birchenhall 1998).

9.3. IMPLICATIONS FOR FURTHER RESEARCH

At the industry level further research into the demographic and pet ownership trends that provided the basic inputs for industry forecasting will be valuable. Hence, data from future population censuses, refinements to household projections and subsequent editions of The Contribution of the Pet Care Industry to the Australian Economy will provide the opportunity for further refinement of industry forecasts as an interpretative tool. It is recommended that the future collection of pet ownership statistics be aligned with census household type data to realise improvements in the quantification of demand for pet care industries within Australia. These data would also facilitate further research into derived demand for labour from industry modelling.
In addition to identifying the individual forces associated with change, marketing practices and marketing performance, further research may more broadly examine environmental conditions such as munificence, complexity and dynamism upon marketing practices and performance in a similar approach to previous studies (Dess & Beard 1984; Goll & Rasheed 1997; Fuentes-Fuentes, Albacete-Sáez & Lloréns-Montes 2004). This research did confirm the value of established frameworks for examining external and industry structural forces.

The results from this survey also suggest the need for further investigation of the value of network marketing in client acquisition, interaction marketing in revenue growth and approaches to database marketing. Given the potential increasing level of database and e-marketing practices within the companion animal veterinary services and other professions, it will be important for further research to identify the antecedents to successful direct marketing approaches. Action research may provide a suitable methodology for addressing associated research questions.

There is the suggestion from this research and industry forecasting data that significant increases in revenue are capable of masking static or declining levels of demand within the companion animal veterinary services industry. Case study descriptions revealed that further research into this area will be dependent upon improvements to veterinary business management software and training.

This research also demonstrated greater price elasticity of demand for new clients of veterinary hospitals and cat owners, suggesting the need for improved education regarding the quality and cost of veterinary services and research into how these objectives can best be achieved. Further clarification of price elasticity of demand in the industry through a larger sample will also provide useful information to the industry.

9.4. LIMITATIONS

The sample population involved in survey research provided a reasonable representation of the companion animal veterinary services industry within
Australia. It should be noted that hospitals from NSW and members of the AVPMA are over-represented, suggesting some caution with interpretation of these findings.

Formed indices for external forces, industry structural forces and industry attractiveness were newly developed and may require further refinement. Whilst prior secondary data analysis and consultation with academics and veterinary hospital managers assisted in an attempt to ensure the major causes of each attribute were included, it is likely that further improvements can be achieved. In addition, there is some controversy within the literature with respect to the requirement for external validity in creating these indices. Failure to include all major causes associated with these indices would limit construct validity and therefore the reliability and validity of these findings according to Rossiter (2002) and a variety of statistical techniques to measure external validity has been advocated by Diamantopoulos (2005). These newly formed indices were not tested for external validity as suggested by Diamantopoulos and Winklhofer (2001) due to questionnaire limitations and the marketing practices indices were also not tested for external validity with respect to this sample.

Finally, case study research findings provide a description linked to individual veterinary hospitals and whilst theories generated from this exploratory phase of the research provided the basis for theory building and further research within this thesis, the specific findings from these cases are not generalisable to the veterinary profession or other industries.
REFERENCES


Barnes, JG 1994, ‘The issues of establishing relationships with customers in service companies: when are relationships feasible and what forms should they take?’, paper presented at Frontiers in Service Conference, American Marketing Association and Vanderbilt University Center for Services Marketing, October.


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BIS Shrapnel 1995, *Contribution of the pet care industry to the Australian economy*, 2nd edn, BIS Shrapnel Global Marketing Intelligence and Forecasting, North Sydney.

BIS Shrapnel 1999, *Contribution of the pet care industry to the Australian economy*, 3rd edn, BIS Shrapnel Global Marketing Intelligence and Forecasting, North Sydney.


Catanzaro, TE 2001, Promoting the human-animal bond in veterinary practice, Iowa State University, Ames.


Catanzaro, TE, Deegan, RW & Guiducci, EJ 2000, Beyond the successful veterinary practice, succession planning and other legal issues, Iowa State University Press, Ames.


Coviello, NE, Milley, R & Marcolin, B 2001, ‘Understanding IT-enabled interactivity in contemporary marketing’, *Journal of Interactive Marketing* [electronic], vol. 15, no. 4, pp. 18-33. Available: InterScience [12 Sep. 07].


Dawes, J 2008, `Do data characteristics change according to the number of scale points used?` *International Journal of Market Research* [electronic], vol. 50, no. 1, pp. 61-77. Available: Business Source Premier [09 May 08].


de Chernatony, L & Segal-Horn, S 2001, `Building on services characteristics to develop successful service brands`, *Journal of Marketing Management* [electronic], vol. 17, no. 7/8, pp. 645-70.


Eisengerich, A & Bell, SJ 2007, ‘Maintaining customer relationships in high 
credence services’, Journal of Services Marketing [electronic], vol. 21, no. 4, pp. 253-

impacts upon small business strategic marketing adaptation’, Journal of Applied 
Management and Entrepreneurship [electronic], vol. 11, no. 1, pp. 58-73. Available: 
ABI Inform [22 Mar. 08].

services buyer behaviour’, The Services Industry Journal [electronic], vol. 14, no. 3, 

Milestones in Australian Veterinary History [www], Australian Veterinary History 

Fisk, RP, Brown, SW & Bitner, MJ 1993, ‘Tracking the evolution of the services 
marketing literature’, Journal of Retailing [electronic], vol. 69, no. 1, pp. 61-103. 
Available: Business Source Premier [16 Aug. 08].

FMRC Benchmarking 1999, The 1998 Australian veterinary practice comparative survey, 
FMRC Benchmarking Team, Armidale.

FMRC Benchmarking 2000, The 2000 Australian veterinary practice performance survey, 
FMRC Benchmarking Team, Armidale.

FMRC Benchmarking 2002, Management training and tools for profit, growth and fun, 
FMRC Business Development, Armidale.

Frank, J 2001, The economics, ethics and ecology of companion animal overpopulation and a 
mathematical model for analysing the effectiveness of policy alternatives, a thesis submitted 
to the Graduate Faculty of Rensselaer Polytechnic Institute in partial fulfilment 
of the requirements of the degree of Doctor of Philosophy, Rensselaer 
Polytechnic Institute, New York.


Frawley, PT 2003, Review of rural veterinary services [online], January 2003, 
06].


Hite, RE & Fraser C 1988, ‘Meta-analyses of attitude toward advertising by professionals’, *Journal of Marketing* [electronic], vol. 52, no. 3, pp. 95-103. Available: JSTOR [29 Apr. 07].


McDonald, M 1995, Marketing plans, how to prepare them, how to use them, 3rd edn, Butterworth Heinemann, Oxford.


McCarthy, EJ 1960, Basic marketing: a managerial approach, Irwin, Homewood.


National Competition Council 2004, NCC occasional series: microeconomic reform in Australia – Comparison to other OECD countries, Ausinfo, Canberra.


*European Journal of Marketing* [electronic], vol. 39, no. 7/8, pp. 785-808. Available: 
Proquest [07 Oct. 07].

Reiter, P 2001, ‘Climate change and mosquito-borne disease’, *Environmental Health 
Perspectives* [electronic], vol. 109, pp. 146-61. Available: JSTOR [08 Jan. 08].

requirements’, *Marketing Intelligence and Planning* [electronic], vol. 17, no. 1, pp. 


Rollin, BE 2006, *An introduction to veterinary medical ethics: theory and cases*, 2nd edn, 
Blackwell, Ames.

Small Business Journal*, vol. 7, no. 4, pp. 35-43.

Available: Science Direct [21 Apr. 08].

Rumelt, RP, Schendel, D & Teece, DJ 1991, ‘Strategic management and 
economics’, *Strategic Management Journal* [electronic], vol. 12, pp. 5-29.

Ryan, B 2002, *Key demographic and labour market trends in Australia during the 1990s*, an 
information paper produced by Industry Policy Branch, Innovation and 
Industry Policy Division, to inform Department of Industry, Tourism, and 
Resources, Commonwealth of Australia, Canberra.

Salt, B 2001, *The big shift: welcome to the third Australian culture*, the Bernard Salt report, 
Hardie Grant Publishing, South Yarra.

Sánchez-Pérez, M & Iniesta-Bonillo, MA 2004, ‘Consumers felt commitment 
towards retailers: index development and validation’, *Journal of Business and 
08].

Saren, M & Pels, J 2008, ‘A comment on paradox and middle-range theory: 
universality, synthesis and supplement’, *Journal of Business and Industrial Marketing* 


Yin, RK 1993, Applications of case study research, Sage Publications, California.


BIBLIOGRAPHY


Barnes, JG 1994, ‘The issues of establishing relationships with customers in service companies: when are relationships feasible and what forms should they take?’, paper presented at Frontiers in Service Conference, American Marketing Association and Vanderbilt University Center for Services Marketing, October.


Bennett, R & Oliver, J 1988, How to get the best from action research- a guidebook, MCB University Press, Bradford.


Berry, LL 1983, Relationship marketing, American Marketing Association, Illinois.


BIS Shrapnel 1995, *Contribution of the pet care industry to the Australian economy*, 2nd edn, BIS Shrapnel Global Marketing Intelligence and Forecasting, North Sydney.

BIS Shrapnel 1999, *Contribution of the pet care industry to the Australian economy*, 3rd edn, BIS Shrapnel Global Marketing Intelligence and Forecasting, North Sydney.


295


Byrne, BM 2001, Structural equation modelling with AMOS, basic concepts, applications and programming, Lawrence Erlbaum Associates, Mahwah.


Carroll, AG 1988, Veterinary services and animal health in Australia, Department of Primary Industries and Energy Australian Quarantine and Inspection Service, Australian Government Publishing Service, Canberra.


Catanzaro, TE 2001, Promoting the human-animal bond in veterinary practice, Iowa State University, Ames.


Catanzaro, TE, Deegan, RW & Guiducci, EJ 2000, Beyond the successful veterinary practice, succession planning and other legal issues, Iowa State University Press, Ames.


Coviello, NE, Milley, R & Marcolin, B 2001, 'Understanding IT-enabled interactivity in contemporary marketing', *Journal of Interactive Marketing* [electronic], vol. 15, no. 4, pp. 18-33. Available: InterScience [12 Sep. 07].


Davidson, P & Griffin, RW 2000, _Management: Australia in a global context_, John Wiley & Sons Australia, Brisbane.


Dawes, J 2008, ‘Do data characteristics change according to the number of scale points used?’ _International Journal of Market Research_ [electronic], vol. 50, no. 1, pp. 61-77. Available: Business Source Premier [09 May 08].


Dick, B 1993, *You want to do an action research thesis?*, Interchange, Brisbane.


Falley, MD 2000, ‘Study results offer insights into your challenges’, Veterinary Economics, vol. 41, no. 9, p. 2.


Frank, J 2001, The economics, ethics and ecology of companion animal overpopulation and a mathematical model for analysing the effectiveness of policy alternatives, a thesis submitted to the Graduate Faculty of Rensselaer Polytechnic Institute in partial fulfilment of the requirements of the degree of Doctor of Philosophy, Rensselaer Polytechnic Institute, New York.


Gavzer, K 2003, ‘Proper staff training will eliminate barriers to providing medical services’, *DVM Best Practices* [www], Advanstar Communications. Available: [www.dvmnews.com](http://www.dvmnews.com) [31 Dec. 06].


Headey, B 2007, National people and pets survey 2006, Petcare Information and Advisory Service Australia, South Yarra.


Hite, RE & Fraser C 1988, ‘Meta-analyses of attitude toward advertising by professionals’, *Journal of Marketing* [electronic], vol. 52, no. 3, pp. 95-103. Available: JSTOR [29 Apr. 07].


Ipsos-Reid 2001, *Paws and claws, a syndicated study on Canadian pet ownership*, Ipsos-Reid, Toronto, Ontario.


Kaplan, B & Duchon, D 1988, ‘Combining qualitative and quantitative methods in information systems research: a case study’, *MIS Quarterly* [electronic], vol. 12, no. 4, pp. 571-86. Available: JSTOR [30 Jul. 08].


McDonald, MHB, de Chernatony, L & Harris, F 2001, ‘Corporate marketing and service brands, moving beyond the fast moving consumer goods model’, *European Journal of Marketing* [electronic], vol. 35, no. 3/4, pp. 335-52. Available: Emerald [03 Aug. 07].


Messonnier, SP 1995, Marketing your veterinary practice, ed. PW Pratt, Mosby, St Louis.


Miles, MB & Huberman AM 1994, Qualitative data analysis: an expanded sourcebook, Sage Publications, Thousand Oakes.


Miracle, GE 1977, ‘An historical analysis to explain the evolution of advertising agency services’, *Journal of Advertising* [electronic], vol. 6, no. 3, pp. 24-28, 10. Available: BSP [02 Apr. 07].


National Competition Council 2004, NCC occasional series: microeconomic reform in Australia – Comparison to other OECD countries, Ausinfo, Canberra.


O’Connor, MC 2006, ‘Insurance is going to the dogs (and cats)’, *National Underwriter Property and Casualty* [electronic], Oct. Available: [www.propertyandcasualtyinsurancenews.com](http://www.propertyandcasualtyinsurancenews.com) [08 Nov. 06].


Parslow, RA & Jorm, AF 2003b, ‘The impact of pet ownership on health and health service use: results from community samples of Australians aged 40 to 44 years’ *Anthrozoos*, vol. 16, pp. 43-56.


Perry, C 1994, A structured approach to presenting PhD theses: notes for candidates and their supervisors A paper presented to the ANZ Doctorial Consortium, University of Sydney, February (with later additions to 2 July 1995).


Randall, L 2003, ‘Simple changes can aid in achieving higher compliance for programs. The approach you take with clients can influence the outcome of whether or not they follow your recommendations’, DVM Best Practices [www], Advanstar Communications. Available: www.dvmnews.com [31 Dec. 06].


Shea, G 2006, ‘The rise and rise of reptiles as companion animals; how can the veterinary profession keep up?’ Lecture presented at the 2006 Partners in Veterinary Education Conference, University of Sydney, 6th July 2006.


Simmons, JL 1997, *Veterinary practice management, building profit and value*, Mosby, St Louis.


Tannenbaum, J 1995, *Veterinary ethics: animal welfare, client relations, competition and collegiality, 2nd* edn, Mosby, St Louis.


The University of Adelaide 2007, *Veterinary science @ The University of Adelaide* [www]. Available: [www.sciences.adelaide.edu.au] [15 Feb. 09].


APPENDICES
A1. INDUSTRY DEMAND AND REVENUE FORECASTING

A variety of industry reports and publications have suggested that the companion animal veterinary services industry in Australia is mature and will remain stagnant due to household demographic trends and pet ownership trends (Baldock, Alexander & More 2003; Baldock 2004, ABS 2004a; BIS Shrapnel 2006), however, the significance of each of these factors has not specifically been determined (Baldock 2004). The purpose of this analysis is to quantify the contribution of each of these trends and determine the impact of pet ownership projections upon market size and industry revenue.

Catanzaro and Seibert (2000) and Clancy and Rowan (2003) recommend assessing the potential size of the market for companion animal veterinary services through an adaptation of the revenue equation in a similar analysis to that described by Hagerty (1997). This method may over-estimate pet populations in some areas and underestimate in others due to regional differences in pet ownership (Clancy & Rowan 2003). Gross income for new entrants or incumbents can be estimated by multiplying the number of households, by national estimates of household pet ownership, by the estimated market share (based upon the number of other hospitals in the area), by the average number of visits per client, and finally by the average visit fee per client (Catanzaro & Seibert 2000). This analysis suggests that a greater understanding of the historical, current and future market for companion animal veterinary services in Australia will be achieved through applying these principles to the national market.

METHOD

The purpose of this research is to quantify market size and examine the impact of forecast changes to household number and type and pet ownership on companion animal veterinary services industry potential demand and revenue. This will be achieved through application of the revenue equation; revenue is equal to industry sales multiplied by market share multiplied by average price (Hagerty 1997).
Assumptions of the Model

Holcombe (1989) states that ‘a model is a simplified representation of its subject that provides a framework for analysis’ (p.9). Simplification requires a number of assumptions to be made and Holcombe (1989) classifies these assumptions as negligibility, domain and heuristic assumptions. The negligibility assumption is based upon an interpretation that the factor will not have a significant impact upon the outcome in the real world (Holcombe 1989). Heuristic assumptions are deliberately unrealistic and used to improve understanding of the model (Holcombe 1989). Domain assumptions describe the circumstances in which the model will provide an accurate description of reality (Holcombe 1989) and hence are vital to an understanding of application of the model. Holcombe (1989) also notes that complexity and change within the real world mean that it is impossible to explicitly list all the domain assumptions built into the model.

In addition to the underlying assumption that revenue may be described through the revenue equation, each component of the revenue equation is subject to a set of assumptions.

Firstly, industry sales are derived from the number of household types within Australia, the average percent pet ownership associated with each different household type, and the percentage of these households utilising companion animal veterinary services each year.

The number of households in Australia is derived from census data in 1996, 2001 and 2006 and projections for household numbers to 2026 are based upon three possible scenarios presented by the ABS as described in Table A1.1.
Table A1.1 ABS household projection series assumptions

<table>
<thead>
<tr>
<th>Series</th>
<th>Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series I</td>
<td>No change in proportions of households from 2001 data</td>
</tr>
<tr>
<td></td>
<td>Living arrangement propensities remain constant from 2001 to 2026</td>
</tr>
<tr>
<td>Series II</td>
<td>Low rate of change in proportion of households</td>
</tr>
<tr>
<td></td>
<td>Linear trends from 1986 to 2001 continue at the full rate of change to</td>
</tr>
<tr>
<td></td>
<td>2006, half this rate to 2011, one quarter to 2016, and then remain constant</td>
</tr>
<tr>
<td></td>
<td>to 2026</td>
</tr>
<tr>
<td>Series III</td>
<td>Continuation of trends in household proportions</td>
</tr>
<tr>
<td></td>
<td>Linear trends from 1986 to 2001 are continued at the full rate to 2026</td>
</tr>
</tbody>
</table>

Source: ABS (2004a)

Further, it has been assumed that ownership of pets is at the aggregate household level rather than at the individual level. The main potential error in this assumption is the possibility that households may contain a number of pet owners rather than one economic unit. From this perspective there may be greater numbers of pet owners (and therefore pets) than suggested by the model and as these are national averages they will hold better at the industry level than at the individual hospital or statistical local area level. Pet ownership data by household type are not available at this lower level and hence national ownership assumptions need to be used as inputs for the model. In addition, there are some households in ABS data referred to as ‘other families’. These typically represent up to 4% of the total population of households and will be ignored for the purpose of this analysis as no pet ownership data are available for this group.

Pet ownership statistics are derived from ACNielsen telephone surveys of the Australian population and have since been grouped according to ABS household types (Baldock 2004). The level of ownership and the average number of dogs and cats owned by couple families with children, one parent families and couple families without children varies within these households according to ACNielsen data. Generally, ownership of pets is greater by percentage and average number when the
youngest child is older than 15 years. For couple families without children, pet ownership is lower when the couples are over 55 years although these households average slightly greater numbers of pets (see Table A1.2 and Table A1.3). For simplicity in the model, average ownership levels and numbers have been applied to each of these household types. Other factors such as age, gender, race, occupation, income, dwelling ownership have not been included in this analysis for simplification. Changes in these factors at the local, suburb, statistical local area or statistical subdivision may lead to pet population and demand variation at the individual hospital level, however, this assumption should hold well for industry analyses.

*Table A1.2 Cat ownership by ABS household type in 2001*

<table>
<thead>
<tr>
<th>Household type</th>
<th>Percent owned</th>
<th>Number owned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person households</td>
<td>13.6%</td>
<td>1.40</td>
</tr>
<tr>
<td>Couple families with children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least one child less than 15 years</td>
<td>30.5%</td>
<td>1.49</td>
</tr>
<tr>
<td>All children at least 15 years</td>
<td>31.5%</td>
<td>1.57</td>
</tr>
<tr>
<td>Couple families without children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 55 years</td>
<td>30.0%</td>
<td>1.40</td>
</tr>
<tr>
<td>At least 55 years</td>
<td>21.2%</td>
<td>1.45</td>
</tr>
<tr>
<td>One parent families</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least one child less than 15 years</td>
<td>30.5%</td>
<td>1.49</td>
</tr>
<tr>
<td>All children at least 15 years</td>
<td>32.5%</td>
<td>1.57</td>
</tr>
</tbody>
</table>

Source: ACNielsen
Table A1.3 Dog ownership by ABS household type in 2001

<table>
<thead>
<tr>
<th>Household type</th>
<th>Percent owned</th>
<th>Number owned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person households</td>
<td>21.0%</td>
<td>1.27</td>
</tr>
<tr>
<td>Couple families with children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least one child less than 15 years</td>
<td>52.0%</td>
<td>1.42</td>
</tr>
<tr>
<td>All children at least 15 years</td>
<td>55.0%</td>
<td>1.52</td>
</tr>
<tr>
<td>Couple families without children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 55 years</td>
<td>40.0%</td>
<td>1.40</td>
</tr>
<tr>
<td>At least 55 years</td>
<td>38.0%</td>
<td>1.46</td>
</tr>
<tr>
<td>One parent families</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least one child less than 15 years</td>
<td>52.0%</td>
<td>1.42</td>
</tr>
<tr>
<td>All children at least 15 years</td>
<td>57.0%</td>
<td>1.49</td>
</tr>
</tbody>
</table>

Source: ACNielsen

In addition to incorporating forecast demographic changes the model will also incorporate potential pet ownership changes. Forecast pet ownership changes will also be based upon three projection series derived from time series modelling forecasts created in SPSS 15.0. Series I is based upon probable pet ownership levels for dogs and cats from 2006 to 2026, Series II is based upon the upper confidence level of these estimates (optimistic scenario) and Series III is based upon the lower confidence level (pessimistic scenario). Model input data for cat and dog ownership are provided in Tables A1.4 and A1.5 respectively. Other companion animal species ownership is assumed to remain at 2002 levels (the latest year for which this data are available).
Table A1.4 Time series modelling and predictions of household cat ownership 1996-2026

<table>
<thead>
<tr>
<th>ABS Household Type</th>
<th>1996</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person</td>
<td>17.2%</td>
<td>13.6%</td>
<td>15.9%</td>
<td>15.9%</td>
<td>15.9%</td>
<td>15.9%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>36%</td>
<td>31.0%</td>
<td>30.7%</td>
<td>30.7%</td>
<td>30.7%</td>
<td>30.7%</td>
<td>30.7%</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>26.6%</td>
<td>25.6%</td>
<td>23.8%</td>
<td>23.8%</td>
<td>23.8%</td>
<td>23.8%</td>
<td>23.8%</td>
</tr>
<tr>
<td>One parent families</td>
<td>36.8%</td>
<td>31.5%</td>
<td>31.2%</td>
<td>31.2%</td>
<td>31.2%</td>
<td>31.2%</td>
<td>31.2%</td>
</tr>
<tr>
<td>Group households</td>
<td>19%</td>
<td>16%</td>
<td>18.2%</td>
<td>18.2%</td>
<td>18.2%</td>
<td>18.2%</td>
<td>18.2%</td>
</tr>
</tbody>
</table>

19 Using Autoregressive Integrated Moving Average Model function provided in SPSS 15.0
<table>
<thead>
<tr>
<th>ABS Household Type</th>
<th>1996</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person</td>
<td>21.0%</td>
<td>21.0%</td>
<td>20.9%</td>
<td>20.9%</td>
<td>20.9%</td>
<td>20.9%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Family couples with children</td>
<td>53.4%</td>
<td>53.5%</td>
<td>52.4%</td>
<td>52.4%</td>
<td>52.4%</td>
<td>52.4%</td>
<td>52.4%</td>
</tr>
<tr>
<td>Family couples without children</td>
<td>38.5%</td>
<td>39.0%</td>
<td>38.3%</td>
<td>38.3%</td>
<td>38.3%</td>
<td>38.3%</td>
<td>38.3%</td>
</tr>
<tr>
<td>One parent families</td>
<td>54.5%</td>
<td>54.5%</td>
<td>53.3%</td>
<td>53.3%</td>
<td>53.3%</td>
<td>53.3%</td>
<td>53.3%</td>
</tr>
<tr>
<td>Group households</td>
<td>24.0%</td>
<td>24.0%</td>
<td>22.6%</td>
<td>22.6%</td>
<td>22.6%</td>
<td>22.6%</td>
<td>22.6%</td>
</tr>
</tbody>
</table>
The final component of the Industry Sales input to the revenue equation utilised in the model is the active client percentage. Active clients are defined as clients (households) that have purchased companion animal veterinary services within the last year and hence contributed to revenue for that period. At the industry level, not all pet owning households will use veterinary services each year and this is also influenced by the type of pet and the type of household (Ipsos-Reid 2001; AVMA 2005). Whilst the type of pet is included in this analysis, household types are assumed homogenous in their active use of veterinary services, again this may be most significant at the individual practice level rather than at a whole industry level analysis. Further, statistics from the US have been used to provide benchmarks for these inputs as reliable data are not available for Australia; preliminary aggregate data from Australia are consistent with US data (Headey 2007). It is likely that there are differences both between these countries and at the local geographic and household type level in addition to species level provided in this analysis. A comparison between average fees derived from secondary sources and average fees derived from model calculations of active client numbers and industry revenue data will assist in determining the validity of these inputs.

Multiple pet ownership also creates some difficulties for the model due to a lack of available data. At the industry level, it has been assumed that 20% of households that own a dog (or cat) also own a cat (or dog). This reduces the additive percentage of households owning dogs and cats from approximately 60% (37% owning dogs and 23% owning cats) to 52% which agrees with industry data provided by BIS Shrapnel (2006). This is slightly higher than US data which has found that approximately 16% of households own both dogs and cats (BIS Shrapnel 2003) and slightly lower than Canadian estimates from 2002 of 32% (Global Market Information Database 2006). Other species pets also complicate the model and there is an assumption that 65% of all households identified as owning another type of pet (ABS 1995) actually own multiple pets. This assumption results in total pet ownership of 64% of Australian households which again agrees with BIS Shrapnel (2003). These assumptions have been designed to provide consistent data at the industry level and again there may be significant variations at the individual practice or local statistical area level. The propensity for
multiple pet ownership and other pet ownership will be held constant throughout the forecast period.

The final input of the revenue equation for the industry model is average price. Revenue data for the industry overall are available for 1992, 1994, 1998, 2002 and 2005 (BIS Shrapnel 1993; BIS Shrapnel 1995; BIS Shrapnel 1999; and BIS Shrapnel 2003; BIS Shrapnel 2006). Estimations of total industry revenue for 1996 and 2001 are derived from applying average annual trends between 1994 and 1998, and 1998 and 2002 respectively. Trends between 1998 and 2002 would have been affected by the introduction of a 10% goods and services tax (GST) in July 2000. Whilst this new tax would have potentially increased all professional fees by 10% it would have had a variable impact upon goods due to changes to sales tax policy. For simplification a linear trend of average annual fees has been assumed and applied to 1998 data to derive the 2001 and 2006 revenue inputs for the model.

Description of the Model

The model was developed in Microsoft Excel. Industry sales was represented by Australian household types for each census year from 1996 to 2006 and for each forecast series to 2026, multiplied by pet ownership level, multiplied by active client percentage. Market size may be estimated at the level of pet ownership (potential market) or at the level of assumed active client percentage. The latter was held constant for this analysis. As the model describes the whole industry, the market share component of the revenue equation is 100%.

Household number and type as well as respective pet ownership data are available for 1996 and 2001 and these inputs were used to calculate the number of dog, cat, other pet, dog and cat, and all pet owning households in Australia for these years. This figure of potential market size was multiplied by estimates of active utilisation of veterinary services for each household type to determine the numbers of dog, cat, other pet, dog and cat, and all pet owning households that visited veterinarians in 1996 and 2001.

Industry revenue data are available for dog, cat, other pet and all pets, and hence respective average annual household expenditures were determined from active
client number calculations above. Average fees were applied to their respective estimated number of households for each forecast year to determine industry revenue. Average fee values were maintained at 2001$ to provide an assessment in real terms.

The Scenario tool in Microsoft Excel was used to perform the required calculations for each forecast year, demographic forecast series and pet ownership forecast series. A scenario for each ABS data and forecast series from 1996 to 2026, and a scenario for each forecast year pet ownership series was created. The Scenario tool was then used to create summary data for pet populations, pet owning households (by species) and active client households (by species). The latter was combined with average fee values for each household by species (2001$) to calculate revenue estimates under each scenario.

Model Verification

Adapted from Zeigler (1984), Pidd (1996) describes a model as consisting of a base model which accounts for relationships between inputs and outputs, a lumped model which is the one used in management science and is a ‘simplified and explicit version of the base model’, and a computer program which is used to generate the outputs of the model based upon inputs and the relationships described by the lumped model. Underlying these components is an experimental framework which provides limits to the circumstances to which the model is applied (Pidd 1996). Verification is the process of ensuring that the lumped model is accurately translated into the computer program (Pidd 1996).

Verification of the model was achieved through checking the equations and relationships described in Excel and through analysis of the outputs of the model. The outputs of the model were verified through sensitivity analyses associated with the scenario inputs and through comparison with known industry data. Specifically, sensitivity analyses looked for consistency in patterns of output data created based upon various input (scenario) changes. Any inconsistencies were initially be considered to be due to translation of the lumped model into Excel. Where
available, model outputs were also compared with estimates of these values from secondary literature and this is discussed further under model validation.

_Model Validation_

Pidd (1996) states that a valid model from a management science perspective is based upon objective research, expressed mathematically, and passes tests which are designed to manifest any inadequacies. From an historical perspective based upon Kuhn (1970), Pidd (1996) adds that validation is also a test of whether the theory utilised in the model is aligned with the current paradigm accepted by the community of professional management scientists. Moreover, valid models must be able to provide a reasonable representation of the real world, be based upon an agreed set of principles or normal science, and act as a useful interpretative tool rather than as a mechanism to discover truth (Pidd 1996).

The model is based upon the established theory of the revenue equation (Hagerty 1997) and validation of the model was therefore based upon its ability to describe the real world, and its usefulness as an interpretative tool with respect to quantification of the impact of demographic and pet ownership changes on veterinary companion animal services.

With respect to the model acting as a description of the real world, the following model outputs were compared to available secondary data:

1. Numbers of owned dogs and cats in Australia in 1996 and 2001
2. Percentage ownership of dogs by Australian households in 1996 and 2001
3. Percentage ownership of cats by Australian households in 1996 and 2001
4. Percentage ownership of dogs and cats by Australian households in 1996 and 2001
5. Average annual expenditure on dogs by dog owning households in Australia in 2001 and 2006
6. Average annual expenditure on cats by cat owning households in Australia in 2001 and 2006

7. Average annual expenditure on pets by pet owning households in Australia in 2001 and 2006

Finally, validation of the model was achieved through examining the ability of the model to derive outputs which adequately quantify the impact of demographic and pet ownership changes (inputs) on the Australian companion animal veterinary services industry.

RESULTS

This section will firstly provide the results of initial tests for model verification and validation using industry pet ownership data followed by a description of the results of analysis of pet ownership trends to be used in the industry model. The section will then proceed with a presentation of the results of iterations of the model for both pet ownership and demographic trend scenarios from 2006 to 2026.

Model Verification and Validation

Estimates of the dog and cat population for 1996 and 2001 derived from the industry model compared to industry secondary data available are provided in Table A1.6.

BIS Shrapnel (1999) provided pet population estimates for a number of years based upon polynomial regression and data from telephone surveys of 12,000 households from 1994 to 1997 and 6,000 households in 1998. These estimates suggest that in 1996 the dog population was 3.98 million, the cat population was 2.74 million and that 2.7 million households (41.3%) owned dogs and 1.9 million households (28.5%) owned cats. Further, it was estimated that 56% of households owned a dog and or a cat and based upon previous surveys, 64% of households owned some type of pet.
Table A1.6 Industry Model Estimates of Dog and Cat Populations

<table>
<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Dog population</td>
<td>4,139,140</td>
<td>3,980,000</td>
<td>4,403,390</td>
<td>4,020,000</td>
</tr>
<tr>
<td>Dog owning households</td>
<td>2,804,198</td>
<td>2,700,000</td>
<td>2,987,117</td>
<td>2,700,000</td>
</tr>
<tr>
<td>(40.4%)</td>
<td>(41.3%)</td>
<td>(40.1%)</td>
<td>(39.6%)</td>
<td></td>
</tr>
<tr>
<td>Cat population</td>
<td>2,887,563</td>
<td>2,740,000</td>
<td>2,677,373</td>
<td>2,560,000</td>
</tr>
<tr>
<td>Cat owning households</td>
<td>1,960,464</td>
<td>1,900,000</td>
<td>1,819,736</td>
<td>1,700,000</td>
</tr>
<tr>
<td>(28.2%)</td>
<td>(28.5%)</td>
<td>(24.4%)</td>
<td>(25.0%)</td>
<td></td>
</tr>
<tr>
<td>Dog and cat population</td>
<td>7,026,703</td>
<td>n/a</td>
<td>7,080,762</td>
<td>n/a</td>
</tr>
<tr>
<td>Dog and cat households</td>
<td>54.9%</td>
<td>56.0%</td>
<td>51.7%</td>
<td>52.0%</td>
</tr>
<tr>
<td>Households with pets</td>
<td>65.8%</td>
<td>n/a</td>
<td>62.6%</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Source: BIS Shrapnel (1999) and BIS Shrapnel (2006)

In 2001, BIS Shrapnel (2006) estimated that 39.6% of Australian households owned a dog and 25% owned a cat. It was estimated that 2.7 million households owned dogs with a total dog population of 4.02 million, and that 1.7 million households owned cats with a total cat population of 2.56 million.

Hence, the model produces pet ownership and population data very similar to industry estimates and agrees with the general trends derived from industry estimates. Overall, the model consistently overestimates population data by up to 10% but uses more accurate data with respect to household numbers. It should be noted that household pet ownership statistic collection methods varied between these industry estimates (Baldock, Alexander & More 2003) and previous studies have suggested that household panel surveys, which would be closest to the method employed by the model, overestimate pet populations by around 20% compared to telephone surveys (Clancy & Rowan 2003).
In addition to population estimates, verification and validation of the model was also achieved through examining average fee data derived from dividing industry revenue data by estimates of active client numbers. These results are discussed in a later section.

**Market Size with ABS Series I and Pet Ownership Series I Scenarios**

As discussed previously, ABS Series I projections assume maintenance of living arrangement propensities from 2001 continuing to 2026 and Pet Ownership Series I similarly is based upon probable pet ownership data as suggested by time series modelling using SPSS 15.0. Average annual changes in household number type and total households under ABS Series I projections for the period from 2001 to 2026 are provided in Table A1.7.

<table>
<thead>
<tr>
<th>Household type</th>
<th>Average annual change 2001-2026 (forecast)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person households</td>
<td>1.83%</td>
</tr>
<tr>
<td>Couple families with children</td>
<td>0.71%</td>
</tr>
<tr>
<td>Couple families without children</td>
<td>1.74%</td>
</tr>
<tr>
<td>One parent families</td>
<td>1.03%</td>
</tr>
<tr>
<td>Group households</td>
<td>0.66%</td>
</tr>
<tr>
<td>Total households</td>
<td>1.33%</td>
</tr>
</tbody>
</table>

The results of ABS Series I and Pet Ownership Series I input assumptions upon household pet numbers and household pet ownership are provided in Figures A1.1 and A1.2. The impact on the percentage of households owning pets is provided in Figure A1.3.
Figure A1.1 Dog and cat population forecasts for ABS Series I and Pet Ownership Series I (2001-2026)

Figure A1.2 Household pet ownership forecasts for ABS Series I and Pet Ownership Series I (2001-2026)
ABS Series I and probable pet ownership forecasts result in a decline in the percentage of households that keep dogs and cats between 2001 and 2026 (from 40.1% in 2001 to 38.1% in 2026 for dogs and from 24.4% in 2001 to 23.9% in 2026 for cats). However, the growth in household numbers is sufficient to maintain growth within the pet population and the number of households owning pets. The dog population is forecast to increase from 4.4 million in 2001 to 5.8 million in 2026 with an increase in the number of households owning dogs from 3.0 million to 3.9 million over the same period. Similarly, the cat population is forecast to increase from 2.7 million in 2001 to 3.6 million in 2026 and the number of households owning cats from 1.8 million to 2.5 million over the same period.

In summary, model data suggest an annual average growth rate of 1.14% for households with dogs, 0.77% for households with cats and 0.99% for households with dogs and cats over the period from 1996 to 2026. Households with other pets are forecast to increase annually by 1.3% over the same period as other pet ownership is assumed the same for all household types.
The impact of ABS Series forecasts II and III upon these results is minimal; growth in households with dogs increases annually by 1.13% and 1.12% respectively and growth in households with cats increases by 0.79% and 0.80% respectively. Again, despite maintaining household type percentage ownership of dogs and cats throughout the forecast period, the change in household propensities results in an overall decrease in the percentage of households owning dogs and cats and as expected this decrease becomes more significant as recent trends are given greater weighting; ABS Series III forecasts result in 35.9% of households owning dogs and 22.9% of households owning cats by 2026.

Industry Revenue Trends

Data for current industry revenue trends provided a method for verification and validation of the model and the subsequent analysis of projected industry revenue was used to quantify how industry revenue is likely to change given continuation of household demographic and pet ownership trends.

Current Industry Revenue Trends

Industry revenue estimates from BIS Shrapnel reports for 1992, 1994, 1998, 2002 and 2005 are provided in Table A1.8. Over the period from 1992 to 2005 these data reveal an average annual increase in revenue from dogs, cats and other species of 8.9%, 3.8% and 5.2% respectively. The increase in total revenue suggests an average annual increase in total fees of 7.1%. However, given variation of increase in revenue between periods, estimates for 1996 and 2001 were based upon average annual increases between adjacent years. For 1996, revenue from dogs, cats and other species was estimated at $374m, $150m and $31m respectively and total revenue at $555m. For 2001, revenue from dogs, cats and other species was estimated at $616m, $200m and $35m respectively and total revenue at $850m. One complicating factor in this analysis was the introduction of the 10% Goods and Services Tax in July 2000. Using data from 2001 and 2005 only, the average annual increase in revenue from dogs, cats and other species was 3.3%, 4.7% and
9.3% respectively. The average annual increase in total fees for this period was 3.9%.

Table A1.8 Companion animal veterinary services revenue trends 1992 to 2005

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Revenue from dogs</td>
<td>$230m</td>
<td>$280m</td>
<td>$500m</td>
<td>$660m</td>
<td>$700m</td>
</tr>
<tr>
<td>Revenue from cats</td>
<td>$148m</td>
<td>$150m</td>
<td>$150m</td>
<td>$220m</td>
<td>$240m</td>
</tr>
<tr>
<td>Revenue from other</td>
<td>$ 26m</td>
<td>$ 28m</td>
<td>$ 34m</td>
<td>$ 35m</td>
<td>$ 50m</td>
</tr>
<tr>
<td>Total revenue</td>
<td>$404m</td>
<td>$458m</td>
<td>$684m</td>
<td>$915m</td>
<td>$990m</td>
</tr>
</tbody>
</table>


These industry data reveal that revenue from dogs as a percentage of total revenue increased from approximately 67% to 71% and revenue from cats as a percentage of total revenue fell from approximately 27% to 24% between 1992 and 2005.

As Australian data were not available, US estimates of active use of companion animal veterinary services were used to derive average annual dog, cat, other species and pet household expenditure on veterinary services. Specifically, 85% of dog owning households, 67% of cat owning households and 15% of other pet owning households were assumed to use veterinary services annually resulting in an average of 78% pet owning households visiting the veterinarian each year. The latter figure is weighted by species revenue contribution and is greater than recent Australian estimates of 72% (Headey 2007).

Average fees calculated are provided in Table A1.9 and suggest an average annual increase in fees of approximately 10.4%, 10.0%, 1.1% and 9.5% for households with dogs, cats, other species and all pets respectively between the 1996 and 2001 census years.
Table A1.9 Industry model average annual veterinary fees

<table>
<thead>
<tr>
<th></th>
<th>1996</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households with dogs</td>
<td>$156.91</td>
<td>$242.61</td>
</tr>
<tr>
<td>Households with cats</td>
<td>$114.20</td>
<td>$164.04</td>
</tr>
<tr>
<td>Households with other pets</td>
<td>$ 95.41</td>
<td>$100.46</td>
</tr>
<tr>
<td>Pet owning households</td>
<td>$159.34</td>
<td>$238.71</td>
</tr>
</tbody>
</table>

An industry based sample of approximately 30 veterinary hospitals in 2001 provided average client fees of $281.28 (FMRC Benchmarking 2002). Whilst the sample size is small, this figure is expected to be higher than a national average as it represents owners and managers of veterinary hospitals particularly interested in practice management (FMRC Benchmarking 2002) and willing to pay for this service. Canadian data from 2001 was based upon telephone surveys of 1,500 adult users of veterinary services and is also higher than model estimates at $294 per dog household and $196 per cat household (Ipsos-Reid 2001). US data are available for 1996 and 2001 and estimated expenditure by dog owning households at $186.80 and $261.30 and by cat owning households at $147.20 and $156.90 respectively (AVMA 2002). For other species such as guinea pigs, rabbits and ferrets household average expenditure in 2001 was $106.90 (AVMA 2002).

Hence overall there appears to be reasonable agreement among the estimates for dog, cat, other and all household spending with other sources and thus the estimates of active veterinary client numbers provided by the industry model are producing valid revenue outputs.

Forecast Industry Revenue Trends

Changes in industry revenue linked to ABS Series I demographic projections and pet ownership Series I projections using 2001$ are illustrated in Figure A1.4. These
data as expected reveal an annual average increase in revenue at 2001 fee levels equal to the average annual increase in household numbers.

*Figure A1.4 Industry revenue with ABS Series I and Pet Ownership Series I projections using 2001$ average fees*

From an industry income perspective, no change in household type propensities (ABS Series I) provides the optimum revenue from households with dogs; incorporating recent household propensity trends for the full forecast period provides the optimum revenue outcome from households with cats (ABS Series III); and incorporating recent household propensity trends for half the forecast period provides optimum total industry revenue (ABS Series II). In real terms, the difference between optimum industry revenue under ABS Series II and revenue from Series I and III in 2026 is $2.1 million and $1.3 million respectively.

**DISCUSSION**

The industry model developed reveals that probable pet ownership levels across household types throughout the forecast period will result in average annual growth rates for the industry (household dog and cat ownership) of approximately 1.0%.
Specifically, growth in households with dogs is likely to range from 1.12% to 1.14% and growth in households with cats is likely to range from 0.77% to 0.79%.

Hence, from the above analysis the effect of continuation of current social trends with respect to household propensities and pet ownership is that the market for companion animal veterinary services is mature and any significant growth in industry profitability will be based upon increased fees and or decreased costs rather than organic growth. These conclusions are similar to those previously expressed in a report to the US veterinary industry approximately 10 years ago (Cron, Slocum Jr, Goodnight & Volk 1999).

Increased fees may lead to a reduction in pet ownership and the market entering decline. Decreasing pet ownership scenarios (pet ownership series III) have been modelled under each ABS demographic series forecast and reveal that the market for companion animal veterinary services to cat owning households is particularly vulnerable and could enter decline with respect to both numbers of cat owning households and real industry revenue.

Whilst some limited studies from the US have suggested that the demand for companion animal veterinary services is both price and income inelastic (Ehlert 1997; Lee 2006), market segmentation data from Canada (Ipsos Reid 2001) has indicated that at least 20% of veterinary clients are price sensitive. Hence, it is likely that further increases in fees will result in a decline in pet ownership, particularly for the growing older and lone person households represented by this ‘traditional’ segment. Finally, price and income elasticity may vary with region and hence veterinary practice owners and managers will need to account for these variations when determining marketing strategies and practices.

With respect to decreasing costs, there is some possibility that an increasing supply of veterinarians may lower labour costs. The increasing costs of veterinary education, low graduate salaries in Australia and a global market suggest that cost reduction through this mechanism is unlikely to be sustainable. Increased efficiency of delivery of companion animal veterinary services and improved labour productivity (Catanzaro et al. 2000) or decreased costs through industry
consolidation (Catanzaro 2000) are alternative options which may be pursued by companion animal veterinary hospitals in Australia. Increased productivity within the US market has previously been demonstrated by increasing non-veterinarian to veterinarian staff ratios in companion animal hospitals (Lloyd 2006). Recent changes in legislation within Australia have enabled a movement towards consolidation as reported by McCullough (2007).
The purpose of this research is to assess the current and future demand for companion animal veterinary services in Australia through an evaluation of industry trends and trends at the individual practice level. The evolution of demand for veterinary services will be dependent upon external forces such as pet ownership as well as marketing strategies which will in turn interact with demand to determine revenue at the individual practice level.

Please consider the following questions in this discussion.

When was this practice first established and when did the current ownership take over this practice?

How would you define marketing and what do you believe are the most important aspects of marketing a veterinary practice?

Has your attitude toward marketing changed over the years and if so when and what stimulated this change?

What are your current marketing goals and have these goals changed over time?

What strategies are you implementing in order to achieve these goals (add specific information regarding price, product, place and promotion)?

How do you measure whether you are achieving these goals?

Products, organisations and industries have been described as progressing through an introductory stage when demand is low and variable, to growth when demand expands exponentially, to maturity when demand grows slowly or stabilises and finally to decline when demand falls. Where do you believe your practice sits in this life cycle and what information has created this impression for you?
Are you aware that some industry figures suggest the ownership of dogs and cats has been declining in recent years? If so, how did you become aware of these figures?

Do you believe that these trends are being represented in your practice and what specifically have you noticed which supports your answer?

If so, has your practice adopted any marketing strategies to address these specific trends and how successful do you believe these strategies have been?

Are you aware of social trends such as the ageing population and fewer numbers of households with children?

Do you believe that these trends are being represented in your practice and what specifically have you noticed which supports your answer?

If so, has your practice adopted any marketing strategies to address these specific trends and how successful do you believe these strategies have been?

Is there a role for industry or industry bodies in addressing these pet ownership and social trends to assist the profession? If so what do you recommend could be done at the industry level?

Open Comments?

Review of quantitative data if required
### Contact details

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<th></th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Facsimile</td>
<td></td>
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<td>Email</td>
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### Practice staffing trends

<table>
<thead>
<tr>
<th>Staff Numbers</th>
<th>Financial Year Ending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of full time equivalent veterinarians</td>
<td></td>
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<tr>
<td>Number of full time equivalent non-veterinary staff</td>
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## Revenue trends

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<tbody>
<tr>
<td>Total Practice Revenue</td>
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<tr>
<td>% Dogs (or $)</td>
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</tr>
<tr>
<td>% Cats (or $)</td>
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<tr>
<td>% Other (or $)</td>
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## Price trends

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<th>Financial Year Ending</th>
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<tbody>
<tr>
<td>Standard consultation for dogs and cats ($)</td>
<td></td>
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<tr>
<td>Standard consultation for other species ($)</td>
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</tr>
<tr>
<td>Active client number trends</td>
<td>Financial Year Ending</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>All Active Clients</td>
<td></td>
</tr>
<tr>
<td>Active clients with Dogs</td>
<td></td>
</tr>
<tr>
<td>Active clients with cats</td>
<td></td>
</tr>
<tr>
<td>Active clients with other</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>New client number trends</th>
<th>Financial Year Ending</th>
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<tr>
<td>New clients with Dogs</td>
<td></td>
</tr>
<tr>
<td>New clients with cats</td>
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<tr>
<td>New clients with other</td>
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### Client visit trends

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<th>Financial Year Ending</th>
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<td>Total invoices</td>
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</tr>
<tr>
<td>Invoices dog owners</td>
<td></td>
</tr>
<tr>
<td>Invoices cat owners</td>
<td></td>
</tr>
<tr>
<td>Invoices other species</td>
<td></td>
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</tbody>
</table>

* this will be used to calculate the average number of visits per active client each year where possible, that is number of invoices over the number of active clients.

### Competitors

<table>
<thead>
<tr>
<th>Competing practices</th>
<th>Financial Year Ending</th>
</tr>
</thead>
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<td>Number of competitors</td>
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</tbody>
</table>
NOTE: This study has been approved by the University of Western Sydney Human Research Ethics Committee. The Approval Number is HREC 06/033. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Ethics Committee through the Research Ethics Officers (tel: 02 4736 0883 or 4736 0884). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
A4. CASE STUDY MARKETING PERFORMANCE INDICATORS

**Case Study I**

<table>
<thead>
<tr>
<th>Marketing performance indicator</th>
<th>Average annual percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2001-2003</td>
</tr>
<tr>
<td>New clients</td>
<td>3.9%</td>
</tr>
<tr>
<td>Total clients</td>
<td>n/a</td>
</tr>
<tr>
<td>Revenue</td>
<td>5.1%</td>
</tr>
</tbody>
</table>
### Case Study II

<table>
<thead>
<tr>
<th>Marketing performance indicator</th>
<th>Average annual percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2001-2003</td>
</tr>
<tr>
<td>New clients</td>
<td>-10.3%</td>
</tr>
<tr>
<td>Total clients</td>
<td>6.2%</td>
</tr>
<tr>
<td>Revenue</td>
<td>19.4%</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>New clients</td>
<td>-11.5%</td>
</tr>
<tr>
<td>Total clients</td>
<td>4.0%</td>
</tr>
<tr>
<td>Revenue</td>
<td>0.7%</td>
</tr>
</tbody>
</table>
**Case Study IV**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New clients</td>
<td>-19.7%</td>
<td>-8.3%</td>
<td>-10.5%</td>
</tr>
<tr>
<td>Total clients</td>
<td>-11.3%</td>
<td>-5.7%</td>
<td>-7.3%</td>
</tr>
<tr>
<td>Revenue</td>
<td>-0.6%</td>
<td>1.1%</td>
<td>1.9%</td>
</tr>
</tbody>
</table>
**Case Study V**

<table>
<thead>
<tr>
<th>Marketing performance indicator</th>
<th>Average annual percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td>New clients</td>
<td>21.3%</td>
</tr>
<tr>
<td>Total clients</td>
<td>n/a</td>
</tr>
<tr>
<td>Revenue</td>
<td>-0.4%</td>
</tr>
</tbody>
</table>
### Case Study VI

<table>
<thead>
<tr>
<th>Marketing performance indicator</th>
<th>Average annual percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td>New clients</td>
<td>-5.4%</td>
</tr>
<tr>
<td>Total clients</td>
<td>-0.8%</td>
</tr>
<tr>
<td>Revenue</td>
<td>2.7%</td>
</tr>
</tbody>
</table>
A5. INDUSTRY QUESTIONNAIRE

COMPANION ANIMAL VETERINARY PRACTICE IN AUSTRALIA:
INDUSTRY AND MARKETING STUDY
QUESTIONNAIRE

Please answer the following questions to help develop our understanding of change and approaches to marketing within the companion animal veterinary services industry in Australia. Questions are arranged into three main sections: how the industry is changing; current marketing practices; and details about your practice.

Please answer all questions. If you have multiple practices, please choose one practice/location to determine your responses (you are most welcome to complete this questionnaire for each practice location if you wish).

Your answers will remain anonymous.
### PART 1: INDUSTRY TRENDS

1. Please indicate your extent of agreement with the following statements in relation to your practice over the last 3 years. For newer practices think about trends from the time the practice was established.

<table>
<thead>
<tr>
<th>EXF</th>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXFS1</td>
<td>The level of pet ownership is decreasing in my area</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFS2</td>
<td>The number of households is increasing in my area</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFS3</td>
<td>The average age of people living in my area is increasing</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFT1</td>
<td>Advances in veterinary medicine, surgery and diagnostics have facilitated an increase in our profitability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFT2</td>
<td>New pharmaceuticals have facilitated an increase in our profitability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFT3</td>
<td>Technology has enabled us to better communicate with our clients</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFE1</td>
<td>Local industry economic fluctuations have affected our profitability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFE2</td>
<td>Broader economic fluctuations such as changes in interest rates have affected our profitability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXF</td>
<td>Statement</td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>----------</td>
<td>---------</td>
<td>-------</td>
<td>----------------</td>
</tr>
<tr>
<td>EXFP1</td>
<td>Local council regulations have affected our profitability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFP2</td>
<td>State based companion animal legislation has affected our profitability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFP3</td>
<td>State based legislation governing veterinary practice has affected our profitability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFP4</td>
<td>National employment regulations such as the Veterinary Surgeons Award, Work Choices or OH&amp;S have affected our profitability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFN1</td>
<td>Local climate or environmental conditions have affected our profitability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>EXFN2</td>
<td>There are some diseases in our area that are more or less common compared to other areas and these have affected our profitability</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Please indicate your extent of agreement with the following statements in relation to your practice over the last 3 years. For newer practices think about trends from the time the practice was established.

<table>
<thead>
<tr>
<th>ISF</th>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISFC1</td>
<td>The number of veterinary practices competing in my area is increasing</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFC2</td>
<td>Veterinary practices in my area are competing more aggressively</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFC3</td>
<td>There is increasing competition from organisations other than veterinary practices in my area</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFS1</td>
<td>It is difficult to find veterinarians to work in my practice</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFS2</td>
<td>It is difficult to find non-veterinary staff to work in my practice</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFS3</td>
<td>It is difficult to obtain finance for implementing the things I would like to do with my practice</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFS4</td>
<td>The number of veterinary wholesalers available to service my practice is limited</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFB1</td>
<td>Clients are willing to spend more money on their pets</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFB2</td>
<td>Clients are seeking higher standards of veterinary care for pets</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFB3</td>
<td>More clients are keeping companion animals other than dogs and cats</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFB4</td>
<td>Clients switch between veterinary practices in my area</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFB5</td>
<td>Clients compare prices with other veterinary practices in my area</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>ISFB6</td>
<td>Clients in my area have lower than average disposable income</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
3. Products, brands, organisations and industries have been described as progressing through an introductory stage early in their life when demand is low and variable, a later growth stage when demand increases exponentially, a maturity stage when demand grows slowly or stabilises and finally enter a decline stage when demand falls.

   i. Where do you believe your practice sits in this life cycle?

<table>
<thead>
<tr>
<th></th>
<th>Introduction</th>
<th>Growth</th>
<th>Maturity</th>
<th>Decline</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILC1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   ii. Where do you believe the companion animal veterinary services industry in Australia sits in this life cycle?

<table>
<thead>
<tr>
<th></th>
<th>Introduction</th>
<th>Growth</th>
<th>Maturity</th>
<th>Decline</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILC2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. Please select ONE statement from those listed below which best describes how you perceive the level of change within the market for companion animal veterinary services in your area:

<table>
<thead>
<tr>
<th>ITU1</th>
<th>The products and services we offer our clients (our core activities) and the way in which we provide these products and services (our core assets) are both changing incrementally</th>
<th>Please tick one</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The products and services we offer our clients (our core activities) are changing significantly but the way in which we provide these products and services (our core assets) is changing incrementally</td>
<td>□</td>
</tr>
<tr>
<td></td>
<td>The products and services we offer our clients (our core activities) are changing incrementally but the way in which we provide these products and services (our core assets) is changing significantly</td>
<td>□</td>
</tr>
<tr>
<td></td>
<td>Change is so significant that it is difficult to know what products and services we will be offering (our core activities) and how we will best provide these products and services in the future (our core assets)</td>
<td>□</td>
</tr>
</tbody>
</table>
5. Please select ONE statement from those listed below which best describes how you perceive the level of change within the market for companion animal veterinary services in Australia:

<table>
<thead>
<tr>
<th>ITU2</th>
<th>Please tick one</th>
</tr>
</thead>
<tbody>
<tr>
<td>The products and services offered by companion animal veterinarians to clients (core activities) and the way in which the profession provides these products and services (core assets) are both changing incrementally</td>
<td>☐</td>
</tr>
<tr>
<td>The products and services offered by companion animal veterinarians to clients (core activities) are changing significantly but the way in which the profession provides these products and services (core assets) is changing incrementally</td>
<td>☐</td>
</tr>
<tr>
<td>The products and services offered by companion animal veterinarians to clients (core activities) are changing incrementally, but the way in which the profession provides these products and services (core assets) is changing significantly</td>
<td>☐</td>
</tr>
<tr>
<td>Change is so significant that it is difficult to know what products and services our profession will be offering (core activities) and how we will best provide these products and services in the future (core assets)</td>
<td>☐</td>
</tr>
</tbody>
</table>

Please go to Part 2 of this Questionnaire
### Part 2: Current Marketing Practices

6. Please answer all parts of the following questions by selecting the number from 1 (never) to 5 (always) that best corresponds to the level/extent of use of the following marketing practices in your veterinary practice.

<table>
<thead>
<tr>
<th>CMP</th>
<th>i. When dealing with our market, our purpose is to:</th>
<th>Never</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPT1</td>
<td>Generate a profit or other ‘financial’ measures of performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMPD1</td>
<td>Acquire client information for our database</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPI1</td>
<td>Build a long-term relationship with specific clients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CNP1</td>
<td>Form strong relationships with a number of organisations in our market or wider marketing system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CMP</th>
<th>ii. Our marketing communication involves:</th>
<th>Never</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPT2</td>
<td>Communicating to the broad market base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMPD2</td>
<td>Targeting specifically identified segments or clients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPI2</td>
<td>Individuals within the practice personally interacting with their individual clients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CNP2</td>
<td>Individuals within the practice networking with other organisations in our market or wider marketing system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMP</td>
<td>iii. Contact with our clients is:</td>
<td>Never</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>CMPT3</td>
<td>Arm’s length, impersonal with no individualised or personal contact</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CMPD3</td>
<td>Somewhat personalised (e.g. by direct mail)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CMPI3</td>
<td>Interpersonal (e.g. involving one-to-one interaction between people)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CMPN3</td>
<td>From impersonal to interpersonal across firms in the broader market network</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CMP</th>
<th>iv. The type of relationship with our clients is characterised as:</th>
<th>Never</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPT4</td>
<td>Transactions that are discrete or one-off</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>CMPD4</td>
<td>Contact (e.g. by direct mail) that is occasional</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>CMPI4</td>
<td>Interpersonal interaction that is ongoing</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>CMPN4</td>
<td>Contact with people in our practice and wider marketing system that is ongoing</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>CMP</td>
<td>v. People from our practice meet clients:</td>
<td>Never</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------</td>
<td>-------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>CMPT5</td>
<td>Mainly at a formal, business level</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>CMPD5</td>
<td>Mainly at an informal level, yet personalised via database technologies</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>CMPI5</td>
<td>At both a formal business level and informal social level on a one-to-one basis</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>CMPN5</td>
<td>At both a formal business level and informal social level in a wider organisational system or network</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CMP</th>
<th>vi. Our marketing activities are intended to:</th>
<th>Never</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPT6</td>
<td>Attract new clients</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CMPD6</td>
<td>Retain existing clients</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CMPI6</td>
<td>Develop cooperative relationships with our clients</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CMPN6</td>
<td>Coordinate activities between ourselves, clients and other parties in our wider marketing system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CMP</td>
<td>vii. Our marketing planning is focused on issues related to:</td>
<td>Never</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Always</td>
<td></td>
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<td>-----------</td>
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<td></td>
</tr>
<tr>
<td>CMPT7</td>
<td>Our product/brand/service offering</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CMPD7</td>
<td>Clients in our market in addition to our offer</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CMPI7</td>
<td>One-to-one relationships with clients in our market or individuals in organisations we deal with</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CMPN7</td>
<td>The network of relationships between individuals and organisations in our wider marketing system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CMP</th>
<th>viii. Our marketing resources (e.g. people, time, money) are invested in:</th>
<th>Never</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPT8</td>
<td>Product or service offering, promotion, price and distribution issues</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>CMPD8</td>
<td>Database technology to improve communications with our customers</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>CMPI8</td>
<td>Establishing and building personal relationships with individual customers</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>CMPN8</td>
<td>Developing our practice's network relationships within our market or wider marketing system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>CMP</td>
<td>ix. In our practice, marketing activities are carried out by:</td>
<td>Never</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>CMPT9</td>
<td>Functional managers (e.g. marketing or sales manager)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CMPD9</td>
<td>Specialist marketers (e.g. customer service manager or loyalty manager)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CPI9</td>
<td>Many employees throughout the practice</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>CNPN9</td>
<td>Practice owners</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>
7. Please indicate your perceptions regarding trends in the number of clients visiting your practice over the last 3 years. For newer practices think about trends from the time the practice was established.

<table>
<thead>
<tr>
<th>MPE</th>
<th>Decreasing significantly</th>
<th>Decreasing slightly</th>
<th>Relatively static</th>
<th>Increasing slightly</th>
<th>Increasing significantly</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPES1</td>
<td>Total number of clients visiting each year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPES2</td>
<td>Number of new clients visiting each year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPES3</td>
<td>Number of clients presenting with dogs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPES4</td>
<td>Number of clients presenting with cats</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPES5</td>
<td>Number of clients presenting with other companion animal species</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPES6</td>
<td>Average number of visits per client each year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. Please indicate your perceptions regarding trends in your practice’s revenue over the last 3 years. For newer practices think about trends from the time the practice was established.

<table>
<thead>
<tr>
<th>MPER</th>
<th>Description</th>
<th>Decreasing significantly</th>
<th>Decreasing slightly</th>
<th>Relatively static</th>
<th>Increasing slightly</th>
<th>Increasing significantly</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPER1</td>
<td>Overall revenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPER2</td>
<td>Revenue from professional services (surgery, consults, diagnostics, prescription medicines)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPER3</td>
<td>Revenue from over-the-counter sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPER4</td>
<td>Revenue from other services (such as grooming and boarding)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPER5</td>
<td>Revenue from clients with dogs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPER6</td>
<td>Revenue from clients with cats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPER7</td>
<td>Revenue from clients with other companion animal species</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPER8</td>
<td>Average transaction fee</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
9. Please indicate how well you believe your practice has performed relative to expectations over the last 3 years

<table>
<thead>
<tr>
<th>MPEE</th>
<th>Much worse</th>
<th>Much better</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPEE1 Overall revenue</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>MPEE2 Profit</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>MPEE3 Return on investment</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>MPEE4 Market share</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>MPEE5 Performance of marketing initiatives</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
</tbody>
</table>

10. Do you have any additional comments regarding how the companion animal veterinary services industry is changing or about veterinary practice marketing that you would like to share?

PLEASE GO TO PART 3 OF THIS QUESTIONNAIRE
### PART 3: YOUR PRACTICE DETAILS

11. Please answer the following questions about your practice

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>i. Your practice size</strong></td>
<td></td>
</tr>
<tr>
<td>PDSI1</td>
<td>How many veterinarians (full time equivalent or FTE) work in your practice?</td>
</tr>
<tr>
<td>PDSI2</td>
<td>How many non-veterinarians (FTE) work in your practice?</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ii. Your practice location</strong></td>
<td></td>
</tr>
<tr>
<td>PDLO1</td>
<td>Where is your practice located?</td>
</tr>
<tr>
<td></td>
<td>Capital city suburb</td>
</tr>
<tr>
<td></td>
<td>Provincial city (&gt;10,000 people)</td>
</tr>
<tr>
<td></td>
<td>Country town</td>
</tr>
<tr>
<td>PDLO2</td>
<td>State</td>
</tr>
<tr>
<td>PDLO3</td>
<td>Postcode</td>
</tr>
</tbody>
</table>
### iii. Your practice type

<table>
<thead>
<tr>
<th>PDTY1</th>
<th>Is this a general practice, specialist practice or both?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General practice</td>
</tr>
<tr>
<td></td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>Specialist practice</td>
</tr>
<tr>
<td></td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>Both</td>
</tr>
<tr>
<td></td>
<td>☐</td>
</tr>
</tbody>
</table>

### iv. Your practice services

<table>
<thead>
<tr>
<th>PDSE1</th>
<th>What is the approximate percentage income from the following services?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Professional services (surgery, consults, diagnostics, prescription medicines)</td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>PDSE2</td>
<td>Over-the-counter merchandise sales</td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>PDSE3</td>
<td>Other services (such as grooming and boarding)</td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
</tbody>
</table>

### v. Species treated

<table>
<thead>
<tr>
<th>PDST1</th>
<th>What is the percentage income derived from each species?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dogs</td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>PDST2</td>
<td>Cats</td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>PDST3</td>
<td>Other, companion animal</td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>PDST4</td>
<td>Other, production animal</td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>vi. What is the ownership structure of your veterinary practice (please tick all that apply)?</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PDOS1</td>
<td>Sole proprietor</td>
</tr>
<tr>
<td>PDOS2</td>
<td>Partnership</td>
</tr>
<tr>
<td>PDOS3</td>
<td>Company</td>
</tr>
<tr>
<td>PDOS4</td>
<td>Trust</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>vii. Time the practice has been established</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDES1</td>
<td>How many years ago was the current ownership established?</td>
</tr>
<tr>
<td>PDES2</td>
<td>How many years ago was the practice established?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>viii. Your affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDAF1</td>
<td>Are you a member of the Australian Veterinary Practice Management Association?</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>PDRO1</td>
<td>ix. Your role in this veterinary practice</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Owner [☐]</td>
</tr>
<tr>
<td></td>
<td>Manager [☐]</td>
</tr>
</tbody>
</table>

Thank you!

**NOTE:** This study has been approved by the University of Western Sydney Human Research Ethics Committee. The Approval Number is HREC 07/226. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Ethics Committee through the Research Ethics Officers (tel: 02 4736 0883 or 4736 0884). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.