Words matter : the impact of word-of-mouth communication

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WORDS MATTER: THE IMPACT OF WORD-OF-MOUTH COMMUNICATION

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ABSTRACT

This dissertation presents three papers in the study of word-of-mouth (WOM) communication. WOM is an informal mode of communication between consumers concerning the evaluation of products and services. Specifically, each of the three papers examines the impact of WOM on consumers from various perspectives.

Paper 1 builds on the media congruence hypothesis proposed by Wright and Lynch (1995). The media congruence hypothesis states that the medium that best communicates the type of attributes is the one most congruent with that type of information. Specifically, Paper 1 examines the impact of positive and negative WOM on the WOM recipient's ratings of search and credence attributes in two different service contexts. Results from two experiments suggest that negative WOM (but not positive WOM) is more effective in changing the evaluation of credence attributes than that of search attributes. This finding implies that marketers need to have different approaches to deal with the impact of negative WOM on different attribute types.

Paper 2 examines the impact of the accessibility of the different selves (private versus collective) and the tie strength between the WOM sender and the recipient (strong versus weak) on both post-purchase attitude and post-purchase attitude certainty. The results of the experiment do not support the hypotheses that the threats to the self (private or collective) directly cause the study participants to positively bias their post-purchase brand evaluations to bolster their self-concepts. However, the threats to the self were sufficient to elicit significant differences in post-purchase attitude certainty in both experiments. In Experiment 2.2, there is evidence that the study participants may have relied on their experience of psychological discomfort in

deriving judgments of attitude certainty. The study participants who experienced higher psychological discomfort also experienced lower attitude certainty. This lower certainty may lead to lower resistance to persuasive attacks. Hence, these post-purchase attitudes may be more subjected to change in the long run.

Finally, Paper 3 proposes how brand familiarity can affect the motivation to use the perceived expertise of the WOM sender to evaluate the brands. The results support the prediction that consumers are more likely to use the expertise heuristic to evaluate an unfamiliar brand than a familiar brand. Experiment 3.2 provides some preliminary evidence that this finding may be due to the difference between the confidence gaps (i.e., between desired and actual confidence) of the study participants' pre-WOM evaluation of the brands. This finding has methodological implications for the use of familiar versus unfamiliar brands in experiments. Together with Paper 2, the results here highlight the importance of the meta-attitude factors (e.g., attitude certainty) in the study of persuasion.

CHAPTER 1

INTRODUCTION

Background, Research Objectives, and Contributions

WOM is an informal mode of communication between consumers concerning the evaluation of products and services (Anderson, 1998; Arndt, 1967; Dichter, 1966). These consumers are typically independent of the marketers. In the marketplace, consumers search for information from knowledgeable others (e.g., friends and relatives) to make more informed decisions (Berger, 1988; Jolson & Bushman, 1978). The information from relevant others is taken as evidence of reality (i.e., informational influence) (Deutsch & Gerard, 1955), supporting and/or adding to what the consumers already believe about the products and services.

WOM plays an important role in shaping consumers' attitudes and behaviors, because consumers tend to rely more on informal and personal sources of information than more formal and nonpersonal sources of information (e.g., media advertising) in making purchase decisions (Bansal & Voyer, 2000; Duhan, Johnson, Wilcox, & Harrell, 1997). Since the marketer is a known persuasion agent, the consumers believe that the goal of the marketer is to produce a persuasion attempt that is as effective as possible at influencing their attitudes and beliefs (Friestad & Wright, 1994). Therefore, the consumers may not perceive the information in advertising and other marketing communication from the marketers as unbiased and credible. In contrast, WOM is typically perceived as trustworthy and credible, because it is based on the experiences of other consumers who are independent of the marketer (Bansal & Voyer, 2000; Mourali, Laroche, & Pons, 2005; Bone, 1995; Smith, Menon, & Sivakumar, 2005). Moreover, WOM plays an important role in information

diffusion in consumer markets (Brown & Reingen, 1987; Mizerski, 1982; Murali et al., 2005), as WOM is a low cost and reliable way of transmitting information about products and services (Berger, 1988). Finally, such interpersonal sources of information provide opportunities for clarification and immediate feedback. Therefore, consumers are more likely to get information tailored to their informational needs and trust the information more (Murali et al., 2005).

Even though marketers may not have control over WOM the way they do over other forms of marketing communication (e.g., advertising and sampling), they still need to understand the impact of WOM and manage WOM well. In addition, many companies have been trying to harness the power of WOM between consumers. For example, some companies provide incentives to consumers to promote their products (e.g., the Tremor campaign for Procter and Gamble). The rationale of having such campaigns is that marketers believe that consumers are effective ambassadors for the brands. Moreover, consumers have a growing voice due to their ability to share their positive or negative experiences with other consumers through online forums and other Internet technologies (Harrison-Walker, 2001). However, the extant literature has only limited research on the impact of WOM on the recipient compared to the research on the impact of marketing communication on consumers (Bansal & Voyer, 2000). Hence, more research can be done to inform marketers what factors they should look out for to manage WOM more effectively. This dissertation aims at enriching the literature in this direction.

Specifically, this dissertation examines WOM as a form of informational influence in which the WOM recipient cognitively processes the information in the WOM context to form his/her evaluation. The information in the WOM context can include information within the WOM message (e.g., information about the performance of attributes / brand) or even information about the source (e.g., the perceived expertise of the WOM sender). In addition,

all three papers examined this informational influence at an individual level only. These three papers also do not inform on WOM from multiple sources (e.g., different friends). With similar WOM from multiple sources, WOM is likely to asset greater normative influence and the consumers may feel pressure to conform in order to be liked or accepted by others (Festinger, 1954).

In these three papers, the impact of WOM through informational influence is argued to lead to private acceptance (i.e., accepting the WOM information as the truth due to a genuine belief that others are correct) and not just public compliance (i.e., conforming to the behavior of others publicly without necessarily believing it is correct). Even for Paper 2 that deals with tie strength, the experimental procedure was designed to capture the private attitude of the study participants. Paper 2 looks at how the threats to the self-concepts (private or collective) due to the conflicting information (i.e., positive WOM from WOM sender vs. negative brand experience) may affect the study participants' private attitude toward the brand. The privacy of the study participants was emphasized, so that these study participants would not feel compelled to give an attitude rating that was consistent with the "friend" in the WOM scenario.

Even though consumers have an increased ability to share their product and service experiences online, 90 percent of WOM still takes place offline (Keller and Berry, 2006). Thus, all three papers still used the context of offline WOM to study the impact of WOM on consumers. Given the growing online share of chatter among consumers, future research on WOM should provide a more comprehensive view of consumer-to-consumer communication online. Tie strength of online consumers may possibly be a moderating factor, as consumers who communicate online about products and services are less likely to know each other personally. This issue will be discussed in greater detail in the concluding section of this dissertation.

Inspired by the economics of information (EOI) literature, Paper 1 examines consumers' reliance on WOM for the evaluation of different types of attributes. The effectiveness of WOM may depend on the nature of the specific attributes (e.g., the degree of information asymmetry) that the consumers are evaluating (Wagenheim & Bayón, 2004). Prior to the purchase of the products and services, the amount of information available to the consumers from various sources (e.g., advertising, direct experience) varies for different types of attributes (Hsieh, Chiu, & Chiang, 2005). Thus, the consumers may rely more or less information from other consumers in WOM to help them evaluate certain type of attributes.

Conceptually, Paper 1 builds on the media congruence hypothesis (Wright & Lynch, 1995), by studying the impact of WOM on the evaluation of different types of attributes (i.e., search and credence attributes). Wright and Lynch (1995) studied the effectiveness of advertising and direct experience on search and experience attributes. In addition, Paper 1 looks at the applicability of the media congruence hypothesis for both positive and negative information. Wright and Lynch's (1995) paper did not take the differential impact of positive and negative information into account.

Moreover, this research is able to demonstrate that WOM is more effective in communicating information on credence attributes than on search attributes in terms of greater impacts on the valence of attribute evaluation (at least for negative WOM). Marketers often measure attribute evaluation in their consumer surveys as one of their key performance indicators and use these attribute ratings to identify areas on which to improve on for their services. Marketers also frequently position their brands along important attributes in their advertising campaign. Wright and Lynch (1995) only examined the effectiveness of the different media to communicate product information in terms of the recognition of the claims made, belief accessibility, and belief confidence for search and experience attributes.

In terms of managerial implications, the results of Paper 1 can help marketers understand the possible impact of WOM on attribute evaluation on potential customers. As a start, marketers must have an understanding of how consumers may implicitly categorize different attributes into search and credence attributes. This understanding will allow marketers to identify attributes whose pre-purchase evaluations are more likely affected by negative WOM. These marketers will then be able to better manage and mitigate the possible impact of negative WOM on purchase decision.

Next, Paper 2 aims to fill a major gap in current literature about the impact of WOM. From the extensive literature review on WOM, there seems to be no past study looking specifically at the impact of WOM on post-purchase attitude and post-purchase attitude certainty. Paper 2 examines this issue by looking at the saliency of threats to the collective and private selves of the WOM recipient, when actual product experience does not match the positive WOM provided by a fellow consumer. Tie strength of the WOM sender with the WOM recipient is also being taken into consideration, because tie strength is likely to impact the level of threat experienced by the WOM recipient. Moreover, properties of social relations are likely to be an important influence on WOM behavior, as all WOM behaviors occur within some sort of social relationships (Bansal & Voyer, 2000).

The results of the two experiments in Paper 2 do not support the hypotheses that the threats to the self (private or collective) directly cause consumers to positively bias their brand evaluations to bolster their self-concepts. Instead, the results suggest that the dissonance elicited have a direct impact on post-purchase attitude certainty. Attitude certainty is a measure of attitude strength. In both experiments, the study participants who were expected to experience threats to their selves (private or collective) had significant lower post-purchase attitude certainty. In Experiment 2.2, there is evidence that the study participants may have relied on their experience of psychological discomfort (i.e.,

dissonance) in deriving their judgments of attitude certainty. Those study participants who experienced higher dissonance also experienced lower post-purchase attitude certainty. The mediated moderation analysis in Experiment 2.2 also suggests that dissonance mediates the overall moderation effect. These results demonstrate that a lack of attitude change does not mean that a persuasion attempt has no impact. This finding is in line with recent research about the impact of persuasive attempts on meta-attitude factors like attitude strength (e.g., Tormala & Petty, 2004).

The results of past studies have been equivocal on whether dissonance will lead to attitude change. Interestingly, Paper 2 demonstrates that the impact of manipulations of dissonance can extend beyond just a change in attitude valence. Past studies about dissonance that were reviewed did not capture the attitude strength. Therefore, it is not clear if the manipulations of those studies affected attitude strength. Since attitude strength (in this case attitude certainty) can affect the resistance to subsequent persuasive attacks (Bassili, 1996; Tormala & Petty, 2002; Visser & Mirabile, 2004), the weakened post-purchase attitude due to the dissonance may be more prone to additional influences. Hence, the findings in Paper 2 challenge the notion that the consumers change their post-purchase attitude directly to reduce dissonance. Since the consumers have weakened post-purchase attitude due to dissonance, they may be influenced by additional information whether this information is positive or negative. The direction of attitude change does not have to be positive. Therefore, this possible explanation may be able to account for the equivocal findings of attitude change. As additional information after the “purchase” was not provided to the study participants in Experiment 2.1 and Experiment 2.2, future additional studies are required to address which explanation is more appropriate.

In terms of marketing implications of Paper 2, marketers using WOM as a tool for marketing should take into the account the chronic accessibility of private and collective self

in different cultures. The impact on post-purchase attitude certainty can have long-term implications in terms of persistence of post-purchase attitude toward brands and post-purchase behaviors (e.g., repurchase, providing WOM to other consumers).

Finally, Paper 3 examines the impact of expertise of the WOM sender on the evaluation of the brand. The expertise of the source is one of the more important and enduring components of source credibility (Yoon, Kim, & Kim, 1998). Since the impact of WOM is contingent on the fact that consumers view WOM messages as credible, the perceived expertise of WOM sender is likely to be an important factor in the study of WOM. Paper 3 also takes into consideration the familiarity of the brands. With the use of unfamiliar/unknown brands in the first two papers, the issue of whether the use of familiar brands would have changed the conclusions drawn in the first two studies had been raised in previous presentations of the two papers. Thus, Paper 3 looks at how brand familiarity can affect the motivation to use the expertise heuristic in a context of a WOM exchange (i.e., “The statements of consumers who are experts can be trusted”) to help evaluate the brands.

Specifically, the expertise of the WOM sender is expected to have a greater impact on the attitude toward the unfamiliar brand as compared to the impact on attitude toward the familiar brand. The results of the two experiments in Paper support this prediction. The results of Experiment 3.2 also provide some preliminary evidence that the moderation effect of brand familiarity on the use of the expertise heuristic (i.e., “experts’ statements can be trusted”) may be driven by the difference between the confidence gaps (i.e., between desired and actual confidence) of the study participants’ pre-WOM evaluation of the brands. Together, the results of Paper 2 and Paper 3 highlight the importance of considering meta-attitude factors in studying the impact of persuasive attempts.

Marketers often use brand extensions in order to build and communicate strong brand positioning, increase the probability of trial by lessening new product risk for consumers, and

enhance awareness and quality associations. However, the direct impact of the parent brand on evaluation of the brand extensions is not the only consideration. But most existing studies on brand extensions focused mainly on the direct impact of the parent brand (Sjödin, 2008). As the evaluations of brand extensions do not occur in a vacuum of information from other sources, Paper 3 helps in the understanding of how consumers' evaluations of new brand extensions can be affected by additional information in the marketplace (expertise of WOM sender in this case). The results of Paper 3 suggest whether consumers use the additional information in their evaluation of new brand extensions depends on the consumers' actual confidence of their own evaluation of the parent brand.

Paper 3 also has implications in terms of the methodology adopted by consumer behavior researchers. The brands used for consumer behavior experiments may be unknown/unfamiliar to the study participants (as in Paper 1 and Paper 2 of this dissertation). The use of familiar brands can inadvertently affect the conclusions drawn in some of these experiments and the extent to which the results of the experiments can be generalized. For example, Kirmani and Shiv (1998) found that source congruity enhances attitudes under conditions of high issue-relevant elaboration by using of hypothetical brands in their experiments. Kirmani and Shiv (1998) manipulated source congruity, by matching a certain endorser to the positioning of these hypothetical brands. However, brand familiarity may moderate the impact of source congruity. Source congruity may not enhance the brand attitudes toward familiar brands (with small confidence gap) from their current levels, as the consumers may not elaborate on the information even in conditions of high issue-relevant elaboration.

In terms of marketing implications of Paper 3, marketers of unfamiliar brands should get "expert" consumers to give positive WOM on attributes. This approach will be a lot more cost effective as these perceived experts (versus non-experts) have significantly more

influence on consumers for unfamiliar brands. However, the expertise of the sources is less of a concern to managers of familiar brands when using WOM as a form of promotion.

Organization of the Dissertation

Following this overall introduction to the dissertation, Paper 1 (*The Impact of WOM on Attribute Evaluation*) is presented in Chapter 2. The chapter starts with a general introduction to the paper. The literature review and hypotheses follow immediately after. Next, the designs of the two experiments conducted are outlined. For each experiment, the results are presented and discussed. To end Chapter 2, the contributions, implications, and limitations of the paper are discussed. After Paper 1, Paper 2 (*The Impact of Positive WOM on Post-Purchase Attitude and Attitude Certainty*) is presented in Chapter 3 and Paper 3 (*The Use of the Expertise of WOM Sender in the Evaluation of Familiar and Unfamiliar Brands*) is presented in Chapter 4. The structure of Chapter 3 and the structure of Chapter 4 are same as that of Chapter 2. Finally, the findings of the three papers are summarized, with concluding remarks to end the dissertation.

CHAPTER 2

PAPER 1: THE IMPACT OF WOM ON ATTRIBUTE EVALUATION

Introduction to Paper 1

WOM is particularly important in service marketing due to the heterogeneity of service quality, the higher associated risk, and the intangible nature of services (Bansal & Voyer, 2000; Ekeland, Mixon, & Ressler, 1995; Jolson & Bushman, 1978). But the effectiveness of such interpersonal influence may still depend on the nature of the specific attributes (e.g., the degree of information asymmetry) that the consumers are evaluating (Wagenheim & Bayón, 2004). This first paper focuses on the distinction between search and credence attributes. A service may have one or both of the above types of attributes. For example, the price of a restaurant meal is likely to be a search attribute and the long-term health benefit of the meal is likely to be a credence attribute. Hence, this paper examines the differential impact that WOM may have on consumer's evaluation of these attributes. Specifically, WOM is expected to have an increased impact on credence attribute evaluation than on search attribute evaluation.

From the literature review of research on WOM, most of the research has focused solely on positive WOM and negative WOM is largely ignored. However, there is quite a bit of literature about the diagnosticity of negative information in consumer behavior and psychology research. Drawing on the research about the diagnosticity of negative information (e.g., Ahluwalia, 2002), the increase in the impact of WOM from search to credence attributes is also expected to be greater for negative WOM than for positive WOM.

Conceptual Background and Hypothesis Development

Attribute Types

In the EOI literature, products and services have been categorized as search, experience, and credence (Darbi & Karni, 1973; Nelson, 1970; Nelson, 1974). However, this classification may not always be appropriate, as many products and services consist of one or a combination of search, experience, and credence attributes (Ekeland et al., 1995; Sheffet, 1983). Therefore, a multi-attribute description of products and services seems more appropriate and realistic. Translated from the EOI literature, search attributes are attributes that consumers can accurately determine prior to product purchase; experience attributes are attributes that can only be evaluated after purchase or during consumption; and credence attributes are attributes that the consumers are unable to evaluate confidently even after purchase or consumption (Blankson & Kalafatis, 1999; Ford, Smith, & Swasy, 1990; Srinivasan & Till, 2002). For example, Babakus, Eroglu, and Yavas (2004) classify various attributes for banking services into search, experience, and credence attributes. Search attributes include the interest rates on deposits and the banking hours. Experience attributes include the helpfulness of tellers and the timeliness of the services. Credence attributes include the confidentiality of the customers' banking information and the integrity of the bank. The amount of information available to the consumers varies for the different types of attributes (Darbi & Karni, 1973; Nelson, 1974), with the highest amount of pre-purchase and post-purchase information available for search attributes and the lowest for credence attributes. Thus, the focus of this current research is on search and credence attributes in order to maximize the effect size of the expected differences.

Consumers are able to acquire information on the performance of search attributes easily and confidently from secondhand sources (e.g., advertising) prior to purchase (Hsieh, Chiu, & Chiang, 2005; Wright & Lynch, 1995). As search attributes are relatively unambiguous and difficult for marketers to get away with making inaccurate claims (Nelson, 1974), consumers are the least skeptical of such marketers' claims (Ford, Smith, & Swasy, 1990). In contrast, claims about performance on credence attributes cannot be verified even after purchase or immediate consumption (Ekeland et al., 1995; Nelson, 1974), because consumers do not have the technical expertise or resources to do so (Sheffett, 1983). As the information asymmetry between buyers and marketers for credence attributes may create strong incentives for the sellers to cheat (Emons, 1997), consumers are highly skeptical of marketers' claims about credence attributes. Therefore, consumers are likely to seek alternative information sources that do not have any ulterior motive (Friestad & Wright, 1994). Consumers may have come to rely on WOM from a trusted source as one of the few ways to help them evaluate credence attributes. In the absence of diagnostic information on credence attributes to process, the consumers may use signals and/or heuristics to a greater extent to evaluate such attributes (e.g., "It must be good/bad because others whom I trust say so") (Babakus et al., 2004; Srinivasan & Till, 2002; Sheffett, 1983).

Hypotheses

Wright and Lynch (1995) proposed a media congruence hypothesis under which the medium that best communicates the type of attributes is most congruent with that type of information. In their experiments, the effectiveness of the medium was measured using claim recognition, belief accessibility, and belief confidence. They found evidence that direct experience is more congruent with experience attribute belief communication and advertising

is more congruent with search attribute belief communication. Specifically, the study participants recognized claims about search attributes better, more readily accessed the beliefs of the search attributes, and held these beliefs with greater confidence after exposure to advertisements than after having direct experience. The opposite was true for experience attributes. Building on their research, this research proposes that WOM is more congruent with credence attribute belief communication as compared to search attribute belief communication. However, this paper examines the direct impact of WOM on the evaluation of the attributes instead of claim recognition, belief accessibility, and confidence, as the consumers' attribute rating can give the marketers an idea what they can do to improve their products or services. Furthermore, marketers often measure attribute evaluation in their consumer surveys as one of their key performance indicators. Marketers also frequently position their brands along important attributes in their advertising campaign.

Consumers may rely less on WOM or direct experience for judging search attributes, as the credibility of the source matters less to enhance persuasion for search attributes (Jain & Prosavac, 2001). Consumers are able to acquire information on the performance on search attributes prior to purchase from other sources (e.g., directly from marketers and retailers) easily at a low cost comparable to that of WOM. Moreover, WOM on search attributes is likely to be less reliable and accurate than information direct from the marketers and retailers, as this WOM is dependent on the memory of the WOM sender.

Even if consumers have direct experience with the product or service, they are normally unable to assess the performance of credence attributes (Washburn, Till, & Priluck, 2004). Consumers may then resort to signals and/or heuristics to evaluate credence attributes. When the characteristics of the focal object cannot be adequately assessed from direct observation and contact, the consumers may use the reactions of others towards the focal object as evidence about the unobservable characteristics of the object (Burnkrant &

Cousineau, 1975). Moreover, WOM is generally perceived as trustworthy and credible by the consumers, because WOM is based on the experiences of other consumers who are independent of the marketers (Bansal & Voyer, 2000; Murali et al., 2005; Smith et al., 2005). Therefore, consumers may rely more on the position advocated in the WOM as an important informational cue (rather than direct experience or advertising) to form their evaluation on credence attribute of an unfamiliar brand. With a familiar brand, consumers may rely on the brand name as a signal of quality instead (refer to Paper 3 for a discussion on this issue). For an unfamiliar brand, WOM is predicted to have a higher impact on the evaluation of credence attributes than on the evaluation of search attributes.

H1. The impact of WOM on attribute evaluation will be higher for credence attributes than for search attributes.

WOM normally contains positive and/or negative evaluations on products discussed (Smith et al., 2005). Furthermore, WOM is an important, common, and realistic source of negative information of brands, as engaging in WOM is one of the main ways consumers use to express dissatisfaction (Smith & Vogt, 1995). In the extant literature, negative information is commonly believed to have a greater influence on a decision maker than positive information. Such a negativity effect (i.e., the greater weighing of negative as compared with equally extreme positive information in the formation of overall evaluations) appears to be a well-proven phenomenon in consumer psychology (Ahluwalia, 2002). Negative information has been found to be more credible and diagnostic than positive information (Herr, Kardes, & Kim, 1991). Negative WOM has also been found to be a stronger influence on customers' brand evaluations than positive WOM (e.g., Mizerski, 1982). Consistent with the current literature, the following main

effect is expected.

H2. The impact of negative WOM on attribute evaluation will be greater than that of positive WOM.

As suggested before, the incentive for marketers to misrepresent information is higher for credence attributes than for search attributes. As the ambiguity of attribute evaluation and the risk from a lack of information and knowledge increase, WOM becomes a more important source of information to the consumers (Bansal & Voyer, 2000; Hsieh et al., 2005). Increased perceived risk may increase the saliency of the diagnosticity and credibility of the information that can help consumers to avoid some negative consequences that marketers' opportunistic behaviors can bring. Since negative WOM is more diagnostic and credible than positive WOM, the increase in its impact from search to credence attributes ought to be greater than the increase brought about by its positive counterpart. Therefore,

H3. The expected increase in the impact of WOM from search to credence attributes will be greater for negative WOM than for positive WOM.

The Present Research

Participants and Design

The type of attributes (search versus credence) and valence of WOM (positive versus negative) were manipulated between-subjects in two experimental studies to test the hypotheses. The study participants considered the two chosen contexts (i.e., travel and consumer banking) to be relevant to them as consumers. The pool of study participants included undergraduate students from a major university in Singapore. Study participants ($n=107$) in Experiment 1.1 were given course credits for their participation and study participants ($n=96$) in Experiment 1.2 were paid 6 SGD (1 SGD = 0.68 USD) each.

Experiment 1.1

Procedure and Measurements

This experiment put the study participants in the context of considering Belize as a travel destination. A pretest with 15 study participants that were different from those participating in the experiment indicate that only 13.3 percent of them had heard of Belize as a country. Moreover, the general impression of Belize as a travel destination is fairly neutral. The use of unknown and neutrally rated brand names can help to maximize the impact of interpersonal influence such as WOM and avoid any possible biases and prior impressions the study participants may have (Zemboirain & Johar, 2007). The pretest study participants gave a mean rating of 4.27 on a seven-point scale from *very negative* (1) to *very positive* (7). They were also asked to list all the relevant attributes for them to choose a travel destination.

A second pretest ($n=15$) was conducted to identify two search attributes and two credence attributes for the main experiment. Firstly, a list of attributes was generated based on the responses from the previous pretest. The pretest study participants from the second round were given the definitions of search, experience, and credence attributes and asked to categorize each of the attributes into the three types. They were also asked to rate each of the attributes in terms of importance. Attributes that were categorized in one type for at least 60% of the time were chosen for the experiment. The four resulting attributes were *Cost of the Accommodation* (search), *Cost of the Trip to and from Destination* (search), *Likelihood of Terrorist Attack* (credence), and *Likelihood of Civil Unrest* (credence). On a seven-point scale from *totally unimportant* (1) to *totally important* (7), the mean importance scores for the four chosen attributes range from 5.67 to 6.00.

Study participants in the main experiment were randomly assigned to one of the four conditions in a laboratory setting. They were asked to imagine that they were considering Belize as their travel destination. They were first given a general description of Belize as follows:

“The capital of Belize is Belmopan. Most visitors travel to Belize by air but visitors can also get there by road or sea. Visitors to Belize are required to apply for Visa and are permitted to stay in Belize for a period not exceeding 30 days. Even though the currency used in Belize is the Belize Dollar (BZ\$), most hotels, resorts, restaurants and tour operators do accept U.S. currency, traveler's checks and major credit cards.”

The study participants were then asked to rate the focal attributes (i.e., attributes from the attribute type to which they had been assigned) and other attributes on four seven-point scales (*Cost of the Accommodation*: very low/very high; *Cost of the Trip to and from*

Destination: very low/very high; *Likelihood of Terrorist Attack*: very low/very high; and *Likelihood of Terrorist Attack*: very low/very high). All the attributes were reverse-scored for higher scores to indicate more positive evaluations. These ratings formed the baseline against which the post-WOM ratings were compared. The rating task was followed by a filler task. After the filler task, the study participants read a WOM scenario, which included the manipulation of WOM valence and attribute type. Focal attributes and some peripheral information about the travel destination were included in the scenario. An example of the Negative WOM/Search Attribute condition is as follows (the parts in italics were not included in the scenario presented to the study participants):

“You want to know more about Belize? Oh sure, I went to Belize last year. Well, there are various attractions such as ancient temples, forests and mountain ranges. I also got a chance to swim with the stingrays and sharks at the Shark Ray Alley. However, the cost of accommodation (*search attribute 1*) was really high (*negative*). The cost of traveling to and from Belize (*search attribute 2*) was also really high (*negative*). By the way, the majority of the locals do speak English, so communication wasn’t an issue. I also did some shopping over there and got some interesting local products. Perhaps I should show them to you someday.”

The peripheral information made the WOM scenario more realistic and was available in all conditions. This peripheral information was presented as neutral sounding as possible. The two focal attributes were always presented in the middle of the WOM message and were positively or negatively phrased depending on the condition. All the statements used for describing the different focal attributes are presented in Table 1. Study participants rated the

focal attributes and other attributes again after reading the WOM scenario. Study participants also filled out various items (e.g., involvement and the importance of the attributes) to check for their likely effects on the main dependent variable. For the manipulation check, the study participants categorized the various attributes into search, experience, and credence attributes. Finally, the study participants wrote down their thoughts about the purpose of the study. The experimenter then thanked and dismissed them.

Table 1

WOM Statements Used (Experiment 1.1)

Attribute type	Valence type	Statements
Cost of the accommodation (Search)	Negative	The cost of accommodation was really high.
	Positive	The cost of accommodation was really low.
Cost of the trip to and from Destination (Search)	Negative	The cost of traveling to and from Belize was also really high.
	Positive	The cost of traveling to and from Belize was also really low.
Likelihood of terrorist Attack (Credence)	Negative	I did not feel safe in Belize, as there was really high possibility of a terrorist attack.
	Positive	I felt safe in Belize, as there was really low possibility of a terrorist attack.
Likelihood of civil unrest (Credence)	Negative	The possibility of civil unrest was also really high.
	Positive	The possibility of civil unrest was also really low.

Dependent variables of claim recognition, belief accessibility, and belief confidence were not included in Experiment 1.1, because of the fatigue factor in including measures of those dependent variables as part of the experimental instrument. Each of the study participants needed to rate six attributes (including those that are not the focal attributes of interest) pre-WOM and post-WOM. Hence, the addition of all of these dependent variables would have increased the length of the experimental instrument substantially. The same limitation holds for Experiment 1.2 as well.

Results and Discussion

The analysis on the change scores for each of the attributes (i.e., the difference between the post-WOM and pre-WOM ratings) shows that the WOM valence manipulation is effective. For study participants who read negative WOM, one-sample t-tests show that the means of their untransformed attribute rating change scores are significantly different from zero in the negative direction for each of the four attributes (all $ps < .001$). Another series of one-sample t-tests confirm that the mean of the change scores from those reading positive WOM are significantly different from zero in the positive direction (all $ps < .001$). In contrast, the manipulation of attribute type is only marginally effective for the two credence attributes (refer to Table 2). This issue will be discussed later in this section. Furthermore, no study participant was able to guess the overall objectives or the hypotheses of the experiment.

Table 2**Categorization of Attributes by Study Participants (Experiment 1.1)^a**

Type of Attributes	Credence (%)	Experience (%)	Search (%)	Not Sure (%)
Cost of the accommodation (<i>n</i> =53)	1.89	1.89	96.23	-
Cost of the trip to and back from the destination (<i>n</i> =53)	3.77	13.21	83.02	-
Likelihood of terrorist attack (<i>n</i> =54)	57.41	7.41	27.78	7.41
Likelihood of civil attacks (<i>n</i> =54)	46.30	9.26	40.74	3.70

^aThese percentages included only study participants who rated the specific focal attribute.

In order to compare the impact of negative WOM and positive WOM, analyses were done on the absolute value of the change score of the attribute ratings. The pre-WOM and post-WOM mean scores for attribute rating are presented in Table 3. Other analyses including covariates such as involvement and attribute importance did not yield significantly different results. These additional analyses are not presented in this paper. The main analysis was done using the *Linear Mixed Models* (LMM) module in *SPSS* and the parameters of the model was estimated with the restricted maximum likelihood estimation algorithm. The individual attributes were nested within the corresponding attribute type (i.e., search and credence). This analysis strategy was adopted instead of averaging the change scores of the different attributes rated by the same study participant, because preliminary correlational analyses indicate that the averaging the change scores of the focal attributes in the same condition is not appropriate. The correlations of the change scores of the focal attributes within the same condition are fairly low for some of the cells. However, the analysis using

ANOVA on the average of the change scores yields the same results. The readers should note that *LMM* module in *SPSS* applies corrections for random effects and multiple levels that result in fractional values for the degrees of freedom for the denominator (Tabachnick & Fidell 2007). However, the presentation of the denominator degrees of freedom in this paper is rounded to the nearest integer.

Table 3

Pre-WOM and Post-WOM Attribute Rating (Experiment 1.1)

	Pre-WOM Attribute Rating Mean Score* (Standard Deviation)	Post-WOM Attribute Rating Mean Score* (Standard Deviation)
Negative WOM		
Search ($n=26$)	3.00 (1.37)	2.02 (1.08)
Credence ($n=27$)	3.89 (1.02)	1.87 (.75)
Positive WOM		
Search ($n=27$)	2.94 (1.27)	4.82 (1.20)
Credence ($n=27$)	3.94 (1.11)	5.79 (1.10)

**Reversed-scored for higher scores to reflected a more positive rating.*

Figure 1**Descriptive Statistics for Change in Attribute Rating (Experiment 1.1)**

^a (cell size, standard deviation)

The significant interaction effect ($F(1, 103)=8.34, p<.01$) and individual cell means indicate that the relationship under *Negative WOM* is significantly steeper than that of the relationship under *Positive WOM* (refer to Figure 1). Hence, the results support Hypothesis 3. The *Attribute Type* main effect is significant ($F(1, 103)=8.44, p<.01$). The marginal mean of *Search Attribute* ($M=1.44$) is lower than that of *Credence Attribute* ($M=1.95$). However, this main effect has to be interpreted taking the significant interaction effect into consideration. Thus, the simple effects are examined in greater detail with additional post-hoc analyses. The post-hoc analyses were done using the confidence intervals of the cell means, after adjusting

for multiple comparisons using Bonferroni procedure with the overall error rate at .05. The Bonferroni procedure is appropriate to test small number of contrasts based on theoretical hypotheses prior to the data collection (Maxwell & Delaney, 2004). These analyses show that the cell mean of *Search Attribute* is significantly lower than that of *Credence Attribute* for *Negative WOM* (refer to Figure 1). But the cell means do not differ significantly under *Positive WOM* (refer to Figure 1). Thus, Hypothesis 1 is only supported for *Negative WOM*.

The *WOM Valence* main effect is significant ($F(1, 103)=4.69, p<.05$), but the marginal mean for *Positive WOM* ($M=1.89$) is greater than that of *Negative WOM* ($M=1.50$). The only significant simple effect is the cell mean of *Positive WOM* is greater than that of *Negative WOM* under *Search Attribute* (refer to Figure 1). Thus, Hypothesis 2 is not supported. The unexpected result for Hypothesis 2 may have been due to the context used in Experiment 1.1. Recent research has found that some factors attenuate the negativity effect (Ahluwalia, 2002). For example, Lacznia, DeCarlo, & Ramaswami (2001) found that negative WOM decreases brand evaluation only when the WOM recipients attribute the negativity of the message to the brand and not to the WOM sender. In Experiment 1.1, the study participants might have attributed the negative WOM to the WOM sender rather than Belize as a travel destination. The study participants were likely to have made this attribution in this context, because the performance of some of the attributes would depend on the choices the WOM sender made. For example, the attribute of *Cost of the Accommodation* depends on the service provider that the WOM sender chooses. Therefore, the context for Experiment 1.2 was chosen to be less dependent on the choices made by the consumers.

Next, a large proportion of the study participants considered the credence attributes as search attributes (refer to Table 2). An additional analysis without these study participants shows results that are consistent with the conclusions drawn from the results of the main analysis. However, the study participants might have perceived the search and credence

attributes to be different on some other dimensions. Thus, a more stringent criterion was adopted for the choice of attributes to be used in Experiment 1.2. Industry experts and academics have also categorized these chosen attributes as search and credence attributes.

Experiment 1.2

Procedure and measurements

The context of consumer banking services was used in Experiment 1.2. The scenario in Experiment 1.2 focused on a choice situation, whereby the study participants were to consider a single type of financial service from a single service provider. In this scenario, consumers are more likely to attribute any negative information about the service quality to the service provider rather than the WOM sender. In several exploratory interviews with students from the study participant pool, all of these students identified the savings account as the most relevant financial service to them. All of the pretest study participants also indicated that they had at least one savings account ($n=25$).

Study participants in the main experiment were asked to imagine that they were considering opening a new savings account with the Royal Bank of Canada (RBC). A pretest with 25 study participants that were different from those participating in the experiment indicates that only four percent of them had heard of RBC. General impression on RBC in the pretest is fairly neutral with a mean rating of 4.96 on a seven-point scale from very *negative* (1) to very *positive* (7). From the existing literature, a list of search and credence attributes was generated. Industry experts and academics have categorized these attributes into search and credence attributes (e.g., Babakus et al., 2004). However, consumers may not perceive and understand the differences between the search and credence attributes in the way

researchers do (Krishnan & Hartline, 2001). Hence, pretest study participants were still asked to categorize the list of attributes into search, experience, and credence attributes. They also asked to rate each of the attributes in terms of importance. Compared to Experiment 1.1, a more stringent criterion in this experiment was adopted in order to minimize the possibility of the poor operationalization of the attributes. As such, attributes that the pretest study participants categorized in one type for at least 70% of the time were chosen for the experiment. The four resulting attributes were *Interest Rate* (search), *Convenience of the Branches* (search), *Competency of the Management* (credence), and *Integrity of the Bank* (credence). On a seven-point scale from *totally unimportant (1)* to *totally important (7)*, the mean importance scores for the four chosen attributes range from 5.36 to 6.12.

The experimental procedure was similar to that of the previous experiment, except that the pre-WOM evaluations of the attributes were measured using an online survey in which the respondents had to access in order to register for the experiment. The following shows the general description of RBC bank used in the online survey:

“RBC bank is a full service bank that provides a full range of financial services, aimed at fulfilling the total banking and financial needs of both businesses and individuals. RBC bank is present in various countries in the Asia-Pacific region, through a network of subsidiaries and associated companies. As of 28th Dec 2006, RBC bank and its subsidiaries have total assets in excess of billions of Singapore dollars.”

Each of the focal attributes was measured on a seven-point scale prior to and after the WOM scenario (*Interest Rate*: very low/very high; *Convenience of the Branches*: very inconvenient/very convenient; *Competency of the Management*: very incompetent/very

competent; and *Integrity of the Bank*: very low/very high). Higher scores indicate more positive evaluations for all attributes. An example of the WOM scenario is as follows (the parts in italics were not included in the scenario presented to the study participants):

“You want to know more about RBC bank? Oh sure, I do have a savings account with RBC bank. Well, let me see... The opening hours are from about nine in the morning to four in the afternoon on a normal workday. The bank branches are opened on Saturday mornings as well. The interior of the bank branches is fairly modern looking too. Oh yes! I feel that the interest rate (*search attribute 1*) for the savings account is really low (*negative*). I also feel that the bank branches are really inconvenient for me to get to (*search attribute 2 and negative*). What else is there for me to tell you about RBC bank? Mmm... When I first opened the savings account, I received a RBC ATM card. But I guess that is what you will typically get from other banks, for starting any savings account. Besides savings account, RBC bank provides other kind of financial services too.”

All the statements used for describing the different focal attributes in Experiment 1.2 are presented in Table 4.

Table 4**WOM Statements Used (Experiment 1.2)**

Attribute type	Valence type	Statements
Interest rate (Search)	Negative	I feel that the interest rate for the savings account is really low.
	Positive	I feel that the interest rate for the savings account is really high.
Convenience of the branches (Search)	Negative	I also feel that the bank branches are really inconvenient for me to get to.
	Positive	I also feel that the bank branches are really convenient for me to get to.
Competency of the management (Credence)	Negative	I feel that the management is really incompetent.
	Positive	I feel that the management is really competent.
Integrity of the bank (Credence)	Negative	I also feel that the integrity of the bank is really low.
	Positive	I also feel that the integrity of the bank is really high.

Results and Discussion

On the whole, majority of the study participants categorized the given attributes into their intended types (refer to Table 5). The manipulation of attribute types was fairly successful compared to Experiment 1.1. The effectiveness of the WOM valence manipulation was also evaluated. For study participants who read negative WOM, one-sample t-tests show that the means of their untransformed attribute rating change scores are significantly different

from zero in the negative direction for each of the four attributes (all $ps < .001$). Another series of one-sample t-tests confirmed that the means of the change scores from those reading positive WOM are significantly different from zero in the positive direction (all $ps < .05$). Furthermore, no study participant was able to guess the overall objectives or the hypotheses of the experiment.

Table 5

Categorization of Attributes by Study Participants (Experiment 1.2)^a

Type of Attributes	Credence (%)	Experience (%)	Search (%)	Not Sure (%)
Convenience of the branches ($n=48$)	2.08	14.58	83.33	-
Interest rate ($n=48$)	4.17	8.33	87.50	-
Competency of the management ($n=48$)	79.17	14.58	2.08	4.17
Integrity of the bank ($n=48$)	68.75	22.92	6.25	2.08

^aThese percentages included only study participants who rated the specific focal attribute.

Table 6**Pre-WOM and Post-WOM Attribute Rating (Experiment 1.2)**

	Pre-WOM Attribute	Post-WOM Attribute
	Rating Mean Score	Rating Mean Score
	(Standard Deviation)	(Standard Deviation)
Negative WOM		
Search ($n=24$)	4.81 (1.16)	2.63 (.94)
Credence ($n=24$)	5.54 (.97)	2.17 (.75)
Positive WOM		
Search ($n=24$)	5.12 (1.18)	5.93 (.75)
Credence ($n=24$)	5.55 (.96)	6.31 (.62)

As with Experiment 1.1, the analyses were done on the absolute change score of the attribute ratings. The pre-WOM and post-WOM mean scores for attribute rating are presented in Table 6. The expected interaction effect is significant ($F(1, 92)=10.64, p<.01$). Therefore, the results support Hypothesis 3. The *Attribute Type* main effect is significant ($F(1, 92)=8.45, p<.01$) with the marginal mean of *Credence Attribute* ($M=2.08$) greater than that of *Search Attribute* ($M=1.52$). With the significant interaction effect, additional post-hoc analyses were done to examine the simple effects under the different levels of WOM valence. Under *Negative WOM*, the cell means of *Credence Attribute* and *Search Attribute* are significantly different (Refer to Figure 2), after controlling for multiple comparisons. Under *Positive WOM*, the cell means are not significantly different (Refer to Figure 2). Thus, Hypothesis 1 is only supported for *Negative WOM*. The *WOM Valence* main effect is significant ($F(1, 92)=103.29, p<.001$). *Negative WOM* ($M=2.78$) has a greater impact on attribute evaluation than *Positive WOM* ($M=.82$). The cell mean of *Negative WOM* is significantly larger than the

cell mean of *Positive WOM* for both levels of *Search Attribute* and *Credence Attribute* (refer to Figure 2), after controlling for multiple comparisons. Thus, Hypothesis 2 is supported. As per Experiment 1.1, an additional analysis without the study participants who did not classify the focal attributes to the intended categories shows results that are consistent with the conclusions drawn from the results of the main analysis.

Figure 2

Descriptive Statistics for Change in Attribute Ratings (Experiment 1.2)

^a (cell size, standard deviation)

General Discussion

For both experiments, the results support Hypothesis 1. The cell means for negative WOM show a similar pattern. However, the cell means do not differ significantly under positive WOM in both experiments. In summary, negative WOM has a significantly lower impact on the evaluation of search attributes than on the evaluation of credence attributes.

The conceptual contributions of this research include building on the idea behind the media congruence hypothesis by Wright and Lynch (1995). Wright and Lynch (1995) examined the effectiveness of different media to communicate product information in terms of the recognition of the claims made, belief accessibility, and belief confidence. However, this research is able to demonstrate that WOM is more effective in communicating information on credence attributes than on search attributes in terms of greater impact on attribute evaluation. Marketers often measure attribute ratings in their consumer surveys as one of their key performance indicators and use these attribute evaluations to identify areas on which to improve on for their services. Marketers also frequently position their brands along important attributes in their advertising campaign. However, the expected relationship seems to be only limited to negative WOM. The lack of a significant difference for positive WOM may be due to a methodological issue of using a pallid presentation of the WOM scenarios in the experiments. The use of such WOM scenarios is discussed in Chapter 5, as all three papers use the same kind of WOM scenarios and suffer from the same limitation.

Even though the average consumer may not be able to verify the performance on credence attributes due to the cost and time required, negative WOM does seem to provide a signal for poor performance on these dimensions. In Paper 2 and Paper 3, the fact that the different types of attributes were not controlled for in the WOM vignettes is not likely to be an issue because only positive WOM was included in the research designs. Especially, since

the experiments in the following two papers are similar to the experiments in Paper 1 in terms of context and design.

In terms of managerial implications, the results of Paper 1 can help marketers understand the possible impact of WOM on attribute evaluation on potential customers, particularly when these marketers are using marketing tools that rely on WOM (e.g., buzz marketing). Moreover, the results from the two studies suggest that marketers of unfamiliar brand have to be aware that certain aspects of their services are more susceptible to negative WOM than others. If the attributes are of equal importance to the customers, marketers need to prioritize providing better customer service and after-sales support to address potential issues with credence attributes. Moreover, the marketers can adopt different approaches to mitigate the impact of negative WOM. As the consumers do not rely heavily on WOM for information for search attributes, accurate and positive information on these dimensions through advertising and other forms of marketing communication can easily mitigate any negative WOM regarding these attributes. Therefore, marketers should make relevant positive information on search attributes readily available to consumers (Blankson & Kalafatis, 1999). Credence attributes pose a major challenge for the marketers, as consumers are unlikely to accept any marketing communication (including product trial) from the marketers at face value. With the information asymmetry between buyer and seller regarding credence attributes, the marketers will need to build a strong brand in terms of trust to assure their customers about the performance on these attributes (Blankson & Kalafatis, 1999).

Limitations and Directions for Future Research

A possible alternative explanation to the results is that the strength of the manipulation differs across the different attributes (i.e., different wording in the WOM

message for each focal attribute to manipulate the evaluation). This explanation is unlikely for the pattern of results in the two experiments. If the significant difference across different attributes under negative WOM is due to the strength of the manipulation, the difference across different attributes under positive WOM should be significant too. In both experiments, the difference across different attributes under positive WOM was not significant. The statements for positive and negative WOM for each of the focal attributes are the same except for the valence (refer to Table 1 and Table 4).

Another possible alternative explanation is that the importance of the different attributes differs across the different attributes. This explanation is unlikely for the pattern of the significant differences in the main dependent variables of interest under negative WOM in both experiments, as the importance of the different attributes do not differ significantly under negative WOM for either experiment. The involvement of the consumer was also measured using the involvement scale from Zaichkowsky's (1994) paper (refer to Appendix A3). Involvement did not alter the results when controlled for in the two experiments.

But it is possible that there are still other confounding factors in the search and credence attributes used, such as the potential risk, accessibility of the attributes, and clarity of comprehension. For example, the manipulation check of credence attributes for both experiments did reflect a certain level of disagreement between the study participants. Even though this issue was addressed to some extent by selecting the attributes for Experiment 1.2 based on a more stringent criterion and experts' classification, additional research will be needed to rule out these possible alternative explanations.

Table 7**Importance of Attributes (Experiment 1.1)**

	Mean	Standard Deviation
Search		
Cost of the accommodation ($n=53$)	5.70	.87
Cost of the trip to and back from the destination ($n=53$)	6.77	1.03
Credence		
Likelihood of terrorist attack ($n=54$)	5.94	1.20
Likelihood of civil attacks ($n=54$)	5.76	1.20

Table 8**Importance of Attributes (Experiment 1.2)**

	Mean	Standard Deviation
Search		
Convenience of the branches ($n=48$)	5.93	1.06
Interest rate ($n=48$)	5.77	1.12
Credence		
Competency of the management ($n=48$)	5.48	1.03
Integrity of the bank ($n=48$)	5.56	1.22

Besides the WOM scenario, limited information is given to the participants of the experiments. Even the brand names of the services to be evaluated were unknown to the majority of the study participants. Future studies should consider the presence of other sources of information. For example, Srinivasan and Till (2002) found that brand name affects consumers' perception of performance for experience and credence attributes but not for search attributes. But trial of the brands can reduce (but not eliminate) the advantage branded products have in enhancing consumers' perception of credence attributes. Therefore, future research can look into how WOM may interact with brand name in affecting consumers' perception about the different attributes. Even though Paper 3 do not address this issue directly, Paper 3 does examine into how brand familiarity can influence consumers' motivation to process additional information that is inherent in the WOM context (e.g., expertise of the WOM sender). Moreover, whether WOM is congruent with the other sources of information (e.g. direct experience, advertisements) can have a considerable impact on the effectiveness of WOM (e.g., Smith & Vogt, 1995).

Next, Gershoff, Mukherjee, and Mukhopadhyay (2003) found positivity effect in an online context, in contrast to the hypothesis of negativity effect in Paper 1. As discussed in Gershoff, Mukherjee, and Mukhopadhyay's (2003) paper and the results section of Experiment 1.1, there are likely to be moderating variables that can influence the likelihood of whether the negativity or positivity effect is going to be dominant. Hence, there is a need to consider possible moderating variables that determine whether the negativity or positivity effect is going to be dominant across offline and online settings. Future studies about online WOM as an extension to Paper 1 need to identify these moderating variables and address how the relationships delineated can change from an offline context to an online context.

Finally, attitude was not included as one of the main dependent variables due to some methodological issues. One of the issues is that the list of attributes presented to the study

participants was not consistent across conditions. The search attributes were substituted for credence attributes and vice versa for the different levels of attribute type. The different attributes (likely of different weightage to the consumers) used to form the overall attitude will make it hard to interpret the results. Furthermore, the WOM message given to the study participants included fairly neutral information about the other attributes. The information about peripheral attributes was given to the study participants to avoid possible demand characteristics of providing only information about the focal attributes. As the WOM messages were not totally consistently positive or negative, the decision-making mode in which the study participants forms an overall evaluation (i.e., attitude) may play a major role in influence the impact of WOM of specific attributes on the overall attitude (Purohit & Srivastava, 2001). For a clearer picture of the impact of positive or negative WOM of specific attributes on overall attitude, future studies will need to take into consideration of these issues.

CHAPTER 3

PAPER 2: THE IMPACT OF POSITIVE WOM ON POST-PURCHASE ATTITUDE AND ATTITUDE CERTAINTY

Introduction to Paper 2

All the papers on WOM reviewed for this dissertation deal with the impact of WOM on pre-purchase variables of interest (e.g., attitude, purchase intention). This is true for the research done in Paper 1 as well, with Paper 1 looking exclusively at the pre-purchase evaluation of the attributes (search and credence). Following the arguments that are presented in Paper 1, the impact of WOM on search and credence attributes may not change from pre-purchase evaluation to post-purchase evaluation due to the nature of these kinds of attributes (i.e., experience is less “congruent” to the transmission of search and credence information). However, the impact on post-purchase variables such as overall brand attitude are still of interest to both academic researchers and marketers alike, as these variables can influence the likelihood of repurchase or providing WOM (positive or negative) to other consumers.

Hence, Paper 2 examines the impact of positive WOM on post-purchase attitude and post-purchase attitude certainty. Specifically, this paper looks at the context in which experience with the brand falls short of the expectations that WOM recipient has after receiving positive WOM about the brand. In this paper, this issue is examined from the perspective of the threats to the consumer’s self-concepts. The inability to pick the right brand may lead to a threat to the consumer’s self, as it can violate the consumer’s sense of competency as a shopper. When a consumer encounters information that threatens his/her positive self-concept, he/she may attempt to restore his/her sense of overall adaptive and

moral adequacy by rating the purchased brand higher than it merits (Festinger, 1964; Steele, 1988).

Previous studies that looked at the post-purchase attitude of consumers using the cognitive dissonance paradigm dealt mainly with the threats to the private self. However, Heine and Lehman (1997) found that their Japanese study participants who are generally collectivistic did not engage in dissonance reduction when their behaviors were inconsistent with their private attitudes. The authors argued that this lack of dissonance reduction could be due to the fact that the core aspects of the collective self of the Japanese study participants were not being threatened in those studies. Thus, this paper attempts to build on this idea that the threats to the collective self (as opposed to the threats to the private self) can also lead to the consumers' motivation to change their attitudes in order to maintain their feelings of self adequacy. The saliency of the threats to the private (i.e., cognitions that involve traits, states, or behaviors) or collective self (i.e., cognitions about group membership) (Trafimow et al., 1991; Trafimow et al., 1997; Trafimow & Finlay, 2001) may depend on the accessibility of these two types of self (i.e., private versus collective) and the tie strength (i.e., strong versus weak) between the WOM sender and the recipient. WOM senders can be categorized based on tie strength (i.e. closeness of the relationship between the recipient and the sender), because relationship strength can influence information flow from consumer to consumer (e.g., Brown & Reigen, 1987; Duhan et al., 1997).

In addition, the impact of WOM on post-purchase attitude certainty is also examined. Attitude certainty reflects the consumers' subjective sense of confidence in their attitude or the extent to which the consumers believe that their attitude is correct (Gross, Holtz, & Miller, 1995; Tormala & Petty, 2002). Attitude certainty is one of the most studied indicators of attitude strength (Barden & Petty, 2008). Attitudes that consumers are certain about tend to be stronger than attitudes that they have doubts about. Even if attitude change does not occur

due to the dissonance felt by the consumer, the threats to the self may still affect how strong the post-purchase brand attitude is. Attitude strength (attitude certainty in this case) can affect the resistance to subsequent persuasive attacks (Tormala & Petty, 2002; Visser & Mirabile, 2004), persistence over time (Barden & Petty, 2008; Gross et al., 1995), and attitude-behavioral correspondence (Fazio & Zanna, 1978; Haddock et al., 1999; Tormala, Clarkson, & Petty, 2006). Therefore, the impact on post-purchase attitude certainty may have long-term implications in terms persistence of post-purchase brand attitude and post-purchase behaviors (e.g., repurchase, providing WOM to other consumers).

Conceptual Background and Hypothesis Development

Threats to Private and Collective Self and Dissonance

When a poor purchase decision threatens an individual's positive self-concept, he/she may attempt to restore his/her sense of overall adaptive and moral adequacy by rating the purchased brand higher than it merits (Festinger, 1964; Steele, 1988). This is contingent on whether making a poor purchase decision is relevant to the individual's self-concepts (Thibodeau & Aronson, 1992). These cognitive changes are the result of motivational pressures prompted by psychological discomfort (Harmon-Jones, 2000). The consumers are motivated to affirm themselves by reassessing their decisions in ways that make them seem sound (Steele, 1988). Moreover, the chance of dissonance-induced attitude change of occurring is likely to be greater when negative consequences follow one's actions (Thibodeau & Aronson, 1992). Thus, the negative consequences of the failure to choose the right brand are likely to lead to greater dissonance.

From the review of the literature, the results of dissonance studies are equivocal on whether dissonance will lead to attitude change. This lack of unequivocal findings may be due to the fact that dissonance can be reduced by other ways besides changing the attitude toward the object (e.g., brand of the product or service). These ways include derogating the source of inconsistency (e.g., Fein & Spencer, 1997; Glass, 1964), misattribution of the source of the psychological discomfort (e.g., Zanna & Cooper, 1974; Fried & Aronson, 1995), trivialization (i.e., decrease the importance of the elements involved in the dissonant relations) (e.g., Simon, Greenberg, & Brehm, 1995), and self-affirmation (i.e., affirming valued aspects of the self) (e.g., Steele, Spencer, & Lynch, 1993; Glasford, Dovidio, & Pratto, 2009). The specific manner in which dissonance is reduced and the effectiveness of the dissonance reduction strategy depends on the ease with which cognitions can be changed or added (Simon et al., 1995). Hence, consumers are expected to change their attitude toward the brand to reduce dissonance only in specific circumstances. Consumers tend to reduce dissonance by reestablishing cognitions to be consistent with the important aspects of their self-concepts, because cognitions regarding an important element of the consumers' self-concepts (e.g., sense of self to be competent) tend to be more resistant to change than cognitions and inferences about their own behavior (Harmon-Jones, 2000; Heine & Lehman, 1997; Thibodeau & Aronson, 1992).

Even though much research has done about how threats to the individual can lead to dissonance, the extant literature does not inform on whether threats to the collective self can lead to dissonance. Most of the reviewed studies deal only with threats to the private self and not to the collective self. The lack of research into the threats to the collective self is likely due to the fact that many of these studies are conducted in individualistic cultures in which the private self is emphasized (Trafimow et al., 1991). For studies conducted in collectivistic cultures in which the collective self is emphasized (e.g., Heine and Lehman, 1997), the

manipulations of threats to the self-concept dealt with the cognitions about traits, states, or behaviors of the individual consumer and did not deal with the cognitions about group memberships. It stands to reason that when the cognitions about group memberships are not affected, the study participants are unlikely to experience threats to their collective selves. Hence, the manipulation to be used in this paper has to affect cognitions about group membership to elicit threats to the collective self (e.g., members of in-group are incompetent in terms of providing bad “advice”). Moreover, factors that produce group-based dissonance should still be similar to those that produce individual-level dissonance (i.e., an inconsistency among cognitions), except the source of the dissonance is within the group rather than within the individual (Glasford et al., 2009).

Stapel and Koomen (2001) found that priming the personal identity activates a differentiation mindset (“I am different from others”) and priming the social identity activates an integration mindset (“I am similar to others”). Trafimow et al. (1991) also found that the increased accessibility of the private or collective self increases the retrieval of private- or collective-self cognitions respectively. In addition, Trafimow et al. (1991) found that these relationships hold whether accessibility increases because of a temporary manipulation (e.g. priming manipulation in an experiment) or because of a relatively chronic variable (e.g. culture). Similarly, Trafimow & Finlay (2001) found that individuals associate private self-cognitions with other private self-cognitions and collective self-cognitions with other collective self-cognitions, but they do not associate private self-cognitions with collective self-cognitions. Moreover, conditions that maximize the attention to the social identity often prevent attention to the personal aspects of self and vice versa (Abrams, 1994; Hornsey & Jetten, 2004).

The results of these studies are consistent with a two-basket theory about how a consumer stores his/her private and collective-self cognitions in two independent cognitive

structures. Given the findings of past literature, the relative accessibility of the private- or collective-self cognitions are expected to influence how a consumer may rate a brand he/she has just bought. The more accessible a construct, the more likely the construct is to guide the interpretation of a stimulus (Hong et al., 2000). Those with more accessible private self are more likely to be influenced by personal goals and needs (Ybarra & Trafimow, 1998). On the other hand, those with more accessible collective self are more likely to be influenced by group goals and needs (Ybarra & Trafimow, 1998).

Attitude Certainty and Metacognitions

Recent research into persuasion and resistance of persuasion had looked beyond just attitude and focused on the impact on attitude strength, such as attitude certainty (e.g., Barden & Petty, 2008; Clarkson, Tormala, & Rucker, 2008; Pullig, Netemeyer, & Biswas, 2006; Tormala et al., 2006). Attitude certainty can affect the resistance to subsequent persuasive attacks (Tormala & Petty, 2002; Visser & Mirabile, 2004), persistence over time (Barden & Petty, 2008; Gross et al., 1995), and attitude-behavioral correspondence (Fazio & Zanna, 1978; Haddock et al., 1999; Tormala et al., 2006). As the impact of the positive WOM may extend beyond just post-purchase attitude, Paper 2 examines the impact of WOM on post-purchase brand attitude certainty. Given the equivocal results of past studies about attitude change, it will be interesting to see if dissonance can have an impact beyond just post-purchase attitude change.

The predictions for brand attitude certainty are based on the fact that consumers have metacognitions about the WOM context they have encountered, which can influence their judgment about attitude certainty. Metacognitions are about any aspects of the consumers' awareness about their own thoughts or thought processes (Jost, Kruglanski, & Nelson, 1998).

These aspects include the consumers' awareness and perception of their own and other peoples' thoughts or thought processes, lay theories about how one should act in certain situations, and beliefs (both descriptive and normative) about how the cognitive system operates in general (Briñol, Petty, & Tormala, 2006; Briñol et al., 2004; Tormala et al., 2006; Tormala & Petty, 2002). These metacognitions are derived from personal, situational, group, and cultural context (Jost et al., 1998). From the review by Jost et al. (1998), metacognitions have been used to explain numerous phenomena in social and interpersonal domains such as self and communication. Recent researches in social psychology have shown that metacognitions of the consumers about their resistance to persuasion can influence their assessment of attitude certainty (e.g., Tormala et al., 2006; Tormala & Petty, 2002). Individuals observe their own thoughts, affect, and/or cognitive feelings and then rely on such information to make judgments. But individuals use metacognitions to make judgments only when such information seems diagnostic (Tormala & Petty, 2002).

By the same note, consumers may reflect upon their thoughts and thought processes in regards to their post-purchase brand attitude. This reflection may affect their post-purchase attitude certainty. For example, doubts about one's resistance to persuasion message due to difficulty in generating supporting arguments and/or counter arguments or recognizing that one did not resist using "legitimate" means can lead to lower attitude certainty (Haddock et al., 1999; Tormala & Petty, 2002). Therefore, the post-purchase attitude certainty is likely to be affected by the WOM recipient's perception on whether they had a strong basis for the post-purchase attitude.

Hypotheses

If the purchased brand “fails” to deliver a quality product despite the positive recommendation from a fellow consumer, what is the impact on post-purchase attitude toward the brand and post-purchase attitude certainty? In summary, the perceived threats to the consumer’s private or collective self due to a poor purchase decision are hypothesized to lead to dissonance. In turn, consumers may positively bias their post-purchase brand evaluations to reduce this dissonance. Subsequently, these consumers may feel uncertain toward their relatively more positive post-purchase brand attitude upon reflecting on their thoughts and thought processes.

Firstly, when the WOM recipient’s private self is relatively more accessible (e.g., in an individualistic culture), the context here is similar to the context of most dissonance studies whereby the threats to the private self is more salient (Heine & Lehman, 1997). In this context, a poor purchase decision made that threatens an individual’s positive private self-concepts may lead to the positively biasing of his/her evaluation of the brand (Festinger, 1964; Steele, 1988). On the other hand, the individual may not positively bias his/her evaluation when the collective self is threatened by the poor purchase decision. The threats to the collective self will be less salient, as the collective self will be relatively less accessible.

For WOM from a weak-tied WOM sender, the WOM is largely independent of the personal characteristics of the WOM recipient (Kiecker & Hartman, 1994). Consumers typically believe that those who are not close to them are less likely to know about their attitudes and preferences (Gershoff & Johar, 2006). Consumers are also less likely to think that weak ties hold attitudes and beliefs that are similar to their own (Chen & Kenrick, 2002). In general, there is little reason to believe that a weak tie can provide custom-tailored information to the WOM recipient’s preferences. Thus, the WOM recipient with a relatively

more accessible private self has less justification for making a bad purchase decision based on positive WOM by a weak-tied WOM sender. This lack of justification means that the WOM recipient is not likely to derogate the source of inconsistency (i.e., WOM sender) to deal with his/her dissonance. As the WOM recipient is unable to deal with the inconsistency in his/her cognitions directly through the derogation of the source, he/she continues to experience a high level of threats to his/her private self. As the private self is relatively more accessible, the threats to the private self should be salient to the WOM recipient. To alleviate the threats to the private self, the WOM recipient may positively distort brand evaluation his/her attitude to reduce the dissonance and protect his/her own self-concept that he/she is competent in making choices as a consumer.

Positive WOM from a strong tie can be indicative of brand quality, as consumers make inferences about brand quality by observing another's endorsement of the brand (Lessig & Park, 1978). Consumers tend to assume that strong ties hold attitudes and beliefs that are more similar to their own (Chen & Kenrick, 2002; Smith et al., 2007). Consumers also tend to believe that strong-tied WOM senders are likely to know about their attitudes and preferences and can provide information that is custom-tailored to the recipients' preferences (Duhan et al., 1997; Gershoff & Johar, 2006; Kiecker & Hartman, 1994). Consumers have such beliefs about strong ties, because their relationships with strong ties take more effort, involve higher intensity, intimacy, and higher frequency of communication than their relationships with weak ties (Hansell, 1984). In summary, the WOM recipient is likely to view the strong-tied WOM sender as an informational reference group that enhances his/her knowledge (Lessig & Park, 1978). Hence, the WOM recipient is likely to rationalize and attribute the bad decision to the "wrongful" information provided by the strong tie rather than a personal failure on his/her part. Moreover, the WOM recipient with a relatively more accessible private self is less likely to display group defensive reactions (Costarelli, 2007).

Failure on the part of the strong tie is less likely to bother the WOM recipient. In essence, the WOM recipient is likely to derogate the source of inconsistency to deal with the threats to his private self. Furthermore, any threats to the collective self should not be highly salient to the WOM recipient, because his/her collective self (vs. private self) is relatively less accessible. As there is a low level of threats to the private self and threats to the collective self are less salient, the WOM recipient will give an evaluation of the brand more consistent with his/her experience with a poor quality brand.

H1a. If the private self is relatively more accessible and a brand of “poor” quality is purchased after receiving positive WOM from a weak tie (as opposed to a strong tie), post-purchase attitude toward the brand is higher.

Consumers typically perceive their own experiences to be bias-free and more factual or objective (Arndt and May, 1981). Since the WOM recipient with an accessible private self is likely to base his/her evaluation on the actual experience of the product after receiving positive WOM from strong tie, he/she is likely to perceive that he/she has a strong basis for his/her post-purchase evaluation. Moreover, the WOM recipient is likely to discount the positive information in the WOM message, as he/she is likely to perceive the strong-tied WOM sender to have failed to provide accurate information. As attitude certainty is likely to be affected by the perception on whether there is a strong basis for the attitude (Tormala & Petty, 2002), the WOM recipient’s post-purchase attitude certainty is expected to be high after receiving positive WOM from a strong-tied WOM sender.

After receiving positive WOM from a weak-tied WOM sender, the WOM recipient with a relatively more accessible private self is likely to distort post-purchase brand evaluation to protect his/her own self-concept. Even though the reinterpretation of post-

purchase experience is just one way that consumers can give themselves the benefit of the doubt about the wisdom of their choices (Hoch, 2002), the WOM recipient is unlikely to perceive that this post-purchase reinterpretation as a valid basis for evaluating the brand. Furthermore, the WOM recipient is likely to experience difficulty in generating arguments for supporting his/her decision to purchase the brand (i.e., find some positives about the brand or trivialized the negative aspects of the experience with the brand) and probably is only able to generate weak supporting arguments. Moreover, ambivalent attitude based upon discrepant evaluations can lower the consumer's confidence in his/her own attitude (Jonas, Diehl, & Brömer, 1996). Thus, the WOM recipient's post-purchase attitude certainty is expected to be low after receiving positive WOM from a strong-tied WOM sender.

H1b. If the private self is relatively more accessible and a brand of “poor” quality is purchased after receiving positive WOM from a weak tie (as opposed to a strong tie), post-purchase attitude certainty toward the brand is lower.

Secondly, when the WOM recipient's collective self is relatively more accessible (e.g., in a collectivistic culture), threats to the collective self (i.e., cognitions about group membership) are more salient (Heine & Lehman, 1997) and group-based dissonance is more likely to affect whether consumers may positively bias their post-purchase attitudes. When a poor purchase decision threatens an individual's positive collective self-concepts, the WOM recipient with a relatively more accessible collective self may positively bias his/her post-purchase evaluation. The threats to the private self will be less salient, as the private self will be relatively less accessible.

When the social identity is salient, the WOM recipient is depersonalized and is likely to identify with an ingroup member (i.e., strong tie) giving him/her the WOM (Abrams,

1994). If the WOM recipient with accessible collective self receives positive WOM from a strong-tied WOM sender, the poor performance of the recommended brand seems to suggest that this WOM sender who is part of his/her ingroup has been wrong in his/her positive WOM. This mistake by this WOM sender constitutes a threat to the WOM recipient's collective self. Since the WOM recipient identifies with the strong tie, he/she may try to deal the group-threatening situation by explaining away the mistake that this ingroup member made (Costarelli, 2007). Hence, the WOM recipient is not likely to derogate the strong-tied WOM sender and assign the blame to him/her. To reduce the threats to the collective self, the recipient may then positively bias his/her brand evaluation to make his/her post-purchase attitude more consistent with the positive WOM from the strong-tied WOM sender.

On the other hand, when the WOM recipient with a relatively more accessible collective self receive WOM from a weak-tied WOM sender, the collective self is not likely to be threatened. The weak tie is typically not considered as part of the WOM recipient's ingroup (Costarelli, 2007). Moreover, any potential threats to the private self due to making a bad purchase decision should not be salient, as the recipient's private self is relatively less accessible. Since the collective self is not being threatened and the threats to the private self is less salient, the WOM recipient is more likely to indicate a brand attitude that is more consistent with his/her own product experience.

H2a. If the collective self is relatively more accessible and a brand of "poor" quality is purchased after receiving positive WOM from a weak tie (as opposed to a strong tie), post-purchase attitude toward the brand is lower.

After receiving positive WOM from a strong-tied WOM sender, the WOM recipient with a relatively more accessible collective self is likely to distort post-purchase brand

evaluation after receiving positive WOM from a strong-tied WOM sender. However, he/she is unlikely to perceive that he/she has a valid basis for the relatively more positive post-purchase brand attitude. In addition, he/she is likely to experience difficulty in generating arguments to support the purchase decision and probably is able to only generate weak arguments. Therefore, the WOM recipient's post-purchase attitude certainty is expected to be low after receiving positive WOM from a strong-tied WOM sender.

After receiving positive WOM from a weak-tied WOM sender, the WOM recipient with the accessible collective self is likely to base his/her post-purchase evaluation on the actual experience of the product due to the lack of salient threats. Hence, the WOM recipient is also likely to discount the positive information in the WOM message, as he/she is likely to perceive the weak-tied WOM sender to have different preferences and considerations when choosing a brand. Hence, the WOM recipient's post-purchase attitude certainty is expected to be high after receiving positive WOM from a weak-tied WOM sender.

H2b. If the collective self is relatively more accessible and a brand of “poor” quality is purchased after receiving positive WOM from a weak tie (as opposed to a strong tie), post-purchase attitude certainty toward the brand is higher.

Figure 3

Expected Interaction for Post-Purchase Attitude

Post-purchase attitude

Figure 4

Expected Interaction for Post-Purchase Attitude Certainty

Post-purchase attitude certainty

The Present Research

Participants and Design

Self (collective versus private) and tie strength (strong versus weak) were manipulated between-subjects in two experiments to test the hypotheses. The context chosen for both experiments was that of the purchase of an MP3 player. This context was considered relevant to the study participants, who were undergraduate students from a major university in Singapore. A pretest with 11 undergraduate study participants shows that 81.8 percent had recently bought or would consider purchasing an MP3 player in the near future. For these study participants who had recently bought or would consider purchasing an MP3 player in the near future ($n=9$), 100 percent would base their choice of brand of MP3 players on the positive recommendation of friends and acquaintances. Study participants in both Experiment 2.1 ($n=129$) and Experiment 2.2 ($n=99$) were given course credits for their participation.

Experiment 2.1

Procedure and Measurements

This experiment placed the study participants in the context of purchasing a new MP3 player. To ensure realism, a real but unknown brand (i.e., Digital) was chosen as the experimental stimulus. The use of relatively unknown brand names helps to maximize the impact of interpersonal influence such as WOM and avoid any possible biases and prior impressions the study participants might have (Zemboiran & Johar, 2007). Moreover, predictions may also differ for a well-known brand, particularly if the attitude toward existing

well-known brand is strong and resistant to change and the consumers identify strongly with the well-known brand. If the brand is linked strongly with personal values and self-concepts (Escalas & Bettman, 2003), attitude change may become untenable as a mode of dissonance reduction (Eisenstadt & Leippe, 2005). This issue about using known or unknown brands in the experiments will be touched on again in Paper 3 (Chapter 4).

Another pretest with additional 10 study participants indicate that only 10 percent of them had heard of the brand Digital. The quality of the song playback of the MP3 player to be used in the main experiment was reduced substantially. The length of the song clip is 1 minute. The bitrate of the MP3 file to be used was reduced to 64 kbps, far below the normal 128 kbps or 256 kbps typically available for commercially available files (e.g., on iTunes). In addition, 3 gaps were introduced at each 15-second interval in the song clip to cause “skipping”. Finally, the navigation was made more difficult (i.e. contrast for screen was reduced and the backlight was disabled). Attitude was measured using 3 seven-point semantic differential scales with the following anchors: *very negative (1)-Very positive (7)*, *very unfavorable (1)-very favorable (7)*, and *very bad (1)-very good (7)*. The scores of the three items were averaged ($\alpha=.92$). The pretest study participants showed a mean rating of 3.27. Thus, the impression of the MP3 player after trial was moderately negative.

Before the start of main experiment, the study participants were assured that the response would be totally confidential and anonymous. Upon completion of the experiment, the study participants were to drop the completed survey instruments into a sealed box. This was to ensure that the study participants perceived that the experimenter did not have access to their responses. Any differences in the post-purchase attitude or attitude certainty are then unlikely to be due to impression management on the part of the study participants (MacDonald & Nail, 2005). During the experiment, the study participants were randomly assigned to one of the four conditions in a laboratory setting. They were asked to imagine that

they were considering purchasing a new MP3 player. They were first given a general description of the brand Digital as follows:

“Digital is a manufacturer of various electronics including mobile phones, television sets and home theatre sets. In the past 30 years, Digital has been committed to delivering simple but high quality products to the consumers. As a new entrant to the MP3 player market here in Asia, Digital hopes to bring these same values to their brand of MP3 players.”

The study participants were then asked to rate their brand attitude and brand attitude certainty. Brand attitude was measured using the same three seven-point semantic differential scales from the pretest ($\alpha=.89$). Brand attitude certainty was measured with only one seven-point semantic differential scale from *very uncertain (1)* to *very certain (7)*. The use of a single item is consistent with these persuasion studies that examine the impact on attitude certainty (e.g., Tormala & Petty, 2002). These pre-treatment ratings were used as covariates in the analyses. The rating task was followed by a filler task. After the filler task, the priming of collective or private self was done using a story with a different ending adapted from Trafimow et al. (1991). On the first page of the prime, all study participants read:

“We would like you to read a couple of paragraphs on the following page. After reading these paragraphs, you will be asked to make a judgment about the main character.”

The story started on the second page of the prime. All study participants read a short story that started with:

“Sostoras, a warrior in ancient Sumer, was largely responsible for the success of Sargon I in conquering all of Mesopotamia. As a result, he was rewarded with a small kingdom of his own to rule. About 10 years later, Sargon I was conscripting warriors for a new war. Sostoras was obligated to send a detachment of soldiers to aid Sargon I. He had to decide who to put in command of the detachment. After thinking about it for a long time, Sostoras eventually decided on Tiglath who was a ...”

The following part differed for the two primes. For those study participants to be primed with the collective self, the story would continue as follows:

“... member of his family. This appointment had several advantages. Sostoras was able to show his loyalty to his family. He was also able to cement their loyalty to him. In addition, having Tiglath as the commander increased the power and prestige of the family. Finally, if Tiglath performed well, Sargon I would be indebted to the family”

For those study participants to be primed with the private self, the story would continue as follows:

“... talented general. This appointment had several advantages. Sostoras was able to make an excellent general indebted to him. This would solidify Sostoras's hold on his own dominion. In addition, the very fact of having a general such as Tiglath as his personal representative would greatly increase Sostoras's prestige. Finally, sending his best general would be likely to make Sargon I grateful. Consequently, there was the possibility of getting rewarded by Sargon I.”

The study participants were then asked to answer the question “Do you admire Sostoras? Provide reasons for your answer.” This priming method has the advantage of being unlikely to lead to any demand characteristics, as it is unrelated to the context of purchasing MP3 players and is very subtle in priming the collective or private self. The priming manipulation was preferred to measuring relative accessibility of private- and collective self-cognitions in two different cultures (i.e. individualistic versus collectivistic culture), because the priming manipulation allows for better establishment of causality.

After the priming task, the study participants read a WOM scenario that included the manipulation of tie strength. Before making their “purchase,” the study participants were asked to imagine that they asked a friend or acquaintance who owned a Digital brand MP3 player about Digital. The tie strength between the WOM sender and WOM recipient (i.e. the study participant) was manipulated using different peer groups rather than family versus acquaintances to reduce possible confounds. Indicators of tie strength include duration, frequency of contact, and emotional closeness (Brown & Reigen, 1987; Marsden & Campbell, 1984; Money, Gilly, & Graham, 1998). Duration refers to how long the sender and the recipient have known each other; frequency of contact refers to how often the sender and the recipient have contact; and closeness refers to the emotional intensity of a relationship between the sender and recipient of the WOM. These three variables were varied in the description of the WOM sender to manipulate tie strength. The following is the manipulation for weak tie, a description of the weak-tied WOM sender in the WOM scenario:

“ ... Assume that Pat (i.e., a fellow student who is a mere acquaintance of yours) already has a Digital MP3 player, and you decide to ask Pat about Digital. Assume also that you have just met Pat recently. The two of you have only spoken a few times

and are not emotionally close to each other. ...”

The following is the manipulation for strong tie, a description of the strong-tied WOM sender in the WOM scenario:

“Assume that Pat (i.e., a fellow student who is a very close friend of yours) already has a Digital MP3 player, and you decide to ask Pat about Digital. Assume also that you have known Pat for a long time. The two of you chat on a daily basis and are emotionally close to each other. ...”

As part of the WOM scenario, the WOM message the study participants were asked to read is as follows:

“The model of Digital MP3 player that I own has many functions, including FM radio. My player also allows me to use it as a thumb drive with any PC without additional installation. It also charges through the USB port of any PC. It is very convenient and easy to use! You can get one like mine with 2 GB of storage for less than 50 dollars easily. I am very impressed with the quality of the player given the price. You should really get one too!”

After reading the WOM scenario, study participants were instructed to ask for the Digital MP3 player from the research assistant. The MP3 player used has the brand clearly written in the front near the liquid crystal display (LCD) that is needed for navigation. The brand name Digital was on the packaging that the MP3 player came in. The study participants were then asked to imagine that they had just bought a Digital MP3 player. Precise

instructions were given to the study participants for them to try the playback function to ensure that every study participant had the same experience with the MP3 player. After trying out the MP3 player, the study participants rated their “post-purchase” attitude ($\alpha=.97$) and attitude certainty. The manipulation checks and other items relating to the WOM scenario followed the post-WOM ratings of the main dependent variables. The manipulation check for private and collective self was adapted from Trafimow et al. (1991). In this experiment, the study participants were asked to write six answers to the simple question “Who am I?” in the blanks provided. Tie strength was measured using four items pertaining to the study participants’ perception of their supportiveness, closeness, and association with the WOM sender. All four items are on a seven-point scale with a higher score on each scale to indicate a stronger tie. The average of the four items ($\alpha=.98$) was used as the manipulation check for tie strength. The experimenter then thanked and dismissed the study participants.

Results and Discussion

Manipulation checks indicated that the manipulations of tie strength and self worked as expected. For tie strength, the difference between weak tie ($M=2.34$) and strong tie ($M=5.46$) is significant ($F(1, 125)=254.70, p<.001$). Following the same procedure by Trafimow et al. (1991), the number of idiocentric or group responses was divided by the total number of responses each study participant made. The proportion of group cognitions to total cognitions for the *Collective Self* condition ($M=.21$) is significantly larger from that of the *Private Self* condition ($M=.14$) ($F(1,125)=4.25, p<.05$). The proportion of idiocentric cognitions to total cognitions for the *Collective Self* condition ($M=.68$) is significantly smaller from that of the *Private Self* condition ($M=.76$) ($F(1, 125)=6.15, p<.05$).

In essence, private or collective self is expected to interact with tie strength of WOM sender for the dependent variables of post-purchase attitude and attitude certainty, giving a cross pattern of interaction for both dependent variables (Refer to Figure 3 & Figure 4). These expected interactions are taken into consideration for deciding on an appropriate approach for the statistical analyses of the two experiments to be conducted.

As a cross interaction pattern of results were expected for both post-purchase attitude and attitude certainty, an Omnibus between-subjects Analysis of Variance (ANOVA) was used to establish that the interaction was significant. The ANOVA was followed by post-hoc analyses to examine the simple effects of interest in this experiment. The Bonferroni procedure is used to adjust for the multiple comparisons made, with the overall error rate at .05. Analyses including the pre-WOM measures of brand attitude and brand attitude certainty and other covariates did not yield significantly different results. Thus, the analyses presented here did not include these covariates.

Table 9**Pre-WOM and Post-Purchase Attitude Rating (Experiment 2.1)**

	Pre-WOM Attitude	Post-Purchase Attitude
	Mean Score	Mean Score
	(Standard Deviation)	(Standard Deviation)
Private Self		
Weak Tie (<i>n</i> =32)	4.58 (1.07)	2.95 (1.03)
Strong Tie (<i>n</i> =32)	5.01 (.74)	3.19 (1.69)
Collective Self		
Weak Tie (<i>n</i> =32)	4.90 (.67)	3.16 (1.25)
Strong Tie (<i>n</i> =33)	4.89 (.82)	3.00 (1.13)

Table 10**Pre-WOM and Post-Purchase Attitude Certainty Rating (Experiment 2.1)**

	Pre-WOM Attitude	Post-Purchase Attitude
	Certainty Mean Score	Certainty Mean Score
	(Standard Deviation)	(Standard Deviation)
Private Self		
Weak Tie (<i>n</i> =32)	5.19 (1.31)	4.69 (1.62)
Strong Tie (<i>n</i> =32)	4.96 (1.00)	5.69 (1.00)
Collective Self		
Weak Tie (<i>n</i> =32)	5.03 (1.00)	5.81 (.90)
Strong Tie (<i>n</i> =33)	5.30 (.98)	5.06 (1.17)

Figure 5**Descriptive Statistics for Post-Purchase Attitude (Experiment 2.1)**

^a (cell size, standard deviation)

All of the main analyses regarding attitude were done on the average of the three items measuring the post-purchase attitude rating. The observed pattern of results for post-purchase attitude is reversed compared to the expected one (refer to Figure 3). Moreover, the expected interaction for post-purchase attitude is not significant ($F(1, 125)=.75, p>.35$). There are also no significant main effects. Thus, there is no support for any positive change of post-purchase attitude due to the threat to the collective or private self.

Figure 6**Descriptive Statistics for Post-Purchase Attitude Certainty (Experiment 2.1)**

^a (cell size, standard deviation)

However, analyses into the post-purchase attitude certainty still yield significant results. The interaction is significant ($F(1, 125)=17.13, p<.001$) and in the expected direction (refer to Figure 4). Under *Private Self*, the cell mean for *Weak Tie* condition is significantly lower than the cell mean for *Strong Tie* condition ($F(1, 125)=14.02, p<.001$) (refer to Figure 6), as predicted in H1b. Under *Collective Self*, the difference between the cell mean for *Strong Tie* and the cell mean for *Weak Tie* is only marginally significant in the direction predicted in H2b, after controlling for multiple comparisons ($F(1, 125)=4.40, p<.05$) (refer to Figure 6). Given the unexpected lack of significant results for post-purchase attitude, these

results for post-purchase attitude certainty suggest that psychological discomfort due to the threat to the self that the study participants felt might have led to lower attitude certainty.

As consumers may use subjective experiences (e.g. ease of retrieval of information) to derive judgments of attitude certainty (Haddock et al., 1999), the dissonance felt by the study participants might be taken as their doubt over their own brand evaluations. But due to the lack of useful thought-listing data, it is not clear whether that is the case. Moreover, dissonance was not directly measured in this experiment. As such, a self-report measure of dissonance (e.g. Elliot & Devine, 1994) was included in the Experiment 2.2. Moreover, it is also possible that the difference in attitude certainty might have arisen from just receiving WOM prior to the purchase/trial. Hence, attitude and attitude certainty was also measured just after WOM was presented to the study participants and before the trial/purchase in Experiment 2.2.

Experiment 2.2

Procedure and Measurements

The procedure for this experiment was similar to that of Experiment 2.1 except for some changes to address some issues in Experiment 2.1. Firstly, the second priming method that Trafimow et al. (1991) used was adapted for the use in this experiment. Even though this second method is more likely to lead to demand characteristics than the one used in Experiment 2.1, using different manipulation methods can ensure that the results are not an artifact of a specific manipulation method. Moreover, the study participants (i.e., undergraduate students) did not know much about research and not likely to guess the

purpose of the experiment with this between-subjects design. The study participants were given the following instructions to prime for private self-cognitions:

“For the next two minutes, think of what makes you different from your family and friends and what do you expect yourself to do. Please write down your thoughts in the space provided.”

The study participants were given the following instructions to prime for collective self-cognitions:

“For the next two minutes, think of what you have in common with your family and friends and what they expect you to do. Please write down your thoughts in the space provided.”

Secondly, instead of asking the study participants to rate the product right after the general description of the brand Digital, the study participants were asked to rate their attitude toward the brand and attitude certainty after the WOM given but before the purchase/trial of the MP3 player. In addition to the manipulation checks after the main experiment, the study participants were also asked to indicate the emotions they were feeling at the moment. They were given a battery of emotions to which they rated on a scale from *does not apply at all (1)* to *applies very much (7)*. The three focal emotions of interest were uncomfortable, uneasy, and bothered which formed the Discomfort Affect Index (DAI) ($\alpha=.75$) that Elliot and Devine (1994) used to measure dissonance as psychological discomfort.

Results and Discussion

Manipulation checks indicate that the manipulations of tie strength and self worked as expected. For tie strength, the difference between weak tie ($M=2.33$) and strong tie ($M=5.51$) is significant ($F(1, 95)=261.62, p<.000$). The proportion of group cognitions to total cognitions for *Collective Self* ($M=.26$) is significantly larger from that of *Private Self* ($M=.12$) ($F(1, 95)=9.51, p<.01$). The proportion of idiocentric cognitions to total cognitions for *Collective Self* ($M=.64$) is significantly smaller from that of the *Private Self* ($M=.76$) ($F(1, 95)=9.17, p<.01$).

Figure 7

Descriptive Statistics for Post-Purchase Attitude (Experiment 2.2)

^a (cell size, standard deviation)

As in Experiment 2.1, the same approach for analysis was adopted. All of the main analyses regarding post-purchase brand attitude were done on the average of the three items measuring the post-purchase attitude rating. Analyses including the covariates did not yield significantly different results. The expected interaction is not significant ($F(1, 95)=.40$, $p>.50$). However, the main effect for *Tie Strength* is significant ($F(1, 95)=6.39$, $p<.05$). The marginal mean for *Strong Tie* ($M=3.12$) is significantly greater than that for *Weak Tie* ($M=2.62$).

Figure 8

Descriptive Statistics for Post-WOM/Pre-Purchase Attitude (Experiment 2.2)

^a (cell size, standard deviation)

Additional analyses indicate that the post-WOM/pre-purchase attitude measured prior to purchase/trial is significantly greater for *Strong Tie* than for *Weak Tie* under *Collective Self* ($F(1, 95)=26.16, p<.001$) (refer to Figure 8). The post-WOM/pre-purchase attitude is also significantly greater for *Strong Tie* than for *Weak Tie* under *Private Self* ($F(1, 95)=4.34, p<.05$) (refer to Figure 8). These differences in post-WOM/pre-purchase attitude are not unexpected, considering the expected informational influence of strong ties over weak ties. As the brand was unknown to the study participants, the WOM scenario was the only information that the study participants received.

Table 11

Post-WOM/Pre-Purchase and Post-Purchase Attitude Rating (Experiment 2.2)

	Post-WOM/Pre-Purchase	Post-Purchase Attitude
	Attitude Mean Score	Mean Score
	(Standard Deviation)	(Standard Deviation)
Private Self		
Weak Tie ($n=24$)	5.29 (.68)	2.63 (.88)
Strong Tie ($n=25$)	5.69 (.73)	3.00 (1.08)
Collective Self		
Weak Tie ($n=25$)	4.79 (.71)	2.61 (1.08)
Strong Tie ($n=25$)	5.77 (.60)	3.24 (.87)

However, the study participants adjusted their attitude after they tried out the MP3 player. Interestingly, the pattern of cell means is the same for both post-WOM/pre-purchase attitude and post-purchase attitude, albeit a lower mean for post-purchase attitude (refer to Table 11). Thus, the subsequent change (in this case a negative one) of attitude due to the

purchase/trial may be anchored to this post-WOM/pre-purchase attitude. Therefore, it is not clear whether the difference in post-purchase attitude is due to any sort of threat to the self or that the study participants did not adjust sufficiently from their post-WOM/pre-purchase brand attitude. The examination of the attitude certainty and the DAI measure of psychological discomfort can better inform on whether study participants felt threats to their self-concepts.

Figure 9

Descriptive Statistics for Post-Purchase Attitude Certainty (Experiment 2.2)

a

(cell size, standard deviation)

The pattern of results for post-purchase attitude certainty (refer to Figure 9) is the same as that of Experiment 2.1 (refer to Figure 6). The expected interaction is significant ($F(1, 95)=10.13, p<.01$). Under *Private Self*, the difference between the cell mean for *Weak Tie* and the cell mean for *Strong Tie* is only marginally significant, after controlling for multiple comparisons ($F(1, 95)= 4.92, p<.05$). Under *Collective Self*, the cell mean for *Strong Tie* is significantly lower than the cell mean for *Weak Tie* ($F(1, 95)=5.28, p<.025$).

Figure 10

Descriptive Statistics for Post-WOM/Pre-Purchase Attitude Certainty (Experiment 2.2)

^a (cell size, standard deviation)

Additional analyses indicate that the post-WOM/pre-purchase attitude certainty is significantly greater for *Strong Tie* than for *Weak Tie* under *Collective Self* ($F(1, 95)=13.99$,

$p < .001$). By comparing the post-WOM/pre-purchase attitude certainty to the post-purchase attitude certainty (refer to Table 12), there is evidence that the study participants in the *Strong Tie/Collective Self* condition felt less certain about their rating of the brand after the purchase/trial. In contrast, the study participants in the *Weak Tie/Collective Self* condition felt more certain about their rating of the brand after purchase/trial. Thus, the pattern of attitude certainty reversed after the purchase/trial. The study participants in the *Strong Tie/Collective Self* condition ($M=3.28$) also felt significantly more discomfort than the study participants in *Weak Tie/Collective Self* condition ($M=2.64$) ($F(1,95)=4.45, p < .05$). This difference in discomfort suggests that the study participants in *Strong Tie/Collective Self* condition did feel more threatened in their collective selves by this incongruity of the positive WOM and the negative purchase experience than the study participants in *Weak Tie/Collective Self* condition.

Table 12

Post-WOM/Pre-Purchase and Post-Purchase Attitude Certainty Rating (Experiment 2.2)

	Post-WOM/Pre-Purchase Attitude Certainty Mean Score (Standard Deviation)	Post-Purchase Attitude Certainty Mean Score (Standard Deviation)
Private Self		
Weak Tie ($n=24$)	5.08 (1.28)	4.71 (1.76)
Strong Tie ($n=25$)	5.04 (1.25)	5.60 (1.04)
Collective Self		
Weak Tie ($n=25$)	4.40 (1.26)	5.32 (1.25)
Strong Tie ($n=25$)	5.64 (.81)	4.40 (1.53)

The post-WOM/pre-purchase attitude certainty is not significantly greater for *Strong Tie* than for *Weak Tie* under *Private Self* ($F(1, 95)=.02, p>.85$) (refer to Table 12). However, the study participants in the *Strong Tie/Private Self* condition felt more certain about their rating of the brand after the purchase/trial and the study participants in the *Weak Tie/Private Self* condition felt less certain about their rating of the brand after the purchase/trial. These changes were sufficient to elicit a significant difference in post-purchase attitude certainty. In addition, the study participants in the *Weak Tie/Private Self* condition ($M=3.64$) felt significantly more discomfort than the study participants in *Strong Tie/Private Self* condition ($M=2.80$) ($F(1, 95)=7.40, p<.01$). This pattern of results supports the idea that the private self is more threatened when the positive WOM from a weak tie (versus a strong tie) is incongruent with the negative purchase experience.

Mediated Moderation Analysis

Whether *Discomfort* mediates the moderation of the overall treatment effect is tested in this section. Muller, Judd, and Yzerbyt (2005) proposed that moderation happens when the magnitude of the overall treatment effect on the outcome depends on the moderator. Given that the magnitude of the treatment effect is moderated by an individual difference or context variable, then the mediated moderation is the mediating process that is responsible for that moderation. Taking *Self* as the moderating variable and *Tie Strength* as the independent variable as defined by Muller et al. (2005) (Refer to Appendix G), *Self* is expected to moderate the relationship between *Tie Strength* and post-purchase attitude certainty (i.e., outcome variable). Moreover, the main argument in Paper 2 is that this overall moderation effect is mediated by *Discomfort* (i.e., the mediator). Hence, an analysis to test for mediated moderation was conducted. The procedure used is summarized in Appendix G.

The moderation of the overall treatment effect is significant ($p < .01$) as expected. Even though the results suggest that the moderation of the residual direct effect of the effect ($b_{33} = .31$) is reduced compared to the moderation of the overall treatment effect ($b_{13} = .45$), the change in residual direct treatment effect on the post-purchase attitude certainty for different levels of *Self* remains significant ($p < .05$). Thus, the results suggest that *Discomfort* only partially mediate the moderation on the overall treatment effect.

Next, the change in overall effect on discomfort (i.e., the mediator) for different levels of *Self* (i.e., the moderator) is also significant ($p < .01$). The change in residual treatment effect on the post-purchase attitude certainty (i.e., the outcome variable) for different levels of *Self* is also significant. This pattern of results suggests that the effect of *Tie Strength* on *Discomfort* depends on *Self*.

General Discussion

The lack of significant results in post-purchase attitude in both experiments could be due to the fact that cognitive dissonance arising from the threats to the self was not strong enough. Hence, the study participants are not motivated to change to attitude to align with their initial act of purchasing the product. Such a finding is not too surprising, as the results of past studies of cognitive dissonance have been equivocal on whether dissonance will lead to attitude change.

But Paper 2 demonstrates that the impact of manipulations of dissonance can extend beyond just a change in attitude valence. Specifically, the dissonance seems to have a direct impact on attitude certainty. The manipulations elicited significant differences in post-purchase attitude certainty in both experiments. In Experiment 2.2, the groups that were expected to experience post-purchase dissonance felt a significantly higher level of

discomfort (i.e., a measure of dissonance). The results suggest that the study participants may have relied on their experience of psychological discomfort in deriving judgments of attitude certainty. This conjecture is supported by the mediated moderation analysis for Experiment 2.2. This finding is consistent with past persuasion studies, which found that consumers use subjective experiences to derive judgments of attitude certainty (e.g., Haddock et al., 1999).

The lower attitude certainty arising from the threat to the self can lead to lower resistance to persuasive attacks (Barden & Petty, 2008; Tormala et al., 2006). Hence, the post-purchase attitudes of consumers may be more subjected to change in the long run. Consumers who are lacking in confidence about their brand attitudes may also seek additional information to gain additional confidence about their judgments (refer to Paper 3 in Chapter 4). Therefore, the findings in Paper 2 challenge the notion that the consumers directly change their post-purchase attitude to reduce dissonance. If the consumers have weakened post-purchase attitude due to the dissonance, they may be influenced by additional positive or negative information. Hence, attitude change may not be positive. However, past studies about dissonance that was reviewed did not capture the attitude strength. Therefore, it is not clear if the manipulations of those studies affected attitude strength. As additional information after the product experience was not provided to the study participants, future additional studies are required to address which explanation is more appropriate in light of the findings in regards to attitude certainty.

In terms of marketing implications, marketers using WOM as a tool for marketing should take into the account the chronic accessibility of private and collective self in different cultures. For example, when private self is stronger and more accessible as in an individualistic culture (Trafimow & Finlay, 1996), a consumer from such a culture is more likely to be uncertain about his/her attitude toward the brand following positive WOM from a weak-tied source (versus positive WOM from a strong-tied source) and a bad brand

experience. This lower attitude certainty means that marketers are able to use ads and other marketing communication tools to change the consumers' attitude towards their brand despite a negative brand experience. The consumers are also less likely to communicate their negative brand experience due to the lower attitude certainty. Thus, it is important for marketers of new brands in markets with an individualistic culture to get positive WOM out into the marketplace through channels such as Internet, where WOM from weak-tied sources are prevalent. In contrast, positive WOM on the Internet before purchase may not be as helpful in lowering post-purchase attitude certainty following a negative product experience in a collectivist culture. Instead, the marketers have to encourage positive WOM through the close-knitted in-groups of the consumers to lower post-purchase attitude certainty following a negative product experience.

Limitations and Directions for Future Research

The lack of dissonance-based attitude change may be due to the fact the focal product/brand did not involve enough public choice/attitude commitment or is simply not involving enough. Hence, a poor brand choice may not induce sufficient threats to the self for the study participants. Involvement was measured in both experiments using the involvement index from Zaichkowsky's (1994) paper (refer to Appendix C4). There is no significant three-way interaction in either experiment, after including involvement as an additional independent variable in the analysis. Hence, there is no evidence that the level of involvement may change the conclusions for Paper 2. The issue in regards to public choice/attitude commitment cannot be addressed empirically for Experiment 2.1 and Experiment 2.2, because public choice/attitude commitment was not measured in either

experiment. Future studies need to address this possible explanation for the lack of attitude change, by controlling for or measuring the level of public choice/attitude commitment.

For this current study, only a moderately negative product experience was being considered. If the participants had a positive experience with the product that is consistent with the positive WOM received, would they still over inflate their evaluation of the brand to bolster feeling of self-adequacy and form an extremely positive attitude toward the brand? Attitudes that are extreme tend to be much stronger (Osgood, Suci, & Tannenbaum, 1957) and are more likely to affect their post-purchase behaviors (e.g., recommend the brand to anyone interested). Hence, future studies can give insight to how hype is built up through the consumers' social networks for newly introduced brands to the market.

Another limitation is that these manipulations of self may be too weak to induce any difference in the dependent variables. But these manipulations of self were used in several past studies in inducing differences on several cognitive processes, such as the relative weights that study participants placed on attitude or subjective norms when forming behavioral intentions (e.g., Trafimow & Finlay, 1996; Ybarra & Trafimow, 1998) and the valence of self-cognitions that study participants have (e.g., Bromgard et al., 2006). The mean proportions of the idiocentric or group responses to the total number of responses for these experiments are similar to that of those studies for the same conditions.

Even though dissonance is found to partially mediate the overall moderation effect for post-purchase attitude certainty, the exact reasons for this mediation are not clear from the results of these experiments. Especially since the expected interaction effect for post-purchase attitude was not significant in both experiments. The post-hoc reasons given in the previous section for the significant findings on post-purchase attitude certainty are only speculative based on similar researches on attitude certainty. Future studies need to address

this issue in greater depth in terms of theories to explain this phenomenon more thoroughly and to provide stronger empirical evidence to support the theoretical reasoning.

One additional limitation is that the different ways the study participants might have adopted to reduce their dissonance were not controlled for in either experiments. However, the results seem to suggest that the study participants did not deal with dissonance in conditions whereby the study participants were expected to experience dissonance, but instead they felt more uncertain toward their post-purchase attitude (as shown by mediation analysis in Experiment 2.2). Moreover, there is nothing in the other two conditions to suggest that the study participants have reduce their dissonance using other methods (e.g., misattribution of the source of the psychological discomfort, trivialization, and self-affirmation), given that the experimental factors are identical for all conditions.

Next, individual difference variables such as self-esteem and self-confidence are possible moderating variables, because a consumer with high self-esteem and self-confidence may be less affected by any threats to the self (Luhtanen & Crocker, 1992). Hence, it will be important to consider measuring these individual differences and take them into account for future studies. But the moderating effect of self-confidence and self-esteem may still depend on the accessibility of the collective self or the private self. For example, many self-esteem measures generally focus on an individual's evaluation of his or her personal identity (Luhtanen & Crocker, 1992). The interaction with personal self-esteem is more likely to occur when the private self is accessible, as high personal self-esteem may attenuate the impact of any threats to the private self. However, high personal self-esteem is less likely to reduce threats to the collective self, as the link between personal attributes and the collective self is likely to be weaker (Markus & Kitayama, 1991). Hence, the differentiation between the personal self-esteem and collective self-esteem will need to be addressed to include this as a possible moderator in future studies. An example is a collective self-esteem scale that

Luhtanen and Crocker (1992) developed and provided evidence about the validity and reliability of the scale over three studies.

Finally, one of the major limitations is the use of a single item to measure attitude certainty, one of the two main dependent variables. Even though reliability is a major concern in measurement methodologies, there are recent papers arguing for the use of a single-item measure in certain circumstances (e.g., Bergkvist & Rossiter, 2007; Loo, 2002; Rossiter, 2002). If the attribute of the construct is easily and uniformly imagined as only one characteristic, a single measure is sufficient (Bergkvist & Rossiter, 2007; Rossiter, 2002). There is also no evidence during the numerous pretests and experiments that the study participants do not understand the question being posed to measure attitude certainty (e.g., no enquiries from the study participants). The definition of attitude certainty in this dissertation is very straightforward. Therefore, multiple items are unlikely to add to content validity of the measure of attitude certainty. While the use of single-item measures are not appropriate for more heterogeneous and complex scales, but may be appropriate for a simple scale (Loo, 2002). Moreover, numerous recent studies have used this single-item scale to measure global attitude certainty (e.g., Tormala & Petty, 2004, Tormala et al., 2006). But this research raises another question as well in terms of construct validity. Is dissonance felt different from that of attitude certainty? Are these distinct constructs that are correlated or different measures of the same constructs? These issues were not touched on in either Paper 2 or Paper 3, which future research should address in greater detail.

CHAPTER 4

PAPER 3: THE USE OF THE EXPERTISE OF WOM SENDER IN THE EVALUATION OF FAMILIAR AND UNFAMILIAR BRANDS

Introduction to Paper 3

Even though WOM plays an important role in shaping consumers' attitudes and behaviors (Brown & Reingen, 1987), internalization of such informational influence occurs to the extent that information about the product or service from others is perceived to be credible (Burnkrant & Cousineau, 1975). Trustworthiness and expertise of the WOM sender are two dimensions that can influence the credibility of the WOM message. Even though the WOM sender is likely to be trustworthy and does not have any ulterior motive to provide the WOM (Bansal & Voyer, 2000; Smith et al., 2005), he/she may not have the expertise to provide valid information about the object in question. Thus, it is important to consider how the perceived expertise of WOM sender can influence the impact of WOM on the evaluation of brands.

The experiments in the first two papers use unfamiliar/unknown brands. Thus, the issue of whether the use of familiar brands would have changed the conclusions drawn in the first two papers had been raised by fellow academics in previous presentations of the papers. Therefore, Paper 3 attempts to address this issue to some extent by looking at how brand familiarity can affect the motivation to use the expertise heuristic to help evaluate the focal brand. This issue is being examined using the sufficiency principle, a basic tenet of the heuristic-systematic model (HSM) framework (Chaiken, Liberman, & Eagly, 1989).

Conceptual Background and Hypothesis Development

HSM and the Sufficiency Principle

HSM posits that there are two concurrent modes of information processing (Chaiken et al., 1989). First, systematic processing is conceptualized as a comprehensive and analytic orientation to information processing in which people carefully attend to, evaluate, elaborate, and integrate the content of the message. Second, heuristic processing is an orientation to information processing in which people assess the validity of a communication or the quality of the product through a superficial consideration of cues available in the judgment context. Systematic processing (vs. heuristic processing) requires substantially more cognitive resources and the increased willingness of the individuals to allocate the necessary resources.

One of the basic tenets of the HSM framework is the sufficiency principle. The sufficiency principle contents that an individual will attempt to strike a balance between minimizing cognitive effort expended and maximizing his or her confidence about a judgment (Chaiken et al., 1989). The gap between the level of actual confidence and the level of desired confidence in a consumer's judgment determines his/her motivation to process the information. The greater the confidence gap, the more motivated the consumer will be to process the information. When cognitive capacity to process is adequate, motivation to process the information becomes a major determinant of the use of systematic processing and/or heuristic processing (Zuckerman & Chaiken, 1998). Systematic processing is generally more effective in increasing confidence than heuristic processing to reduce the gap between actual and desired confidence level of one's judgment.

People tend to engage in effortful information processing only when they deem it necessary (Eagly & Chaiken, 1993). In general, consumers are cognitive misers for most

product categories and may not have the necessary product category knowledge to evaluate product information. Therefore, consumers are likely to use heuristic processing (e.g., use of the expertise heuristic) in their evaluation of the brands in many product categories.

Moreover, Priester and Petty (1995) found that attitudes of cognitive misers are more dependent on message scrutiny when a knowledgeable source is of questionable honesty than when the honesty of the source is clear. Given that the WOM recipient is not likely to view the WOM sender to be having manipulative intent (Bansal & Voyer, 2000; Smith et al., 2005), consumers are even more likely to use heuristic processing as compared to systematic processing to process WOM information about different brands. Thus, heuristic processing is expected to prevail over systematic processing in most consumer decision contexts.

Even when motivation is increased for the evaluation of an unfamiliar brand as compared to the evaluation of a familiar brand, consumers are likely to continue to use heuristic processing to increase actual confidence of their brand evaluation instead of relying on systematic processing only. Although systematic processing may still play a role in the evaluation of the unfamiliar brand, it should not limit the use of the heuristic processing for the average consumers, particularly when the target product category of interest (i.e., printers) does require substantial product knowledge and ability for the consumers to evaluate the product information systematically. Hence, the focus in Paper 3 is on the consumers' heuristic processing in their evaluation of the brands.

Brand Name Heuristic and Brand Familiarity

Brand name information can be considered a knowledge structure that can operate as a judgment heuristic. The knowledge structure may include associations between a brand name and the quality of the product. This knowledge structure can provide a basis for a

judgment or a decision without the need for extensive processing of internal cues (i.e., specific information about product attributes) (Campbell et al., 2003; Maheswaran, Mackie, & Chaiken, 1992). In contrast to heuristics that provide information about message validity, brand name provides information about the attitude object itself (i.e., quality of the product) rather than the position that the persuasive message advocates. This reliance on the brand information occurs despite the fact that consumers' perceptions of quality based on the brand name may not represent the true quality of the current model/variant being considered (Oxoby & Finnigan, 2007). However, brand familiarity is likely to affect the use of brand name as a judgment heuristic by the consumers.

Brand familiarity can be defined as the reflection of the direct and indirect brand-related experiences, which the consumer has accumulated over time (Alba & Hutchinson, 1987). Most real product categories contain well-established familiar brands and new unfamiliar brands (Coates, Bulter, & Berry, 2006). However, if the brand is extended to more than one product category, these brand-related experiences with a particular brand may or may not be in the same product category. Therefore, a higher brand familiarity may not lead to a higher ability to process information about the brand in any specific product category.

For familiar brands, consumers may have had prior experience with them, seen the advertising or marketing communications for the brands, gotten WOM from friends and family who have used the brands before, and received information from the news media. In contrast, consumers typically lack confidence about unfamiliar brands, because they have not had experience these brands or the opportunity to process information about the brands (e.g., due to a lack of availability of such information). In general, consumers are more concerned about forming a valid attitude of a brand, when the brand is unfamiliar to them than when the brand is familiar to them (Friestad & Wright, 1994; Wei, Fischer, & Main, 2008). The consumers' concern about forming a valid attitude of an unfamiliar brand is likely due to a

lower actual level of confidence in their judgment about the unfamiliar brand. If the decision task remains the same (i.e., choosing a brand from a specific product category), the desired level of confidence should not differ from the evaluation of one brand to the evaluation of another. This increased gap between the actual and desired level of confidence can lead to an increased motivation to process and elaborate on additional information for an unfamiliar brand as compared to a familiar one.

Expertise of WOM Source

Trustworthiness and expertise are two of the more important and enduring components of source credibility (Yoon, Kim, & Kim, 1998). Trustworthiness refers to the perceived willingness of the source to make valid assertions (Yoon, Kim, & Kim, 1998). In general, the WOM recipient perceive the WOM sender to be trustworthy, because the WOM sender are usually independent of the seller and is not trying to persuade the WOM recipient to act in some way that is not necessarily in his/her best interests (Bansal & Voyer, 2000; Smith et al., 2005). Thus, it is not likely for the WOM recipient to be concerned about the trustworthiness of the WOM sender.

Even though the WOM sender is willing to make valid assertions, he/she may or may not have the ability to do so. Source expertise refers to the perceived ability of a source to make valid assertions about the issues at hand by the virtue of having the relevant skills (Homer & Kahle, 1990; Yoon et al., 1998). Therefore, the perceived level of expertise of the WOM sender can assert a substantial influence on the perceived credibility of the WOM sender (Swartz, 1984; Yoon et al., 1998). As judgments based on the expertise of the source are generally perceived to be appropriate (Bohner, Ruder, & Erb, 2002), consumers are likely to use a rule such as “experts’ statements can be trusted” to evaluate the validity of the

product evaluations provided by other consumers (Friestad & Wright, 1994; Maheswaran et al., 1992).

Hypotheses

In general, a message from an expert (as opposed to a non-expert) tends to be more persuasive for the consumers, because a high level of perceived expertise indicates that the message being delivered is a valid one (Homer & Kahle, 1990). However, past research has shown that the impact of the expertise of the source on persuasion can be moderated by various factors (e.g., Bohner et al., 2002; Petty, Cacioppo, & Goldman, 1981). This paper aims to examine the moderating role of brand familiarity.

A consumer may choose to agree with the advocated position of the expert, without considering the merits of the persuasive argument by relying on the expertise heuristic. As experts are perceived to possess knowledge about the product being evaluated and capable of making correct assertions about the product, the level of perceived expertise of the source provides evidence of the message validity (Homer & Kahle, 1990). Even though consumers may try to evaluate information about the unfamiliar brand systematically due to the higher motivation (i.e., larger confidence gap), it is likely that they are unable to evaluate the validity of this information confidently for many product categories. Hence, they will still need to rely heavily on the expertise heuristic when evaluating information about an unfamiliar brand. Due to the low motivation to process any additional information or heuristic cues for a familiar brand (i.e., smaller confidence gap), the expertise heuristic is expected to assert a lower influence on attitude toward the familiar brand. For positive WOM from the WOM sender, this following relationship is expected:

H1. Perceived high expertise of WOM sender as compared to a low perceived expertise of WOM sender is expected to lead to a more positive attitude toward a brand.

H2. Brand familiarity moderates the impact of the expertise of the WOM sender on the attitude. Perceived high expertise of WOM sender as compared to perceived low expertise of WOM sender is expected to lead to a more positive attitude toward an unfamiliar brand. The perceived expertise of the WOM sender has little or no impact on the attitude toward a familiar brand.

The Present Research

Participants and Design

Brand familiarity (familiar versus unfamiliar), and expertise of WOM sender (high versus low) were manipulated between-subjects to test the hypotheses in two experiments. The study participants were undergraduate students from a major university in Singapore. Experiment 3.1 had 50 study participants and Experiment 3.2 had 78 study participants. In both experiments, study participants were given course credits for their participation. The printer product category was pretested to be relevant to the undergraduates and the brand extension of two brands to the printer product category was chosen as the context of both experiments.

Experiment 3.1

Procedure and Measurements

To choose a familiar and an unfamiliar brand, the brand names had to be pretested. In the first pretest, brand names from a single product category were rated on two dimensions: familiarity with the brand and appeal of the brand (Coates et al., 2006). The two chosen brand names had to differ only on the dimension of brand familiarity. The context of the study is the brand extension of the familiar and unfamiliar brand (i.e., personal computer manufacturers) into a new but related product category (i.e., printer product category). The two chosen brand names are Acer (i.e., familiar brand) and BenQ (i.e., unfamiliar brand). This first pretest consisted of 21 study participants. On a seven-point scale of *very unfamiliar* (1) to *very familiar* (7), study participants rated Acer ($M=5.89$) to be significantly more familiar than BenQ ($M=4.58$) at $p<.01$. On the other hand, the appeal of Acer ($M=4.59$) is not significantly different ($p>.50$) from that of BenQ ($M=4.37$) on a seven-point scale of *very unappealing* (1) to *very appealing* (7).

Perceived expertise of the WOM sender was manipulated by varying the WOM sender's familiarity with the product category (i.e., number of purchases made) and the WOM sender's formal training and occupation (i.e., related or unrelated to the product category) in the WOM scenario for the experiment. Product familiarity is defined as the number of experience that the consumer has accumulated in a particular product category (e.g., purchases and usage) (Alba & Hutchinson, 1987). In general, the increase in product familiarity results in the increase in consumer expertise (Feick & Higie, 1992). For online WOM, the consumer may rely on cues such as the consumer reviewer's product-related experience with products, number of reviews, and quality of reviews (i.e. usefulness,

consistency) to form an overall perception of the reviewer's expertise (Smith et al., 2005). Moreover, the source of the message is typically perceived to have greater expertise when they have formal training in the subject matter (Feick & Higie, 1992).

From the first pretest ($n=21$), the top three most important attributes (i.e., color printing, price of printer, price of replacement toner/cartridge) were identified. On a seven-point scale from *very unimportant* (1) to *very important* (7), the mean importance scores ranged from 6.26 to 6.47 for the three most important attributes. These attributes were used in the WOM verbatim for the main experiment by providing of specific details on relevant attributes to give the impression that the WOM sender knew what he/she was talking about.

But it was still important to ensure the study participants would be able to understand such details, as comprehension of the message could moderate the impact of source cues (Ratneshwar & Chaiken, 1991). Therefore, technical details/jargons were limited to a minimal amount. Consumers may also expect experts to deliver messages with strong arguments (e.g., detailed and quantitative information) and non-experts to deliver messages with weak arguments (e.g., own verbal evaluations) (Artz & Tybout, 1999; Bohner et al., 2002).

Thus, expertise and WOM verbatim were pretested again as part of the WOM scenario to ensure that the arguments presented in the WOM verbatim and the language used would not affect the perception of source expertise. In the second pretest, source expertise was measured using two items (i.e., ability of WOM sender to evaluate the quality of the printer and ability of WOM sender to give accurate information about the various attributes of printers) from *very low* (1) to *very high* (7) on a seven-point scale. The manipulation for expertise of WOM sender worked as expected ($p<.00$), suggesting that the wording of the arguments presented in the WOM verbatim were suitable for both experts and non-experts.

For the main experiment, the study participants were randomly assigned to one of the four conditions in a laboratory setting. The experiment was administered to the study participants in four separate parts. The study participants were asked to rate the brand assigned to them (Acer or BenQ) using 3 seven-point semantic differential scales with the following anchors: *very negative (1)-very positive (7)*, *very unfavorable (1)-very favorable (7)*, and *very bad (1)-very good (7)* ($\alpha=.94$). These three items were averaged to form the pre-WOM attitude rating. The simple rating task was followed by two short filler tasks. After the filler tasks, the study participants were asked to imagine that they were considering buying a printer from the brand assigned and decided to ask a friend for a recommendation. This scenario included the manipulation of expertise of WOM used in the second pretest. The following is an example of the WOM verbatim used (*The brand name included in the verbatim depended on the condition that the study participant was in*):

“Even though [*Acer/BenQ*] printers are new to the Singapore market, you should consider getting a [*Acer/BenQ*] printer. All of the printer models for [*Acer/BenQ*] have colour printing. This will probably be useful for you to print coloured graphics and photos for your school reports. The price of a [*Acer/BenQ*] printer is also very affordable with the student discount that you can get. The replacement cartridges and toners for [*Acer/BenQ*] printers are also very cheap. You will not have to worry about how expensive it is to print each and every page.”

The study participants had to rate the brand again with the same three scales ($\alpha=.92$) from the first rating task. These three items were averaged to form the post-WOM attitude rating of interest. In the last section, the study participants filled out other items relating to the WOM scenario, covariates (e.g., source likeability and involvement with the task of

evaluating the brand), and manipulation checks (the same items used in the pretests). The experimenter then thanked and dismissed the study participants.

Results and Discussion

Analysis on the manipulation checks indicates that the manipulation for *Brand Familiarity* worked as expected. The difference between familiar brand (i.e., Acer) ($M=4.60$) and unfamiliar brand (i.e., BenQ) ($M=3.44$) is significant ($F(1, 46)=17.17, p<.05$) in terms of brand familiarity. On the other hand, the study participants did not rate the appeal of the familiar brand ($M=3.84$) to be significantly different ($F(1, 46)=.07, p>.75$) from that of the unfamiliar brand ($M=3.72$). In addition, manipulation for *Expertise of WOM sender* work with the study participants perceiving WOM sender of high expertise ($M=4.91$) to have higher ability than WOM sender of low expertise ($M=4.27$) ($F(1, 46)=5.23, p<.05$).

Table 13

Pre-WOM and Post-WOM Attitude Rating (Experiment 3.1)

	Pre-WOM Attitude	Post-WOM Attitude
	Mean Score	Mean Score
	(Standard Deviation)	(Standard Deviation)
Familiar Brand		
High Expertise ($n=12$)	3.92 (1.02)	4.39 (1.17)
Low Expertise ($n=13$)	4.13 (1.01)	4.57 (.95)
Unfamiliar Brand		
High Expertise ($n=12$)	3.72 (.81)	5.12 (.82)
Low Expertise ($n=13$)	3.85 (1.14)	4.30 (1.05)

Preliminary analysis using a two-way ANOVA on the main dependent variable of interest (i.e., post-WOM attitude rating) did not yield any significant results. The results of this ANOVA analysis will not be presented in this paper. Additional analyses were run using Analysis of Covariance (ANCOVA) to include covariates such as pre-WOM attitude rating and likeability of WOM sender. The results are substantially different with the inclusion of these covariates. A closer examination of the item measuring source likeability shows a marginally significant interaction between *Brand Familiarity* and *Expertise* ($F(1, 46)=3.55$, $p>.05$). The issue with source likeability was taken into consideration in Experiment 3.2. For Experiment 3.1, the results of the ANCOVA are presented in this section. All of the main analyses were done with the average of the three items measuring the post-WOM attitude rating as the dependent variable.

Figure 11**Descriptive Statistics for Post-WOM Attitude (Experiment 3.1)**

^a (cell size, standard deviation)

The expected interaction effect between *Brand Familiarity* and *Expertise* is significant ($F(1, 44)=4.20, p<.05$), supporting the hypothesis that familiarity of the brand moderates the use of expertise of WOM sender as a basis to rate the brand being considered. The main effect of *Expertise of WOM Sender* is not significant ($F(1, 44)=2.21, p>.10$). As the relationships are expected to differ across the two different levels of familiarity, additional post-hoc analyses were run to examine the simple effects at each specific level of familiarity. The Bonferroni procedure is used to adjust for the two comparisons made, with the overall error rate at .05. Even though the cell mean of *High Expertise* is lower than that of *Low Expertise* under *Familiar Brand* (refer to Figure 11), the difference is not significant ($F(1,$

44)=.26, $p>.60$). Under *Unfamiliar Brand*, the cell mean of *High Expertise* is significant higher from that of *Low Expertise* (refer to Figure 11) ($F(1, 44)=5.61, p<.025$). Therefore, the moderation effect (Hypothesis 2) is supported. Moreover, Hypothesis 1 is also supported for *Unfamiliar Brand*.

In Experiment 3.2, a manipulation for expertise of WOM sender that will not affect likeability of the WOM sender was used to ensure that expertise was the only factor that differed across the two levels of expert consumer versus non-expert consumer. The manipulation was chosen after a round of pretesting. Only then the effect of source expertise could be isolated. Thought listing was important for us to gain additional insight into whether the study participants did use expertise heuristic to make their judgments about the quality of the brand being evaluated. Finally, both actual confidence and desired confidence about the judgment of the brand were measured in Experiment 3.2. These measures can help lend support to the argument that this moderation effect is driven by the difference in actual confidence between familiar and unfamiliar brands.

Experiment 3.2

Procedure and Measurements

The procedure of the second experiment was similar to that of Experiment 3.1, except with a few changes to address certain issues in Experiment 3.1. To test the sufficiency principle of the HSM, the study participants were also asked to rate their confidence level of their pre-WOM rating of the brand assigned to them by using a seven-point scale from *very unconfident* (1) to *very confident* (7).

To increase the study participants' level of involvement with the evaluation task, they were also asked to imagine in the WOM scenario that they were to purchase the printer for the use of their upcoming school projects and assignments. The manipulation of the expertise of WOM sender was also changed. The study participants were asked to think of a friend or relative who was very likely to be an expert (or non-expert) in the product category of printers. This manipulation of expertise did not affect source likeability in the pretest stage. However, there was still a chance that source likeability might still differ in the main experiment. Hence, source likeability was still being measured to ensure that the manipulation of expertise did not affect source likeability. The overall self-rated expertise of the study participants themselves was also measured by asking them to subjectively rate their own knowledge about printers on a seven-point scale from *very unknowledgeable (1)* to *very knowledgeable (7)*. The study participants were then asked to rate how confident they had to be of their overall rating of a printer before they would consider using their own evaluation as a basis to decide whether they would want to purchase it (i.e., desired confidence) on a seven-point scale from *very unconfident (1)* to *very confident (7)*. By measuring the desired confidence, it would help to test whether the difference in the confidence gaps was what driving the results. It was also possible that consumers with high expertise and consumers with low expertise might differ in terms of tie strength with the study participants (Constant, Sproull, & Kiesler, 1996). As discussed in Paper 2, tie strength can have an influence on the impact of WOM and hence an important factor to consider. Even though tie strength was not explicitly controlled for in Experiment 3.2, a measure of tie strength was used as a covariate in the analysis. Tie strength was measured using four items ($\alpha=.96$) pertaining to the study participants' perception of their supportiveness, closeness, and association with the WOM sender.

Results and Discussion

Analyses on the manipulation checks indicate that the manipulations worked as expected. The study participants rated the familiar brand (i.e., Acer) ($M=4.97$) to be significantly more familiar than the unfamiliar brand (i.e., BenQ) ($M=3.95$) ($F(1, 74)=8.19$, $p<.01$). On the other hand, the study participants did not rate the appeal of the familiar brand ($M=4.08$) significantly different ($F(1, 74)=.39$, $p>.50$) from that of the unfamiliar brand ($M=3.88$). In addition, the study participants perceived WOM sender of high expertise ($M=5.43$) to have higher ability in regards to the printer category than WOM sender of low expertise ($M=3.50$) ($F(1, 74)=55.92$, $p<.001$). There is no significant difference for source likeability, showing that the manipulation of expertise in Experiment 3.2 did not affect source likeability.

Table 14

Pre-WOM and Post-WOM Attitude Rating (Experiment 3.2)

	Pre-WOM Attitude	Post-WOM Attitude
	Mean Score	Mean Score
	(Standard Deviation)	(Standard Deviation)
Familiar Brand		
High Expertise ($n=19$)	3.96 (1.04)	4.78 (.90)
Low Expertise ($n=19$)	4.11 (1.21)	4.81 (.74)
Unfamiliar Brand		
High Expertise ($n=20$)	4.12 (1.03)	4.86 (.69)
Low Expertise ($n=20$)	4.07 (.96)	4.30 (.85)

Figure 12**Descriptive Statistics for Post-WOM Attitude (Experiment 3.2)**

^a (cell size, standard deviation)

The results for the ANCOVA analysis with pre-WOM rating of the brand as the covariate are presented. The inclusion of other covariates including tie strength and source likeability did not change results substantially. The expected interaction effect between *Brand Familiarity* and *Expertise* is significant ($F(1, 73)=4.16, p<.05$). The main effect of Expertise of WOM Sender is only marginally significant ($F(1, 73)=3.57, p>.05$). As with Experiment 3.1, post-hoc analyses were run to examine these relationships at each specific level of familiarity, adjusting for the two comparisons using the Bonferroni procedure. Under *Familiar Brand*, the cell mean of *High Expertise* is not significantly different from that of *Low Expertise* (refer to Figure 12) ($F(1, 73)=.01, p>.90$). Under *Unfamiliar Brand*, the cell

mean of *High Expertise* is significant higher from that of *Low Expertise* (refer to Figure 12) ($F(1, 73)=7.93, p<.01$). Therefore, the expected moderation (Hypothesis 2) is supported by the results in Experiment 3.2. Moreover, Hypothesis 1 is also supported for *Unfamiliar Brand*.

Additional analyses on the other variables measured were done to give an insight into what was driving the results. As expected, there is no significant effect for desired confidence. A simple ANOVA on the confidence of pre-WOM rating of the brand indicates that the study participants were significantly more confident of their rating of the familiar brand ($M=4.47$) than that of the unfamiliar brand ($M=3.88$) ($F(1, 74)=4.20, p<.05$). These results do suggest that the confidence gap is greater for the unfamiliar brand as compared to the familiar brand prior to receiving WOM. Thus, the moderation effect may be due the difference between the confidence gap of the pre-WOM evaluation of the familiar brand and the confidence gap of the pre-WOM evaluation of the unfamiliar brand. However, this mediated moderation cannot be directly tested in this paper, because the measures for desired confidence and actual confidence were not kept consistent in this experiment. Hence, a difference of the two measures may not be a good indicator of the confidence gap. This issue should be taken into consideration in future studies, so a more direct measure of the confidence gap can be used as a mediating variable.

The thought-listing also gives some indication that the study participants used the expertise heuristic to form their evaluation of the brand. 44 out of 78 study participants mentioned that they trusted the recommendations more/less or more/less willing to purchase the printer based on the expertise of the WOM sender. However, this issue may be on the top of the mind of the study participants due to the manipulation used in Experiment 3.2 that required each study participant to think of a friend or relative who was very likely to be an expert (or non-expert) in the product category of printers.

General Discussion

A key conceptual contribution is to demonstrate how brand familiarity can moderate the use of source cues (i.e., expertise of the WOM sender) in the context of interpersonal consumer communication about product evaluation. The results from both experiments suggest that consumers may rely on the expertise of the WOM sender to evaluate unfamiliar brands, but not for familiar brands. The results are not likely to be driven by an overly positive evaluation of the familiar brand compared to the unfamiliar brand, as the study participants did not rate the familiar brand significantly higher than the unfamiliar brand in terms of pre-WOM attitude and appeal of brand. Experiment 3.2 also provided some preliminary support that this phenomenon may be due to the difference between the confidence gaps of the two brands prior to receiving WOM, in line with the arguments made using the sufficiency principle of the HSM framework.

The results of these two experiments, along with the results presented in Paper 2, illustrate the importance of considering consumers' brand attitude certainty in predicting attitude change. It will be interesting to see if other factors (e.g., amount of elaboration) that influence brand attitude certainty can generate the same moderation effect. The results here also show HSM framework can be used to explain how attitude certainty can affect resistance to persuasive attempts. Therefore, both non-academic and academic researchers should note how the differences in attitude certainty and other measures of attitude strength could influence their studies.

The current research also has implications in terms of the methodology adopted by consumer behavior researchers. The brands used for consumer behavior experiments may be unknown/unfamiliar to the study participants. The use of familiar brands can affect the conclusions drawn in some of these experiments and the extent to which the results of the

experiments can be generalized. For example, Kirmani and Shiv (1998) found that source congruity enhances attitudes under conditions of high issue-relevant elaboration by using of hypothetical brands in their experiments. Kirmani and Shiv (1998) manipulated source congruity, by matching a certain endorser to the positioning of these hypothetical brands. However, brand familiarity may moderate the impact of source congruity. Source congruity may not enhance the brand attitudes toward familiar brands (i.e., small confidence gap) from their current levels, as the consumers may not elaborate on the information even in conditions of high issue-relevant elaboration.

Marketers may use brand extensions in order to build and communicate strong brand positioning, increase the probability of trial by lessening new product risk for consumers, and enhance awareness and quality associations. However, the direct impact of the parent brand on evaluation of the brand extensions is not the only consideration. But most existing studies on brand extensions focused mainly on this issue (Sjödin, 2008). As evaluations of brand extensions do not occur in a vacuum of other information from sources, Paper 3 helps in the understanding of how consumers can be affected by additional information in the marketplace (expertise of WOM sender in this case) in their evaluation of a new brand extension. This paper also suggests whether consumers use the additional information in their evaluation of a new brand extension depends on the consumers' actual confidence of their own evaluation of the focal brand.

This paper has implications of marketers who use WOM as a form of marketing, as the results highlight the importance of considering the strength dimensions of brand attitudes (e.g., attitude certainty) in the marketplace. For managers of unfamiliar brands, it is important to consider source factors (e.g., expertise and likeability of WOM sender) if they are to use WOM effectively to market their products. Online WOM marketing may be a lot less cost effective, if such source factors are not taken into account. The use of well-known "expert"

bloggers may be useful to promote such products. As for managers of familiar brands, source factors are less of a concern. It may then be more important to get as much WOM as possible from all sources.

Limitations and Directions for Future Research

Johnson and Russo (1984) looked at the nonlinear relationship between product familiarity (rather than brand familiarity) and learning. There is a possibility that the same nonlinear relationship may be true for brand familiarity as well. For the two experiments, the means for brand familiarity range from 3.44 to 4.97 on a seven-point scale. Hence, the findings are likely to hold for moderate level of brand familiarity only. The main difficulty in choosing brands of high and low familiarity is that the familiarity of the brand can be confounded with the appeal of the brand. For example, study participants rated very familiar brands (e.g., Apple) to be significantly more appealing than less familiar brands in the pretest. Therefore, future studies need to take account the full range of brand familiarity and address any possible confounds while doing so.

In general, familiar and unfamiliar brands differ in terms of the knowledge regarding the brand that a consumer has in his or her memory (Campbell et al., 2003; Hoch & Deighton, 1989). Thus, a possible limitation is that the Acer (i.e., familiar brand) has more relevant associations with the product category of the brand extension as compared to BenQ (i.e., the unfamiliar brand), especially if Acer and BenQ are in different product categories (besides the PC category) and have different product width (e.g., number of product categories) in terms of their offerings. Moreover, the associations of the familiar brand may just be more diagnostic to evaluate the target category. Therefore, the moderation effect could be due to the difference in these associations rather than due to the familiarity of the brand to

the consumer per se. However, this issue may be of minimal concern, because the products categories that both Acer and BenQ are in are PC-related categories.

For future research, this should be taken into consideration by capturing the associations related to each brand to eliminate this possible alternative explanation. Another approach is to have a manipulation of brand familiarity that does not involved using actual brands but hypothetical brands. One way to manipulate brand familiarity may be the use of some sort of advertisement evaluation task, where the study participants are to evaluate advertisements of various brands. The frequency of the advertisement exposure during the task can be used to manipulate brand familiarity for each brand. Brand familiarity should increase with the increased number of prior exposures.

As mentioned, trustworthiness and expertise are two of the more important and enduring components of source credibility (Yoon et al., 1998). For different modes of delivering information, trustworthiness, and expertise are expected to vary in accessibility in the minds of the consumers. For example, consumers may be more focused on expertise of the source when getting information from a trustworthy source (e.g., close friend). On the other hand, if the spokesperson delivering the information is tied to the marketer (e.g., salesperson), the consumers may be more inclined to look for signals of trustworthiness prior to looking for signals of expertise. If the spokesperson is deemed untrustworthy, expertise is not likely to influence their final evaluation of the focal brand. Rather, the consumer may rate an unfamiliar brand poorly, because an untrustworthy spokesperson recommended it. If the spokesperson is deemed trustworthy, the relationship posited in Paper 3 may still hold. Thus, trustworthiness of the source may moderate the findings in Paper 3.

Finally, the study participants in the two experiments might have engaged in a very simple heuristic process that did not require any elaboration of the arguments that the WOM sender had provided. In other words, the study participants evaluated the unfamiliar brand

better or worse based solely on the fact that an expert or a non-expert had provided positive WOM. In this case, the strength of arguments that the WOM sender provided was not likely to matter. On the other hand, the study participants in the two experiments might have elaborated on the arguments, after using the expertise of the WOM sender to ascertain that the statements being made were likely to be valid. In the two experiments, positive information about important and relevant attributes was given. Hence, the difference in the evaluation for the unfamiliar brand might be due to the fact that the study participants elaborated on the strong arguments from the expert, but not when the non-expert provided the very same arguments. But that may not be the case if the arguments in the WOM verbatim had been weak (e.g., information about unimportant and irrelevant attributes). Therefore, the strength of the arguments may play a crucial role in forming the consumers' brand attitude for consumers who received WOM from an expert source. The thought-listing data does not inform on whether any elaboration of the arguments took place or not. In future research, this issue should be taken into consideration and addressed more directly through the research design to tease out the specific cognitive processes the consumers use. The level of involvement with the brand evaluation task, product category, and expertise of the WOM recipient might also affect the likelihood of using either of the two cognitive processes.

CHAPTER 5

CONCLUSION

Summary of the Findings for the Three Papers

For Paper 1, the main finding is that negative WOM have a significantly lesser impact on the evaluation of search attributes than on the evaluation of credence attributes. But positive WOM did not have a differential impact on the evaluation of the search attributes and credence attributes. Conceptually, Paper 1 builds on the media congruence hypothesis by studying the impacts of WOM on the evaluation of different types of service attributes. The results suggest that WOM (at least negative WOM) is more effective in communicating information about credence attributes, because WOM is more congruent to credence belief communication.

In Paper 2, the results of the two experiments do not support the hypotheses that the threats to the self (private or collective) directly cause the study participants to positively bias their evaluations to bolster their self-concepts. Instead, the results suggest that the dissonance elicited have a direct impact on post-purchase attitude certainty. In both experiments, those study participants expected to experience threats to their selves (private or collective) have lower post-purchase attitude certainty. In Experiment 2.2, there is evidence that the study participants had relied on their experience of psychological discomfort in deriving judgments of attitude certainty. Those study participants who experienced higher psychological discomfort (i.e., measure of dissonance) also experienced lower post-purchase attitude certainty. The mediated moderation analysis shows a pattern of results that suggest dissonance partially mediates the overall moderation effect for post-purchase attitude certainty. This uncertainty arising from the threats to the self may lead to lower resistance to

persuasive attacks. Hence, the post-purchase attitudes may be more vulnerable to change in the longer run (Bassili, 1996). These results demonstrate that a lack of attitude change does not mean that a persuasion attempt has no impact. This finding is in line with recent research about the impact of persuasion and resistance to persuasion on attitude certainty (e.g., Tormala & Petty, 2004).

In Paper 3, the expertise of the WOM sender is expected to have a greater impact on the attitude toward the unfamiliar brand as compared to the impact on attitude toward the familiar brand. The results of the two experiments conducted support this prediction. The results of Experiment 3.2 also provided some preliminary evidence that this phenomenon may be due to the difference between the confidence gaps of the two brands prior to receiving WOM. Further studies need to be conducted to provide more conclusive empirical evidence to support this theoretical explanation for the phenomenon. Paper 3 shows how the attitude strength can affect how consumers process information about the brand. Along with Paper 2, Paper 3 highlights the importance of considering the meta-attitude factors of brand attitudes (e.g., certainty) in the marketplace. The studies in Paper 3 also have implications in terms of the methodology adopted in the first two papers of this dissertation. Recall in those two papers, the brands used for the experiments were unknown / unfamiliar to the study participants. The use of familiar brands may reduce the likelihood of processing any new information about the brands provided in the experiments.

Concluding Remarks

Online chatter of products/brands is increasing exponentially with the advent of sites like social networking and consumer review blogs. Even though the three papers did not touch on the online context at all, they are still a step toward understanding the impact of

online WOM. For example, WOM communication through emails, instant messaging, and social media (e.g., facebook, private blogs) is still likely to be from a strong tie. Moreover, these forms of online communication are similar to the WOM contexts in Paper 1 to Paper 3 and the presentation mode of the experiments. These modes of online communication may or may not include the use of multimedia (e.g., pictures, audio, and videos).

However, WOM about products and services on commercial websites (e.g., retail websites) is more likely to be product reviews by strangers or acquaintances. These strangers and acquaintances would be most likely to be considered weak ties. In this case, the consumers are less likely to use the proximity of the WOM senders as a signal of credibility. Instead, consumers may presumably use different heuristics (e.g., number of reviews given by the WOM sender, status of being a star reviewer, number of other consumers who found the review given useful, consensus of other reviewers, information that reflects the WOM sender's background) to ascertain the credibility (i.e., trustworthiness and/or expertise) of the WOM sender. Paper 3 touches on this issue by looking at how expertise can be manipulated through varying the WOM sender's experience with the product category (i.e., number of purchases made) and the WOM sender's formal training and occupation (i.e., related or unrelated to the product category) in Experiment 3.1. However, the factors that affect the credibility of the online WOM sender is likely to be more context specific to an online setting. Moreover, the continuous interaction of these online consumers can create a community in which these netizens become more than strangers and acquaintances. Hence, the assumption of weak ties may not hold in those online communities. A longitudinal study might be required to deal with the dynamic nature of online consumer-to-consumer communication. In summary, the literature will benefit from the study of the impact of online WOM to address the context specific factors of online consumer-to-consumer communication.

In all three papers, the WOM messages were presented in a pallid manner. For these three papers, the intention was to look at the specific impact of the informational influence of WOM. Hence, the choice was to increase experimental control, rather than ensuring a more naturalistic setting to observe the impact of WOM and in turn increasing the complexity of the interpretation of the results. The reduction of potential noise has the benefit of increased power for hypothesis testing. Even though the use of written scenarios can be viewed as a limitation, it can help to ensure the study participants elaborate upon the information without confounds of the signaler's appearance or nonverbal cues (Wood, 2006). Vivid methods of manipulation (e.g., the use of confederates) are much harder to control for extraneous influence, especially if actual acquaintances, friends, and family members are to be involved in the experiments. In particular, nonverbal communication can be signals for trustworthiness (Chamberlin, 2000; Wood, 2006). With the premise that WOM is a trusted source of information, any factor that affect the recipient's perception of the trustworthiness of the WOM sender can cause substantial noise in the research. Controlling for such subtle influences is a non-trivial task, as most people may not be consciously aware of the influence of subtle cues and biases (Monahan & Zuckerman, 1999). The problem is compounded by the fact that it will be almost be impossible to get strong-tied confederates for each of the study participants and be able to train these confederates sufficiently. Moreover, people's interpretations of ambiguous nonverbal cues are likely to be affected by the communication context (Manusov, Floyd, Kerssen-Griep, 1997). Study participants may pay more attention to the nonverbal cues of the confederates, because they may be more suspicious of the intentions of the confederates. Thus, the impact of these nonverbal cues in the experimental context may not mirror the impact in a natural WOM context.

But this manipulation method of presenting WOM in a printed format may understate the impact of WOM. For example, the lack of a significant effect for positive WOM in Paper

1 may be due to an artifact of this manipulation method. The WOM description of each focal attribute is only a single sentence that is relatively uninformative. Moreover, the experiments do not provide the study participants with any opportunities for clarification and immediate feedback, a major benefit of using WOM. Thus, the study participants may not find the WOM in the experiments helpful in gauging the performance of the credence attributes as compared to the relatively unambiguous search attributes. Hence, the use of vividly presented information can lead to a significant simple effect for positive WOM and an even stronger significant simple effect for negative WOM (as compared to the significant effects for negative WOM obtained in these experiments). Another example is that the actual trial of the MP3 player in Paper 2 (i.e., direct experience) was likely to be more vivid than the pallidly presented WOM. As vividly presented information tends to have a stronger influence on product judgments and promotes better memory as compared to pallidly presented information (Herr et al., 1991; Hoch & Deighton, 1989), the real negative product trial in the experiments might have overwhelmed any impact the dissonance had on product evaluation. Thus, future studies can look into presenting WOM to the consumers in a more vivid format (e.g., face-to-face WOM). These manipulation methods are also more likely to have better ecological validity than the use of survey instruments. Therefore, the vivid manipulations of WOM may be suitable for future research that requires a more holistic view of the impact of WOM, whereby control of extraneous factors may be less of a concern.

Another approach for future studies is to do a correlational study asking the respondents to recall an actual WOM situation that they have been in and ask them to answer questions relating to the WOM situation. Even though this approach is easier to conduct with a more representative sample of the general population, this approach lacks internal validity and will not be useful for establishing causal relationships of interest in this dissertation. Moreover, this approach is limited by the memory of the respondents and whether these

respondents have engaged in getting WOM from other consumers for the products and services of interest.

Another possible concern of these studies is the use of student samples for all the experiments. Therefore these three studies may lack external validity. The objectives of the studies are not to describe what is going on in the marketplace, but to evaluate how different factors can affect the impact of WOM on the cognitive processes and how consumers evaluate a product or service. All three studies used experimental manipulations of the various factors, which can be used for general population as well. Even though the weight of each factor may differ for the general population as compared to the student population, the significant relationships between the different variables found are likely to hold for the general population with the same kind of experimental manipulations.

Finally, it is also important to consider research of WOM at a higher level of analysis (i.e., the social networks of the consumers), as WOM can be spread through social networks and affect many consumers in these networks (Brown & Reingen, 1987). The study of the normative influence of WOM may also require a higher level of analysis (e.g., dyads, groups). Even though the three papers looked at the impact of WOM at an individual level only, the results of the impact of WOM at the individual level can add to such research as well. For example, the impact of positive WOM on the post-purchase attitude and post-purchase attitude certainty of a consumer has implications in terms of the likelihood of transmitting positive WOM to other parties in his/her social network. Therefore, the findings of Paper 2 can help supplement network analysis on the transmission of WOM through social networks.

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Appendix A1 – Section I and II of Experiment 1.1

Part I: The questions in this section are based on the following scenario. Please read the scenario carefully and circle the appropriate response for each question.

Imagine that you are considering Belize as your choice of destination for your holiday. Assume that this will be your first time traveling to Belize. The following is a general description of Belize:

“The capital of Belize is Belmopan. Most visitors travel to Belize by air but visitors can also get there by road or sea. Visitors to Belize are required to apply for Visa and are permitted to stay in Belize for a period not exceeding 30 days. Even though the currency used in Belize is the Belize Dollar (BZ\$), most hotels, resorts, restaurants and tour operators do accept U.S. currency, traveler's checks and major credit cards.”

1. Based on your general impression of Belize, rate your attitude towards Belize as a travel destination.

Very negative						Very positive
-3	-2	-1	0	1	2	3

2. Based on your general impression of Belize, give an estimate of the taste of the local food.

Very bad						Very good
-3	-2	-1	0	1	2	3

3. Based on your general impression of Belize, give an estimate of the quality of accommodation in Belize.

Very low						Very high
-3	-2	-1	0	1	2	3

4. Based on your general impression of Belize, give an estimate of the likelihood of terrorist attacks in Belize.

Very low						Very high
-3	-2	-1	0	1	2	3

5. Based on your general impression of Belize, give an estimate of the cost of accommodation in Belize.

Very low						Very high
-3	-2	-1	0	1	2	3

6. Based on your general impression of Belize, give an estimate of the likelihood of civil unrests in Belize.

Very low						Very high
-3	-2	-1	0	1	2	3

7. Based on your general impression of Belize, give an estimate of the cost of the trip to and back from Belize.

Very low						Very high
-3	-2	-1	0	1	2	3

8. Based on your general impression of Belize, give an estimate of the likelihood that you would travel to Belize.

Very unlikely						Very likely
-3	-2	-1	0	1	2	3

Part II: THIS SECTION IS TO BE VERBALLY READ TO THE SUBJECT AND THE WORDS ARE TO BE RECORDED BY THE ADMINISTRATOR

We are interested in the words that consumers use on a regular basis. This will help us to design advertisements that are more personal to consumers. The following task requires you to list as many words as possible that start with a certain letter. The time limit for the task is 15 seconds. We will repeat this task several times with different letters.

Within 15 seconds, please list as many words as possible that start with ... [TO BE REPEATED EACH TIME BY THE ADMINISTRATOR]

K	B	G	P	S

Appendix A2 – Section III of Experiment 1.1

*** This section includes the manipulation for valence of WOM and type of attributes. The different versions used in the different conditions are presented here.

Part III: The questions in this section are based on the following scenario. Please read the scenario carefully and circle the appropriate response for each question.

Imagine that you are considering Belize as your choice of destination for your holiday. Assume that this will be your first time traveling to Belize and you have asked a close friend, Pat, about Belize, as Pat has traveled there before. Assume that you have also known Pat for a long time and the two of you often chat on a regular basis. The following is an excerpt of Pat's comments on Belize:

[Positive WOM / Search Attribute Version]

“You want to know more about Belize? Oh sure, I went to Belize last year. Well, there are various attractions such as ancient temples, forests and mountain ranges. I also got a chance to swim with the stingrays and sharks at the Shark Ray Alley. Moreover, the cost of accommodation was low. The cost of traveling to and from Belize was also low. By the way, the majority of the locals do speak English, so communication wasn't an issue. I also did some shopping over there and got some interesting local products. Perhaps I should show them to you someday.”

[Negative WOM / Search Attribute Version]

“You want to know more about Belize? Oh sure, I went to Belize last year. Well, there are various attractions such as ancient temples, forests and mountain ranges. I also got a chance to swim with the stingrays and sharks at the Shark Ray Alley. However, the cost of accommodation was high. The cost of traveling to and from Belize was also high. By the way, the majority of the locals do speak English, so communication wasn't an issue. I also did some shopping over there and got some interesting local products. Perhaps I should show them to you someday.”

[Positive WOM / Credence Attribute Version]

“You want to know more about Belize? Oh sure, I went to Belize last year. Well, there are various attractions such as ancient temples, forests and mountain ranges. I also got a chance to swim with the stingrays and sharks at the Shark Ray Alley. Moreover, I felt safe in Belize, as there was low possibility of a terrorist attack. Likelihood of civil unrest was also low. By the way, the majority of the locals do speak English, so communication wasn’t an issue. I also did some shopping over there and got some interesting local products. Perhaps I should show them to you someday.”

[Negative WOM / Credence Attribute Version]

“You want to know more about Belize? Oh sure, I went to Belize last year. Well, there are various attractions such as ancient temples, forests and mountain ranges. I also got a chance to swim with the stingrays and sharks at the Shark Ray Alley. However, I did not feel safe in Belize, as there was high possibility of a terrorist attack. Likelihood of civil unrest was also high. By the way, the majority of the locals do speak English, so communication wasn’t an issue. I also did some shopping over there and got some interesting local products. Perhaps I should show them to you someday.”

9. Based on your general impression of Belize, rate your attitude towards Belize as a travel destination.

Very negative						Very positive
-3	-2	-1	0	1	2	3

10. Based on your general impression of Belize, give an estimate of the taste of the local food.

Very bad						Very good
-3	-2	-1	0	1	2	3

11. Based on your general impression of Belize, give an estimate of the quality of accommodation in Belize.

Very low						Very high
-3	-2	-1	0	1	2	3

12. Based on your general impression of Belize, give an estimate of the likelihood of terrorist attacks in Belize.

Very low						Very high
-3	-2	-1	0	1	2	3

13. Based on your general impression of Belize, give an estimate of the cost of accommodation in Belize.

Very low						Very high
-3	-2	-1	0	1	2	3

14. Based on your general impression of Belize, give an estimate of the likelihood of civil unrests in Belize.

Very low						Very high
-3	-2	-1	0	1	2	3

15. Based on your general impression of Belize, give an estimate of the cost of the trip to and back from Belize.

Very low						Very high
-3	-2	-1	0	1	2	3

16. Based on your general impression of Belize, give an estimate of the likelihood that you would travel to Belize.

Very unlikely						Very likely
-3	-2	-1	0	1	2	3

Appendix A3 – Section IV to VII of Experiment 1.1

Part IV: Please complete the following questions.

17. Please tick your answers in the appropriate space on each of the scales:

To me, overseas tour is:

a)	Unimportant	___:___:___:___:___:___:___	Important
b)	Boring	___:___:___:___:___:___:___	Interesting
c)	Irrelevant	___:___:___:___:___:___:___	Relevant
d)	Unexciting	___:___:___:___:___:___:___	Exciting
e)	Means nothing to me	___:___:___:___:___:___:___	Means a lot to me
f)	Unappealing	___:___:___:___:___:___:___	Appealing
g)	Mundane	___:___:___:___:___:___:___	Fascinating
h)	Worthless	___:___:___:___:___:___:___	Valuable
i)	Uninvolving	___:___:___:___:___:___:___	Involving
j)	Not needed	___:___:___:___:___:___:___	Needed

18. Rate how important the cost of accommodation is in your choice of holiday destination:

Totally unimportant to me						Totally important to me
1	2	3	4	5	6	7

19. Rate how important the likelihood of terrorist attacks is in your choice of holiday destination:

Totally unimportant to me						Totally important to me
1	2	3	4	5	6	7

20. Rate how important the taste of local food is in your choice of holiday destination:

Totally unimportant to me						Totally important to me
1	2	3	4	5	6	7

21. Rate how important the quality of accommodation is in your choice of holiday destination:

Totally unimportant to me						Totally important to me
1	2	3	4	5	6	7

22. Rate how important the likelihood of civil unrests is in your choice of holiday destination:

Totally unimportant to me						Totally important to me
1	2	3	4	5	6	7

23. Rate how important the cost of the trip to and back from the destination is in your choice of holiday destination:

Totally unimportant to me						Totally important to me
1	2	3	4	5	6	7

24. Have you been to Belize before?

☐ Yes

☐ No

25. Please indicate your frequency of travel:

☐ Once a year

☐ Twice a year

☐ More than twice a year

☐ None of the above

Part V: Please complete the following questions.

26. Please **categorize** each of the following attributes into search, experience, or credence attributes. The definitions of search, experience, and credence attributes are as follows:

- **Search attributes** - Attributes that consumers can accurately determine prior to the purchase of the product / service.
- **Experience attributes** - Attributes that can only be evaluated by the consumer after the purchase or consumption of the product / service.
- **Credence attributes** - Attributes that the consumers are unable to evaluate confidently, even after the purchase or consumption of the product / service.

	Search (S), Experience (E), Credence (C), or Not Sure (NS)**
a) Quality of the accommodation	
b) Likelihood of civil unrests	
c) Outdoor activities	
d) Language spoken by the locals	
e) Likelihood of terrorist attacks	
f) Cost of transportation within the country	
g) Attitude of the locals toward tourists	
h) Convenience of transportation within the country	
i) Cost of the accommodation	
j) Service standard	
k) Historical places of interest	
l) Cost of the trip to and back from the destination	
m) Availability of telecommunication services (e.g. auto-roaming)	
n) Cultural activities and festivals	
o) Taste of the local food	
p) Quality of air	

*** If you are not sure about the categorization, please write "not sure" (NS) and do not leave the space blank.*

27. Please rate the overall realism of the scenario on asking Pat about Belize.

Totally unrealistic						Totally realistic
-3	-2	-1	0	1	2	3

28. Based on the Belize travel scenario, please rate the closeness of your relationship with Pat.

Very distant						Very close
-3	-2	-1	0	1	2	3

Part VI: Please complete the following questions. Circle the appropriate response for each question.

29. Please rate the extent to which you agree with each of the following statements:

		Strongly Disagree					Strongly Agree	
		1	2	3	4	5	6	7
a)	I would prefer complex to simple problems.	1	2	3	4	5	6	7
b)	I like to have the responsibility of handling a situation that requires a lot of thinking.	1	2	3	4	5	6	7
c)	Thinking is not my idea of fun.	1	2	3	4	5	6	7
d)	I would rather do something that requires little thought than something that challenge my thinking abilities.	1	2	3	4	5	6	7
e)	I try to anticipate and avoid situations where there is a likely chance that I will have to think in-depth about something.	1	2	3	4	5	6	7
f)	I find satisfaction in thinking hard and for long hours.	1	2	3	4	5	6	7
g)	I only think as hard as I have to.	1	2	3	4	5	6	7
h)	I prefer to think about small, daily projects to long-term ones.	1	2	3	4	5	6	7
i)	I like tasks that require little thought once I have learnt them.	1	2	3	4	5	6	7
j)	The idea of relying on thought to make my way to the top appeals to me.	1	2	3	4	5	6	7
k)	I really enjoy a task that involves coming up with new solutions to problems.	1	2	3	4	5	6	7
l)	Learning new ways to think does not excite me very much.	1	2	3	4	5	6	7
m)	I prefer my life to be filled with puzzles that I must solve.	1	2	3	4	5	6	7
n)	The notion of abstract thinking is appealing to me.	1	2	3	4	5	6	7

		Strongly Disagree						Strongly Agree
o)	I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.	1	2	3	4	5	6	7
p)	I feel relieved rather than satisfied after completing a task that required a lot of mental effort.	1	2	3	4	5	6	7
q)	It is enough for me that a job gets done; I don't care how or why things work.	1	2	3	4	5	6	7
r)	I usually end up thinking about issues even when they do not affect me personally.	1	2	3	4	5	6	7

Part VII: Please complete the following questions.

30. What is your gender?

- ☐ Male
☐ Female

31. What is your age?

- ☐ Below 20
☐ 20 to 25
☐ Above 25

32. Were you born in Singapore?

- ☐ Yes
☐ No (Please state the country of birth: _____)

33. In your own words, please describe the main purpose of this experiment. Please do not leave the space blank. If you are not able to guess what the main objectives of the study are, please indicate as "Not sure".

~END~

Thank you for your participation.

Appendix B1 – Online Survey of Experiment 1.2

*** Online instructions prior to viewing the survey: The questions in this section are based on the following scenario. Please read the scenario carefully and circle the appropriate response for each question.

Imagine that you are considering opening a new savings account with Royal Bank of Canada (RBC), a bank with operations in Singapore. Assume that you are changing your service provider from your current bank to RBC bank. The following is a general description of RBC bank:

“RBC bank is a full service bank that provides a full range of financial services, aimed at fulfilling the total banking and financial needs of both businesses and individuals. RBC bank is present in various countries in the Asia-Pacific region, through a network of subsidiaries and associated companies. As of 28th Dec 2006, RBC bank and its subsidiaries have total assets in excess of billions of Singapore dollars.”

***The questions were presented on a separate webpage.

1. Based on your general impression of RBC bank, give an estimate of the level of the friendliness of RBC bank's staff.

Very unfriendly						Very friendly
-3	-2	-1	0	1	2	3

2. Based on your general impression of RBC bank, give an estimate of the level of the competency of RBC bank's management.

Very incompetent						Very competent
-3	-2	-1	0	1	2	3

3. Based on your general impression of RBC bank, give an estimate of the level of the convenience of the locations of RBC bank's branches.

Very inconvenient						Very convenient
-3	-2	-1	0	1	2	3

4. Based on your general impression of RBC bank, give an estimate of the level of the interest rate for the savings account deposits at RBC bank.

Very Low						Very high
-3	-2	-1	0	1	2	3

5. Based on your general impression of RBC bank, give an estimate of the level of the timeliness of the services provided by RBC bank.

Very untimely						Very timely
-3	-2	-1	0	1	2	3

6. Based on your general impression of RBC bank, give an estimate of the level of the integrity of RBC bank.

Very low						Very high
-3	-2	-1	0	1	2	3

7. Indicate how likely you are to change your service provider for your savings account, from your current bank to RBC bank.

Very unlikely						Very likely
-3	-2	-1	0	1	2	3

8. Indicate how willing you are to change your service provider for your savings account, from your current bank to RBC bank.

Very unwilling						Very willing
-3	-2	-1	0	1	2	3

Appendix B2 – Section I of Experiment 1.2

*** This section includes the manipulation for valence of WOM and type of attributes. The different versions used in the different conditions are presented here.

Part I: The questions in this section are based on the following scenario. Please read the scenario carefully and circle the appropriate response for each question.

Imagine that you are considering opening a new savings account with Royal Bank of Canada (RBC), a bank with operations in Singapore. Assume that you are changing your service provider from your current bank to RBC bank. Also imagine that you have asked a close friend, Pat, about opening a new savings account with RBC bank, because Pat currently has a savings account with RBC bank. Assume that you have known Pat for a long time and the two of you chat on a regular basis. The following is an excerpt from Pat's comments on RBC bank:

[Positive WOM / Search Attribute Version]

“You want to know more about RBC bank? Oh sure, I do have a savings account with RBC bank. Well, let me see... The opening hours are from about nine in the morning to four in the afternoon on a normal workday. The bank branches are opened on Saturday mornings as well. The interior of the bank branches is fairly modern looking too. Oh yes! I feel that the interest rate for the savings account is really high. I also feel that the bank branches are really convenient for me to get to. What else is there for me to tell you about RBC bank? Mmm... When I first opened the savings account, I received a RBC ATM card. But I guess that is what you will typically get from other banks, for starting any savings account. Besides savings account, RBC bank provides other kind of financial services too.”

[Negative WOM / Search Attribute Version]

“You want to know more about RBC bank? Oh sure, I do have a savings account with RBC bank. Well, let me see... The opening hours are from about nine in the morning to four in the afternoon on a normal workday. The bank branches are opened on Saturday mornings as well. The interior of the bank branches is fairly modern looking too. Oh yes! I feel that the interest rate for the savings account is really low. I also feel that the bank branches are really inconvenient for me to get to. What else is there for me to tell you about RBC bank? Mmm...”

When I first opened the savings account, I received a RBC ATM card. But I guess that is what you will typically get from other banks, for starting any savings account. Besides savings account, RBC bank provides other kind of financial services too.”

[Positive WOM / Credence Attribute Version]

“You want to know more about RBC bank? Oh sure, I do have a savings account with RBC bank. Well, let me see... The opening hours are from about nine in the morning to four in the afternoon on a normal workday. The bank branches are opened on Saturday mornings as well. The interior of the bank branches is fairly modern looking too. Oh yes! I feel that the management is really competent. I also feel that the integrity of the bank is really high. What else is there for me to tell you about RBC bank? Mmm... When I first opened the savings account, I received a RBC ATM card. But I guess that is what you will typically get from other banks, for starting any savings account. Besides savings account, RBC bank provides other kind of financial services too.”

[Negative WOM / Credence Attribute Version]

“You want to know more about RBC bank? Oh sure, I do have a savings account with RBC bank. Well, let me see... The opening hours are from about nine in the morning to four in the afternoon on a normal workday. The bank branches are opened on Saturday mornings as well. The interior of the bank branches is fairly modern looking too. Oh yes! I feel that the management is really incompetent. I also feel that the integrity of the bank is really low. What else is there for me to tell you about RBC bank? Mmm... When I first opened the savings account, I received a RBC ATM card. But I guess that is what you will typically get from other banks, for starting any savings account. Besides savings account, RBC bank provides other kind of financial services too.”

1. Based on your general impression of RBC bank, give an estimate of the level of the friendliness of RBC bank's staff.

Very unfriendly						Very friendly
-3	-2	-1	0	1	2	3

2. Based on your general impression of RBC bank, give an estimate of the level of the competency of RBC bank's management.

Very incompetent						Very competent
-3	-2	-1	0	1	2	3

3. Based on your general impression of RBC bank, give an estimate of the level of the convenience of the locations of RBC bank's branches.

Very inconvenient						Very convenient
-3	-2	-1	0	1	2	3

4. Based on your general impression of RBC bank, give an estimate of the level of the interest rate for the savings account deposits at RBC bank.

Very low						Very high
-3	-2	-1	0	1	2	3

5. Based on your general impression of RBC bank, give an estimate of the level of the timeliness of the services provided by RBC bank.

Very untimely						Very timely
-3	-2	-1	0	1	2	3

6. Based on your general impression of RBC bank, give an estimate of the level of the integrity of RBC bank.

Very low						Very high
-3	-2	-1	0	1	2	3

7. Indicate how likely you are to change your service provider for your savings account, from your current bank to RBC bank.

Very unlikely						Very likely
-3	-2	-1	0	1	2	3

8. Indicate how willing you are to change your service provider for your savings account, from your current bank to RBC bank.

Very unwilling						Very willing
-3	-2	-1	0	1	2	3

Appendix B3 – Section II to V of Experiment 1.2

Part II: Please complete the following questions.

9. Please tick your answers in the appropriate space on each of the scales:

To me, opening a savings account is:

a)	Unimportant	_: _: _: _: _: _: _:	Important
b)	Boring	_: _: _: _: _: _: _:	Interesting
c)	Irrelevant	_: _: _: _: _: _: _:	Relevant
d)	Unexciting	_: _: _: _: _: _: _:	Exciting
e)	Means nothing to me	_: _: _: _: _: _: _:	Means a lot to me
f)	Unappealing	_: _: _: _: _: _: _:	Appealing
g)	Mundane	_: _: _: _: _: _: _:	Fascinating
h)	Worthless	_: _: _: _: _: _: _:	Valuable
i)	Uninvolving	_: _: _: _: _: _: _:	Involving
j)	Not needed	_: _: _: _: _: _: _:	Needed

10. Rate your knowledge of savings account, compared to the average consumer.

Very low						Very high
-3	-2	-1	0	1	2	3

11. Rate your confidence in choosing a bank with which to open a savings account.

Very low						Very high
-3	-2	-1	0	1	2	3

12. Rate the level of risk involved in choosing a bank with which to open a savings account.

Very low						Very high
-3	-2	-1	0	1	2	3

13. What kind of retail banking financial services are you currently using? You may choose **more than one** option.

- ☐ Savings Account
- ☐ Current Account
- ☐ Fixed deposit
- ☐ Investment
- ☐ Insurance
- ☐ Loan
- ☐ Credit card (e.g. Mastercard, Visa)
- ☐ Debit card (e.g. Visa Electron)
- ☐ Others: _____ *(Please write down the other financial services not included in the list above)*

Part III: Please complete the following questions.

14. Please **categorize** each of the following attributes of a service (i.e. opening a savings account) into search, experience, or credence attributes. Imagine that you do not have any relationship with the bank prior to starting this savings account. The definitions of search, experience, and credence attributes are as follows:

- **Search attributes** - Attributes that consumers can accurately determine prior to the purchase of the product / service.
- **Experience attributes** - Attributes that can only be evaluated by the consumer after the purchase or consumption of the product / service.
- **Credence attributes** - Attributes that the consumers are unable to evaluate confidently, even after the purchase or consumption of the product / service.

	Search (S), Experience (E), Credence (C), or Not Sure (NS)**
a) The fees and charges	
b) The attentiveness of the bank staff	
c) The security of the bank	
d) The accuracy of the records kept	
e) The convenience of the location of the ATMs	
f) Visually appealing facilities	
g) The helpfulness of the bank staff	
h) The interest rates on deposits	
i) The integrity of the bank	
j) The convenience of the banking hours	
k) The timeliness of services provided	
l) The willingness of the bank staff to listen to the customers	
m) The friendliness of the bank staff	
n) The expertise of the bank staff	
o) The convenience of the location of the branches	
p) The competency of the management	

** If you are not sure about the categorization, please write "not sure" (NS) and do not leave the space blank.

15. Rate the overall realism of the scenario about opening a savings account with RBC bank.

Totally unrealistic						Totally realistic
-3	-2	-1	0	1	2	3

16. Based on the RBC bank scenario, rate the closeness of your relationship with Pat.

Very distant						Very close
-3	-2	-1	0	1	2	3

Part IV: Please complete the following questions. Circle the appropriate response for each question.

17. Rate the extent to which you agree with each of the following statements.

		Strongly Disagree					Strongly Agree	
		1	2	3	4	5	6	7
a)	I would prefer complex to simple problems.	1	2	3	4	5	6	7
b)	I like to have the responsibility of handling a situation that requires a lot of thinking.	1	2	3	4	5	6	7
c)	Thinking is not my idea of fun.	1	2	3	4	5	6	7
d)	I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.	1	2	3	4	5	6	7
e)	I try to anticipate and avoid situations where there is likely chance I will have to think think in depth about something.	1	2	3	4	5	6	7
f)	I find satisfaction in deliberating hard and for long hours.	1	2	3	4	5	6	7
g)	I only think as hard as I have to.	1	2	3	4	5	6	7
h)	I prefer to think about small, daily projects to long-term ones.	1	2	3	4	5	6	7
i)	I like tasks that require little thought once I have learned them.	1	2	3	4	5	6	7
j)	The idea of relying on thought to make my way to the top appeals to me.	1	2	3	4	5	6	7
k)	I really enjoy a task that involves coming up with new solutions to problems.	1	2	3	4	5	6	7
l)	Learning new ways to think does not excite me very much.	1	2	3	4	5	6	7

		Strongly Disagree					Strongly Agree	
m)	I prefer my life to be filled with puzzles that I must solve.	1	2	3	4	5	6	7
n)	The notion of thinking abstractly is appealing to me.	1	2	3	4	5	6	7
o)	I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.	1	2	3	4	5	6	7
p)	I feel relief rather than satisfaction after completing a task that required a lot of mental effort.	1	2	3	4	5	6	7
q)	It is enough for me that something gets the job done; I don't care how or why it works.	1	2	3	4	5	6	7
r)	I usually end up deliberating about issues even when they do not affect me personally.	1	2	3	4	5	6	7

Part V: Please complete the following questions.

18. What is your gender?

- ☐ Male
☐ Female

19. What is your age?

- ☐ Below 20
☐ 20 to 25
☐ Above 25

20. In your own words, describe the main purpose of this experiment. Please do not leave the space blank. If you are not able to guess what the main objectives of the study is, write "Not sure."

~END~

Thank you for your participation.

Appendix C1 – Section I and II of Experiment 2.1

Part I: The question in this section is based on the following scenario. Please read the scenario carefully and circle the appropriate response for each question.

Imagine that you are considering Digital as your choice of brand for MP3 players. The following is a general description of Digital as a company:

Digital is a manufacturer of various electronics including mobile phones, television sets and home theatre sets. In the past 30 years, Digital has been committed to delivering simple but high quality products to the consumers. As a new entrant to the MP3 player market here in Asia, Digital hopes to bring these same values to their brand of MP3 players.

1. Based on your general impression of Digital, rate Digital as a brand of MP3 players.

Very Negative						Very Positive
-3	-2	-1	0	1	2	3

Very Unfavorable						Very Favorable
-3	-2	-1	0	1	2	3

Very Bad						Very Good
-3	-2	-1	0	1	2	3

2. How certain are you of your rating of Digital brand of MP3 players?

Very Uncertain						Very Certain
-3	-2	-1	0	1	2	3

Part II: THIS SECTION IS TO BE VERBALLY READ TO THE SUBJECT AND THE WORDS ARE TO BE RECORDED BY THE ADMINISTRATOR.

We are interested in the words that consumers use on a regular basis. This will help us to design advertisements that are more personal to consumers. The following task requires you to list as many words as possible that start with a certain letter. The time limit for the task is 15 seconds. We will repeat this task several times with different letters.

Within 15 seconds, please list as many words as possible that start with ... [TO BE REPEATED EACH TIME BY THE ADMINISTRATOR]

K	B	G	P	S

Appendix C2 – Section III of Experiment 2.1

**** This section includes the manipulation for private or collective self. The different primes used are presented here.*

Part III: The question in this section is based on the following story. Please read the story carefully and answer the question accordingly.

We would like you to read a couple of paragraphs. After reading these paragraphs, you will be asked to make a judgment about the main character. Please turn the page over to start reading the story.

[Private Self Prime]

Sostoras, a warrior in ancient Sumer, was largely responsible for the success of Sargon I in conquering all of Mesopotamia. As a result he was rewarded with a small kingdom of his own rule.

About 10 years later, Sargon I was conscripting warriors for a new war. Sostoras was obligated to send a detachment of soldiers to aid Sargon I. He had to decide whom to put in command of the detachment. After thinking about it for a long time, Sostoras eventually decided on Tiglath who was a talented general. This appointment had several advantages. Sostoras was able to make an excellent general indebted to him. This would solidify Sostoras's hold on his own dominion. In addition, the very fact of having a general such as Tiglath as his personal representative would greatly increase Sostoras's prestige. Finally, sending his best general would be likely to make Sargon I grateful. Consequently, there was the possibility of getting rewarded by Sargon I.

[Collective Self Prime]

Sostoras, a warrior in ancient Sumer, was largely responsible for the success of Sargon I in conquering all of Mesopotamia. As a result he was rewarded with a small kingdom of his own rule.

About 10 years later, Sargon I was conscripting warriors for a new war. Sostoras was obligated to send a detachment of soldiers to aid Sargon I. He had to decide whom to put in command of the detachment. After thinking about it for a long time, Sostoras eventually decided on Tiglath who was a member of his family. This appointment had several advantages. Sostoras was able to show his loyalty to his family. He was also able to cement their loyalty to him. In addition, having Tiglath as the commander increased the power and prestige of the family. Finally, if Tiglath performed well, Sargon I would be indebted to the family.

3. Do you admire Sostoras? Provide reasons for your answer.

Appendix C3 – Section IV of Experiment 2.1

*** *This section includes the manipulation for tie strength. The different versions used are presented here.*

Part IV: The questions in this section are based on the following scenario. Please read the scenario carefully and answer all the questions accordingly.

[Weak tie version]

Imagine that you are considering Digital as your choice of MP3 player and this will be your first time buying Digital. Assume that Pat (i.e., a fellow student who is a **mere acquaintance** of yours) already has a Digital MP3 player, and you decide to ask Pat about Digital. Assume also that you have just **met Pat recently**. The two of you have only **spoken a few times** and are **not emotionally close** to each other. The following is an excerpt of Pat's comments on Digital:

[Strong tie version]

Imagine that you are considering Digital as your choice of MP3 player and this will be your first time buying Digital. Assume that Pat (i.e., a fellow student who is a **very close friend** of yours) already has a Digital MP3 player, and you decide to ask Pat about Digital. Assume also that you have **known Pat for a long time**. The two of you **chat on a daily basis** and are **emotionally close** to each other. The following is an excerpt of Pat's comments on Digital:

“The model of Digital MP3 player that I own has many functions, including FM radio. My player also allows me to use it as a thumb drive with any PC without additional installation. It also charges through the USB port of any PC. It is very convenient and easy to use! You can get one like mine with 2 GB of storage for less than 50 dollars easily. I am very impressed with the quality of the player given the price. You should really get one too!”

****Please ask for the Digital MP3 player from the research assistant****

Imagine that you have just bought a Digital MP3 player. First, start by turning on the MP3 player. From there, navigate the menu to the MP3 playback function and listen to the 1 min

clip of the song, *You're Beautiful* by James Blunt. Exit the playback function, navigate back to the initial start point and turn the player off. Answer the questions on the next page after trying this MP3 player.

4. Based on your purchase and usage experience, rate Digital as a brand of MP3 players.

Very Negative						Very Positive
-3	-2	-1	0	1	2	3

Very Unfavorable						Very Favorable
-3	-2	-1	0	1	2	3

Very Bad						Very Good
-3	-2	-1	0	1	2	3

5. How certain are you of your rating of Digital brand of MP3 players?

Very Uncertain						Very Certain
-3	-2	-1	0	1	2	3

6. What are the reasons for your overall rating of Digital brand of MP3 players?

7. What might have been your reasons for purchasing the Digital MP3 player described in the scenario above?

Appendix C4 – Section V to VII of Experiment 2.1

Part V: Please complete the following questions based on the scenario in the previous section.

8. Rate the extent to which you agree with each of the following statements.

		Strongly Disagree					Strongly Agree	
		1	2	3	4	5	6	7
a)	My attitude toward Digital is the same as Pat's attitude toward Digital	1	2	3	4	5	6	7
b)	I felt pressure to buy Digital because of Pat's comments	1	2	3	4	5	6	7
c)	I made this purchase based on Pat's comments	1	2	3	4	5	6	7
d)	Pat's choice of brands for other products is likely to be the same as mine	1	2	3	4	5	6	7
e)	Buying Digital is my own choice	1	2	3	4	5	6	7

9. How would you rate the song (i.e. *You're Beautiful* by James Blunt) that was loaded into the MP3 player you had tried earlier?

Very Unpleasant						Very Pleasant
-3	-2	-1	0	1	2	3

Very Bad						Very Good
-3	-2	-1	0	1	2	3

Very Unlikable						Very Likable
-3	-2	-1	0	1	2	3

10. These statements pertain to your relationship with Pat. Rate the extent to which you agree to the following statements.

		Strongly Disagree					Strongly Agree	
a)	Pat and I have a close relationship	1	2	3	4	5	6	7
b)	I see Pat as someone I have a close bond with	1	2	3	4	5	6	7
c)	My association with Pat is strong	1	2	3	4	5	6	7
d)	Pat and I tend to be supportive of each other	1	2	3	4	5	6	7

11. Rate the overall realism of the scenario on asking Pat about Digital brand of MP3 player and purchasing the recommended player.

Very Unrealistic						Very Realistic
-3	-2	-1	0	1	2	3

Part VI: Please complete the following questions.

12. Please tick your answers in the appropriate space on each of the following items:

To me, an MP3 player is:

a)	Unimportant	_____	Important
b)	Boring	_____	Interesting
c)	Irrelevant	_____	Relevant
d)	Unexciting	_____	Exciting
e)	Means nothing to me	_____	Means a lot to me
f)	Unappealing	_____	Appealing
g)	Mundane	_____	Fascinating
h)	Worthless	_____	Valuable
i)	Uninvolving	_____	Involving
j)	Not needed	_____	Needed

13. Do you own an MP3 player?

- ☐ Yes
☐ No

14. When deciding on a brand of MP3 players to buy, which of the following sources of information are you likely to use? (*You may choose more than one option*)

- ☐ Traditional advertisements (TV, newspaper, radio)
- ☐ Online advertisements
- ☐ Manufacturers' websites
- ☐ Recommendations from other consumers
- ☐ Review websites
- ☐ Trial at the retail shops
- ☐ Others: _____

15. Please write six answers to the simple question '**Who am I?**' in the blanks. Just give six different answers to this question. Answer as if you were giving the answers to yourself, not to somebody else. Write the answers in the order that they occur to you. Don't worry about logic or 'importance.' Go along fairly fast, for time is limited.

- a) I am _____
- b) I am _____
- c) I am _____
- d) I am _____
- e) I am _____
- f) I am _____

Part VII: Please complete the following questions.

16. What is your gender?

- ☐ Male
- ☐ Female

17. What is your age?

- ☐ Below 20
- ☐ 20 to 25
- ☐ Above 25

18. Were you born in Singapore?

- ☐ Yes
- ☐ No (Please state the country of birth: _____)

19. In your own words, please describe the main purpose of this experiment. Please do not leave the space blank. If you are not able to guess what the main objectives of the study are, please write “Not sure”.

~END~

Thank you for your participation.

Appendix D1 – Section I of Experiment 2.2

*** This section includes the manipulation for private or collective self. The different primes used are presented here.

Part I: Please wait for the instructions from the administrator.

[Private Self Prime]

1. For the next two minutes, think of what makes you different from your family and friends and what do you expect yourself to do. Please write down your thoughts in the space provided.

[Collective Self Prime]

1. For the next two minutes, think of what you have in common with your family and friends and what they expect you to do. Please write down your thoughts in the space provided.

[illegible]

Appendix D2 – Section II of Experiment 2.2

*** This section includes the manipulation for tie strength. The different versions used are presented here.

Part II: The question in this section is based on the following scenario. Please read the scenario carefully and answer all the questions accordingly.

Imagine that you are considering Digital as your choice of MP3 player and this will be your first time buying Digital. The following is a general description of Digital as a company:

“Digital is a manufacturer of various electronics including mobile phones, television sets and home theatre sets. In the past 30 years, Digital has been committed to delivering simple but high quality products to the consumers. As a new entrant to the MP3 player market here in Asia, Digital hopes to bring these same values to their brand of MP3 players.”

[Strong tie prime]

Assume that Pat (i.e., a fellow student who is a **very close friend** of yours) already has a Digital MP3 player, and you decide to ask Pat about Digital. Assume also that you have **known Pat for a long time**. The two of you **chat on a daily basis** and are **emotionally close** to each other. The following is an excerpt of Pat’s comments on Digital:

[Weak tie prime]

Assume that Pat (i.e., a fellow student who is a **mere acquaintance** of yours) already has a Digital MP3 player, and you decide to ask Pat about Digital. Assume also that you have just **met Pat recently**. The two of you have only **spoken a few times** and are **not emotionally close** to each other. The following is an excerpt of Pat’s comments on Digital:

“The model of Digital MP3 player that I own has many functions, including FM radio. My player also allows me to use it as a thumb drive with any PC without additional installation. It also charges through the USB port of any PC. It is very convenient and easy to use! You can get one like mine with 2 GB of storage for less than 50 dollars easily. I am very impressed with the quality of the player given the price. You should really get one too!”

2. Based on your general impression of Digital, rate Digital as a brand of MP3 players.

Very Negative						Very Positive
-3	-2	-1	0	1	2	3
Very Unfavorable						Very Favorable
-3	-2	-1	0	1	2	3
Very Bad						Very Good
-3	-2	-1	0	1	2	3

3. How certain are you of your overall rating of Digital brand of MP3 players?

Very Uncertain						Very Certain
-3	-2	-1	0	1	2	3

Appendix D3 – Section III to VI of Experiment 2.2

Part III: Please answer all the questions.

4. Please examine the picture carefully.

From the picture:

- a) Which chair is the most innovative? (*Write down the number*) _____
- b) Which chair is the most durable? (*Write down the number*) _____
- c) Which chair(s) appeal(s) to you most (*Write down the number*) and why?

5. Please examine the picture carefully.

Classify each and every one of the above containers into one of the following categories by writing the numbers in to the space provided:

a) Cups: _____

b) Bowls: _____

c) Vases: _____

Part IV: The following is a follow-up of the scenario in the Part II. Please read the scenario carefully and answer all the questions accordingly.

Imagine that you have just **bought** a Digital MP3 player after asking Pat about Digital; and you are trying it out for the first time. First, start by turning on the MP3 player. From there, navigate the menu to the MP3 playback function and listen to the 1 min clip of the song, *You're Beautiful* by James Blunt. Exit the playback function, navigate back to the initial start point and turn the player off. Answer the questions on the next page after trying this MP3 player.

6. Based on your purchase and usage experience, rate Digital as a brand of MP3 players.

Very Negative						Very Positive
-3	-2	-1	0	1	2	3
Very Unfavorable						Very Favorable
-3	-2	-1	0	1	2	3
Very Bad						Very Good
-3	-2	-1	0	1	2	3

7. How certain are you of your overall rating of Digital brand of MP3 players?

Very Uncertain					Very Certain
-3	-2	-1	0	1	3

8. If you are to tell someone about Digital brand of MP3 players, what will you tell him or her about the brand?

Part V: Please complete the following questions based on the scenario in Part II and IV.

9. Rate the extent to which you agree with each of the following statements.

		Strongly Disagree					Strongly Agree	
		1	2	3	4	5	6	7
a)	My attitude toward Digital is the same as Pat's attitude toward Digital	1	2	3	4	5	6	7
b)	I felt pressure to buy Digital because of Pat's comments	1	2	3	4	5	6	7
c)	I made this purchase based on Pat's comments	1	2	3	4	5	6	7
d)	Pat's choice of brands for other products is likely to be the same as mine	1	2	3	4	5	6	7
e)	I bought the right brand by choosing Digital	1	2	3	4	5	6	7
f)	Buying Digital is my own choice	1	2	3	4	5	6	7
g)	I should have spent more time in shopping around before buying this MP3 player	1	2	3	4	5	6	7
h)	Pat had an ulterior motive for recommending Digital	1	2	3	4	5	6	7
i)	I regret buying Digital	1	2	3	4	5	6	7
j)	Pat's comments are credible as an indicator of the quality of Digital	1	2	3	4	5	6	7
k)	My experience with the MP3 player is reflective of the quality of Digital	1	2	3	4	5	6	7
l)	My experience with the MP3 player is consistent with Pat's comments	1	2	3	4	5	6	7

10. How would you rate the song (i.e. *You're Beautiful* by James Blunt) that was loaded into the MP3 player you had tried earlier?

Very Unpleasant						Very Pleasant
-3	-2	-1	0	1	2	3
Very Bad						Very Good
-3	-2	-1	0	1	2	3
Very Unlikable						Very Likable
-3	-2	-1	0	1	2	3

11. These statements pertain to your relationship with Pat. Rate the extent to which you agree with each of the following statements.

					Strongly Disagree						Strongly Agree
a)	Pat and I have a close relationship				1	2	3	4	5	6	7
b)	I see Pat as someone I have a close bond with				1	2	3	4	5	6	7
c)	My association with Pat is strong				1	2	3	4	5	6	7
d)	Pat and I tend to be supportive of each other				1	2	3	4	5	6	7

12. Rate the overall realism of the scenario on asking Pat about Digital brand of MP3 player and purchasing the recommended player.

Very Unrealistic						Very Realistic
-3	-2	-1	0	1	2	3

Part VI: Please complete all the following questions.

13. Please write six answers to the simple question '**Who am I?**' in the blanks. Just give six different answers to this question. Answer as if you were giving the answers to yourself, not to somebody else. Write the answers in the order that they occur to you. Don't worry about logic or 'importance.' Go along fairly fast, for time is limited.

a) I am _____

b) I am _____

c) I am _____

d) I am _____

e) I am _____

f) I am _____

14. Indicate how you are how you are feeling right now. Please circle only one number on each of the following scales.

	Does not apply at all					Applies very much	
a) Dissatisfied with myself	1	2	3	4	5	6	7
b) Happy	1	2	3	4	5	6	7
c) Uncomfortable	1	2	3	4	5	6	7
d) Disgusted with myself	1	2	3	4	5	6	7
e) Angry with myself	1	2	3	4	5	6	7
f) Good	1	2	3	4	5	6	7
g) Annoyed with myself	1	2	3	4	5	6	7
h) Optimistic	1	2	3	4	5	6	7
i) Uneasy	1	2	3	4	5	6	7
j) Friendly	1	2	3	4	5	6	7
k) Bothered	1	2	3	4	5	6	7
l) Energetic	1	2	3	4	5	6	7
m) Embarrassed	1	2	3	4	5	6	7
n) Shame	1	2	3	4	5	6	7

15. Do you own an MP3 player?

- ☐ Yes
☐ No

16. When deciding on a brand of MP3 players to buy, which of the following sources of information are you likely to use? (*You may choose more than one option*)

- ☐ Traditional advertisements (TV, newspaper, radio)
☐ Online advertisements
☐ Manufacturers' websites
☐ Recommendations from other consumers
☐ Review websites
☐ Trial at the retail shops
☐ Others: _____

17. Please tick your answers in the appropriate space on each of the following items:

To me, an MP3 player is:

a)	Unimportant	____:____:____:____:____:____:____	Important
b)	Boring	____:____:____:____:____:____:____	Interesting
c)	Irrelevant	____:____:____:____:____:____:____	Relevant
d)	Unexciting	____:____:____:____:____:____:____	Exciting
e)	Means nothing to me	____:____:____:____:____:____:____	Means a lot to me
f)	Unappealing	____:____:____:____:____:____:____	Appealing
g)	Mundane	____:____:____:____:____:____:____	Fascinating
h)	Worthless	____:____:____:____:____:____:____	Valuable
i)	Uninvolving	____:____:____:____:____:____:____	Involving
j)	Not needed	____:____:____:____:____:____:____	Needed

18. What is your gender?

- ☐ Male
☐ Female

19. What is your age?

- ☐ Below 20
☐ 20 to 25
☐ Above 25

20. Were you born in Singapore?

- ☐ Yes
☐ No (Please state the country of birth: _____)

21. In your own words, please describe the main purpose of this experiment. Please do not leave the space blank. If you are not able to guess what the main objectives of the study are, please write "Not sure".

~END~

Thank you for your participation.

Appendix E1 – Section I to II of Experiment 3.1

***Familiarity is manipulated through all the sections using the two brand names. Acer is the familiar brand and BenQ is the unfamiliar brand. The portions that will be changed to manipulate familiarity is represented using [Acer/BenQ] through out the whole survey instrument.

Part I: The questions in this section are based on the following scenario. If you do not know the brand of printer, answer the following questions based on your general impression of the brand name.

Imagine that you are considering [Acer/BenQ] as your choice of printer and this will be your first time buying a [Acer/BenQ] printer.

1. Based on your general impression of [Acer/BenQ], rate [Acer/BenQ] as a brand of printers.

Very Negative						Very Positive
-3	-2	-1	0	1	2	3

Very Unfavorable						Very Favorable
-3	-2	-1	0	1	2	3

Very Bad						Very Good
-3	-2	-1	0	1	2	3

2. Based on your general impression of [Acer/BenQ], rate how likely you are to buy a [Acer/BenQ] printer.

Very Unlikely						Very Likely
-3	-2	-1	0	1	2	3

3. Based on your general impression of [Acer/BenQ], rate how willing you are to buy a [Acer/BenQ] printer.

Very Unwilling						Very Willing
-3	-2	-1	0	1	2	3

Part II: Please answer all the questions.

4. Please examine the picture carefully.

From the picture:

d) Which chair is the most innovative? (*Write down the number*) _____

e) Which chair is the most durable? (*Write down the number*) _____

f) Which chair(s) appeal(s) to you most (*Write down the number*) and why?

5. Please examine the picture carefully.

Classify each of the above containers into one of the following categories by writing the numbers in to the space provided:

d) Cups: _____

e) Bowls: _____

f) Vases: _____

Appendix E2 – Section III of Experiment 3.1

*** This section includes the manipulation for expertise of WOM sender. The different versions used are presented here.

Part III: The questions in this section are based on the following scenario. Please read the scenario carefully and answer all the questions accordingly.

[Low Expertise Version]

Imagine that you are considering buying a [Acer/BenQ] printer. Assume that Chris (i.e., a friend of yours) just bought a **printer** for personal use, and you decided to ask Chris for a recommendation. Chris recently graduated with an **English literature degree** and is currently working as a **teacher**. The following is an excerpt of Chris' comments on [Acer/BenQ] printers:

[High Expertise Version]

Imagine that you are considering buying a [Acer/BenQ] printer. Assume that Chris (i.e., a friend of yours) just bought **several printers** for commercial and personal use, and you decided to ask Chris for a recommendation. Chris recently graduated with a **computer engineering degree** and is currently working as an **IT administrator**. The following is an excerpt of Chris' comments on [Acer/BenQ] printers:

“Even though [Acer/BenQ] printers are new to the Singapore market, you should consider getting a [Acer/BenQ] printer. All of the printer models for [Acer/BenQ] have colour printing. This will probably be useful for you to print coloured graphics and photos for your school reports. The price of a [Acer/BenQ] printer is also very affordable with the student discount that you can get. The replacement cartridges and toners for [Acer/BenQ] printers are also very cheap. You will not have to worry about how expensive it is to print each and every page.”

6. Based on your general impression of [Acer/BenQ], rate [Acer/BenQ] as a brand of printers.

Very Negative						Very Positive
-3	-2	-1	0	1	2	3

Very Unfavorable						Very Favorable
-3	-2	-1	0	1	2	3

Very Bad						Very Good
-3	-2	-1	0	1	2	3

7. Based on your general impression of [Acer/BenQ], rate how likely you are to buy a [Acer/BenQ] printer.

Very Unlikely						Very Likely
-3	-2	-1	0	1	2	3

8. Based on your general impression of [Acer/BenQ], rate how willing you are to buy a [Acer/BenQ] printer.

Very Unwilling						Very Willing
-3	-2	-1	0	1	2	3

Appendix E3 – Section IV to VI of Experiment 3.1

Part IV: Please complete the following questions.

9. Rate the ability of Chris to evaluate the quality of printers.

Very Low						Very High
-3	-2	-1	0	1	2	3

10. Rate the ability of Chris to give accurate information about the various attributes of printers.

Very Low						Very High
-3	-2	-1	0	1	2	3

11. Rate how likable you perceive Chris is.

Very Unlikable						Very Likable
-3	-2	-1	0	1	2	3

12. Rate how strong the arguments Chris presented for buying [Acer/BenQ] are.

Very Weak						Very Strong
-3	-2	-1	0	1	2	3

13. Rate how persuasive you find Chris' comments are.

Very Unpersuasive						Very Persuasive
-3	-2	-1	0	1	2	3

14. Rate the overall realism of the scenario on asking Chris about [Acer/BenQ] brand of printers and purchasing the recommended printer.

Very Unrealistic						Very Realistic
-3	-2	-1	0	1	2	3

Part V: Please complete all the following questions.

15. Have you ever bought a [Acer/BenQ] product (besides a [Acer/BenQ] printer)?

- ☐ Yes
☐ No

16. How familiar are you with [Acer/BenQ] as a brand?

Very Unfamiliar						Very Familiar
-3	-2	-1	0	1	2	3

17. How would you rate [Acer/BenQ] in terms of appeal as a brand?

Very Unappealing						Very Appealing
-3	-2	-1	0	1	2	3

18. Do you own a printer?

- ☐ Yes (If yes, proceed to Q22)
☐ No (If no, continue to Q23)

19. What brand (s) of printer do you currently own? *(You may tick more than one)*

- ☐ Brother
☐ Canon
☐ Dell
☐ Epson
☐ Fuji Xerox
☐ HP
☐ Kodak
☐ Lexmark
☐ Oki
☐ Olympus
☐ Panasonic
☐ Samsung
☐ Sony
☐ Others: _____

20. When deciding on a brand of printers to buy, which of the following sources of information are you likely to use? *(You may choose more than one option)*

- ☐ Traditional advertisements (TV, newspaper, radio)
☐ Online advertisements
☐ Manufacturers' websites
☐ Recommendations from other consumers
☐ Review websites
☐ Trial at the retail shops
☐ Others: _____

21. Please tick your answers in the appropriate space on each of the following items:

To me, the **task** of evaluating [Acer/BenQ] as a brand of printer is:

a)	Unimportant	___:___:___:___:___:___:___	Important
b)	Boring	___:___:___:___:___:___:___	Interesting
c)	Irrelevant	___:___:___:___:___:___:___	Relevant
d)	Unexciting	___:___:___:___:___:___:___	Exciting
e)	Means nothing to me	___:___:___:___:___:___:___	Means a lot to me
f)	Unappealing	___:___:___:___:___:___:___	Appealing
g)	Mundane	___:___:___:___:___:___:___	Fascinating
h)	Worthless	___:___:___:___:___:___:___	Valuable
i)	Uninvolving	___:___:___:___:___:___:___	Involving
j)	Not needed	___:___:___:___:___:___:___	Needed

Part VI: Please complete the following questions.

22. What is your gender?

- ☐ Male
☐ Female

23. What is your age?

- ☐ Below 20
☐ 20 to 25
☐ Above 25

24. Were you born in Singapore?

- ☐ Yes
☐ No (Please state the country of birth: _____)

25. In your own words, please describe the main purpose of this experiment. Please do not leave the space blank. If you are not able to guess what the main objectives of the study are, please write "Not sure".

~END~

Thank you for your participation.

Appendix F1 – Section I and II of Experiment 3.2

***Familiarity is manipulated through all the sections using the two brand names. Acer is the familiar brand and BenQ is the unfamiliar brand. The portions that will be changed to manipulate familiarity is represented using [Acer/BenQ] through out the whole survey instrument.

Part I: The questions in this section are based on the following scenario. If you do not know the brand of printer, answer the following questions based on your general impression of the brand name.

Imagine that you are considering [Acer/BenQ] as your choice of printer and this will be your first time buying a [Acer/BenQ] printer.

1. Based on your general impression of [Acer/BenQ], rate [Acer/BenQ] as a brand of printers.

Very Negative						Very Positive
-3	-2	-1	0	1	2	3

Very Unfavorable						Very Favorable
-3	-2	-1	0	1	2	3

Very Bad						Very Good
-3	-2	-1	0	1	2	3

2. Rate how confident you are of your overall rating of [Acer/BenQ] as a brand of printers.

Very Unconfident						Very Confident
-3	-2	-1	0	1	2	3

3. Based on your general impression of [Acer/BenQ], rate how likely you are to buy a [Acer/BenQ] printer.

Very Unlikely						Very Likely
-3	-2	-1	0	1	2	3

4. Based on your general impression of [Acer/BenQ], rate how willing you are to buy a [Acer/BenQ] printer.

Very Unwilling						Very Willing
-3	-2	-1	0	1	2	3

Part II: Please answer all the questions.

5. Please examine the picture carefully.

From the picture:

g) Which chair is the most innovative? (*Write down the number*) _____

h) Which chair is the most durable? (*Write down the number*) _____

i) Which chair(s) appeal(s) to you most (*Write down the number*) and why?

6. Please examine the picture carefully.

Classify each of the above containers into one of the following categories by writing the numbers in to the space provided:

g) Cups: _____

h) Bowls: _____

i) Vases: _____

Appendix F2 – Section III of Experiment 3.2

*** This section includes the manipulation for expertise of WOM sender. The different versions used are presented here.

Part III: The questions in this section are based on the following scenario. Please read the scenario carefully and answer all the questions accordingly.

[Low Expertise Version]

Think of someone who is **not** very likely to be an expert in the product category of printers. You should know this person on a personal basis. Please write down the name of this person in the space provided. The name can be just the first name or the nickname of the person.

_____ *

**Note that future references to this person will be made using [NAME].*

[High Expertise Version]

Think of someone who is very likely to be an expert in the product category of printers. You should know this person on a personal basis. Please write down the name of this person in the space provided. The name can be just the first name or the nickname of the person.

_____ *

**Note that future references to this person will be made using [NAME].*

Imagine that you are considering buying a [Acer/BenQ] printer for the use of your upcoming projects and assignments. You decide to ask [NAME] about his/her opinions about the [Acer/BenQ] printers, as he/she owns a [Acer/BenQ] printer. The following is an excerpt of his/her comments on [Acer/BenQ] printers:

“Even though [Acer/BenQ] printers are new to the Singapore market, you should consider getting a [Acer/BenQ] printer. All of the printer models for [Acer/BenQ] have colour printing. This will probably be useful for you to print coloured graphics and photos for your school reports. The price of a [Acer/BenQ] printer is also very affordable with the student discount that you can get. The replacement cartridges and toners for [Acer/BenQ] printers are also very cheap. You will not have to worry about how expensive it is to print each and every page.”

7. Based on your general impression of [Acer/BenQ], rate [Acer/BenQ] as a brand of printers.

Very Negative						Very Positive
-3	-2	-1	0	1	2	3

Very Unfavorable						Very Favorable
-3	-2	-1	0	1	2	3

Very Bad						Very Good
-3	-2	-1	0	1	2	3

8. Rate how confident you are of your overall rating of [Acer/BenQ] as a brand of printers.

Very Unconfident						Very Confident
-3	-2	-1	0	1	2	3

9. Based on your general impression of [Acer/BenQ], rate how likely you are to buy a [Acer/BenQ] printer.

Very Unlikely						Very Likely
-3	-2	-1	0	1	2	3

10. Based on your general impression of [Acer/BenQ], rate how willing you are to buy a [Acer/BenQ] printer.

Very Unwilling						Very Willing
-3	-2	-1	0	1	2	3

11. What were you thinking when reading [NAME]'s comments about [Acer/BenQ]?

Appendix F3 – Section IV to VI of Experiment 3.2

Part IV: Please complete the following questions.

12. Rate the ability of [NAME] to evaluate the quality of printers.

Very Low						Very High
-3	-2	-1	0	1	2	3

13. Rate the ability of [NAME] to give accurate information about the various attributes of printers.

Very Low						Very High
-3	-2	-1	0	1	2	3

14. Rate how likable you perceive [NAME] is.

Very Unlikable						Very Likable
-3	-2	-1	0	1	2	3

15. Rate how persuasive you find [NAME]'s comments are.

Very Unpersuasive						Very Persuasive
-3	-2	-1	0	1	2	3

16. Rate the likelihood that you will buy a [Acer/BenQ] printer based on [NAME]'s comments.

Very Low						Very High
-3	-2	-1	0	1	2	3

17. These statements pertain to your relationship with [NAME]. Rate the extent to which you agree with each of the following statements.

	Strongly Disagree						Strongly Agree
a) [NAME] and I have a close relationship.	1	2	3	4	5	6	7
b) I see [NAME] as someone I have a close bond with.	1	2	3	4	5	6	7
c) My association with [NAME] is strong.	1	2	3	4	5	6	7
d) [NAME] and I tend to be supportive of each other.	1	2	3	4	5	6	7

18. Rate the overall realism of the scenario on asking [NAME] about [Acer/BenQ] brand of printers and purchasing the recommended printer.

Very Unrealistic						Very Realistic
-3	-2	-1	0	1	2	3

Part V: Please complete all the following questions.

19. Have you ever bought a [Acer/BenQ] product (besides a [Acer/BenQ] printer)?

☐ Yes

☐ No

20. How familiar are you with [Acer/BenQ] as a brand?

Very Unfamiliar						Very Familiar
-3	-2	-1	0	1	2	3

21. How would you rate [Acer/BenQ] in terms of appeal as a brand?

Very Unappealing						Very Appealing
-3	-2	-1	0	1	2	3

22. Do you own a printer?

☐ Yes (*If yes, proceed to Q23*)

☐ No (*If no, continue to Q24*)

23. What brand (s) of printer do you currently own? (*You may tick more than one*)

☐ Brother

☐ Canon

☐ Dell

☐ Epson

☐ Fuji Xerox

☐ HP

☐ Kodak

☐ Lexmark

☐ Oki

☐ Olympus

☐ Panasonic

☐ Samsung

☐ Sony

☐ Others: _____

(*Continue to Q24*)

24. When deciding on a brand of printers to buy, which of the following sources of information are you likely to use? (*You may choose more than one option*)

☐ Traditional advertisements (TV, newspaper, radio)

☐ Online advertisements

☐ Manufacturers' websites

☐ Recommendations from other consumers

☐ Review websites

☐ Trial at the retail shops

☐ Others: _____

25. Please tick your answers in the appropriate space on each of the following items:

To me, the **task** of evaluating [Acer/BenQ] as a brand of printer is:

a)	Unimportant	____:____:____:____:____:____:____	Important
b)	Boring	____:____:____:____:____:____:____	Interesting
c)	Irrelevant	____:____:____:____:____:____:____	Relevant
d)	Unexciting	____:____:____:____:____:____:____	Exciting
e)	Means nothing to me	____:____:____:____:____:____:____	Means a lot to me
f)	Unappealing	____:____:____:____:____:____:____	Appealing
g)	Mundane	____:____:____:____:____:____:____	Fascinating
h)	Worthless	____:____:____:____:____:____:____	Valuable
i)	Uninvolving	____:____:____:____:____:____:____	Involving
j)	Not needed	____:____:____:____:____:____:____	Needed

26. Rate how confident you have to be of your overall rating of a printer before you will consider using your own evaluation as a basis to decide whether you will want to purchase it.

Very Unconfident						Very Confident
-3	-2	-1	0	1	2	3

27. Rate how knowledgeable you are about printers in general.

Very Unknowledgeable						Very Knowledgeable
-3	-2	-1	0	1	2	3

Part VI: Please complete the following questions.

28. What is your gender?

- ☐ Male
☐ Female

29. What is your age?

- ☐ Below 20
☐ 20 to 25
☐ Above 25

30. Were you born in Singapore?

- ☐ Yes
☐ No (Please state the country of birth: _____)

31. In your own words, please describe the main purpose of this experiment. Please do not leave the space blank. If you are not able to guess what the main objectives of the study are, please write "Not sure".

~END~

Thank you for your participation.

Appendix G

Mediated Moderation Analysis

The following is the summary of the procedure to test for mediated moderation that Muller et al. (2005) outlined. Following their procedure, all dichotomous variables are contrast-coded and all continuous variables (with the exception of the dependent variable/outcome) are centered at their mean. This method increases the interpretability of the various parameters in models that include interaction terms. The following four equations are used to test for mediated moderation:

$$Y = \beta_{10} + \beta_{11}X + \beta_{12}Mo + \beta_{13}XMo + \varepsilon_1 \quad (1)$$

$$Me = \beta_{20} + \beta_{21}X + \beta_{22}Mo + \beta_{23}XMo + \varepsilon_2 \quad (2)$$

$$Y = \beta_{30} + \beta_{31}X + \beta_{32}Mo + \beta_{33}XMo + \beta_{34}Me + \beta_{35}MeMo + \varepsilon_3 \quad (3)$$

$$\beta_{13} - \beta_{33} = \beta_{34}\beta_{23} + \beta_{35}\beta_{21} \quad (4)$$

Table G1

Definition of terms used in Equation 1, 2, and 3

Terms	Definition
X	Manipulated independent variable
Y	Outcome variable
Mo	Moderating variable
Me	Mediating variable

The equality in Equation 4 will not exactly hold in terms of parameter estimates, unless the moderator is dichotomous and contrast-coded. In the two experiments in which

this mediated moderation analysis was conducted, the moderator is dichotomous and contrast-coded. Therefore, this assumption is expected to hold.

Table G2

Interpretation of the slope parameters in Equation 1, 2, and 3

Slope Parameters	Interpretation of Slope Parameters
β_{11}	Overall treatment effect on Y at the average level of Mo
β_{12}	Moderator effect on Y on average across the two treatment levels
β_{13}	Change in overall treatment effect on Y as Mo changes
β_{21}	Treatment effect on Me at the average level of Mo
β_{22}	Moderator effect on Me on average across the two treatment levels
β_{23}	Change in treatment effect on Me as Mo changes
β_{31}	Residual direct treatment effect on Y at the average level of Mo
β_{32}	Moderator effect on Y on average within the two treatment levels and at the average level of Me
β_{33}	Change in residual direct treatment effect on Y as Mo changes
β_{34}	Mediator effect on Y on average within the two treatment levels and at the average level of Mo
β_{35}	Change in mediator effect on Y as Mo changes

With mediated moderation, overall moderation of the treatment effect is not zero ($\beta_{13} \neq 0$). Hence, b_{13} has to be significant to indicate overall treatment moderation. The main question to answer is whether the mediating variable accounts for this overall moderation effect. If there is mediated moderation, the moderation of the residual direct effect of the

treatment should be reduced compared to the moderation of the overall treatment effect ($|\beta_{33}| < |\beta_{13}|$). For full mediated moderation, b_{33} should be reduced in magnitude compared to the moderation of the overall effect (b_{13}) and nonsignificant. For this to be the case, either the effect of X on Me depends on the moderator ($\beta_{23} \neq 0$ and $\beta_{34} \neq 0$) and/or the partial effect of Me on Y depends on the moderator ($\beta_{21} \neq 0$ and $\beta_{35} \neq 0$). Therefore, either both b_{23} and b_{34} are significant or both b_{21} and b_{35} are significant. The mediated moderation analysis was done using the linear regression module in SPSS.