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# The Family Purchasing Process of Broadband Internet in Australia

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# Abstract

This study investigates the purchase process of broadband internet among 10 Australian families. The objective of this study was to explore the collective decision-making process of families that led to the purchase of broadband. The findings of the research project is the model of the Family Broadband Purchasing Process which maps the critical events, the interplay of family roles and influencing factors that lead to the decision to purchase broadband. The findings from the study can be used to leverage current marketing strategies and contribute to a greater understanding of the lack of demand for broadband.

#### Keywords

Broadband technology, family purchasing process, technology champion, content analysis.

# INTRODUCTION

As a second generation of internet service, broadband internet presents users with a superior service compared to its narrowband predecessor of dial-up internet. The enhanced bandwidth capacity of broadband enables rapid communication, the exchange of richer content and support emerging applications. Applications as multimedia entertainment, e-commerce and health attract users to broadband services, helping providers to recover infrastructure development costs (Reynolds and Sacks 2003). Individual users benefit through the convenience offered by the "killer attributes": increased speeds of downloads, always-on connectivity, reliability of service and networking capabilities for multiple users (Wales, Sacks & Firth 2002). On a national level, broadband infrastructure and services help to establish Australia as an information society which encourages innovation, stimulates economic growth and attracts foreign investment (Reynolds and Sacks 2003). Consequently, broadband infrastructure and services are increasingly important determinants of competitiveness in the global economy and social development (Broadband Advisory Group 2003).

There is a need to promote the subscription of broadband at the consumer level and generate critical mass in order to fully reap and magnify the potential benefits offered by its wide deployment. The motivation to study family households stems from the size of the potential market of residential customers for broadband services. However, due to the time restriction of this study and the assumption that household and family structure will vary the family decision-making process, the scope of the research was narrowed to married couples with children. By defining families as a subset of households where members of the domestic unit are related, this subsection is the largest family type in Australia with 47% falling under this category (ABS 2002a), representing roughly one third of all Australian households<sup>1</sup>. Among Australian families, the internet is a popular communication medium with approximately 4.0 million households connected via dial-up (ABS 2001). However, this does not compare favourably against the 264 600 households on broadband (ACCC 2003). In order to advocate broadband uptake to the residential market, the nature and process in which current household subscribers have decided to purchase broadband must be understood. Hence, the objective of this study is to explore technology uptake within the household milieu. This led to the research question of: *What is the family purchasing process when subscribing broadband internet in Australia?* 

It aims to understand the family decision-making process and the associated motivations, influences and stimulants that led to the decision to purchase broadband. The scope of the research question begins at the initial idea to purchase broadband internet to the final decision where broadband services are subscribed.

<sup>&</sup>lt;sup>1</sup> The approximation of the family structure of married couples with children being about one third of the Australian households has been derived from various figures from ABS (2002a, 2002b).

This research will provide an understanding of the process in which some Australian families have decided to purchase broadband. We also examined a case where the family decided not to subscribe. The insight into the reasons for deciding against broadband will allow broadband service providers to identify the problematic issues and resolve them accordingly. The findings are also useful to policy-makers in recognising the stages of the decision-making process and identifying areas in which to concentrate their resources to generate demand and promote purchase.

#### **Broadband Status in Australia**

The status of broadband internet in Australia indicates that although there seems to be adequate infrastructure<sup>2</sup>, limited consumer awareness and/or need for broadband technologies, lack of competition in broadband market and high prices repel families from subscribing to broadband internet. The outcomes of government efforts and initiatives to encourage broadband subscription, including the deregulation of the telecommunication industry for open competition, the injection of funding through various national programs, such as the National Communications Fund, Advanced Networks Program and Networking the Nation Program, and investment toward servicing rural areas (BAG 2002), have yet to be realised. In April 2004, the continued commitment to Australia's development towards an information economy has been reflected through the replacement of the National Office for the Information Economy (NOIE) with two separate bodies (AGIMO 2004). The Australian Government Information Management Office (AGIMO) is directed in promoting and coordinating the use of new information and communications technology to the delivery of Australian Government programs and services. The Office for the Information Economy (OIE) in the Department of Communications, Information Technology and the Arts (DCITA) focuses on better integrating initiatives that support both the development and use of ICT in Australia. However, government efforts still seem to focus on driving supply without looking closely at demand. With a mere five percent of Australian households having purchased broadband internet (Chang, Lee & Middleton 2003), an alternative perspective on the dawdling uptake of broadband in Australia appears valuable. Therefore, this research aims to investigate the reasons for their subscription in spite of the scepticism around broadband internet.

# LITERATURE ON FAMILY DECISION-MAKING FOR HOUSEHOLD PURCHASES

Broadband internet is still considered a relatively new technology, especially in the wider consumer market in Australia. It is regarded as a luxury, household service that is consumed (used) by one or many family members. Consequently, the implication of the collective consumption is that the decision to purchase is likely to involve the input of various family members. The interplay of family member roles and influences in the collective decision-making process will affect the purchasing process at various stages.

Early contributions to consumer behaviour simplified the household preference to that of a 'household leader', which assumes that households act as a single decision-maker (Vermeulen 2002). In such scenarios, the five stages of the Individual Buying Decision (Figure 1(a)) would be directly transferable to the purchasing behaviour of a family. *Problem Recognition* entails the recognition of a shortage or an unfulfilled desire. *Information Search* and *alternative evaluation* is the investigation of the product, alternatives and characteristics, of which are compared and selected. *Purchase* includes deciding where to buy and learning availability. *Post-purchase experience* embodies further buying/re-evaluation, but this is beyond the scope of this research.





 $<sup>^2</sup>$  94% of Australian households are within reach of broadband networks, mainly through Asynchronous Digital Subscriber Lines (ADSL), available to 90 per cent of the population, and cable internet, reaching 35 percent of Australian households (Houghton & Morris, 2002).

The dynamics of families in intra-household decision-making supports the notion that the direct application of the individual decision-making process to a family is not a complete representation of reality. Research on household purchasing decision has shown different family members to display dominance at various stages of the buying process and for various products (Belch & Willis 2002, Davis & Rigaux 1974; Foxman et al. 1989; Beatty & Talpade 1994; Lee & Beatty 2002). Hence, the decision-making process will be more complicated when the household preference does not coincide with those of a specific household member. Subsequently, the Family Buying Decision (Figure 1(b)) caters for the disagreement among family members that may arise from misalignment of household preference to those of individual household members through the Conflict Management Process.

Such management of family dynamics may be necessary because of the various levels of influence wielded by different family members. This includes issues such as:

- (i) Consumer roles. The role of user, payer and buyer may be dispersed among different family members (Sheth et al. 1999). The effect is that different family members have different motivations towards the outcome (i.e. purchase or not purchase). For example, the motivation towards broadband purchase of a user (e.g. an adolescent who wishes to steam video and audio) differs to that of a payer (e.g. the mother who concerns are on the drain on household budget).
- (ii) Product category. Some product categories are male dominated while other product categories are female dominated. Wives are found to be more dominant for household furnishings and appliances whereas husbands are dominant for television and automobiles (Davis & Rigaux 1974). In context of this research, the household environment insinuates the domestic sphere of females against the stereotype of male proficiency regarding technology products (Habib & Cornford 2002).
- (iii) *Expert knowledge*. Product knowledge enables greater confidence in a product and permits the use of expert persuasion techniques to influence decision-making (Spiro 1983, Foxman et al. 1989; Palan & Wilkes 1997; Beatty & Talpade 1994; Belch & Willis 2002). In the same way, primary consumers of the product (Lee & Beatty 2002) and prior experience with a product class (Dickerson & Gentry 1983) will positively affect family members' ability to yield influence.
- (iv) Financial contribution. The fact that parents possess greater financial resources and have greater inherent power over their children will mean parents will exert more power at the final decision stage (Beatty & Talpade 2002). Hence, it is expected that adolescents have more influence during the problem recognition and information search stage, but their influence decline at the decision stage (Lee & Beatty 2002; Foxman et al. 1989).

Due to the interest in the intra-household decision-making process, the family structure to be examined is the 'full-nest stage' of the family life cycle – middle-aged married with children (Sheth et al. 1999). The full-nest stage, particularly those with adolescent/teenage children, has the potential to offer the greatest intra-family interaction among family members because of the parent-adolescent interaction. The parent-adolescent interaction is interesting because the adolescents' decision-making power is bound by their financial dependency to their parents (Foxman et al. 1989; Beatty & Talpade 1994). However, they may exert greater negotiation power because of their potential to be the primary consumers of broadband service (i.e. by having wider needs particularly for education and entertainment) and superior knowledge as a generation with greater familiarly of technology.

Literature on technology adoption such as the Technology Appropriation model and Diffusion of Innovations was also considered. The Technology Appropriation model (Carroll et al. 2002) describes the transformation of technology as it is envisaged by its designer (technology-as-designed) into technology as currently used by people (technology-in-use) through the process of appropriation. Rogers (1995) describes technology adoption as a diffusion process in a social system examined in terms of innovativeness. That is, the decision to adopt a technology is influenced by an individual's willingness to adopt new ideas. However, due to the scope of this research being confined to purchase rather than adoption (thus, does not include usage and appropriation) the relevance of such literature is limited. Furthermore, the unit of analysis for the frameworks of technology adoption is at the individual level whereas this research is interested in the family.

# METHODOLOGY

The semi-structured, group interview was assessed to be the most suitable approach because it could: (i) collect in-depth data and build on responses of other interviewee(s), (ii) gather multiple viewpoints of a shared experience, and (iii) preserve the unit of analysis as families. The interviews were approximately one hour long and were conducted mostly at the residence of the families. Demographic information about the family and broadband subscription was collected.

#### **Sample and Procedure**

The unit of analysis for this study is the family. A total of 10 families were interviewed: 9 families were broadband subscribers while 1 family was not. These families resided in the metropolitan areas of Victoria. The families interviewed were to meet two criteria: (i) The family structure was to be that of married couples with adolescent children; (ii) The family had experienced the decision-making process of purchasing broadband internet. Due to the small number of households subscribers the targeted sample was very difficult to reach. Hence, a secondary sampling method of snowballing was also employed.

#### **Content Analysis**

The interviews with families were audio-taped, transcribed and analysed. The initial open-coding by the first researcher identified 30 sub-themes. The list and definitions of themes were clarified, discussed and debated with a second researcher. As a result, the initial list of sub-themes was refined, through axial-coding into 24 sub-themes grouped into 7 themes. These 7 themes were then selectively clustered into two core categories: *Purchase Decision Enablers/Disablers* and *Broadband Purchasing Process*. Subsequent to the theme construction, the presence of sub-themes were tallied for each interview transcript. The sub-themes were coded as 1, yes, present; and 2, no, not present in each of the interviews, thereby reflecting the extent to which the sub-theme is manifested in the data.

#### RESULTS

The findings from the high level categories of Enablers/Disablers and Broadband Purchasing Process, as well as the definition of themes and sub-themes will be discussed. The themes and sub-themes will be described and collaborated with direct quotes from interviews.

# **Broadband Purchase Enablers/Disablers**

The themes within the *Enabler/Disabler* category are the factors that encourage or discourage the decision to purchase broadband internet. The enablers and disablers are personal, social and technical features of the family's broadband purchasing context that promote or hinder subscription. They act as filters in the decision to purchase by promoting the broadband purchase, in the case of enablers, or obstructing the decisions to purchase, in the case of disablers. Table 1 represents the themes, sub-themes and the respective frequency (the number of families who mentioned the issue).

	Enabler/Disabler	Frequency (n=10)
	ENABLER	
E.1	Technology Champion	
	Interest in technology	9
	Advisor/expert on technology	6
	IT related occupation	6
E.2	Perceived Benefits	
	Killer attributes	10
	Free-up phone line	4
	Wider range of activities/applications	7
E.3	External Influence	
	Peer/social group pressure	8
	Experience prior to purchase	10
	Educational/work needs	10
	Effective marketing	3
	DISABLER	
D.1	High cost	10
D.2	Lack of need	7

#### E. 1. Technology Champion

The technology champion is the key family member who instigates, promotes and drives the decision to purchase broadband internet for the home. The technology champion was the father in 5 families, the eldest

son in 3 families, the eldest daughter in 1 family and non-existent in 1 family. Nine technology champions voiced interest in technology which encouraged their nature to desire, research and purchase new technology. This was exemplified through the technology purchases in the home: "We bought an Xbox about 2 years ago. I've modified it. We've got home entertainment systems: speakers, receiver, then we're looking to get a high definition TV." They were also considered the expert or "go-to" person for advice on technology among their social group by six families. For instance, a father had "just bought a computer for a friend." In six families, the technology champion held employment or studied in IT which meant they had to "keep track of lots of computer related technology" as a part of the work/study in the IT-related field.

# E. 2. Perceived benefits

Three features of broadband internet were identified that were perceived to be beneficial, especially compared to dial up internet. Firstly, the killer attributes of: speed/bandwidth, always on connectivity, ability to network and reliability of service, were key attractors to all ten families. The fact that "*it's on at all times, it's obviously much faster and the end result is much more convenient…*" were the main reasons for broadband subscription. Secondly, as broadband internet does not tie up the phone line, families who did not devote an extra phone line for the dial up internet appreciated the simultaneous access to phone and internet. In one family the parents have been "*trying to push it through for a long time because they haven't been able to make [phone] calls for the last 3 or 4 years at night.*" Thirdly, the possibility to extend the internet experience through the use of a wider range of activities/application (e.g. downloading and streaming audio/video, interactive online games) were desirable to 7 families. This was expressed by one interviewee that "*It's just frustrating to just not do the things that you wanted to do: downloading streaming video, mp3, play games. You can't do all of these things with dial up.*"

# E. 3. Influence of external factors

The external factors are forces outside the family that create a positive or negative perception of broadband. The four factors of: (i) peer/social group pressure to purchase; (ii) experience with broadband prior to purchase; (iii) educational/work needs; and (iv) effective advertising, play an important role in shaping the attitude towards broadband internet. They must appear affirmative in order to leverage broadband purchase. Eight families suggested that recommendations and positive-word-of-mouth from peers were important influences as "... having your friends and family... [is] a more important driver for picking it (broadband) up." Families indicated first-hand experience of broadband and its benefits from work, school or other location were central in developing awareness and familiarity of broadband capabilities, making it " really hard to use the computer at home" All ten families voiced that experience of broadband prior to subscription motivated their purchase. The value of broadband in assisting workplace and children's educational needs were rated equally important. However, some families felt advertising was severely lacking or even hindered subscription with one father concerning: "To date it's been very poor. Almost as if they didn't want us to buy the services." It must also be acknowledged that the majority of families were current subscribers of broadband internet. Hence, the responses expressed favourable external influences. However, external influences may act as deterrents such as in the case of ineffective marketing or negative feedback from peers.

# D. 1. High cost

The monthly fees to the ISP for broadband internet are significantly higher than dial-up. "You don't see that \$19.95 to the ISP [for dial up] doesn't equate favorably with \$69 [for broadband]..." explained an interviewee. The high cost was considered to be the principal deterrent of broadband purchase with all families raising issues of affordability. It is encouraging to note, however, that the market has reacted to the perceived high cost by offering cheaper deals. Telstra has offered \$29.95 broadband plans and other companies, such as iPrimus, are following suit<sup>3</sup>. With such prices, it is anticipated that a surge of broadband subscription will materialise.

# D. 2. Lack of need

Lack of need is the conflicting factor of perceived benefits. Families indicated that inadequate need diminished the appreciation for the perceived benefits. The need of broadband at home will not be as evident for families who do not frequently use the internet or have alternative access to broadband internet. A father voiced that "We were using the internet for a lot of homework and research and things like that [but] a lot of people, they wouldn't necessarily use the internet as much as that." The lack of need as a possible deterrent was mentioned by 7 families.

<sup>&</sup>lt;sup>3</sup> This is an observation by the research through television and internet advertisements.

#### **Broadband Purchasing Process**

The *Broadband Purchasing Process* category describes the events that lead up to the purchase of broadband internet. The purchasing experience of the families recalled a five phase process that progresses to the purchase of broadband. The purchasing process is initiated by the technology champion. Information is sought and evaluated in order to confirm the purchase intent. Family support and catalyst events substantiate and motivate the need for broadband for the family. The successful progressions of the previous four stages lead to the decision to purchase broadband internet. Table 2 represents the themes, sub-themes and the respective frequency.

	Processes	Frequency
		( <b>n=10</b> )
P.1	Initiation of process	
	Being aware	10
	Information search	10
	Promoting benefits	9
P.2	Evaluation of information	
	Evaluating purchase intent	9
	Evaluating affordability	7
	Evaluating service type, ISP & plan	9
P.3	Gathering support	
	Gathering spouse/parent support	8
	Gathering children/sibling support	10
P.4	Catalyst event	
	Purchasing complementary technology	2
	Product bundling by sales people	2
	Change in family circumstances	2
P.5	Decision to purchase	9

 Table 2: Frequency of Themes and Sub-themes in Broadband Purchasing Process

#### P. 1. Initiation of Process

The first event that must happen is the initiation of the purchasing process. Awareness of the existence of broadband internet and its residential availability is necessary to prompt the initial idea and develop a need or desire to have broadband internet at home and activate the purchasing process. This leads to the information search about broadband internet, services providers and their plans. One father explained: "We research. We don't impulsively buy technology... and sometimes it could be anything up to 6 to 12 months before we go out and do something about it." The "pros of having broadband" are promoted in order to gain and encourage family support for broadband purchase.

# P. 2. Evaluation of Information

The information collected must be evaluated and understood for purchase to take place. For evaluation, information must be coherent and valuable to enable the decision to purchase broadband internet. The purpose of evaluating the information is to verify purchase intent, affordability and service provider/plan. In most cases families had a "... clear idea of what [they] wanted and what were out there. The rest of the information search was just confirming those." Only one family felt that research on broadband and ISPs did not justify a case for the purchase of broadband, hence, did not purchase. They felt that the quality of information was too poor and difficult to decipher into user terms. Seven families considered faired broadband affordable in that the family budget could withstand the financial commitment and that prices were comparable to their dial-up service. A father demonstrated the relative cost by saying "...when you look at how many times you have to redial in or you go off and dial back up again, we found that the cost was comparable and the benefits outweighed the additional costs." The ISP and plan were chosen by evaluating service offerings, reputation and personal preference by nine families.

#### P. 3. Gathering Support

The gathering of family member support was instigated during the promotion of benefits at the Initiation of Process stage. Family member support by spouse/parent and children/sibling that is in favor of having broadband at home must be accumulated to justify a collective need. For instance, a mother voiced that "...we had discussed it and decided that a fast internet connection for this family is an advantage. So I would not want to be without it." Spouse/parent support was evident in 8 families while the

children/siblings were enthusiastic about broadband in all families. Family support encourages purchase as one father admitted: "I'd been thinking about it for sometime and I guess prompted from [daughter's name] helped my cause to accelerate."

#### P. 4. Catalyst Event

This catalyst event is a particular incident within the family which transitioned the desire for broadband into the commitment of purchasing broadband internet. In 6 families, there was evidence of a specific event in the family that accelerated the broadband purchase. There were three different catalyst events: (i) purchase of complementary technology such as an up grade in computing power occurred in two families, with a father explaining: "Not only [did] I purchase a computer for her (daughter) but also broadband internet connection so that everything would be quick and smooth." (ii) product bundling by door-to-door sales people such as "packages with TV and phone and internet and everything..." prompted the decision to purchase broadband for two families; and (iii) a change in the family situation (e.g. staying at home to recover from illness or increased income from new job) ignited or induced broadband purchase.

#### P. 5. Decision to purchase

The decision to purchase signifies the completion of the purchasing decision. This stage of the purchasing process was achieved by 9 families interviewed. Purchase was accomplished through the subscription/purchase of broadband internet by submitting an online application, calling the ISP or retuning sales person.

#### DISCUSSION

The decision to purchase a household technology can be construed as the culmination of a purchasing process involving various family dynamics as well as personal and social constructs which shape the family's attitude towards the technology. The causal relationship between the enablers/disablers and the family broadband purchasing process has been mapped into a proposed conceptual model: the Family Broadband Purchasing Process (Figure 2). The conceptual model argues that the enablers/disablers and the broadband purchasing process are not mutually exclusive, but intertwined into the various stages of the family purchasing process.

There are three entities in the proposed model:

- *Family Role:* The family role identifies who is involved at each stage of the purchasing process. Due to the prominence of the technology champion and their role at various stages of the purchasing process, he/she was acknowledged as an independent role. Another role was credited to the family because the events affected the family as a collective unit.
- *Events in the Purchasing Process:* The events of the broadband purchasing process were adopted from the Family Buying Process (Sheth et al. 1999). The model shows that the family decision-making process in the purchase of broadband internet can be expressed as the progression of five stages: initiation of process, evaluation of information, gathering support, catalyst event through to the decision to purchase.
- *Enablers/Disablers:* The enablers/disablers take effect at various stages of the purchasing process to shape and determine the family's attitude toward broadband for the home. Effectively, these attitudes advances or inhibits the progression through the decision-making process to arrive at subscription (or non-subscription).

The family purchasing process for broadband is initiated by need or desire for broadband. The need is conjured by a particular family member who takes the role as the technology champion. The technology champion is the critical enabler that drives the progression through the stages of the purchasing process, and without them the broadband purchase will not occur. Their natural tendency to be interested in technology draws them to the perceived benefits of broadband. They seek information from external influences, such as social group, to validate their needs, confirm the perceived benefits and assess viability of cost. Perceptions of high cost may immobilize this stage. Motivated by their desire for broadband, family support is sought to further substantiate the need for broadband at home. If there is no family support, the lack of need professed by the family will overpower the perceived benefits of the technology champion usually dominated the roles of user, buyer and payer, the broadband purchasing process is not the sole decision of an individual as strong family support must be attained in order for the purchase outcome to arise.

The catalyst event is a new dimension to the family purchasing process of Sheth et al. (1999). The function of the catalyst event is to be the mechanism that stimulates the decision to purchase. The examples of catalyst events (e.g. sales people) describe it as an external influence that affects the family. These external influences heightened the perceived benefits of broadband and substantiated their case for broadband purchase, resulting in the coercion and commitment to purchase broadband. Families without a catalyst event can still progress to the next phase as long as there is evidence of strong family support. This is because family support increases, justifies and substantiates the need for broadband. When all the preceding stages are satisfied, the family commits to the collective decision to purchase broadband internet and the technology champion makes the actual purchase.





Fathers and sons were found to be the most likely technology champions and sons voiced more support for broadband purchase than daughters. This is consistent with Kayany and Yelsma (1998) that men (compared to females) and children (compared to adults) are more proficient with online media. Habib and Cornford (2002) found gender differences around the home computer were often more perceptible between children that between adults. Contrarily, this study displayed greater discrepancies in gender among adults, with mothers displaying minimal power and interest in broadband purchase. However, they were the most concerned with the impact of broadband subscription of the family budget. Despite strong evidence of broadband as a masculine product category, an exclusively gender-centred decision-making process would be deficient in contextualising technology in family life (Habib & Cornford 2002).

The strong children support in all the families interviewed suggests that the presence of children in a home may increase the likelihood of broadband purchase (Madden et al. 1996; Kridel et al. 2002). Another factor that may be somewhat correlated is the age of the children. It was observed that where the eldest son was the technology champion, their age was beyond adolescents (aged 20, 24 and 24, respectively) and were working. These youths may have high disposable incomes to spend on broadband connectivity, or may simply encourage their parents to adopt broadband for their households (Howell 2002). Nevertheless, in the cases where the son was the technology champion, they still sought parental approval which sanctions parental power in the final decision-making stage (Beatty & Talpade 1994).

#### CONCLUSION

The conceptualization of the family purchasing process for broadband internet provides information systems and consumer behavior researchers with a rich picture of the broadband purchase. The outcome of broadband subscription is the amalgamation of individual and family decision-making and the interplay between enabler/disabler constructs at various stages of the family buying process. This research is innovative in its application of family purchasing decision to broadband technology and builds on the knowledge on family consumer behavior. The practical implications of this study have the potential to bring value to broadband service providers and government policy-makers in better understanding residential broadband demand and family purchasing process of technology and telecommunication products/services. For instance, advertisements were considered to be effective promoting awareness but less effective in encouraging the desire to purchase broadband internet. Hence, advertising campaigns directed towards a clear target market (e.g. technology champions) may prove to be successful in increasing subscription levels.

Because there was only one researcher conducting the content analysis, inter-rater reliability could not be measured. This significantly reduces the reliability of the findings due to researcher bias in the interpretation of data. However, a single coder has greater clarity and consistency of theme definitions during content analysis. Furthermore, with only a small sample of families interviewed as well as the nature of the families (parents with adolescent children), the generalisability of findings is limited. However, the consistencies in responses indicate that a respectable level of saturation was achieved, warranting the results to be fairly conclusive, for similar families.

In order to substantiate the value of the findings of this study, future research may involve a more extensive number of families, particularly extending the family structure to families other than married couples with adolescent children. Furthermore, studies with broader scope to include family usage and appropriation of broadband and more non-scriber families will widen and strengthen the understanding of broadband adoption among families.

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