

Do brand users really pay more attention to advertising?

Extending the Empirical Generalisation: The influence of previous brand usage on two advertising effectiveness measures, advertising awareness and advertising likeability.

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Declaration

I declare that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any University and that to the best of my knowledge it does not contain any materials previously published or written by another person except where due reference is made in the text.

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Abstract

Advertising is a means by which brands can communicate with consumers and is broadcast through many different forms of media. Advertising effectiveness measures provide a tool for marketers and researchers to measure and evaluate their brand's advertising. Researchers have found when using these measures that brand users are more likely to respond to questions about their brand's advertising, than non-users (Harrison 2013; Rice & Bennett 1998; Romaniuk & Wight 2009). This is commonly referred to as "usage bias" and is considered an empirical generalisation, as the pattern has been observed in multiple studies (Hammer & Riebe 2006; Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002).

This thesis is concerned with this usage bias effect and extending the empirical generalisation to new contexts of different advertising awareness measures and advertising likeability. Advertising awareness uses memory retrieval methods to identify the awareness of a commercial in a respondent's memory. Depending on the retrieval method used, particular cueing material and questions are used to trigger the respondents memory (du Plessis 1994b; McDonald 2000). Previous studies of usage bias effects on advertising awareness have predominately focussed on retrieval methods that use category or brand as the cueing material (Hammer & Riebe 2006; Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002). This study replicated these previous studies and tested the boundary conditions of the empirical generalisation to different cueing material of execution and media.

Advertising likeability is a measure used to understand how consumers' felt about an advertisement (Haley & Baldinger 1991). This study also tested the boundary conditions of the empirical generalisation to the measure of advertising likeability, which previously had not been tested for usage bias effects.

The conditions of extension for advertising awareness were 242 brand level observations across six different retrieval methods, 14 categories, 74 brands, 10 countries (Australia, China, India, Portugal, Russia, South Africa, Spain, Taiwan, Turkey and UK) and 5 media formats. The findings show the empirical generalisation holds under these conditions. Brand users were on average 63% more likely to remember advertising for their brand than non-users. The results across each different retrieval method reflected the same pattern in favour of brand users. However the size of the usage bias varied for each method. The usage bias was strongest for top-of-mind and unprompted retrieval methods, which use only category as the cue. The usage bias was weakest for execution and media + execution prompted retrieval methods. The use of execution cueing materials allowed more non-users to remember seeing the advertising, which in turn reduced the size of the usage bias effect.

A similar bias was also found for advertising likeability. Brand users were on average 6% more inclined to like advertising for their brand, than non-users. This pattern was consistent across 58 brand level observations, eight categories, 25 brands, six countries (Australia, Portugal, South Africa, Spain, Taiwan and UK) and three different media. While the effect is small, it is important that marketers are aware of the finding when analysing data from advertising likeability studies.

This study has contributed to existing marketing knowledge by demonstrating the influence of previous brand usage extends to different contexts. The findings have verified that usage bias effects should be expected when using different measures to assess the impact of advertising. As responses are influenced by the measure used and previous brand usage, marketers should ensure data is split and analysed by users and non-users. This will ensure advertising is not interpreted as being less or more effective than it actually is.

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Chapter 1 – Introduction

1.1 Advertising and Measuring Effectiveness

Advertising is a means by which brands can communicate with consumers and is broadcast through many different forms of media such as TV, radio, outdoor, print and online. Advertising effectiveness measures provide a tool for marketers and researchers to measure and evaluate their brand's advertising. These tools are used in a study by asking consumers questions about the advertising (Brown 1985; McDonald 2000) or by tracking their eye movements (Wedel & Pieters 2007). These types of studies are either ad-hoc or form part of continuous brand and advertising tracking studies (Kotler & Keller 2006; White 2000). They can take place either in pre-testing, typically during the creative process of developing the advertising, or post-testing which is after the advertising has been launched in the marketplace (McDonald 2000). Whichever format is used, these studies are important sources of knowledge, even for established brands (Haley 1985).

Researchers have found when using advertising effectiveness measures that brand users are more likely to respond to questions about their brand's advertising, than non-users (Harrison 2013; Rice & Bennett 1998; Romaniuk & Wight 2009). This is commonly referred to as "usage bias" and is considered an empirical generalisation. The same pattern has been observed across multiple studies and conditions (Hammer & Riebe 2006; Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002).

This thesis is concerned with this usage bias effect, and extending the empirical generalisation to new contexts of different advertising awareness measures and advertising likeability. Advertising awareness uses memory retrieval methods to identify the awareness of a commercial in a respondent's memory. Advertising likeability is an advertising effectiveness measure used to understand how consumers' felt about an advertisement (Haley & Baldinger 1991).

The following sections will briefly introduce these two advertising effectiveness measures, which are discussed in more detail in the later chapters.

1.1.1 Advertising Awareness

Advertising awareness is a measure aimed at identifying the awareness of a commercial in consumer's memory. It is also used to capture the impact of advertising (McDonald 2000). Memory retrieval methods are used to measure advertising awareness, whereby respondents in a study are asked if they remember seeing advertising (du Plessis 1994b; McDonald 2000).

There are many different methods of memory retrieval that marketers and researchers can use to measure advertising awareness. Each uses a different cueing material and asks a different question to trigger the respondents memory (du Plessis 1994b; McDonald 2000). For example when using a category as the cueing material to trigger the respondents memory, a question such as the following would be asked: 'What Soft Drink brands have you recently seen advertising for' (McDonald 2000). An alternative method to this is using the execution as the cueing material, whereby the respondents are shown an advertising execution and asked if they have seen it (du Plessis 1994b). The level of advertising awareness obtained is influenced by the retrieval method and question used to trigger the respondent's memory (Brown 1988). Other factors also affect the level of advertising awareness such as advertising scheduling and media spend; these determine campaign reach (Romaniuk & Wight 2009).

1.1.2 Advertising Likeability

Advertising likeability is an advertising effectiveness measure used to understand how consumers felt about an advertisement (Haley & Baldinger 1991). This measure can be used in pre-testing situations during the creative development process, or

post-test situations once the advertising has been launched in the marketplace (McDonald 2000). In pre-testing (also known as copy-testing) a well cited study by Haley and Baldinger (1991) found that advertising likeability was the best predictor of sales effective copy, compared to other measures such as recall and persuasion. The likeability of specific elements of an execution can also be measured in pre-testing. Alternative to pre-testing situations is when the advertising is in-market. In these post-test situations the use of likeability is typically to measure how liked the whole advertisement was (McDonald 2000). This thesis focuses on using advertising likeability in post-test situations.

The next section will briefly introduce how previous brand usage influences responses when using measures of advertising effectiveness.

1.2 Influence of Previous Brand Usage

Brand users are considered current customers of a brand, determined by usage within a specific period that is most appropriate to the category (Bird, Channon & Ehrenberg 1970). For example for the Soft Drinks category a brand user could be defined as someone who drank the brand in the past 3 months.

It has been shown across measures of advertising effectiveness that brand users are more likely to respond to questions about their brand's advertising, than non-users (Harrison 2013; Rice & Bennett 1998; Romaniuk & Wight 2009). This tendency for users to respond more than non-users is referred to as "usage bias". This term is used throughout this thesis to describe this brand usage effect.

The leading brand will always have the largest number of users in the sample, compared to a smaller brand (Rice & Bennett 1998). It is therefore important that data is split between users and non-users to ensure results are not misleading (Rice & Bennett 1998). This leads to the research problem, and why this present study is needed.

1.3 Research Problem and Thesis Aims

As discussed, researchers have found when using advertising effectiveness measures that brand users are more likely to respond to questions about their brand's advertising than non-users (Harrison 2013; Rice & Bennett 1998; Romaniuk & Wight 2009). Researchers consider this usage bias effect an empirical generalisation. Previous research in advertising awareness has demonstrated across different conditions that brand users are more likely to remember seeing advertising for their brand, than non-users (Hammer & Riebe 2006; Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002). However these previous studies have predominately used category or brand as the cueing material to trigger the respondents memory for traces of the advertising (Hammer & Riebe 2006; Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002). As such the typical usage bias effect when different cueing materials are used is not known.

The influence of previous brand usage has also not been tested for the measure of advertising likeability. Previous likeability studies generally discuss brand usage in terms of stated future purchase intention, rather than actual prior usage (Biel & Bridgwater 1990; Chen et al. 2005; Obermiller & Sawyer 2011; Walker & Dubitsky 1994). Therefore whether previous brand usage has an influence on responses for this measure, is unknown.

With this in mind, this present study aims to test the boundary conditions of the empirical generalisation to different contexts. For advertising awareness this study will examine how previous brand usage influences responses across different retrieval methods. This will be done by first replicating previous research that used retrieval methods with primarily category or brand as the cueing material (Hammer & Riebe 2006; Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002). Then different cueing material of execution and media will be tested. This study will then test the measure of advertising likeability. This will determine whether brand users are more inclined to like advertising for their brand than non-users. Prior to this study this measure has been untested for usage bias effects.

1.3.1 Building on Existing Knowledge for Both Measures

The findings of this study will build on existing knowledge for both measures. For advertising awareness this study will test six different retrieval methods, each with different cueing material. Previous literature that has compared all of the retrieval methods, as part of one study, is rare. Studies by Hammer and Riebe (2006) and Romaniuk and Wight (2009) have used four of the five retrieval methods of this study. Additionally, the more recent study by Harrison (2013) has provided some evidence into media prompted retrieval methods, however there is no literature that compares all these methods as part of one study. This research aims to provide a consolidation of all the previous literature and develop benchmarks of the typical retrieval scores to be expected when each different method is used. This will provide an informative guide for marketers and researchers to use in their choice of appropriate retrieval method, and when assessing their advertising awareness scores and the implication for their advertising strategy.

The main contribution to knowledge for advertising likeability is to identify whether previous brand usage does influence responses, and if so, if this varies across different conditions. The findings from this research will inform marketers and researchers by providing them with evidence that usage bias does or does not occur. This will allow advertising likeability scores to be better evaluated.

Multiple sets of data will be used from different countries, categories, brands and media that will allow the results of this study to be generalised.

The final section of this chapter will outline the structure of this thesis.

1.4 *Structure of Thesis*

This thesis begins by discussing how human memory theories underlie the measure of advertising awareness. Chapters three and four, together present the key measures of this study, advertising awareness and advertising likeability. Each measure will be introduced, previous findings in the area of usage bias effects discussed and the hypothesis of this study will be outlined. Following this, chapters five and six outline the methods of this research and how the data was analysed. In chapter seven the results are presented and whether the hypotheses was supported or rejected. The conclusion and implications of these findings are discussed in chapter eight. The final chapter outlines the limitations of this study and possible future research avenues.

Chapter 2 - Relevance of Human Memory in Advertising Awareness

This chapter will introduce the human memory framework that underlies the measure of advertising awareness. An introduction to memory theories is provided, and how memory is encoded, stored and retrieved is discussed. The influences on these memory processes such as previous brand usage are discussed, and memory-dredging techniques introduced.

2.1 Human Memory Theories

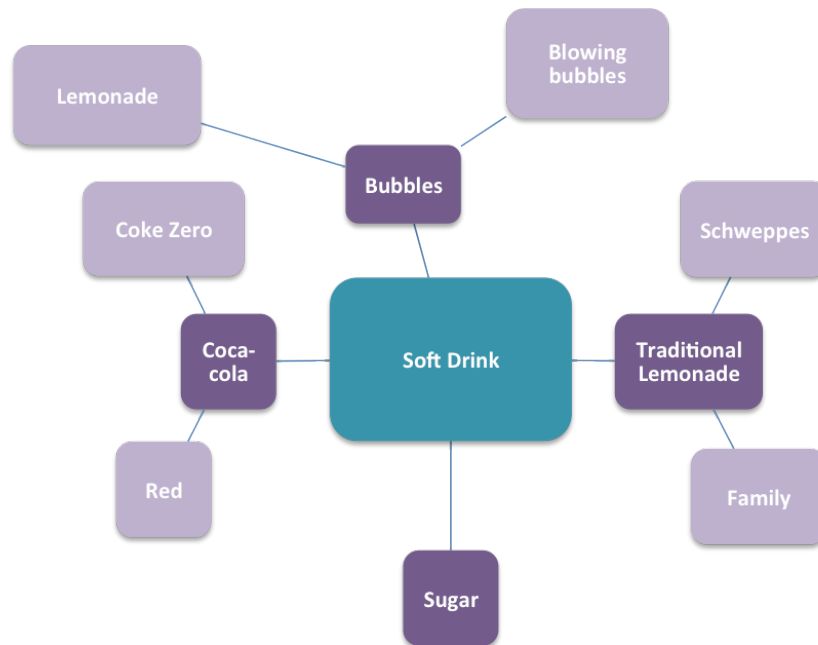
The Associative Network Theories (ANT) (Anderson & Bower 1980) is commonly used by academics to help explain the cognitive processes used by consumers, when retrieving memories for advertising effectiveness measures (See Kotler & Keller 2006; Romaniuk & Wight 2009). ANT represents memory as a network of nodes connected by associative links (Anderson & Bower 1980).

Memory processes are commonly divided into three key phases: encoding, storage, and retrieval (Anderson & Bower 1980; Tulving & Craik 2000). Encoding refers to how the information gets into memory. Storage refers to transforming and recoding the information into a meaningful description that is stored in long-term memory. Retrieval refers to the ability to raise the stored information (Anderson & Bower 1980; Tulving & Craik 2000). This retrieval phase is the most relevant to this study.

The ability to retrieve stored information from memory is determined by the existence of a link between the cue and the item to be retrieved. As well as the strength of the link and the existence of other links with the retrieval cue (Nelson et al. 1993). For example, Figure 1 shows that for the retrieval cue of 'Soft Drinks', the memory network has links with the brands Coca-Cola, Coke Zero and Schweppes, among other things.

The link is strongest between the cue and Coca-Cola, represented by their closeness in the network.

Figure 1 – Representation of Memory Network



2.2 How Does Advertising Effect Memory?

Researchers have suggested that advertising can strengthen the associations in memory, which can then influence a consumer's memory structures for that brand (Edell & Moore 1993). Memory is therefore important for advertising effectiveness measures such as advertising awareness, which aims to identify the awareness of a commercial in consumer's memory. Romaniuk and Wight (2009) advised that advertising awareness is measured because it is believed that remembered advertising could have longer-term effects on the consumer's buyer memory.

However researchers have also suggested that consumers pay little attention to advertising, which could potentially cause no or weak associations in memory (Reynolds, Olson & Rochon 1997). A study by Heath and Nairn (2005) has shown that advertising can be processed and stored in memory, even when people are not

paying full attention. Heath and Nairn's (2005) results also showed that people, who had been exposed to the advertising and influenced by it, would not actively remember it and therefore may not think the brand has advertised. This can be explained by referencing past memory research. Tulving and Pearlstone (1966) proposed there is much more information available in memory than can be accessed at any one time. Tulving and Pearlstone (1966) suggested that information that is not immediately accessible can only become so when the appropriate cue is used

2.2.1 Influence of Previous Brand Usage on Memory

Previous brand usage has been found by researchers to have an influence on memory processes (Okechuku 1992; Rice & Bennett 1998; Zinkhan & Muderrisoglu 1985). Encoding of new brand information into memory is easier for brand users, than for non-users. This is due to brand users' stronger and greater number of associations between the new information and information already existing in memory (Okechuku 1992; Rice & Bennett 1998; Zinkhan & Muderrisoglu 1985). These stronger and greater brand associations for brand users also improve memory performance in retrieval of information (Okechuku 1992; Zinkhan & Muderrisoglu 1985).

The following section will introduce some of the memory-dredging techniques used to retrieve information.

2.3 Memory-Dredging Techniques

These previous sections have outlined that retrieval of information from memory will depend on the cueing material used (Tulving & Craik 2000), the strength of associations with the cue (Nelson et al. 1993), as well as the user status of the respondent (Okechuku 1992; Zinkhan & Muderrisoglu 1985). In addition to these

influences, the difficulty of the measure also effects the ability to retrieve stored information from memory (Nelson et al. 1993; Tulving & Craik 2000).

In 1994, Erik du Plessis provided a review of leading papers on human memory and discussed the need to understand memory and the implications for research when using different retrieval techniques. In this review du Plessis (1994b) advised that visual memory is the most important type of memory in advertising research because most advertising enters the mind via the eyes.

du Plessis (1994b) also summarised several memory-dredging techniques and presented evidence that different results should be expected depending on the cueing material used to access memory. The memory-dredging techniques outlined are below (du Plessis 1994b):

- **Full Recognition** – This technique dredges the memory using a complete cue. The respondents are shown the full advertisement and asked if they have seen it.
- **Masked Recognition** – Is similar to the above technique whereby respondents are shown the full advertisement, however brand references are removed (or masked). If respondents recognise the advertisement, they are then typically asked which brand it is for.
- **Full Description** – Is a technique where the advertisement is described verbally (including the brand name) and respondents are asked if they have seen the advertisement.
- **Masked Description** – Similar to Full Description, the advertisement is described verbally however the brand name is not pronounced. If respondents recalled the advertisement, they are typically asked which brand it is for.
- **Brand Prompted Recall** – For this technique a brand prompt is used to ask the respondents if they have seen any advertising for Brand X. If they remember seeing advertising, they are then often asked to provide a description of it.

du Plessis (1994b) found results were consistently higher when accessing memory using recognition or description techniques (either full or masked), where the commercial is used as the cue. Compared with accessing memory using brand prompted recall where the brand is the cue. This demonstrates that the cue is an important influence on retrieval and supports the evidence from memory experts that the more stimuli provided; the easier it is to retrieve information from memory (Tulving & Craik 2000).

2.4 Chapter Summary

This chapter has introduced the memory theories used to explain the cognitive processes when retrieving memories for advertising awareness. The influences on memory such as cueing material and previous brand usage were outlined, and some of the memory-dredging techniques were introduced. The next chapter will discuss advertising awareness in detail and outline the retrieval methods used in this study.

Chapter 3 - Advertising Awareness Approaches

Advertising awareness is a measure used to identify the awareness of a commercial in a consumer's memory. The measure can be used in studies as a metric to capture the impact of advertising (McDonald 2000) or as a gatekeeper (Dubow 1994). When used as a gatekeeper the measure is employed as screener questions for additional advertising effectiveness measures, such as advertising likeability (Dubow 1994). For example if a respondent is aware of a brand's advertising, then further diagnostic questions can be asked. Therefore it is important for marketers to choose the most appropriate method for these differing circumstances (Romaniuk & Wight 2009).

There are many different methods of memory retrieval that marketers and researchers can use to measure advertising awareness, such as the memory-dredging techniques discussed in the previous chapter (du Plessis 1994b). The level of advertising awareness obtained is dependent on the retrieval method, cueing material and the question used to trigger the respondent's memory (Brown 1988). It is necessary to point out that the aim of this thesis is not to define which is the best method. Rather the aim is to test whether each retrieval method is subject to the same usage bias effects.

The scope of this thesis is limited to six different retrieval methods, which are:

- Top-of-Mind Recall
- Unprompted Recall
- Brand Prompted
- Execution Prompted
- Media Prompted – tested in two ways:
 - Media + Brand prompted¹
 - Media + Execution Prompted¹

¹ These two methods are discussed together in this chapter, but tested separately.

The following sections provide an overview of each retrieval method. A discussion of the previous studies in the area of advertising awareness and usage bias effects is provided. The chapter then concludes with the research hypotheses for this measure.

3.1 Top-of-Mind Recall

Top-of-mind recall is also known as spontaneous ad awareness or first mention. This method records the first brand a person recalls as having advertised, when prompted with only the category (McDonald 2000). The response is unstructured, in that an open-ended question is asked of the respondent (McDonald 2000). For example a researcher may ask a respondent to recall the brands that they remember as advertising recently from the soft drink category. If the respondent recalls say Coca-Cola, Pepsi and Fanta, in that particular order, then Coca-Cola will be considered the top-of-mind brand.

However top-of-mind recall is a very hard measure for a brand to score well on. One of the key benefits of using the method is that salient items can be identified in consumer's memory (Taylor & Fiske 1978). If advertising is suggested to strengthen associations in consumer memory (Edell & Moore 1993), then the results for top-of-mind recall in advertising awareness studies may suggest the brands retrieved are salient relative to competitors.

The main limitation of top-of-mind recall when studying the influence of previous brand usage is this method favours those who are familiar with the brand such as users. Non-users are unlikely to think of the brand's advertising with minimal assistance (McDonald 2000).

3.1.1 Top-of-Mind – Previous Findings

There has been minimal research conducted on the usage bias effects when using top-of-mind recall to measure advertising awareness. The most relevant is a study by Romaniuk and Wight (2009) which used data collected for the Personal Financial Services industry. The aim of the study was to understand the influence of previous brand usage on responses for three different retrieval methods: top-of-mind, unprompted and brand prompted. When using top-of-mind recall, Romaniuk and Wight (2009) found that brand users were on average 2.7 times more likely to recall advertising for their brand, than non-users. This retrieval method showed strongest usage bias effects in favour of brand users, compared with the other retrieval methods. The specific results of the other two methods are outlined under the following relevant sections.

3.2 Unprompted Recall

Unprompted recall, like top-of-mind, is a spontaneous advertising awareness measure that uses category as the cue when asking respondents to recall advertising (McDonald 2000). It can be referred to as total mentions, and uses the same question as top-of-mind. However, this measure is concerned with how many people remembered the brand as having advertised at all. This is one of the key benefits of unprompted recall as it allows marketers to assess the impact of the brand's advertising overall, rather than taking the first mention as with top-of-mind recall.

A limitation of using unprompted recall in advertising awareness is minimal assistance is provided to respondents to develop their responses. As with top-of-mind it is considered a more difficult retrieval task for non-users of the brand (Romaniuk & Wight 2009). This means those respondents who can recall a brand's advertising are mostly those familiar with it, such as brand users (McDonald 2000).

3.2.1 Unprompted – Previous Findings

In relation to the influence of previous brand usage on responses for unprompted recall, there have been several previous studies (Hammer & Riebe 2006; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002). The findings have shown when using unprompted recall, brand users were at least 1.6 times more likely to recall their brand's advertising than non-users, (Hammer & Riebe 2006; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002).

Sharp, Beal and Romaniuk (2001, 2002) provided the first quantitative evidence of usage bias effects for this method. In the two exploratory studies, one of Home Loan and Insurance markets, and the other of Travel Markets, Sharp et al (2001, 2002) found consistent results in brand users were more than twice as likely to recall advertising for their brand, than non-users.

In 2006, Hammer and Riebe extended these previous studies by Sharp et al (2001, 2002) by studying the usage bias effects across different retrieval methods. They used unprompted, prompted and recognition. For unprompted, the largest difference between user and non-user responses was reported at 54%, when compared with the other retrieval methods. To provide a direct comparison to other studies the user and non-user retrieval percentages for this study are converted to ratios. Hammer and Riebe (2006) found for unprompted recall on average 14% of users and 9% of non-users recalled the brand's advertising. These results for users and non-users were divided to determine a bias ratio of 1.6, in favour of brand users. The findings for the other methods in the study by Hammer and Riebe (2006) will be reported as ratios in the relevant sections of this chapter.

Most recently, is the previously discussed study by Romaniuk and Wight (2009). When using total unprompted recall Romaniuk and Wight (2009) found brand users were 2.5 times more likely, than non-users to recall their brand's advertising.

Each of these previous studies has consistently demonstrated that when using unprompted recall, brand users are more likely to recall advertising for their brand than non-users (Hammer & Riebe 2006; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002).

3.3 Brand Prompted

For the retrieval method of brand prompted, category and brand are both used as cues for identifying awareness of advertising in respondent's memory (McDonald 2000). For brand prompted retrieval methods the response is structured, meaning the respondent is limited to yes or no responses. To again use the soft drink category as an example, the respondents are asked a question such as "Have you seen any advertising for Coca-Cola?". If the respondent confirms that they have, it is also common to ask them to describe the advertisement they have seen for the brand. This allows the interviewer to confirm whether the respondents have actually seen the particular advertising of interest and ensures that the brand association is correct (Brown 1988).

Brand prompted is considered a cognitively easier retrieval method than top-of-mind and unprompted methods, as the brand cue can provide stronger links with stored advertising associations in the consumer's memory (Romaniuk & Wight 2009). This means this retrieval method is able to capture more respondents that remember seeing advertising for the brand, than compared with top-of-mind and unprompted (McDonald 2000). This provides a more heterogeneity representation of the market (Romaniuk & Wight 2009).

A limitation of using this method is the possibility of respondents associating the advertising with the incorrect brand (Brown 1988). For example they may confirm they have seen advertising for Coca-Cola, however the advert was actually for another brand. Furthermore respondents may 'yea-say', which is when respondents try to give the interviewer the response they think they want to hear (Hughes 1969).

To avoid either of these being of concern when using brand prompted methods, the interviewer will ask those respondents who claim to remember to describe the advertising. This allows the interviewer to confirm whether the brand associations are correct (Brown 1988).

3.3.1 Brand Prompted – Previous Findings

Several studies have observed the influence of previous brand usage when using brand prompted methods (Hammer & Riebe 2006; Romaniuk & Wight 2009). In the previously mentioned study by Romaniuk and Wight (2009) they found that brand users were 1.7 times more likely to recall the advertising for their brand, than non-users. This is a smaller usage bias than the 2.7 and 2.5 ratios found for top-of-mind and unprompted. Romaniuk and Wight (2009) explored the smaller usage bias scores for the brand prompted method by conducting further analysis and testing two alternate explanations as to why this had occurred. The first explanation explored was that non-users had previously retrieved memories in the study for brands they use, and these retrievals may obstruct the memory of advertising for brands they do not use. The second explanation explored was that advertising exposure is less salient for non-users, so they will need additional prompting to remember. In their analysis Romaniuk and Wight (2009) found that prior recall of brands in their study did not inhibit the responses of non-users, and found support for their second explanation that the advertising for the brand was less salient for non-users.

In the previously mentioned study by Hammer and Riebe (2006) the bias ratio when using brand prompted retrieval was 1.3 in favour of brand users. This is smaller when compared with the bias ratio of 1.6 for unprompted recall. This demonstrates that brand prompted is an easier retrieval method for non-users, than unprompted recall. It also reflects McDonald's (2000) suggestion that brand prompted retrieval methods allow more occasional or non-users to remember the advertising, compared to that of top-of-mind and unprompted.

3.4 Execution Prompted

Execution prompted retrieval method uses the advertising execution as a cue to retrieve traces of advertising in respondent's memory (McDonald 2000). This technique can be considered recognition, and dredges the memory using a complete cue (du Plessis 1994b; McDonald 2000). This method uses a structured response, which involves showing the respondent the advertising execution and then asking if they remember seeing it. Depending on the objective of the research the respondent may see an execution with or without the branding references. For example the respondent may be shown an advertisement for Coca-Cola with the branding removed. If the respondent confirms they have seen it, they are then asked which brand it is for. The alternative to this is showing the execution with the brand references included. Further to this, as discussed in the previous chapter, execution prompted can also be conducted whereby a verbal description of the execution is provided to the respondents, as opposed to showing a visual cue (du Plessis 1994b).

The use of this retrieval method allows marketers to measure the awareness of a particular advertising execution or campaign (McDonald 2000). In contrast to top-of-mind, unprompted and brand prompted retrieval methods, which are considered to be measures of the brand's overall advertising awareness levels (Romaniuk & Wight 2009).

A limitation of this method in relation to this study, is the minimal research in the area of usage bias effects on execution prompted retrieval methods. There is only one study that directly measures the influence of previous brand usage on responses (Hammer & Riebe 2006). This thesis aims to build on this existing knowledge.

3.4.1 Execution Prompted – Previous Findings

There have been many studies conducted comparing execution prompted to other retrieval methods to determine whether responses differ (du Plessis 1994b; Heath & Nairn 2005). However only one study by Hammer and Riebe (2006) has directly measured the influence of previous brand usage on responses for execution prompted retrieval methods. This study introduced earlier, provided a bias ratio of 1.2 in favour of brand users for this method (Hammer & Riebe 2006). This result is lower again to the bias ratios in the same study of 1.6 for unprompted and 1.3 for prompted. It suggests that execution cueing materials allow more non-users to remember seeing the advertising, than when just category or brand is used as the cueing material.

These findings by Hammer and Riebe (2006) also support the other studies that compared the responses across different retrieval methods (du Plessis 1994b; Heath & Nairn 2005), but not directly the influence of previous brand usage. du Plessis (1994b) found that when accessing memory using the commercial as the cue, either visually or verbally, that results were consistently higher than when accessing memory using the brand name as the cue. The findings of this study by du Plessis (1994b) were reported for all respondents and not split by users and non-users. A similar result was reported by Heath and Nairn (2005) in that recognition provided much higher retrieval scores than brand prompted methods. When shown the execution, 70% of non-users were able to remember the advertising, compared with only 25% for brand prompted method. It is necessary to point out that scores for brand users were not reported by Heath and Nairn (2005). However the study does demonstrate that higher retrieval results can be gained for non-users, when using execution as the cue.

3.5 Media Prompted

The final retrieval method of this study is media prompted. When using this method, respondents are provided with the category and media as cues to retrieve advertising from memory. The response can be structured or unstructured, depending on how the question is asked. For example respondents may be prompted with a particular media source for an unstructured response such as “Which airline was advertised in the Forbes magazine you read today?” (Kent 2002, pp. 4). Alternatively a more general media cue can be used in the question such as “What airline has advertised in any magazine?” (Kent 2002, pp. 4). A study by Kent (2002) found retrieving advertising information from memory was more difficult when using a specific media source cue, as the media context is unlikely encoded into consumer’s memory when processing the advertising.

Alternative to these unstructured responses that allow the respondent to provide any answer, media prompted can also be used in a structured response format. This is when the method is used in conjunction with other retrieval methods such as brand prompted or execution prompted. In these structured responses the respondents are asked whether they remember seeing a named brand or a particular execution within a specific media (Harrison 2013).

The benefit of using media prompted retrieval methods is they allow marketers to understand the brand’s advertising awareness levels across different media formats. This is useful in understanding the impact of a multi-platform campaign, which utilises several media formats to spread the reach of the campaign (White 2000).

3.5.1 Media Prompted – Previous Findings

In relation to usage bias effects on media prompted retrieval methods, the most relevant study is by Harrison (2013). A large study of over 700,000 interviews, across 47 countries, 210 different categories and 160 different touch-points was

conducted. Harrison (2013) looked at the usage bias effect across the different variables studied and found that category, brand size, the maturity of the market, and different touch-points provided different user multiplier scores. Harrison (2013) uses the term 'User Multiplier' to represent the amount of times greater the brand user scores were, than non-users. The term 'Touch Points' is used to describe anywhere a consumer encounters the brand.

Variability was found between users and non-users across all touch-points. The user multipliers ranged from 1.3 to 2.6. Harrison (2013) reported that the lower user multipliers were for paid touch-points such as TV, celebrity endorsements and magazine advertisements. The higher user multipliers were for earned and owned touch-points such as specialist one-to-one recommendations, family/friend recommendations and Internet apps/widgets. Harrison (2013) did not discuss the possible reason for these differences, but a recent study by Romaniuk, Beal and Uncles (2013) may explain why. Romaniuk et al (2013) found media had a usage bias with regards to who is using which media, across different touch-points. Category users were best reached across paid touch-points such as TV, gift-packs, in-store displays and outdoor advertisement. Whereas owned or earned touch-points, such as positive word of mouth, public relations and websites tended to reach heavy brand users. These findings may explain why Harrison (2013) found a high user multiplier of 2.6 for owned and earned touch-points, as most would be heavy brand users who would have much stronger memory associations, than non-users.

The final section of this chapter will outline the hypotheses for advertising awareness.

3.6 Hypotheses for Advertising Awareness

There are two key research areas for the measure of advertising awareness. This first research hypothesis aims to determine if brand users are more likely to remember advertising for their brand than non-users, across the following retrieval methods:

- Top-of-Mind Recall
- Unprompted Recall
- Brand Prompted
- Execution Prompted
- Media + Brand Prompted
- Media + Execution Prompted

Based on the findings from the previously discussed studies (Hammer & Riebe 2006; Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002) the following hypothesis has been formed:

***H1** – It is expected that brand users will be more likely than non-users, to remember seeing their brand’s advertising across the retrieval methods of top-of-mind, unprompted, brand prompted, execution prompted, media + brand prompted and media + execution prompted.*

Expanding on H1 the second hypothesis has been formed to understand whether the usage bias is stronger or weaker between users and non-users, when additional cueing material is used. Results from previous studies demonstrated that the usage bias quantitatively decreases as the retrieval method becomes easier for non-users, depending on the richness of the cue used (du Plessis 1994b; Hammer & Riebe 2006; Romaniuk & Wight 2009). Based on these findings the following hypothesis has been formed:

H2 – It is expected that when multiple cueing materials are used, the retrieval of advertising information from memory will become easier for non-users, which will in turn reduce the usage bias between brand users and non-users.

3.7 Chapter Summary

This chapter has introduced the retrieval methods of this study and discussed the previous findings relating to usage bias effects for advertising awareness (Hammer & Riebe 2006; Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002). Each of the studies discussed in this chapter has broadened the understanding of the empirical generalisation by testing it under different conditions. However, the majority of research has predominately been conducted for retrieval methods that use category or brand as the cueing material for retrieval. The aim of this thesis is to contribute to this existing knowledge by replicating previous studies to determine whether the same patterns can be found, when using category or brand as the cue. Additionally, testing the boundary conditions to how previous brand usage will influence responses when execution or media is used as the cue.

To summarise the retrieval methods discussed in this chapter, Table 1 is presented.

Table 1 – Summary of Retrieval Methods

Retrieval Method	Cueing Material	Response	Previous Studies	Bias Ratio Found
Top-of-Mind	Category	Unstructured	Romaniuk & Wight 2009	2.7
Unprompted	Category	Unstructured	Hammer & Riebe 2006 Sharp et al. 2001, 2002 Romaniuk & Wight 2009	1.6 2.0+ 2.5
Brand Prompted	Category + Brand	Structured	Hammer & Riebe 2006 Romaniuk & Wight 2009	1.3 1.7
Execution Prompted	Category + Execution (Visual or verbal)	Structured	Hammer & Riebe 2006	1.2
Media Prompted	Category + Media + Brand or Execution	Structured or Unstructured	Harrison 2013	1.3 to 2.6

The next chapter will introduce advertising likeability and the research hypothesis for the measure.

Chapter 4 – Advertising Likeability Approaches

This chapter follows the format of the previous chapter. The measure of advertising likeability will be first introduced, and then previous findings in the area of usage bias effects will be discussed. The chapter will conclude with the specific hypothesis for this measure.

4.1 Advertising Likeability

Advertising likeability is an advertising effectiveness measure used to understand how a consumer felt about an advertisement (Haley & Baldinger 1991). It can be used either in pre-testing situations during the creative development process, or once the advertising is in-market (McDonald 2000). In pre-testing (also known as copy-testing) the respondents can be asked open-ended questions about what they liked and disliked of the advertisement. This allows specific elements within an advertising execution to be evaluated. A well cited study by Haley and Baldinger (1991) found that in pre-testing situations advertising likeability was the best predictor of sales effective copy, compared to other measures such as recall and persuasion. Alternative to pre-testing is the use of advertising likeability when the advertising is in-market. In this situation, also known as post-testing, the use of open-ended questioning is rare (McDonald 2000). Rather likeability is measured for the whole advertisement. This thesis focuses on using advertising likeability in post-test situations.

Advertising likeability is typically measured using a 5-point liking scale (Haley & Baldinger 1991). There have been some criticisms of using this scale as few negative responses are produced. This means the scale may better reflect the degree of liking, rather than liking versus disliking (Walker & Dubitsky 1994).

In understanding the importance of likeability as a measure of advertising effectiveness, it is also essential to discuss what characterises a likeable advertisement. Multiple factor analysis studies have been conducted to understand the range of factors that could be used to characterise likeable advertisements (Aaker & Stayman 1990; Biel & Bridgwater 1990; Leather, McKechnie & Amirkhanian 1994). As a result of these studies, the following groups of adjectives have been identified as factors that characterise likeable advertisements (Aaker & Stayman 1990; Biel & Bridgwater 1990; Leather, McKechnie & Amirkhanian 1994):

- **Ingenuity** – including clever, imaginative and original
- **Meaningful** – including worth remembering, effective and believable
- **Energy** – including lively, fast-moving and appealing
- **Warm** – including gentle, warm and sensitive

It is interesting to note that from the literature discussed, the actual brand is not listed as a factor that characterises likeable advertising.

There have also been studies that suggest some product categories may have advertising that is more liked (Biel & Bridgwater 1990). In a study across multiple fast moving consumer goods, advertisements for food and beverage products were better liked than non-food and beverage products such as medicine, household and personal care products (Biel & Bridgwater 1990).

4.1.1 Importance of Advertising Likeability

Advertising likeability has been found to be beneficial in many ways, such as previously mentioned it can be a predictor of sales effective copy in pre-testing situations (Haley & Baldinger 1991). Other research has shown that likeable advertisements are better at getting attention and breaking through clutter (Biel & Bridgwater 1990; du Plessis 1994a; Walker & Dubitsky 1994). While further studies have suggested that likeability can be a gatekeeper to further processing in memory, as liked advertising gets more attention and people are willing to watch it over again

(Biel & Bridgwater 1990; du Plessis 1998). This in turn means that liked advertisements are also better remembered (Leather, McKechnie & Amirkhanian 1994; Smit, van Muers & Neuens 2006; Stone, Besser & Lewis 2000), which draws on the memory processes discussed in earlier chapters. Stronger associations are made with liked advertisement, which makes retrieval of information easier for liked advertisements, compared to not liked. This is also important with regards to the tracking studies that use advertising awareness as screeners for further diagnostics, such as advertising likeability (McDonald 2000; Smit, van Muers & Neuens 2006). If liked advertisements are better processed in memory then it may suggest more respondents can remember seeing the advertising, which would mean more would get through the screener.

4.1.2 Previous Findings

As outlined in earlier chapters the influence of previous brand usage has not been directly studied for the measure of advertising likeability. The most relevant finding is a comment by Rice and Bennett (1998) on a case study they used. This case study showed 23% of users liked the advertising, compared with only 8% of non-users. What is typically reported in past advertising likeability studies, is liked advertising can lead to strong purchase intentions (Chen et al. 2005; Obermiller & Sawyer 2011). They also demonstrate that liked advertising has an influence on attitudes towards the brand, which in turn can lead to purchase intentions (Biel & Bridgwater 1990; Walker & Dubitsky 1994). While these findings are useful, purchase intentions do not always reflect behaviour such as actual usage. For example people may state their purchase intentions in a study, but may change their intentions prior to purchase or may not be able to fulfil these intentions as an actual behaviour (East, Wright & Vanhuele 2008).

The strong positive relationship that is typically reported between advertising likeability and purchase intentions can be further demonstrated using two different advertising likeability studies (Chen et al. 2005; Obermiller & Sawyer 2011). In the

first study of alcohol advertisements, respondents gave greater intentions to purchase the brand and products promoted, to the more likeable advertisements (Chen et al. 2005). This study clearly did not take into consideration prior usage of the brands, as all participants were youths and under the legal drinking age. It however does demonstrate the typical finding that liked advertising receives stronger intentions to purchase. In the second study by Obermiller and Sawyer (2011) the focus was on whether likeability of pictures used in an advert, had an effect on information search and final product choice. Obermiller and Sawyer (2011) found advertising picture likeability led to significantly increased choice of that brand. In this instance, the 'test brand' was chosen more times when a likeable picture was included in the print advertisements, even though it was the second best product option (Obermiller & Sawyer 2011).

What these previous advertising likeability studies demonstrate is that brand usage is generally discussed in terms of future purchase intention (Biel & Bridgwater 1990; Chen et al. 2005; Obermiller & Sawyer 2011; Walker & Dubitsky 1994). Current user status of respondents is not consistently measured or reported on. This identifies a gap in current knowledge whereby the influence of previous brand usage on responses when using advertising likeability, is not known. If this present study finds usage bias effects for advertising likeability, it may mean results from previous studies may be due to the usage bias as a confounding factor.

The final section of this chapter introduces the hypotheses for this measure.

4.2 Hypothesis for Advertising Likeability

The first hypothesis aims to determine whether previous brand usage does have an influence on responses for the measure of advertising likeability. As discussed, there are no previous studies directly related to advertising likeability and the influence of previous brand usage. Therefore the following hypothesis has been formed based on the comment by Rice and Bennett (1998). As well as the consistent findings of

previous advertising awareness studies that brand users are more likely to remember seeing advertising for their brand, than non-users (Hammer & Riebe 2006; Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002). The same pattern in favour of brand users is expected for advertising likeability. With this in mind, the following hypothesis is presented:

***H3** – It is expected that brand users will like the advertising for their brand, more than non-users.*

The final research hypothesis of this study aims to expand the knowledge provided by H3 by exploring whether the usage bias effect (assuming one is found) varies under different conditions. While there are no previous studies that directly suggest the usage bias should vary across different conditions, the study by Biel and Bridgewater (1990) showed that food and beverage advertisements were better liked than non-food and beverage products. With this in mind, the following hypothesis has been formed:

***H4** – It is expected that across the different conditions of country, category and media of this study, that brand users will have higher liking scores for their brand's advertising, than non-users.*

4.3 Chapter Summary

This chapter has introduced the measure of advertising likeability, identified the gap in current knowledge, and outlined the hypothesis developed to fill this gap.

The following chapter will outline the methods and approach taken to answering the research hypotheses of this study.

Chapter 5 – Method

This chapter will begin with a background of the research epistemology approach, followed by a detailed overview of the sample. The chapter will then conclude with how each variable was operationalised.

5.1 Background to Research Epistemology

This research is conducted under the positivist paradigm of social science research. Positivists believe the world exists independently of people's observations and is knowable in an objective way (Neuman 2011). Conducting research under the positivist paradigm assumes a deductive approach to research. A theoretical or conceptual framework is derived from the literature review and formed into specific hypotheses and empirically tested (Neuman 2011).

This study will also take an empirical generalisation approach. Findings from previous studies will be replicated to determine if the results can be generalised beyond their original context (Lindsay & Ehrenberg 1993). The boundary conditions of the empirical generalisation will also be tested (Wind & Sharp 2009). Boundary conditions are where the empirical generalisation does not hold or needs to be significantly modified to do so (Wind & Sharp 2009).

As mentioned in the previous chapter, the empirical generalisation of interest in this study is brand users are more likely to respond to questions about their brand's advertising, than non-users (Harrison 2013; Rice & Bennett 1998; Romaniuk & Wight 2009). This empirical generalisation has been observed in multiple studies of advertising awareness (Harrison 2013; Rice & Bennett 1998; Romaniuk & Wight 2009) and this present study aims to replicate these in two different ways. First by conducting a close replication, whereby conditions of the present study will be very similar to previous studies and the patterns previously found are fully expected to

reoccur (Lindsay & Ehrenberg 1993). Secondly a differentiated replication will be conducted, whereby conditions have been deliberately varied. This is to see if the patterns of previous studies repeat (Lindsay & Ehrenberg 1993), or if boundary conditions are discovered (Wind & Sharp 2009). The conditions of the close replication will be kept the same, except different data sets will be used. For the differentiated replication the data sets will also be new, but more importantly the boundary conditions will be tested to different retrieval methods of execution prompted and media prompted.

As there are no previous studies for the measure of advertising likeability this part of the research design reflects a differentiated replication of the overall empirical generalisation.

A detailed overview of the sample used in this study is now provided.

5.2 Overview of Sample

Multiple sets of data (MSOD) were used in this study to produce results that are generalisable and to determine whether the empirical generalisation holds across 33 different data sets (Ehrenberg 1990). The large cumulative sample covers a wide range of conditions including 14 categories, 74 brands, 10 countries (Australia, China, India, Portugal, Russia, South Africa, Spain, Taiwan, Turkey and UK) and five media formats.

The following sections provide a detailed description and overview of these MSOD.

5.2.1 Description of Multiple Sets of Data (MSOD)

As mentioned 33 different data sets make up the cumulative sample of this study. Each data set was obtained from the Ehrenberg-Bass Institute for Marketing Science

for the purposes of assessing the impact of advertising in the real world. The Ehrenberg-Bass Institute for Marketing Science is an academic-based market research institute of the University of South Australia.

The Ehrenberg-Bass Institute primarily collected the majority of data sets, with others supplied by corporate sponsors. Table 2 describes the MSOD showing the range of differing conditions, as well as total sample size and number of brands analysed per data set.

Table 2 – Description of Multiple Sets of Data

Category	Country	Year	Total Sample (n)	Brands Analysed
Alcoholic Beverages	Portugal	2012a	325	2
	Portugal	2012b	309	1
	Russia	2012	309	1
	Spain	2011a	505	3
	Spain	2011b	704	3
	South Africa	2010	403	2
	Taiwan	2011	202	2
	Taiwan	2012	397	4
	UK	2011	451	5
	UK	2012	558	2
Automotive Services	Australia	2002-2006	13,827	1
Dry Pasta	Australia	2011	653	3
Energy Drinks	UK	2012	913	2
Financial Services	Australia	2003a	1,287	5
	Australia	2003b	1,286	5
	Australia	1999-2001	2,326	2
	Australia	2006	262	2
	UK	2012	913	4
Fuel	UK	2012	913	1
Instant Coffee	UK	2008a	63,651	4
	UK	2008b	8,074	6
Instant Tea	UK	2008a	8,110	5
	UK	2008b	63,651	3
Mouthwash	India	2011-2012	4,485	4
Motor Vehicle	Australia	2002-2006	13,827	1
Protein	Australia	2012a	494	1
	Australia	2012b	529	6
Soft Drinks	UK	2012	913	2
	Australia	2013	23,243	3
Telecommunications	Australia	2006	262	2
Toothpaste	China	2012	15,526	6
	India	2012	7,363	4
	Turkey	2010-2012	11,401	5
Totals	10	N/A	158,223	74

Table 2 outlines data was analysed from 14 different categories, 10 countries, multiple years, and 74 brands, with a total sample over 158,000 respondents. Of the 74 brands some were analysed across multiple countries within the same category.

It is necessary to point out that some data sets contained questions for both advertising awareness and advertising likeability. Those data sets with advertising awareness questions also varied in the type of retrieval methods used. The breakdown of this is outlined later in this chapter. The sample size for each specific measure also differs to the total sample size of the data set outlined in Table 2. This is because not all respondents were asked all questions, within each study.

5.2.2 Recruitment and Random Sampling of Respondents

For each of the data sets used in this present study, the sampling frame aimed to capture category users. While different researchers collected each of data sets, the aim of each was to obtain a random sample that best represents the population of interest. Most commonly the samples were collected via online research agencies, which randomly recruited respondents from their panel who had not recently been surveyed about the particular category. Through the advancement of technologies the use of online surveys is assisting marketers and researchers with collection of data. Online surveys offer lower cost survey options compared with face-to-face interviews, reduction of geographical boundaries in sampling and quicker turnaround (Cooke, Watkins & Moy 2009; Schillewaert & Meulemeester 2005).

5.2.3 Sample of Brands and Advertisements

As outlined in Table 2, there were 74 brands analysed across the different data sets. The aim was to analyse a representation of differing brands from each data set, from larger brands through to the smaller brands. Despite this aim, some of the responses for smaller brands have been removed from the results, as too few cases were available to analyse (See next chapter for more detail on the data analysis techniques).

For each of these brands multiple advertising executions were also tested. These executions were from the following media formats:

- TV
- Print (including newspaper and magazine)
- Outdoor
- Online
- Radio

In some instances the same advertising executions were tested across both advertising awareness and advertising likeability.

The following Table 3 provides a summary of the number of advertising executions used and from which media. It is necessary to point out that some of the categories in Table 3 have no specific executions listed. This is due to execution not forming part of the cueing material for the retrieval methods tested across these categories.

Table 3 – Description of Advertising Executions and Media Formats

Category	Country	Advertising Executions	Media Formats
Alcoholic Beverages	Portugal	5	TV, print
	Russia	2	TV, print
	Spain	18	TV, print, radio, outdoor, online
	South Africa	5	TV, print, outdoor
	Taiwan	15	TV, print
	UK	10	TV, print
	Automotive Services	Australia	7
Dry Pasta	Australia	N/A	No specific executions tested
Energy Drinks	Australia	4	TV
Financial Services	Australia	8	TV, print, radio, outdoor
	UK	4	TV
Fuel	UK	3	TV
Instant Coffee	UK	N/A	No specific executions tested
Instant Tea	UK	N/A	No specific executions tested
Mouthwash	India	18	TV, print, radio, outdoor, online
Motor Vehicle	Australia	1	TV
Protein	Australia	2	TV, print
Soft Drinks	UK	4	TV
	Australia	N/A	TV, print, radio, outdoor
Telecommunications	Australia	5	TV
Toothpaste	China	10	TV, print, radio, outdoor, online
	India	N/A	TV, print, radio, outdoor, online
	Turkey	N/A	No specific executions tested
Total		116	5 Formats

With the sample now described, the next sections of this chapter will introduce the variables of this study and how they were operationalised.

5.3 Operationalisation of Variables

Constructs are concepts that cannot be directly measured and are usually more abstract (Neuman 2011). The construct for this research is: What influences the responses of advertising effectiveness measures? This construct was operationalised through an independent variable and two different dependent variables. These variables aimed to determine if previous brand usage has an influence on responses for two different advertising effectiveness measures.

The independent variable (IV) of this study is brand usage, which is defined as users or non-users of the brand. The two dependent variables (DV), each separately measured against the independent variable, are advertising awareness and advertising likeability.

The following sections will discuss these in more detail.

5.3.1 Operationalisation of IV - Brand Usage

The independent variable was operationalised by identifying the brand users and non-users in each of the data sets. When collected, the respondents were asked brand usage questions relating to a specific time period, which varied depending on the category of interest (Bird, Channon & Ehrenberg 1970). Table 4 outlines the usage variables across each data set in this study.

Table 4 – Brand Usage Variables

Category	Country	Usage Variable
Alcoholic Beverages	Portugal	Drunk in past 12 months
	Russia	Drunk in past 12 months
	Spain	Drunk in past 12 months
	South Africa	Drunk in past 12 months
	Taiwan	Drunk in past 12 months
	UK	Drunk in past 12 months
Automotive Services	Australia	Customer of company
Dry Pasta	Australia	Bought in past 6 months
Energy Drinks	UK	Bought in the past 3 weeks
Financial Services	Australia	Customer of financial institution
	UK	Customer of financial institution
Fuel	UK	Bought in past 6 weeks
Instant Coffee	UK	Used most often
Instant Tea	UK	Used most often
Mouthwash	India	Ever purchased
Motor Vehicle	Australia	Customer of Company
Protein	Australia	Bought in past 3 months
Soft Drinks	UK	Bought in the past 3 weeks
	Australia	Drunk in past 3 months
Telecommunications	Australia	Customer of company
Toothpaste	China	Used most often
	India	Brand last few purchases
	Turkey	Used most often

From Table 4 it is evident that there is variation of usage variables across categories, but also within categories. This is due to the data sets being from various countries and the market maturity being different. For example Mouthwash is a new category to India, so the variable ‘Ever purchased’ is appropriate. Whereas for Toothpaste ‘Used most often’ and ‘Last few purchases’ are the best measure of recent usage in those specific countries. The two different usage variables for the Toothpaste category are due to the questionnaire design differing across the countries. While this may be perceived as a limitation of not collecting primary data, this variability in wording will add to the robustness of the findings produced by this study.

It is necessary to also point out that the level of brand usage is not considered in this study. For example whether a brand user is a light, medium or heavy user is not of

interest. Rather if they were a brand user (yes or no), as defined by the usage variable specified.

5.3.2 Operationalisation of DV - Advertising Awareness

The first dependent variable in this study is advertising awareness. This was operationalised using multiple methods of memory retrieval, each testing a different cueing material. Table 5 outlines the retrieval methods and the cueing material used in this study.

Table 5 - Summary of Dependent Variables – Advertising Awareness

Retrieval Method	Cueing Material	Example Question
Top-of-Mind	Category	“Which toothpaste brands have you recently seen advertising for?”
Unprompted	Category	“Which toothpaste brands have you recently seen advertising for?”
Brand Prompted	Category + Brand	“Can you remember seeing advertising for Brand X?”
Execution Prompted	Category + Execution (Visual or verbal)	“Have you seen this advertising?” “Have you seen the advertising where the deer are walking in town...?”
Media + Brand Prompted	Category + Media + Brand	“Have you seen advertising on TV for Brand X?”
Media + Execution Prompted	Category + Media + Execution	“Have you seen this advertising execution on TV?”

Category is a cueing material for each of the retrieval methods. It should be pointed out that the category is often implied from the overall study topic, rather than explicitly described for each advertising awareness question.

For example the respondents understand at the start of the study that the category

of interest is Toothpaste. It is therefore not necessary to re-state this for every question.

The next section will outline how advertising likeability was operationalised.

5.3.3 Operationalisation of DV - Advertising Likeability

Advertising likeability has been measured using the 5-point liking scale from the study by Haley and Baldinger (1991). The respondents were first shown an advertising execution and then asked a question such as: "Thinking about the advertisement, can you choose the statement that most represents how you felt about the advertisement from:

1. I disliked it very much
2. I disliked it
3. I neither liked nor disliked it
4. I liked it
5. I liked it very much"

Advertising likeability was measured only in this study in post-testing situations. Respondents were asked how they felt about the whole advertising execution, rather than specific elements of the execution.

5.3.4 Data Sets and DV's

In this study not all of the data sets measured advertising awareness and advertising likeability. Table 6 has been formed to demonstrate which categories have been tested across each measure.

Table 6 - Summary of Categories and Dependent Variables

Category	Top-of-Mind	Unprompted	Brand Prompted	Execution Prompted	Media + Brand Prompted	Media + Execution Prompted	Advertising Likeability
Alcoholic Beverages		X		X		X	X
Automotive Services				X			
Dry Pasta			X				
Energy Drinks				X			X
Financial Services	X	X		X	X		X
Fuel				X			X
Instant Coffee			X				
Instant Tea			X				
Motor Vehicle				X			X
Mouthwash	X				X		
Protein			X	X			X
Soft Drinks				X	X		X
Telecommunications				X			X
Toothpaste	X	X		X	X	X	

Across these 14 categories and seven different methods, 300 brand level observations were measured.

5.4 Chapter Summary

This chapter has discussed the methods of this study including:

- Research approach
- Description of the total sample
- How variables were operationalised.

The next chapter will detail the data analysis techniques.

Chapter 6 – Data Analysis

This chapter outlines how the data was analysed. There were four key stages to the analysis, which were conducted using the statistical program SPSS.

6.1 Data Analysis – Advertising Awareness

The first stage of analysis for advertising awareness was to conduct a cross tabulation and chi-square test. This was to determine whether brand users were more likely to remember advertising for their brand, than non-users. The Pearson's Chi-Square value was used to determine the significance of the result. An alpha-level of $p < 0.05$ or lower declared a result statistically significant. Prior to running this test, descriptive statistics were reviewed to identify whether the assumptions of chi-square had been met.

The results of these cross tabulation tests are presented in tables with the bias ratio calculated. For advertising awareness the bias ratio is presented as the amount of times more likely a brand user is to remember advertising for their brand, than non-user. This is consistent with previous literature (Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002).

6.2 Data Analysis – Advertising Likeability

The second stage of analysis was conducted for advertising likeability. The mean values from the 5-point liking scale for brand users and non-users were compared. This was to identify whether brand users were more inclined to like advertising for their brand, than non-users. The ANOVA statistic was used to determine if these results were significant using an alpha-level of $p < 0.05$ or lower.

The bias ratio for advertising likeability is presented in the results chapter as a percentage. This is reflected as a positive percentage if the result is in favour of brand users, and a negative percentage if in favour of non-users.

6.3 Data Analysis – Are Variables Related?

The third stage of analysis was to conduct a Pearson's Correlation Coefficient (r) test. This was done to determine if the responses between users and non-users were related across data sets. This method was chosen as the most appropriate to measure the association between the two continuous variables. This test was conducted for responses across each of the retrieval methods for advertising awareness, and the responses for advertising likeability.

This test reports correlations between 0 (no relationship) and 1 (perfect relationship). The relationship can be positive or negative. If positive this means as the score of one variable increases, the score will increase on the other variable. If the relationship is negative, it means as the score of one variable increases, the score will decrease on the other.

Prior to conducting this test the assumption of linearity and homogeneity of variance needed to be met. This was checked on a scatter plot with user and non-user responses on the x and y axis, with a trend line fitted to the graph.

6.4 Data Analysis – Is The Relationship Consistent?

The final stage of analysis was to conduct many univariate regressions. This allowed comparison of the quantitative relationship between the variables, users and non-users, across the different conditions.

The overall model and standardised beta is reported to make comparisons across the different advertising awareness retrieval methods and the measure of advertising likeability.

6.5 Statistical Significance

As discussed for each stage of data analysis, a statistical significance test was run. Statistical significance shows whether the result of a test is unlikely to be obtained by chance (Neuman 2011). There are different levels of statistical significance, typically shown as p-values less than 0.05, 0.01, and 0.001 (Neuman 2011). For example, a significant level of $p < 0.05$ tells us that the results are 95% unlikely to have been obtained by chance.

While the statistical significance has been captured in this study, it is considered less important for replication studies (Lindsay & Ehrenberg 1993), and when MSOD are being used (Ehrenberg 1990). Lindsay and Ehrenberg (1993) explain that statistical significance should be of importance in a first study. Significance should only arise as a question in replication studies, when results show discrepancies from earlier patterns. This explains why in the upcoming Results chapter some of the results are deemed not significant with a p-value greater than 0.05, but are not of concern.

The final section of this chapter will introduce the principles of data reduction, which are used to present the results.

6.6 Data Reduction

When working with MSOD it is important to follow the principles of data reduction (Ehrenberg 2000). These principles were established to provide guidelines when presenting large amounts of data in tables. When followed it allows data to be easily interpreted. The principles of data reduction recommend the following be applied to tables (Ehrenberg 2000):

- **Rounding** - Ensure figures are rounded to two effective digits
- **Averages** – Use averages in rows or columns to give a point of comparison
- **Ordering** - Rows and columns should be ordered in a sensible way
- **Layout** – Use space and gridlines effectively to guide the eye

6.7 Chapter Summary

This chapter has described the data analysis techniques used in this study. The next chapter will outline the results.

Chapter 7 – Results

The following chapter presents the findings of this study. The results are presented according to each hypothesis, and are discussed in terms of consistency and discrepancies to expectations. Conclusion and further discussion will follow in the next chapter.

7.1 Advertising Awareness Results

Brand users were on average 63% more likely to remember advertising for their brand, than non-users. This pattern was consistent across 242 brand level observations, six different retrieval methods, 14 categories, 74 brands, 10 countries (Australia, China, India, Portugal, Russia, South Africa, Spain, Taiwan, Turkey and UK) and 5 media formats. This result is consistent with the findings of previous studies (Hammer & Riebe 2006; Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002) and shows that overall the empirical generalisation holds.

The specific hypotheses for advertising awareness are now discussed.

7.1.1 Are Brand Users More Likely To Remember Advertising?

H1 – It is expected that brand users will be more likely than non-users, to remember seeing their brand’s advertising across the retrieval methods of top-of-mind, unprompted, brand prompted, execution prompted, media + brand prompted and media + execution prompted.

To determine whether H1 was supported or rejected the average retrieval percentage for users and non-users were compared, for each of the different retrieval methods. Table 7 summarises these results and shows the number of brand level observations for each retrieval method.

Table 7 – Retrieval Percentage Across Each Method

Retrieval Method	Total Observations (n)	Retrieval %		Difference
		User	Non-Users	
Brand prompted	33	31	14	17
Top-of-Mind	30	23	8	15
Unprompted	32	28	15	13
Media + Execution Prompted	58	37	26	11
Execution Prompted	38	46	36	10
Media + Brand Prompted	51	21	13	8
Average	40	31	19	12

Table 7 is sorted by the Difference column and shows a consistent pattern across each retrieval method. Brand users are more likely to remember seeing advertising for their brand, than non-users. This confirms that H1 can be supported. The results show variation in the difference between user and non-user retrieval percentages, however the overall pattern is consistently in favour of brand users.

The results for hypothesis 2 are now presented.

7.1.2 Does Additional Cueing Material Make Retrieval Easier?

H2 – It is expected that when multiple cueing materials are used, the retrieval of advertising information from memory will become easier for non-users, which will in turn reduce the usage bias between brand users and non-users.

To determine whether H2 was supported or rejected, the results and bias ratio were analysed for each specific retrieval method. These results are presented in separate tables for each of the following retrieval methods:

- Top-of-mind recall
- Unprompted recall
- Brand prompted
- Execution prompted
- Media + brand prompted
- Media + execution prompted

The tables are separated into categories and then sorted by the bias ratio column from largest to smallest value. Both the average and median are reported for each retrieval method. This is to identify whether outliers are influencing the average values. Using the median in any instances of this will provide a more accurate reference.

Table 8 - Results for Top-of-Mind Recall

Country	Year	Brand	Retrieval %		Diff.	Bias Ratio	Sig.
			User	Non-User			
Financial Services							
Australia	Multi	Brand 34	18	3	15	6.1	*
Australia	2003	Brand 33	16	3	13	5.6	*
Australia	2003	Brand 26	13	3	11	5.2	*
Australia	2003	Brand 40	15	3	12	5.1	*
Australia	2003	Brand 26	14	3	11	4.7	*
Australia	Multi	Brand 38	12	3	10	4.4	*
Australia	Multi	Brand 26	10	3	8	4.0	*
Australia	Multi	Brand 40	8	2	6	3.6	*
Australia	2003	Brand 33	19	5	13	3.4	*
Australia	2003	Brand 40	15	5	10	3.3	*
Australia	2003	Brand 38	9	3	6	3.0	*
Australia	2003	Brand 38	29	11	18	2.7	*
Australia	Multi	Brand 18	31	15	17	2.1	*
Australia	2003	Brand 17	47	26	22	1.8	*
Australia	2003	Brand 16	52	32	20	1.6	*
Average			21	8	13	3.8	

Mouthwash							
India	Multi	Brand 28	44	1	43	48.7	*
India	Multi	Brand 24	25	9	16	2.7	*
India	Multi	Brand 13	66	52	14	1.3	*
Average			45	21	24	17.6	
Toothpaste							
China	2012	Brand 17	1	0	1	14.0	*
Turkey	Multi	Brand 12	13	1	12	13.1	*
China	2012	Brand 18	1	0	1	12.0	*
China	2012	Brand 40	4	0	4	11.0	*
China	2012	Brand 39	14	1	13	10.0	*
Turkey	Multi	Brand 14	15	2	13	9.7	*
China	2012	Brand 20	1	0	1	8.0	*
India	2012	Brand 28	33	5	28	7.2	*
Turkey	Multi	Brand 30	19	5	14	3.9	*
Turkey	Multi	Brand 15	44	13	31	3.4	*
India	2012	Brand 10	58	19	40	3.1	*
Turkey	Multi	Brand 23	38	17	21	2.3	*
Average			20	5	15	8.1	
Average All			23	8	15	6.9	
Median All			16	3	13	4.2	

Significance: *p<0.001

The results from Table 8 reflect consistency with previous studies (Hammer & Riebe 2006; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002). For top-of-mind recall brand users were on average 6.9 times more likely to recall advertising for their brand than non-users. All of the observations were statistically significant with <0.001. The median varies to the average, which reflects outliers in the observations. Due to this both values will be reported, but only the median discussed for the remaining results. The median for top-of-mind shows users were 4.2 times more likely to recall their brand's advertising than non-users.

The outliers were observed across Mouthwash and Toothpaste categories for China, India and Turkey. The outliers observed for China were due to low retrieval percentages for both users and non-users. However, the outliers for India and Turkey were due to users having much higher retrieval percentages than non-users.

The next Table 9 shows the results for unprompted recall.

Table 9 - Results for Unprompted Recall

			Retrieval %		Diff.	Bias Ratio	Sig.
Country	Year	Brand	User	Non-User			
Alcoholic Beverages							
Portugal	2012	Brand 19	22	13	8	1.6	
Portugal	2012	Brand 37	32	22	10	1.4	**
Average			27	18	9	1.5	
Financial Services							
Australia	Multi	Brand 34	35	7	28	5.2	*
Australia	2003	Brand 26	28	8	20	3.4	*
Australia	2003	Brand 38	12	3	8	3.4	*
Australia	2003	Brand 26	29	9	20	3.2	*
Australia	Multi	Brand 33	28	9	19	3.2	*
Australia	2003	Brand 38	27	9	19	3.1	*
Australia	2003	Brand 40	29	10	19	2.9	*
Australia	2003	Brand 38	26	9	17	2.9	*
Australia	2003	Brand 33	32	12	20	2.6	*
Australia	2003	Brand 40	29	11	18	2.6	*
Australia	Multi	Brand 40	17	7	9	2.3	*
Australia	Multi	Brand 26	17	9	9	2.0	*
Australia	Multi	Brand 16	49	30	20	1.7	*
Australia	2003	Brand 16	59	40	20	1.5	*
Australia	2003	Brand 16	64	46	18	1.4	*
Average			32	15	17	2.8	
Toothpaste							
India	2012	Brand 2	3	0	3	29.0	*
India	2012	Brand 1	2	0	2	19.0	*
China	2012	Brand 17	2	0	2	16.0	*
China	2012	Brand 40	5	1	4	6.5	*
China	2012	Brand 18	2	0	1	5.0	*
China	2012	Brand 11	1	0	0	5.0	*
China	2012	Brand 39	26	6	20	4.6	*
Turkey	Multi	Brand 14	23	5	18	4.4	*
China	2012	Brand 20	1	0	1	3.3	**
Turkey	Multi	Brand 12	30	10	20	3.0	*
India	2012	Brand 28	63	28	35	2.3	*
India	2012	Brand 10	69	42	27	1.6	*
Turkey	Multi	Brand 15	55	47	9	1.2	**
Turkey	Multi	Brand 30	42	44	-2	1.0	
Turkey	Multi	Brand 23	50	57	-8	0.9	**
Average			25	16	9	6.8	
Average All			28	15	13	4.6	
Median All			28	9	17	3.0	

Significance: *p<0.001 **p<0.05

The median in Table 9 shows brand users were 3.0 times more likely to recall advertising for their brands, than non-users. Majority of the observations for this method were statistically significant with <0.05.

Outliers were observed for the Toothpaste category from the same data sets as top-of-mind, being China and India. These outlier observations are again caused by very low retrieval percentages for both users and non-users, ranging from 0% to 3% for both countries. Therefore the ratio can become quite high, even with the smallest of differences.

The following Table 10 shows the results for the brand prompted retrieval method.

Table 10 – Results for Brand Prompted Retrieval Method

Country	Year	Brand	Retrieval %		Diff.	Bias Ratio	Sig.
			User	Non-User			
Dry Pasta							
Australia	2011	Brand 72	4	1	2	2.7	
Australia	2011	Brand 74	4	2	3	2.6	**
Australia	2011	Brand 66	15	7	8	2.1	**
		Average	8	3	4	2.5	
Instant Coffee							
UK	2008	Brand 58	26	4	22	6.9	*
UK	2008	Brand 57	27	6	21	4.4	*
UK	2008	Brand 49	13	4	10	3.6	*
UK	2008	Brand 46	8	4	5	2.3	*
UK	2008	Brand 58	23	13	10	1.8	*
UK	2008	Brand 54	24	17	8	1.5	**
UK	2008	Brand 55	36	27	9	1.3	*
UK	2008	Brand 57	26	20	6	1.3	*
UK	2008	Brand 49	12	10	2	1.2	
UK	2008	Brand 46	10	10	0	1.0	
		Average	21	11	9	2.5	

Instant Tea							
UK	2008	Brand 61	56	12	44	4.7	*
UK	2008	Brand 70	33	7	26	4.7	*
UK	2008	Brand 69	37	8	29	4.6	*
UK	2008	Brand 71	33	21	12	1.5	*
UK	2008	Brand 70	32	22	10	1.5	*
UK	2008	Brand 61	56	41	15	1.4	*
UK	2008	Brand 73	37	26	11	1.4	*
UK	2008	Brand 69	33	26	8	1.3	*
Average			39	20	19	2.6	
Protein							
Australia	2012	Brand 59	36	5	30	6.7	*
Australia	2012	Brand 59	31	5	26	6.0	*
Australia	2012	Brand 68	40	8	32	5.2	*
Australia	2012	Brand 52	40	12	27	3.2	*
Australia	2012	Brand 68	36	12	25	3.1	*
Australia	2012	Brand 64	30	10	20	3.0	*
Australia	2012	Brand 64	24	8	15	2.9	*
Australia	2012	Brand 67	40	15	25	2.7	*
Australia	2012	Brand 52	42	16	26	2.6	*
Australia	2012	Brand 67	43	19	24	2.3	*
Australia	2012	Brand 53	53	25	28	2.1	*
Australia	2012	Brand 53	69	45	24	1.5	*
Average			40	15	25	3.4	
Average All			31	14	17	2.9	
Median All			33	12	15	2.6	

Significance: *p<0.001 **p<0.05

The results in Table 10 for the retrieval method of brand prompted, show consistency with the two previous recall methods. For this method, brand users were again more likely than non-users, to remember seeing advertising for their brand. The median shows brand users were 2.6 times more likely, than non-users. The majority of results were significant at <0.05.

The following Table 11 shows the results for execution prompted retrieval method.

Table 11 - Results for Execution Prompted Retrieval Method

					Retrieval %		Diff.	Bias Ratio	Sig.
Country	Year	Prompt	Media	Brand	User	Non-User			
Alcoholic Beverages									
Portugal	2012	Visual	Print	Brand 37	39	23	16	1.7	*
Portugal	2012	Visual	TV	Brand 37	85	62	23	1.4	*
Portugal	2012	Visual	TV	Brand 37	72	53	18	1.3	**
Portugal	2012	Visual	TV	Brand 37	68	60	8	1.1	
Average					66	49	16	1.4	
Automotive Services									
Australia	Multi	Visual	N/A	Brand 29	43	35	8	1.2	
Australia	Multi	Visual	N/A	Brand 29	34	31	3	1.1	
Australia	Multi	Visual	N/A	Brand 29	30	28	2	1.1	
Australia	Multi	Visual	N/A	Brand 29	89	90	-1	1.0	
Australia	Multi	Visual	N/A	Brand 29	49	47	2	1.0	
Australia	Multi	Visual	N/A	Brand 29	66	79	-13	0.8	*
Australia	Multi	Visual	N/A	Brand 29	50	65	-15	0.8	**
Average					51	54	-2	1.0	
Energy Drinks									
UK	2012	Verbal	TV	Brand 62	56	11	45	4.9	*
UK	2012	Verbal	TV	Brand 62	50	11	39	4.5	*
UK	2012	Verbal	TV	Brand 62	47	11	36	4.3	*
UK	2012	Verbal	TV	Brand 63	35	11	24	3.1	*
Average					47	11	36	4.2	
Financial Services									
UK	2012	Verbal	TV	Brand 65	50	35	15	1.4	
UK	2012	Verbal	TV	Brand 56	57	46	11	1.2	**
UK	2012	Verbal	TV	Brand 44	36	30	5	1.2	
Australia	Multi	Visual	TV	Brand 42	100	88	12	1.1	**
Australia	Multi	Visual	TV	Brand 41	67	68	-1	1.0	
UK	2012	Verbal	TV	Brand 51	16	19	-3	0.9	
Average					54	48	7	1.1	
Fuel									
UK	2012	Verbal	TV	Brand 45	30	15	16	2.1	*
UK	2012	Verbal	TV	Brand 45	30	14	16	2.1	*
UK	2012	Verbal	TV	Brand 45	46	23	23	2.0	*
Average					35	17	18	2.1	
Motor Vehicle									
Australia	Multi	Verbal	TV	Brand 43	46	16	30	2.9	**
Average					46	16	30	2.9	

Protein									
Australia	2012	Verbal	Print	Brand 68	14	7	7	2.0	**
Australia	2012	Verbal	Online	Brand 68	14	8	6	1.7	
Australia	2012	Verbal	TV	Brand 68	32	26	6	1.2	
Average					20	14	6	1.6	
Soft Drinks									
UK	2012	Verbal	TV	Brand 47	26	9	17	3.0	*
UK	2012	Verbal	TV	Brand 47	16	6	10	2.6	*
UK	2012	Verbal	TV	Brand 50	25	11	15	2.4	*
UK	2012	Verbal	TV	Brand 47	26	21	5	1.2	**
Average					23	12	12	2.3	
Telecommunications									
Australia	Multi	Verbal	TV	Brand 27	70	56	14	1.2	
Australia	Multi	Verbal	TV	Brand 27	60	60	0	1.0	
Australia	Multi	Verbal	TV	Brand 27	52	58	-6	0.9	
Australia	Multi	Verbal	TV	Brand 35	66	73	-7	0.9	
Australia	Multi	Verbal	TV	Brand 35	51	67	-16	0.8	
Average					60	63	-3	1.0	
Toothpaste									
India	2012	Visual	TV	Brand 10	14	9	5	1.5	*
Average					14	9	5	1.5	
Average All					46	36	10	1.7	
Median All					46	29	8	1.2	

Significance: *p<0.001 **p<0.05

Table 11 shows that for execution prompted retrieval, brand users are more likely to remember seeing advertising for their brand than non-users. The median shows that brand users are only 1.2 times more likely than non-users. This bias ratio is much weaker than the previously discussed retrieval methods. The majority of the observations for this retrieval method were not significant.

There are however eight instances of which non-users were more likely to remember the advertising than brand users. Only two of these observations were statistically significant. These occur for the category of Automotive Services where there is large variation in bias ratio results ranging from -15 to 8.

The average and median observations for verbal and visual execution prompts were also analysed. This aimed to identify if any differences could be observed across the different formats of the execution prompted retrieval method. These are presented in Table 12.

Table 12 – Summary of Visual and Verbal Observations for Execution Prompted

Execution Prompted	Retrieval %		Diff.	Bias Ratio
	User	Non-Users		
Verbal Prompt				
Median	46	16	30	2.9
Visual prompt				
Median	58	57	1	1.0

Table 12 shows that visual execution prompts allow a higher percentage of non-users to remember seeing the advertising, compared with verbal execution prompts. The ratios also differed greatly with verbal showing a much stronger bias ratio at 2.9, compared with visual at 1.0.

The following Table 13 shows results for the retrieval method of media + brand prompted.

Table 13 – Results for Media + Brand Prompted Retrieval Method

				Retrieval %				
Country	Year	Media	Brand	User	Non-User	Diff.	Ratio	Sig.
Financial Services								
Australia	2012	Outdoor	Brand 33	8	3	5	2.6	**
Australia	2012	Outdoor	Brand 33	7	4	4	2.1	
Australia	2012	Radio	Brand 33	7	5	2	1.4	
Australia	2012	Radio	Brand 33	7	5	2	1.3	
Australia	2012	Print	Brand 33	11	10	1	1.1	
Australia	2012	Print	Brand 33	13	13	0	1.0	
Australia	2012	TV	Brand 33	77	84	-8	0.9	**
Australia	2012	TV	Brand 33	72	84	-12	0.9	**
Average				25	26	-1	1.4	
Mouthwash								
India	Multi	Online	Brand 7	12	0	12	40.7	*
India	Multi	Outdoor	Brand 7	12	0	12	40.7	*
India	Multi	TV	Brand 7	16	1	16	32.6	*
India	Multi	Online	Brand 28	28	1	27	31.2	*
India	Multi	Outdoor	Brand 28	22	2	20	14.6	*
India	Multi	Print	Brand 7	12	1	11	12.2	*
India	Multi	TV	Brand 28	28	4	25	7.8	*
India	Multi	Print	Brand 28	28	5	24	6.1	*
India	Multi	Online	Brand 24	12	4	8	3.1	*
India	Multi	Online	Brand 13	11	5	5	1.9	*
India	Multi	Print	Brand 24	30	20	10	1.5	*
India	Multi	Outdoor	Brand 24	11	7	4	1.5	*
India	Multi	Radio	Brand 24	8	5	3	1.5	**
India	Multi	Print	Brand 13	31	22	9	1.4	*
India	Multi	TV	Brand 24	46	35	11	1.3	*
India	Multi	Outdoor	Brand 13	12	9	3	1.3	**
India	Multi	Radio	Brand 13	6	5	2	1.3	
India	Multi	TV	Brand 13	54	44	10	1.2	*
Average				21	9	12	11.2	

Soft Drink									
Australia	2013	Radio	Brand 48	11	5	6	2.3	*	
Australia	2013	Radio	Brand 60	10	5	6	2.3	*	
Australia	2013	Print	Brand 60	16	8	9	2.2	*	
Australia	2013	Outdoor	Brand 60	20	10	10	2.0	*	
Australia	2013	Print	Brand 48	16	8	8	2.0	*	
Australia	2013	Outdoor	Brand 48	21	11	10	1.9	*	
Australia	2013	TV	Brand 48	34	21	14	1.7	*	
Australia	2013	TV	Brand 60	31	18	13	1.7	*	
Australia	2013	Print	Brand 47	24	15	10	1.7	*	
Australia	2013	Radio	Brand 47	15	9	6	1.7	*	
Australia	2013	Outdoor	Brand 47	32	20	12	1.6	*	
Australia	2013	TV	Brand 47	46	31	15	1.5	*	
Average				23	13	10	1.9		
Toothpaste									
India	2012	Outdoor	Brand 10	13	4	9	3.4	*	
India	2012	Radio	Brand 10	3	1	2	2.8	*	
India	2012	Print	Brand 10	15	6	10	2.6	*	
India	2012	Outdoor	Brand 28	8	3	5	2.4	*	
India	2012	TV	Brand 3	5	2	3	2.4	**	
India	2012	Print	Brand 28	10	5	6	2.2	*	
India	2012	Online	Brand 28	1	1	1	2.0	**	
India	2012	TV	Brand 28	60	31	28	1.9	**	
India	2012	Print	Brand 1	2	1	1	1.8	*	
India	2012	TV	Brand 1	12	7	5	1.7		
India	2012	TV	Brand 10	64	44	20	1.4	*	
India	2012	Radio	Brand 28	2	2	1	1.4	**	
India	2012	Online	Brand 10	1	1	0	0.8		
Average				15	8	7	2.1		
Average All				21	13	8	5.1		
Median All				13	5	8	1.9		

Significance: *p<0.001 **p<0.05

The results of Table 13 for media + brand prompted shows consistency with all previous methods. The median shows brand users were 1.9 times more likely to remember seeing advertising for their brand, than non-users. In most cases the observations were significant at p-value <0.001.

Within the Mouthwash category outliers were observed. There are extreme bias ratios, with one instance for India at 40.7. These results are caused by a very minimal percent of non-users (between 0-2%) being able to remember advertising. Compared with a high percentage of users (between 12-28%).

For this retrieval method there were again three instances of non-users having higher retrieval scores, than brand users. Two of these results were significant at <0.001 . These results are of minimal concern, as they show only a small bias ratio in favour of non-users and the overall pattern is in positive favour of brand users.

The following Table 14 shows the results for media + execution prompted retrieval.

Table 14 - Results for Media + Execution Prompted Retrieval Method

Country	Year	Media	Brand	Retrieval %		Diff.	Bias Ratio	Sig.
				User	Non-User			
Alcoholic Beverages								
South Africa	2010	Print	Brand 36	56	19	37	2.9	*
UK	2012	TV	Brand 36	52	19	33	2.8	*
UK	2011	Print	Brand 6	15	6	9	2.4	**
Spain	2011	Outdoor	Brand 8	46	21	25	2.2	*
UK	2011	TV	Brand 22	18	9	10	2.2	**
Spain	2011	Online	Brand 8	27	13	14	2.1	*
UK	2011	Print	Brand 36	18	9	10	2.1	**
Taiwan	2012	Print	Brand 31	67	34	33	2.0	*
Russia	2012	TV	Brand 37	16	8	8	2.0	
Spain	2011	Outdoor	Brand 5	42	22	21	1.9	*
Spain	2011	Radio	Brand 8	33	17	15	1.9	*
Taiwan	2012	TV	Brand 32	79	44	34	1.8	**
Spain	2011	Outdoor	Brand 9	42	24	19	1.8	*
South Africa	2010	Outdoor	Brand 37	25	14	11	1.8	**
Taiwan	2012	Print	Brand 25	61	35	26	1.7	**
Russia	2012	Print	Brand 37	40	23	17	1.7	**
Spain	2011	Outdoor	Brand 8	32	19	13	1.7	*
Taiwan	2012	Print	Brand 25	50	30	21	1.7	**
UK	2011	TV	Brand 36	72	45	27	1.6	*
Taiwan	2012	TV	Brand 21	62	39	22	1.6	**
Spain	2011	Radio	Brand 8	20	13	7	1.6	
Taiwan	2012	TV	Brand 31	77	52	24	1.5	**
Spain	2011	Outdoor	Brand 5	60	40	21	1.5	*
Taiwan	2011	TV	Brand 25	60	40	20	1.5	**
UK	2012	TV	Brand 22	19	12	7	1.5	
UK	2012	TV	Brand 36	82	58	24	1.4	**
Taiwan	2012	TV	Brand 31	58	41	17	1.4	**
Spain	2011	Outdoor	Brand 9	55	39	16	1.4	*
South Africa	2010	TV	Brand 37	55	40	16	1.4	**
South Africa	2010	Print	Brand 37	28	20	9	1.4	
South Africa	2010	TV	Brand 37	19	13	5	1.4	
Taiwan	2012	Print	Brand 25	31	24	8	1.3	
Spain	2011	Print	Brand 8	28	23	6	1.3	
Spain	2011	Outdoor	Brand 8	14	10	3	1.3	
Spain	2011	Radio	Brand 5	44	35	8	1.2	
Spain	2011	TV	Brand 5	46	38	8	1.2	**
Taiwan	2011	Print	Brand 25	41	34	7	1.2	
Spain	2011	Outdoor	Brand 8	33	27	6	1.2	
UK	2011	TV	Brand 6	53	48	5	1.1	
Spain	2011	Radio	Brand 5	42	37	4	1.1	
UK	2011	TV	Brand 37	57	53	4	1.1	

Alcoholic Beverages (continued)								
UK	2011	TV	Brand 6	44	41	3	1.1	
Taiwan	2011	Print	Brand 25	36	34	2	1.1	
Spain	2011	Radio	Brand 8	15	13	2	1.1	
Taiwan	2011	TV	Brand 31	70	70	-1	1.0	
Taiwan	2011	Print	Brand 31	44	45	-1	1.0	
Taiwan	2011	Print	Brand 25	42	43	-1	1.0	
Taiwan	2011	Print	Brand 31	39	45	-6	0.9	
Average				43	30	13	1.6	
Toothpaste								
China	2012	Radio	Brand 39	6	2	5	4.0	*
China	2012	Outdoor	Brand 39	1	0	1	4.0	*
China	2012	Online	Brand 39	1	0	1	3.3	**
China	2012	Print	Brand 39	1	0	1	3.3	**
China	2012	Online	Brand 20	3	1	2	3.0	*
China	2012	TV	Brand 39	37	17	20	2.2	*
China	2012	Outdoor	Brand 20	2	1	1	1.9	**
China	2012	TV	Brand 20	42	36	6	1.2	**
China	2012	Radio	Brand 20	3	3	0	0.9	
China	2012	Print	Brand 20	1	1	0	0.6	
Average				10	6	3	2.4	
Average All				37	26	11	1.7	
Median All				40	23	8	1.5	

Significance: *p<0.001 **p<0.05

Table 14 presents the observations for the final retrieval method tested in this study. Brand users were more likely to remember advertising for their brand, than non-users when prompted with media and execution cues. The median results show brand users were 1.5 times more likely than non-users. With regards to statistical significance there is a mixture of results, with the majority significant at p<0.05 whilst some were defined as not significant.

There were also several instances where non-users were more likely to remember advertising than brand users. None of these instances were significant and are again not of major concern, as they only show small bias ratios in favour of non-users.

The median results across both media prompted measures were further analysed. This was to identify whether there were any variances across the different media types (i.e. TV, radio, outdoor etc.). Table 15 shows the results of this analysis.

Table 15 – Summary of Median Results for Different Media Prompts

Media Prompted	Total Observations (n)	Retrieval %		Diff.	Bias Ratio
		User	Non-Users		
Online					
Media + Brand	6	11	1	10	10.6
Media + Execution	3	3	1	2	3.0
Outdoor					
Media + Brand	11	12	4	9	3.3
Media + Execution	11	33	21	11	1.5
Print					
Media + Brand	12	16	8	8	2.0
Media + Execution	17	39	24	16	1.7
Radio					
Media + Brand	9	7	5	2	1.5
Media + Execution	7	20	13	7	1.6
TV					
Media + Brand	13	46	31	15	1.5
Media + Execution	20	54	40	14	1.4

Across all media formats Table 15 shows that using media + brand as the cueing material provides a much stronger bias ratio when compared with media + execution. Online shows the largest median results at 10.6 and 3.0, compared with the other media formats that show similar medians between 1.4 and 3.3.

Finally, in order to summarise these results and allow for review against H2, the following Table 16 outlines the median results for each retrieval method.

***H2** – It is expected that when multiple cueing materials are used, the retrieval of advertising information from memory will become easier for non-users, which will in turn reduce the usage bias between brand users and non-users.*

Table 16 – Summary of Median Results Across Retrieval Methods

Retrieval Method	Cueing Material	Total Obs. (n)	Retrieval %		Bias Ratio
			User	Non-Users	
Top-of-Mind Unprompted	Category	30	16	3	4.2
Brand Prompted	Category	32	28	9	3.0
Media + Brand Prompted	Category + Brand	33	33	12	2.6
Media + Exec. Prompted	Category + Media + Brand	51	13	5	1.9
Execution Prompted	Category + Media + Exec.	58	40	23	1.5
	Category + Execution	38	46	29	1.2
Median All		242	31	11	2.3

From the summary shown in Table 16, the retrieval methods of top-of-mind, unprompted and brand prompted, which use cueing material of category or brand, show the strongest bias ratios of 4.2, 3.0 and 2.6 respectively. When looking at results for execution prompted and media prompted, where cueing material was category + execution, category + media + brand, and category + media + execution it shows bias ratios are much weaker at 1.2, 1.9 and 1.5 respectively. This supports H2. The more cueing material provided, the easier it becomes for non-users to remember seeing the advertising, which in turn reduces the bias ratio.

As mentioned at the beginning of this Results chapter, the next chapter will discuss the conclusions and implications of these results. The findings for advertising likeability are now presented.

7.2 Advertising Likeability Results

For the measure of advertising likeability brand users were on average 6% more inclined to like advertising for their brand, than non-users. This pattern was consistent across 58 brand level observations, eight categories, 25 brands, six countries (Australia, Portugal, South Africa, Spain, Taiwan and UK) and three different media formats.

The following sections will discuss the specific results for advertising likeability and outline whether each hypothesis was supported or rejected.

7.2.1 Do Brand Users Like Their Brand's Advertising More?

H3 – *It is expected that brand users will like the advertising for their brand, more than non-users.*

To determine whether H3 was supported or rejected, the mean results from the 5-point liking scale for users and non-users were analysed. As well as the average bias ratio across 58 brand level observations.

Table 17 – Summary of Average Results For Advertising Likeability

Measure	Total Obs. (n)	Mean		Bias Ratio %
		User	Non-Users	
Advertising Likeability	58	4.0	3.8	6

Table 17 shows that users had a mean of 4.0 and non-users of 3.8. This reflects that on average respondents selected that they 'Liked It' (on the liking scale of 1-5) when asked how they felt about the advertising. When looking at the bias ratio percent it provides a clearer result. On average brand users were 6% more inclined to like the advertising, than non-users. This confirms that H3 can be supported.

These mean scores of 4.0 for users and 3.8 for non-users may also reflect the comment by Walker and Dubitsky (1994). When using the 5-point liking scale Walker and Dubitsky (1994) suggested that the results may be more representative of the degree of liking, rather than liking versus disliking.

7.2.2 Do Different Conditions Influence Whether Brand Users Like Advertising More?

H4 – It is expected that across the different conditions of country, category and media of this study, that brand users will have higher liking scores for their brand’s advertising, than non-users.

The final hypothesis of this study H4, was aimed at providing further understanding of the usage bias effect on advertising likeability, should one be identified. As there was a usage bias observed, Table 18 presents all 58 brand level observations for advertising likeability. As with the previous tables, the results are sectioned into categories and then sorted by the bias ratio column, with values ordered largest to smallest.

Table 18 – Results for Advertising Likeability

Country	Year	Media	Brands	Means		Bias Ratio %	Sig.
				User	Non-User		
Alcoholic Beverages							
South Africa	2010	TV	Brand 37	4.2	3.5	18	*
UK	2012	TV	Brand 22	4.0	3.4	18	**
South Africa	2010	Print	Brand 36	4.4	3.7	17	*
Taiwan	2012	Print	Brand 31	4.3	3.7	16	*
UK	2011	TV	Brand 6	3.9	3.4	13	*
UK	2012	TV	Brand 36	4.6	4.2	11	**
UK	2011	TV	Brand 6	3.7	3.4	9	**
UK	2012	TV	Brand 6	4.1	3.8	9	**
UK	2011	TV	Brand 37	4.3	3.9	9	*
Taiwan	2011	Print	Brand 25	4.4	4.1	8	**
South Africa	2010	Print	Brand 37	3.7	3.5	7	
Taiwan	2011	Print	Brand 25	4.4	4.1	7	
South Africa	2010	Outdoor	Brand 37	3.4	3.2	6	
Taiwan	2011	Print	Brand 31	4.0	3.8	6	
UK	2012	TV	Brand 36	4.6	4.4	5	
Spain	2011	Outdoor	Brand 5	3.7	3.5	5	
UK	2011	TV	Brand 36	4.6	4.3	5	**
Taiwan	2011	TV	Brand 25	4.4	4.2	5	
Portugal	2012	Print	Brand 37	4.0	3.8	4	
Taiwan	2011	Print	Brand 31	3.9	3.8	4	
UK	2011	TV	Brand 22	3.5	3.5	2	
Spain	2011	Outdoor	Brand 8	3.7	3.6	2	
Taiwan	2011	TV	Brand 31	4.0	3.9	2	
Spain	2011	Outdoor	Brand 9	4.0	4.0	1	
Taiwan	2012	Print	Brand 25	4.4	4.4	0	
Taiwan	2012	Print	Brand 25	4.4	4.4	0	
Portugal	2012	TV	Brand 37	4.1	4.1	0	
Taiwan	2012	Print	Brand 25	4.2	4.3	-2	
Portugal	2012	TV	Brand 37	4.1	4.3	-3	
Portugal	2012	Print	Brand 37	4.0	4.1	-4	
Taiwan	2011	Print	Brand 25	4.0	4.2	-5	
South Africa	2010	TV	Brand 37	3.9	4.2	-7	*
			Average	4.1	3.9	5	
Energy Drinks							
UK	2012	TV	Brand 63	3.8	3.4	12	**
UK	2012	TV	Brand 62	3.9	3.6	9	
UK	2012	TV	Brand 62	3.9	3.5	9	
UK	2012	TV	Brand 62	3.9	3.6	8	
			Average	3.9	3.5	10	

Financial Services							
UK	2012	TV	Brand 56	3.7	3.4	7	**
UK	2012	TV	Brand 65	3.5	3.3	6	
UK	2012	TV	Brand 44	3.3	3.1	6	**
Australia	Multi	TV	Brand 41	3.2	3.2	1	
UK	2012	TV	Brand 51	3.6	3.6	-1	
Australia	Multi	TV	Brand 42	3.2	3.3	-1	
Average				3.4	3.3	3	
Fuel							
UK	2012	TV	Brand 45	4.1	3.4	18	*
UK	2012	TV	Brand 45	4.0	3.4	17	*
UK	2012	TV	Brand 45	3.9	3.6	9	**
Average				4.0	3.5	15	
Motor Vehicle							
Australia	Multi	TV	Brand 43	3.6	3.2	13	
Average				3.6	3.2	13	
Protein							
Australia	2012	TVC	Brand 68	4.2	4.0	6	
Australia	2012	Print	Brand 68	4.4	4.0	10	
Average				4.3	4.0	8	
Soft Drinks							
UK	2012	TV	Brand 50	3.8	3.4	13	**
UK	2012	TV	Brand 47	3.9	3.5	11	**
UK	2012	TV	Brand 47	3.9	3.7	4	
UK	2012	TV	Brand 47	3.7	3.7	1	
Average				3.8	3.6	7	
Telecommunications							
Australia	Multi	TV	Brand 35	3.3	3.0	8	
Australia	Multi	TV	Brand 27	4.1	4.0	4	
Australia	Multi	TV	Brand 35	3.8	3.8	1	
Australia	Multi	TV	Brand 27	4.1	4.1	-1	
Australia	Multi	TV	Brand 27	3.9	4.0	-4	
Average				3.8	3.8	1	
Average All				4.0	3.7	6	
Median All				4.0	3.7	6	

Significance: *p<0.001 **p<0.05

From the observations in Table 18, it is evident that brand users were on average 6% more inclined to like advertising for their brand, than non-users. The average and median results are the same, which reflects no outliers. The majority of results tended to be not significant.

As seen with the retrieval methods of this study, there are instances where non-users were more inclined than brand users to like the advertising. There were 10 instances of this. These occurred for the categories of Alcoholic Beverages, Financial Services and Telecommunications and were generally not significant.

In order to confirm whether H4 is supported or rejected, the average results for different conditions were analysed. These results are shown in Table 19.

Table 19 – Average Results for Advertising Likeability - Across Different Conditions

Advertising Likeability	Total Observations (n)	Means		Bias Ratio %
		Users	Non-Users	
Category Averages				
Fuel	3	3.6	3.5	15
Energy Drinks	4	3.9	3.5	10
Soft Drinks	4	3.8	3.6	7
Protein	3	4.3	4.0	7
Alcoholic Beverages	32	4.1	3.9	5
Financial Services	6	3.4	3.3	3
Telecommunications	5	3.8	3.8	1
Country Averages				
UK	23	3.9	3.6	9
South Africa	5	3.9	3.6	8
Australia	9	3.8	3.7	4
Taiwan	11	4.2	4.1	4
Spain	3	3.8	3.7	2
Portugal	4	4.1	4.1	-1
Media Averages				
TV	37	3.8	3.6	7
Print	14	4.2	4.0	5
Outdoor	4	3.6	3.5	3

Table 19 shows some variation in the bias ratios when looking across different conditions. The overall pattern however shows in favour of brand users, with one exception for the country Portugal. Therefore H4 is supported.

Looking at the results for category averages, it would suggest that Services show a weaker bias ratio, than the Product categories studied. For Services the bias ratio ranges from 1-3%, however for the Product categories the results are much stronger,

between 5-15%. This findings shows support for the study by Heath and Nairn (2005) who reported different levels of liking for different categories.

Looking at the country averages there is variation, which could be classified into three groups. The weakest average was for Portugal, which was in favour of non-users at -1%. The middle group includes Spain, Taiwan and Australia, with results between 2-4%. Then the strongest averages jump almost 4 percentage points to 8% and 9% for South Africa and the UK.

Finally for media averages there is some variance in results, across TV, print and outdoor. TV shows the strongest bias ratio of 7% in favour of brand users, followed by Print with 5% and Outdoor at 3%. This result is consistent with Harrison (2013) who found that the usage bias varies across different touch-points for advertising awareness.

To further analyse the findings of this study, the brand level observations for users and non-users were tested to determine if there is a relationship between the variables.

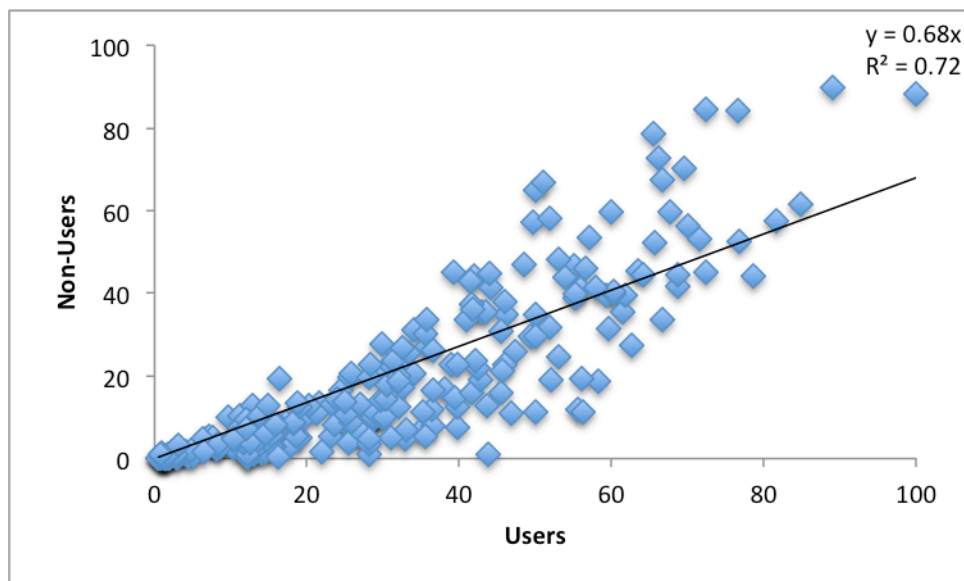
7.3 Are Users and Non-Users Related?

A Pearson's Correlation Coefficient test was conducted to determine if the variables, user and non-user were related. The following sections present the analysis for advertising awareness and advertising likeability then compares these two measures.

7.3.1 Advertising Awareness Correlations

Prior to conducting a Pearson's Correlation Coefficient test the assumption of linearity and homogeneity of variance need to be met. Figure 2 presents a scatterplot with 242 brand level observations for advertising awareness. This shows a linear relationship between the two variables, user and non-user, for this measure.

Figure 2 – Linear Relationship Between Variables For Advertising Awareness



The correlations overall for advertising awareness across six retrieval methods are first presented. Then each separate retrieval method is analysed.

Overall it is evident for advertising awareness there is a strong, positive, significant relationship between user and non-user responses, $r(240) = 0.86$, $p < 0.001$. Brand size was also compared to users and non-users to determine if there was a relationship between variables. The results showed a weak, positive correlation with brand size for both and therefore shows no relationship with brand size.

Table 20 outlines the correlations of the user and non-user variables, for each separate retrieval method.

Table 20 – Advertising Awareness Correlations – Across Each Retrieval Method

	Sample (n)	User / Non-User
Media + Brand Prompted	51	.91*
Media + Execution Prompted	58	.89*
Unprompted Recall	32	.87*
Execution Prompted	38	.84*
Top-of-Mind Recall	30	.84*
Brand Prompted	33	.70*
Average All		.84

Significance: * $p < 0.001$ ** $p < 0.05$

Table 20 demonstrates a consistent pattern. For all retrieval methods strong, positive, significant relationships between user and non-user responses were observed. The correlation was strongest for media + brand prompted at $r(49) = .91$, $p < 0.001$, and weakest for brand prompted $r(36) = .70$, $p < 0.001$.

The correlation of users and non-users with brand size was also observed. Overall there was a low correlation; due to this the values are not reported in the above table.

The next section will discuss the correlations of the variables for advertising likeability.

7.3.2 Advertising Likeability Correlations

For advertising likeability a strong, positive, significant relationship between user and non-user variables was found at $r(56) = .80$, $p < 0.001$. A weak, positive relationship was again found between brand size and user and non-user responses.

To determine if the quantitative relationships are consistent across advertising awareness methods and advertising likeability, many univariate regression tests were conducted. This following section outlines those results.

7.4 Is the Relationship Consistent Across Measures?

The results of many univariate regression tests are presented for each different retrieval method, then the measure of advertising likeability. The standardised residuals are then compared across all measures to see if the relationship is consistent.

The overall model for advertising awareness was significant at $F(1,240) = 702.38$, $p < .001$. For advertising likeability the overall model was also significant at $F(1,56) = 101$, $p < .001$. The standardised betas are reported in Table 21 to allow comparison across the different measures.

Table 21 – Regression Across All Measures

	Std. Beta	t	R ²
Media + Brand Prompted	.91	15.0*	.82
Media + Execution Prompted	.89	14.5*	.79
Unprompted Recall	.87	9.5*	.75
Execution Prompted	.84	9.3*	.71
Top-of-Mind Recall	.84	8.1*	.70
Advertising Likeability	.80	10.0*	.64
Brand Prompted	.70	5.4*	.49
Average All	.84	10.3	.70

Significance: * $p < 0.001$

The results of Table 21 show across the different measures that retrieval method media + brand prompted was the strongest predictor of non-users with $\beta = .91$, $t(15.0)$, $p < .001$. Brand prompted was the weakest predictor of non-users with $\beta = .70$, $t(5.4)$, $p < .001$. The results across all measures were significant, and all standardised beta values were strong above .80, except brand prompted.

The conclusion from conducting these many univariate regression tests is the relationship between users and non-users is consistent across all measures of this study.

The final section of this chapter provides an overall summary of the key results and hypothesis discussed.

7.5 Summary of Key Results & Hypothesis Outcome

This section concludes the chapter by providing a summary of the key results and whether the results support or reject the hypothesis.

***H1** – It is expected that brand users will be more likely than non-users, to remember seeing their brand’s advertising across the retrieval methods of top-of-mind, unprompted, brand prompted, execution prompted, media + brand prompted and media + execution prompted.*

This hypothesis was supported. On average for each of the different retrieval methods, brand users had higher retrieval scores for their brand, than non-users.

***H2** – It is expected that when multiple cueing materials are used, the retrieval of advertising information from memory will become easier for non-users, which will in turn reduce the usage bias between brand users and non-users.*

This hypothesis was supported. When additional cueing material was provided by the retrieval method more non-users were able to remember seeing the advertising. This decreased the difference in responses between users and non-users, which in turn reduced the bias ratio.

***H3** – It is expected that brand users will like the advertising for their brand, more than non-users.*

This hypothesis was supported. For the measure of advertising likeability, the brand users were more inclined to like advertising for their brand, than non-users.

***H4** – It is expected that across the different conditions of country, category and media of this study, that brand users will have higher liking scores for their brand’s advertising, than non-users.*

This hypothesis was supported. When looking across different conditions of category, country and media, the brand users were overall more inclined to like advertising for their brand, than non-users, with one exception.

Chapter 8 - Conclusions and Implications

A conclusion to the previous results will be provided in this chapter. Following this, the implications of the study, in terms of the contribution to marketing knowledge and marketing practice are outlined.

8.1 Conclusion

Researchers have found when using advertising effectiveness measures that brand users are more likely to respond to questions about their brand's advertising than non-users (Harrison 2013; Rice & Bennett 1998; Romaniuk & Wight 2009). The aim of this study was to test this empirical generalisation to different contexts. The key conclusion is the empirical generalisation holds across the boundary conditions tested for the measures of advertising awareness and advertising likeability.

This study found for advertising awareness that brand users were 63% more likely to remember seeing advertising for their brand, than non-users. This finding held across 242 brand level observations from six different retrieval methods, 14 categories, 74 brands, 10 countries (Australia, China, India, Portugal, Russia, South Africa, Spain, Taiwan, Turkey and UK) and 5 media formats. The study first replicated previous studies using cueing material of category and brand, and found consistent results. Secondly this study tested the boundary conditions to new contexts of cueing materials media and execution, and again found the empirical generalisation holds.

The findings for the new contexts showed when using media prompted cues such as TV, radio and print the bias effects were weaker, compared with online which showed stronger usage bias effects. This means remembering online advertising is more difficult for non-users, than the other media formats. An alternate view could suggest online is better targeted at brand users.

When using execution prompted retrieval methods, the results showed the strength of the usage bias effect differed for visual and verbal execution cues. Showing a visual cue created weaker bias effects, than a verbal cue. This means showing a visual cue allows more non-users to remember seeing the advertising.

This study also tested the boundary conditions of the empirical generalisation to advertising likeability. Prior to this study the influence of previous brand usage on responses was unknown for this measure. This study found that brand users were 6% more inclined to like advertising for their brand, than non-users. This pattern was consistent across 58 brand level observations from eight categories, 25 brands, six different countries (Australia, Portugal, South Africa, Spain, Taiwan and UK) and three media formats. While this effect is small, it is important that marketers are aware of the findings when analysing data from advertising likeability studies.

The usage bias effect for advertising likeability was also found to vary across different conditions. When looking across different categories, the findings would suggest Product categories showed stronger bias effects than Service categories. Large variances were also observed for different countries. The UK was the strongest with 9% in favour of brand users. Finally media also showed some variances, with TV showing the strongest usage bias compared with print and outdoor.

The following sections will now discuss the implications of these findings, in terms of contribution to marketing knowledge and marketing practice.

8.2 Contribution to Marketing Knowledge

As mentioned, the main contribution to marketing knowledge is confirmation that the empirical generalisation holds across the different boundary conditions tested. The findings of this study show across both advertising awareness and advertising likeability measures that brand users are more likely to respond to questions about their brand's advertising, than non-users. This finding broadens the empirical generalisation to different cueing material of execution and media for advertising awareness, and to advertising likeability, which prior to this study was untested. The following sections discuss the contribution to marketing knowledge for each measure in more detail.

8.2.1 Advertising Awareness

Previous advertising awareness literature has typically focussed on usage bias effects for retrieval methods where the cueing material is category or brand (Hammer & Riebe 2006; Harrison 2013; Romaniuk & Wight 2009; Sharp, Beal & Romaniuk 2001, 2002). This study has contributed to existing marketing knowledge by demonstrating across six different retrieval methods, where category or brand is not the only cueing material, that brand users are more likely to remember their brand's advertising than non-users.

When using retrieval methods where minimal cueing material is provided, such as category or brand, the retrieval of advertising information from memory is more difficult for non-users. This is due to weak associations in non-users memory between the cue and the brand's advertising. This created a strong usage bias effect in favour of brand users. However the strength of the usage bias effect differed when using retrieval methods where additional cueing material to category or brand were used, such as execution and media cues. This study demonstrated that more non-users were able to remember the advertising, when more cueing material was

used, which in turn reduced the strength of the usage bias effects. This supports the conclusion of Romaniuk and Wight's (2009) study that advertising exposures are less salient for non-users, so they will need additional prompting to remember. This study has also consolidated the literature on usage bias effects across different advertising awareness retrieval methods.

Advertising awareness measures are commonly used in studies as screener questions for further advertising effectiveness measures. The finding of this study also suggests that careful consideration needs to be given to the retrieval method chosen for such situations. If retrieval methods that favour brand users such as top-of-mind, unprompted and brand prompted are used as screeners, then results for further advertising effectiveness measures may be misleading as the full heterogeneity of the market is not represented.

8.2.2 Advertising Likeability

For advertising likeability this study has contributed to marketing knowledge by demonstrating that usage bias effects are evident when using this measure. The results of this study showed on average a weak positive bias, in favour of brand users. While only a small effect was identified, these findings are an important contribution to marketing knowledge as they tested the boundary conditions of the empirical generalisation to a previously untested advertising effectiveness measure.

The use of MSOD to test the usage bias effects for advertising likeability, provide a range of conditions where the empirical generalisations holds. This contributes to marketing knowledge by providing evidence of expected usage bias effects across the different conditions tested. For example this study demonstrated across different categories that the strength of the usage bias effects will vary.

Furthermore the mean scores for users and non-users showed support for the comment by Walker and Dubitsky (1994). When using the 5-point liking scale to

measure advertising likeability the results could be considered more representative of the degree of liking, rather than liking versus disliking, as minimal negative responses are observed.

The contribution to marketing practice will now be outlined.

8.3 Contribution to Marketing Practice

The findings of this study also contribute to marketing practice by providing marketers with benchmarks to better evaluate their advertising awareness and advertising likeability results, in terms of usage bias effects.

8.3.1 Advertising Awareness

The findings of this study show that when measuring advertising awareness, marketers should expect to find a usage bias in favour of brand users. The strength of the usage bias should also be expected to vary depending on the retrieval method and cueing material used.

When using retrieval methods with category or brand as the cue, brand users will be, at a minimum, 2.6 times more likely to remember their brand's advertising, than non-users. When additional cueing material such as media or execution is added to the retrieval method, there should be a weaker usage bias. Brand users should be approximately 1.2 to 1.9 times more likely than non-users to remember the advertising. This means that marketers should not interpret advertising awareness scores for methods such as top-of-mind, unprompted and brand prompted as showing that the advertising is ineffective at creating cut-through with non-users. Rather these methods are more difficult retrieval tasks for non-users so fewer will be able to remember seeing the advertising, than compared with using execution or media prompted retrieval methods.

Furthermore when using execution prompted retrieval methods the findings of this study show that verbal execution cues have stronger usage bias effects, than visual cues. This is consistent with the experiments by du Plessis (1994b), which found that a description (verbal equivalent) obtained lower retrieval results than recognition (visual equivalent). This means that more non-users can remember seeing the advertising if a visual prompt is used, compared with a verbal prompt. These findings also support the use of online surveys to measure advertising awareness. du Plessis (1994b) stated that visual memory is the most important type of memory in advertising research as most advertising enters the mind via the eyes. As visual execution cues can be shown via online surveys, this confirms it is an appropriate format for measuring advertising awareness.

The findings of this study are also important where advertising awareness is used as a screener in studies. This is as only respondents who remember the advertising will be asked further questions, such as advertising likeability. It is therefore important to choose the appropriate retrieval method for this. The findings suggest that using top-of-mind, unprompted or brand prompted measures will not capture all non-users who are aware of the advertising. This will mean fewer respondents will pass the screening and be asked further questions. Romaniuk and Wight (2009) reported that not capturing those who remember advertising across a range of salience levels, may mean results for other advertising effectiveness measures are misleading, as they will not reflect the complete heterogeneity of the market. Therefore marketers should carefully consider which retrieval methods to use in a study, if they will be used as screeners for other advertising effectiveness measures.

Leading on from this, this study also provides an important contribution to marketing practice with regards to how brands grow. Advertising is used by brands to communicate with consumers and brand growth is stimulated through attracting new customers (Sharp 2010). Marketers are encouraged to make decisions on advertising strategies using the awareness scores from measures that allow more non-users to remember the advertising. Using execution or media prompted

retrieval methods will provide a better indication of the advertising impact on non-users.

In summary, these findings show that previous brand usage does have an influence on responses when measuring advertising awareness. Marketers are therefore encouraged to construct their surveys with the findings in mind and select the most appropriate retrieval method for the objectives. Data collected should also be analysed by splitting user and non-user responses to ensure usage bias effects do not create misleading results.

8.3.2 Advertising Likeability

The main contribution to marketing practice for the measure of advertising likeability is the evidence this study provides. This study has demonstrated that previous brand usage does have an influence on responses when using advertising likeability. A weak usage bias is evident which demonstrates that brand is not a factor of liking an advertisement. This supports the literature that excludes brand as a key characteristic of liked advertisements (Aaker & Stayman 1990; Biel & Bridgwater 1990; Leather, McKechnie & Amirkhanian 1994).

The findings of this present study may also reflect usage bias as a confounding factor in previous advertising likeability studies. As discussed earlier, previous studies typically report a strong positive relationship with liked advertising and purchase intentions. The findings of this study may suggest this relationship is actually due to usage bias effects.

Furthermore this study has also provided an important contribution to marketing practice with regards to how brands grow (Sharp 2010). Previous research has shown that liked advertising gets more attention, are better at breaking through clutter and are better remembered (Biel & Bridgwater 1990; du Plessis 1998; Leather, McKechnie & Amirkhanian 1994; Smit, van Muers & Neuens 2006; Stone,

Besser & Lewis 2000). Therefore if the aim of advertising is to attract new customers to grow the brand, then marketers should use liked advertisements to communicate with consumers. The findings of this study have demonstrated that both users and non-users will like advertisements with a small bias in favour of brand users.

It is also important that marketers are aware the strength of the usage bias was varied across the different conditions of category, country and media. For category, the usage bias pattern suggests that advertising for Product categories are much more liked by brand users, than Service categories. For marketers of Services, the findings suggest they should expect very weak usage biases in favour of brand users, compared to the results for Product categories. The results also showed variation across country and media. Despite the need to generalise these findings with further studies, this study suggests that marketers in the UK and South Africa should expect stronger usage biases in favour of brand users. Than compared with Taiwan, Australia, Spain and Portugal. Some variances should also be expected across TV, print and outdoor, however, these should be minimal.

8.4 Chapter Summary

This chapter has discussed the conclusions of this study and explored the implications of the findings in terms of contribution to marketing knowledge and marketing practice.

The final chapter of this thesis will discuss the limitations of the study and avenues for future research.

Chapter 9 - Limitations & Future Research

This chapter will discuss the limitations of this study and avenues for future research.

9.1 Limitations

Four areas of limitations have been identified. They relate to the research design and the use of secondary data. As well as the independent variable brand usage and the two dependent variables, advertising awareness and advertising likeability.

9.1.1 Research Design & Secondary Data

The main limitation of the research design relates to the use of secondary data. When using secondary data the study is constrained to the designs and data collection techniques of previous studies. For example not all measures of this study were tested within each of the data sets used. Furthermore with regards to sampling it is understood that each sample was randomly collected, however the technique used for each data set was unable to be identified. This is due to various factors such as that multiple years have passed since data was primarily collected, or technique was not specified when data set was provided by sponsor.

In addition the different conditions within the secondary data also determine the scope of this research. The findings of this study can only be generalised to the conditions tested for both advertising awareness and advertising likeability.

9.1.2 Usage Variables

The usage variables used to determine whether respondents were brand users or non-users also created a limitation of this study. When the usage variables were used within the previous studies they were based on the respondents 'claimed' usage, rather than 'actual'. This suggests that the usage variables are not completely reflective of the respondent's actual brand usage. However collecting respondent's brand usage status in this way is appropriate, as collecting actual brand usage can only be done so through sales data, which is impractical for such studies. Furthermore only one usage variable was used per data set to test the usage bias effects across the two measures.

9.1.3 Advertising Awareness

When measuring advertising awareness it is important to ensure that the respondents have had the opportunity to see (OTS) the advertising of interest. This is an important factor, as it helps determine the validity of responses given by respondents and verify if they did indeed see the advertisement they claim to remember. With the use of secondary data in this study, whether the respondents had the OTS cannot be verified, unless it was already done so in primary collection.

9.1.4 Advertising Likeability

The main limitation for advertising likeability relates to the 5-point liking scale used to operationalise the dependent variable. While this method is widely used, it is not the only method available to measure advertising likeability. Therefore the results of this study are only generalisable to the use of the 5-point liking scale.

This study also focussed on advertising likeability that was measured in post-testing situations and does not include any data from pre-testing situation.

9.2 Future Research

Finally the future research avenues are discussed separately for advertising awareness and advertising likeability.

9.2.1 Advertising Awareness

This study confirmed that usage bias effects could be observed for retrieval methods that use different cueing materials to just category or brand. Future research should be conducted to closely replicate the findings of the execution prompted and media prompted methods, as these have not been extensively studied, unlike the other methods of top-of-mind, unprompted and brand prompted.

As mentioned in the previous sections, only one usage variable was used per data set. Future research should be conducted to test multiple usage variables within the data set to determine if the usage bias effects quantitatively differ depending on the usage variable.

For the retrieval methods such as execution prompted where brand references can be hidden, the respondents are asked to correctly identify the brand in the advertising. The different formats of these methods could provide another avenue for future research. If the brand users can correctly identify the brand in the advertising, does this influence whether they can remember the advertising? For example are the retrieval scores the same for brand users, regardless of whether they could correctly identify the brand or not? Then vice versa for non-users. Are the retrieval scores of non-users the same, regardless of whether they can identify the brand in the advertising?

Furthermore, additional conditions such as different markets could be studied to further test the boundary conditions of the empirical generalisation. The results of this study suggested some possible differences in results for emerging markets.

This could be seen with the outlier results identified for the data sets of Toothpaste and Mouthwash in China and India. The benefit of further research in such emerging markets would identify if differences in usage bias strength should be expected when using advertising awareness for emerging markets.

9.2.2 Advertising Likeability

The findings of this study showed that brand users are more inclined than non-users, to like the advertising for their brand. This is the only study of its kind that can be identified, whereby the usage bias was tested for advertising likeability. The results showed variances across different categories, countries and media. Future research should aim to conduct a close replication of this study, using different data sets and conditions. As well as test the boundary conditions to pre-testing situations. This will help further define benchmarks for marketers and researchers to better evaluate their advertising likeability scores, by providing more specific guidelines of expected results under certain conditions.

The influence of using advertising awareness as a screener, when measuring advertising likeability should also be determined. As outlined the use of different retrieval methods provide stronger or weaker usage bias effects. Therefore where these measures are used as screeners, the advertising likeability scores should be compared to determine whether the usage bias effects of advertising awareness are influencing the advertising likeability scores.

Finally, as suggested for the measure of advertising awareness, it may also be beneficial to study different markets to see if there are consistencies or differences to the findings of this study. The data sets of this study for advertising likeability were predominately repertoire markets, and showed large differences between Product and Services categories. Further research avenues could include studying different market types such as subscription or emerging markets to see if further variations occur to the findings of this study.

9.3 Chapter Summary

This chapter concludes the thesis and has outlined the limitations and avenues for future research. This study has determined that previous brand usage does have an influence on responses for six different retrieval methods of advertising awareness, and for the measure of advertising likeability.

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