AN ANCHORING AND ADJUSTMENT MODEL
OF BRAND EXTENSION EFFECTS ON THE CORE BRAND

DISSERTATION

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By

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ABSTRACT

The effect of brand extension performance on the core brand was investigated. An anchoring and adjustment model was proposed to explain the effects of brand extension performance on the core brand. According to the anchoring and adjustment model, the evaluation of the core brand after processing extension information involves the use of prior opinion of the core brand as an anchor that is adjusted based on extension information to arrive at a final evaluation of the core brand. The predictions of the anchoring and adjustment model regarding the effects of extension presentation format on the weight given to extension information and on the form of integration of core brand information and extension information were explored. Two experiments were carried out using an Analysis of Variance framework.

As predicted by the anchoring and adjustment model, when fit between extension and core brand was high, comparisons of extension performance to core brand performance resulted in greater weight to extension information than comparisons of extension performance to competition performance. When fit between extension and core brand was low, changing the format of presentation of extension information did not change the weight given to extension information. Further, as predicted by the anchoring and adjustment model, comparisons of extension performance to core brand performance
resulted in averaging forms of integration of core brand and extension information while comparisons of extension performance to competition performance resulted in adding forms of integration of core brand and extension information. The results support the use of an anchoring and adjustment model to explain brand extension effects on the core brand.
Dedicated to my parents
Padma and B.R. Viswanathan
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CHAPTER 1

INTRODUCTION

Managing brand equity is one of the most important issues in management in the 1990s. Aaker (1991) in a survey asked 250 managers to identify the biggest asset that gave their firms a sustainable competitive advantage. The managers identified three different dimensions of brand equity in the top ten - Perceived quality was identified as the number one asset followed by brand awareness at number two, and customer loyalty at number ten. Strong brand equity not only enables a firm to create a sustainable competitive advantage, but also enables the firm to leverage the brand name to introduce new products. In fact 95% of new consumer product introductions are brand extensions (Aaker 1991).

Though managers have frequently used a strategy of leveraging existing brand names to introduce new brand extensions, surprisingly little research has been carried out on the effects of extension success or extension failure on the core brand (original brand name). While a large number of extensions succeed, the failure rate for these extensions is also fairly high. One study found the failure rate to be as high as 27 percent (ANA 1984). Given the large number of brand extensions introduced in the marketplace and the high failure rates for new extensions it is important to understand the effects of extension
success and extension failure on the core brand. While a successful extension could potentially enhance core brand value, the failure of the extension could potentially damage the core brand. A successful extension can enhance the core brand by reinforcing existing brand associations and by enhancing the name recognition of the core brand among new market segments. For example extensions such as Sunkist Vitamin C tablets enhance the association of Sunkist with brand associations such as health and vitality. The introduction of Winnebago sleeping bags and tents to younger customers increases awareness of younger buyers to the Winnebago name and can therefore enhance awareness of Winnebago motor homes which are primarily sold to older buyers. The failure of an extension can adversely affect the core brand by adversely affecting the quality image of the core brand. For example the failure of the IBM Junior P.C. adversely affected the IBM quality reputation (Aaker 1991). Sometimes the mere introduction of an extension can adversely affect the core brand by creating undesirable core brand attribute associations and by weakening existing core brand associations (Loken and John 1993).

Given the impact that brand extensions can potentially have on the core brand, it is important to understand the following questions, so that brand managers have an understanding of the benefits, the risks, and the costs of leveraging existing brand names to introduce new extensions: How does the consumer encode information about a brand extension? Under what conditions will the failure/success of an extension damage/enhance the core brand? What is the effect of extension performance on attitudes towards the core brand? What factors affect the level of damage/benefit to the core brand caused by
extension failure/success? And how can an understanding of the process by which an extension impacts the core brand be used by a manager to develop effective extension strategies.

The purpose of this dissertation is to initiate a theory based stream of research that addresses the processes by which the performance of new brand extensions may impact the core brand. A theoretical model is proposed to explain how a consumer’s attitude towards the core brand changes as a result of brand extension performance. The theoretical model provides a framework, which may be used by a brand manager to identify the effect of an extension on the core brand, and thus develop strategies to minimize the adverse effects of extension failures on the core brand, and maximize the beneficial effects of extension success. While the theoretical model developed is applicable to the study of the effects of brand extension success and failure on the core brand, we limit ourselves in this dissertation to developing and testing the model based on extension failures.

The Literature

Research in the area of brand extension evaluation has been primarily concerned with how a core brand can be leveraged to introduce successful extensions. Most of that research concludes that the evaluation of a brand extension, depends on the strength of the core brand, and the fit between the core brand and the extension product categories (Aaker and Keller 1990; Boush and Loken 1991; Boush et al. 1987; Bridges 1990; Herr, Farquhar, and Fazio 1990; Park, Milberg, and Lawson 1990). Thus favorably evaluated core brands
lead to extensions that are favorably evaluated. The strength of the relationship between
the core brand evaluation and the extension evaluation is shown to depend on the
perceived level of fit between the core brand and the extension product category. When
the fit between core brand and extension is high, the favorable evaluation of a core brand
is also likely to result in a more favorable evaluation of its extension than when the fit is
low.

While research in the area of brand extensions has been substantial and is growing,
limited attention has been directed towards understanding the effects of extension failure
on the core brand, in spite of the large number of extensions that fail in the marketplace.
The limited research (Romeo 1991, Keller & Aaker 1992) that has been done in the area,
has generally found that the failures of the extensions in the market has caused weak or
insignificant damage to the core brand. Rather than considering the effect of extension
failures in the market on the core brand, Loken and John (1993) examined the effects on
the core brand of introducing extensions possessing attributes that are inconsistent with
the core brand. They found that the introduction of extensions possessing attributes that
are inconsistent with the core brand, did result in the dilution of perceived core brand
attributes. Overall there is evidence to support the existence of core brand attribute
dilution due to the introduction of inconsistent attributes, but little evidence to support the
existence of core brand dilution due to the failures of extensions in the market.

The process by which the failure of the extension may affect the core brand is not
well understood and in addition there is a paucity of strong empirical evidence examining
the impact of extensions that fail. Romeo (1991) suggests affect transfer to be the
mechanism by which unsuccessful extensions might adversely impact core brand evaluations. Keller and Aaker (1992) suggest company credibility to be the mediating variable mediating the adverse impact of an unsuccessful extension on the core brand. The evidence in support of the theories proposed by Romeo, and Keller and Aaker, is however, weak. There were no measures of affect transfer in the study conducted by Romeo, and thus no evidence to support the existence of affect transfer from the extension to the core brand. Keller and Aaker found company credibility to be adversely affected by unsuccessful extensions. However decreases in company credibility did not have an adverse impact on core brand evaluations. Thus research examining the impact of extensions that fail in the market on core brand evaluation has found little evidence in support of the theories proposed, and little evidence of adverse impact on core brand evaluations. In this dissertation we examine the possible reasons for the lack of support for the theories proposed, and for the lack of empirical evidence on adverse impacts of extension failure on the core brand.

Loken and John (1993) in examining the impact of introducing extensions with inconsistent attributes on the core brand, suggest an important role for the typicality of the extension. The typicality of the extension as defined by Loken and John is dependent on the level of consistency between extension attributes and core brand attributes. Thus an extension that possesses attributes consistent with core brand attributes is considered more typical than an extension that possesses attributes inconsistent with core brand attributes. When the typicality of the extension was salient, the introduction of moderately typical extensions was expected to result in the dilution of core brand attributes, while the
introduction of atypical extensions was not expected to result in the dilution of core brand attributes. When the typicality of the extension was not salient, both moderately typical extensions and atypical extensions were expected to result in the dilution of core brand attributes. The results obtained support the theories proposed by Loken and John.

Overall, research examining the effects of brand extensions on the core brand has proceeded in two different directions. Romeo (1991), and Keller and Aaker (1992) have considered the effects of brand extension failures in the market on the core brand, while Loken and John (1993) have considered the effects of brand extension introduction on core brand attribute associations. Romeo, and Keller and Aaker did not find significant adverse effects of brand extension failure on the core brand, while Loken and John did find that the introduction of a brand extension could adversely impact the core brand by weakening core brand attribute associations.

There have also been differences in the nature of the stimuli used to examine the effects of extension on the core brand. Keller and Aaker used fictitious brands and provided limited information to subjects (approximately a paragraph on the core brand and a few sentences on the extension), Romeo and Loken and John used real core brands such as Tropicana and Neutrogena, and provided more detailed information on the brand extensions. Romeo provided information about the extension in the context of a case study while Loken and John provided information about the extension in a Consumer Reports style attribute format. This dissertation examines some of the possible implications of the nature of the stimuli provided to subjects on the result obtained with regard to the adverse impact of extensions on the core brand.
Thus the lack of a stream of research examining the issue of brand extension effects on the core brand, differences in the type of extension effects examined (examining the effects of introducing an extension on core brand attribute associations versus examining the effect of an extension that fails in the marketplace on attitude towards the core brand), weak and inconsistent results, differences in support for the theories proposed, and differences in stimuli, suggest the need to develop a parsimonious theory of extension effects on the core brand. The theory should offer insights into the process by which extension performance has an impact on the core brand, and specifically improve our understanding of the process by which extensions that fail in the market cause core brand dilution i.e. decrease the evaluation or the favorability of our attitude towards the core brand.

Approach of this dissertation

Our focus in this dissertation is to develop and test a theoretical model that helps us better understand the effect of extension performance on the core brand evaluation. The development of this theoretical model is carried out over two phases. In the first phase we suggest a theoretical model based on a review of existing literature in the areas of brand extension research, information integration, belief updating, and consumer judgment and information processing. We then build on existing literature in the area of brand extensions by suggesting within the context of the proposed theoretical framework, the need to examine factors other than typicality such as extension presentation format in order to
arrive at an enhanced understanding of the core brand dilution process. In the second phase we further test and validate the theoretical model proposed by empirically testing the predictions of the theoretical model.

In essence, we broaden our understanding of the core brand dilution process in the first phase by identifying additional factors not considered in previous research. In the second phase we consolidate the enhanced understanding achieved in the first phase by proposing and testing a broad and general theoretical model of core brand dilution.

Focus of this dissertation

Prior research on core brand dilution has primarily identified the strength of the core brand and the fit between the core brand and the extension as factors affecting the impact of extension failures on the core brand. In the first phase of this research, we build on past research by suggesting the need to consider another important factor that may affect the adverse impact of unsuccessful extensions on the core brand namely the format of presentation of extension information. Specifically, we show that the frame of reference employed by consumers as they evaluate a brand extension affects the evaluation of the core brand. This frame of reference can be altered by altering the presentation of information systematically. We argue that when fit between core brand and extension is low, presenting information about a successful core brand followed by presenting information about an unsuccessful extension in comparison to the core brand results in a more unfavorable attitude towards the core brand than presenting information about a successful core brand followed by presenting extension information in comparison to
competition. When fit between extension and core brand is high, changing the format of presentation of extension information does not have a significant impact on the favorability of the attitude towards the core brand. A lab experiment was conducted to test the hypotheses. Rich stimuli containing approximately three pages of information about the core brand and the extension was used. The fit between the core brand and the extension, and the format of presentation of extension information was varied. Attitude towards the core brand was measured. Process measures such as cognitive responses, and a new scale developed for this experiment was used to measure the nature of information processing during the experiment.

In the first phase we also develop a descriptive model of anchoring and adjustment that can explain the role of fit and core brand strength in the process of core brand dilution. In addition the model can be used to explain the process by which changes in extension presentation format affect core brand evaluations for low fit extensions. The model views the processing of brand extension information by a subject as an anchoring and adjustment process of belief updating. In that process the consumer’s prior opinion of the core brand serves as an anchor. The consumer’s prior opinion of the core brand is then adjusted based on the information a subject receives about the extension.

The manner in which this adjustment takes place is a function of two factors namely the weight given to extension information, and the manner in which extension information is encoded. In turn, one of the factors that affects the encoding process and the weight given to extension information is the format of presentation of the extension
information. We show that information presentation format affects the encoding of extension information by affecting the manner in which extension information is integrated with core brand information.

The first phase of this research therefore achieves two objectives. First it shows that the format of presentation of extension information has an important role to play in understanding the process of brand dilution. Second it suggests that the anchoring and adjustment model can be used to explain the effects of extension presentation format on the core brand. However if the anchoring and adjustment model is to be accepted as a viable theoretical framework that can be used to explain the brand dilution process, a stronger test of the proposed model based on the theoretical predictions of the model needs to be carried out. The second phase of this research was designed to provide a stronger test of the anchoring and adjustment model as a theoretical framework that can explain the process of brand dilution.

One of the major predictions of the anchoring and adjustment model deals with the nature of information integration of core brand and extension information. The anchoring and adjustment model predicts different forms of information integration depending on the manner in which extension information is encoded. The model predicts the averaging of core brand and extension information, when extension information is encoded primarily with reference to the core brand, and the adding of core brand and extension information when extension information is encoded primarily with a reference point other than the core brand.
Adding and averaging have different implications for the effect that an extension can have on the core brand name. For instance, if core brand and extension information are averaged, a strongly successful core brand followed by a moderately successful extension can still result in some damage to the brand name. On the other hand if the information were to be added, a moderately successful extension can help increase the value of the brand name. In the case of an extension failure, a strong core brand is damaged to a greater degree when the core brand and extension information are added, rather than averaged.\(^1\)

To elucidate the predictions of the model let us consider an example of a core brand namely Colgate, which is a well known brand of toothpaste. Suppose Colgate introduces a new mouthwash under the Colgate name. A consumer may evaluate the mouthwash primarily in the context of the expectation raised by the Colgate name. Alternatively the consumer may evaluate the mouthwash primarily in the context of competing products such as Scope mouthwash. Depending on the manner in which information about Colgate mouthwash is encoded, the effect of the performance of Colgate mouthwash on a consumer’s final evaluation of the Colgate brand name will vary.

The anchoring and adjustment model predicts the averaging of core brand and extension information, when extension information is encoded primarily with reference to the core brand. Considering the Colgate example, when Colgate mouthwash is evaluated

\(^1\) The reasoning for the conclusions arrived at are discussed in chapter 2.
based on expectations raised by Colgate toothpaste, the final evaluation of the Colgate brand name is based on an averaging of the prior opinion about the Colgate brand name and the evaluation of the Colgate mouthwash.

The model predicts the adding of core brand and extension information, when extension information is encoded primarily with a reference point other than the core brand. That is, when Colgate mouthwash is evaluated in comparison to Scope mouthwash, the final evaluation of the Colgate brand name is based on an addition of the prior opinion about the Colgate brand name and the evaluation of the Colgate mouthwash. Thus in the case of adding, extension information is encoded independently of core brand information. In the case of averaging however, the encoding of extension information is based on the core brand.

A lab experiment was conducted to test the hypotheses in phase two. Rich stimuli containing approximately three pages of information about the core brand and the extensions was used. A new methodology was developed to test for model predictions of adding and averaging. Attitude towards the core brand was measured. Process measures such as cognitive responses, was used to measure the nature of information processing during the experiment. The model predictions of adding and averaging were empirically tested, and in the process the model of anchoring and adjustment proposed to explain the process of brand dilution was validated.

In Chapter Two, prior research on extension effects on the core brand, belief updating, and information integration is reviewed. Based on the review of prior research an anchoring and adjustment model is proposed to explain the effects of extension
performance on the core brand. Chapter Three describes the design and execution of an experiment designed to test hypotheses related to the predictions of the anchoring and adjustment model regarding the effects of extension presentation format on core brand dilution. Chapter Four describes the design and execution of a second experiment designed to test hypotheses related to the predictions of the anchoring and adjustment model regarding the form of integration of core brand and extension information. Finally, a discussion of the findings, and conclusions are presented in Chapter Five.
CHAPTER 2

LITERATURE REVIEW

In this chapter we first address the issue of research on brand extensions, followed by a review of research on brand dilution phenomena. Previous research on brand dilution had proposed that core brand dilution could be explained primarily in terms of two factors - namely the strength of the core brand, and the fit between the core brand and the extension. However the empirical findings with regard to the effects of extension failures on the core brand seem to suggest that extension failures do not significantly lower core brand evaluations as hypothesized. We explore some of the possible reasons for non-significant effects of the extension on the core brand. Based on previous research on brand extensions, brand dilution, and information encoding we suggest that in addition to typicality and core brand strength, the format of extension information presentation has an important role in core brand dilution.

Next, we review research on anchoring and adjustment and propose a theoretical framework which views the effects of extension failures on the core brand as an anchoring and adjustment belief updating process. The anchoring and adjustment framework
suggests that the prior belief about the core brand serves as an anchor, and this anchor is than adjusted based on information about the extension. One of the factors that affect the adjustment of prior beliefs about the core brand is the format in which extension information is presented. A descriptive algebraic model of the anchoring and adjustment process is proposed followed by a detailed outline of the proposed model. Based on the model, hypotheses are developed and discussed.

Brand Extensions

Researchers on the value of brand extensions have primarily focussed on the benefits that an existing brand brings to an extension. Early research on brand extensions suggests that the value of a brand name to an extension is primarily influenced by two factors, namely the strength of the brand name prior to the introduction of the extension, and the similarity or fit between the brand name and the extension (Aaker and Keller 1990, Boush and Loken 1991, Keller and Aaker 1992).

In one of the earlier studies in this area Aaker and Keller (1990) evaluate 20 brand extension concepts involving six well known brand names. While the core brand was a well known brand name, the extension concepts were hypothetical, and varied widely in their fit with the core brand. For example, the extensions presented for Heineken Beer were light beer, wine, and popcorn. A regression analysis with attitude towards the extension as the dependent variable and core brand quality and fit as independent variables, yielded a significant interaction between quality and fit. The perceived quality of the extension was affected by the perceived quality of the core brand under conditions of
high fit between the core brand and the extension. When the fit between the core brand and the extension was low, the quality of the core brand did not have an impact on the evaluation of the extension.

More recent research suggests the need to consider the role of brand specific associations in addition to the strength of the core brand and the fit between the core brand and the extension (Broniarczyk and Alba 1994). Econometric studies on the determinants of line extension successes indicate the importance of a number of factors such as core brand strength and its symbolic value, the timing of entry of the extension in the extension category, a firm’s size, distinctive competencies, as well as the level of advertising support allocated to the line extension (Reddy, Holak, and Bhat 1994).

The Effect of Brand Extensions on the Core Brand

Most research on brand extensions has examined how consumers evaluate an extension based on the strength of the core brand and fit of the extension with the core brand. Thus the focus hitherto has been on the factors affecting a firm’s ability to leverage the brand name to create successful extensions. Despite the apparent appeal and promise of such a strategy, empirical data indicate high failure rates for extensions. An Association of National Advertisers study found that 27% of extensions fail (ANA 1984). These high failure rates should be of concern to any firm that is embarking on a brand extension strategy because there is a high likelihood that the extension might fail. Further the failure
of the extension may potentially affect the equity commanded by the core brand. This issue of how a failed extension might damage or dilute the equity of a core brand, termed brand dilution, has received limited attention in the literature.

The few studies that have addressed the effects of extension failure on the core brand have suggested that the failure of an extension is likely to result in lowered evaluations of the core brand i.e. cause brand dilution. However, the explanation for how and why brand dilution occurs is not consistent across the studies. In fact, the three studies in the literature that we could locate in the area of brand dilution have used different theories -- attribution (Keller & Aaker 1992), affect transfer (Romeo 1991), and typicality/bookkeeping (Loken and John 1993). Thus whatever limited research there is in this area is hampered by the absence of a unified theoretical framework that can integrate this research and provide directions for future research. In the following paragraphs, we briefly describe the research that has been conducted on brand dilution, discuss the differences between the various approaches to studying brand dilution, and outline some of the problems with past research that need to be addressed.

**Affect Transfer:** Romeo(1991) suggests that brand dilution takes place due to the “ruboff” that results from the higher attention getting nature of negative information. The “ruboff” or affect transfer from the failed extension to the core brand is further hypothesized to be “mediated by fit” between the core brand and the extension. When a failed extension is similar to the core brand, information about the performance of the extension is considered more relevant to evaluating the core brand than when the
extension is not similar to the core brand. Thus when a failed extension is similar to the core brand, the performance of the extension is considered to be relevant in evaluating the core brand, and there is a greater “ruboff” of negative affect from the extension to the core brand, than when the extension is not similar. This in turn would imply that the damage to the core brand’s image would be greater when the extension is similar to the core brand, than when the extension is not similar. Thus Romeo considers affect transfer to be the mechanism by which dilution takes place.

Romeo used core brand image as a dependent measure, and found no significant dilution effects of negative extension information. These results were however moderated by the level of fit between the core brand and the extension. When the extension fit with the core brand was high there was a decrease in the evaluation of the core brand with the failed extension but this decrease was not significant. The lack of a significant decrease in the evaluation of the core brand suggests that core brand dilution did not occur. When the extension fit with the core brand was low, negative information about the extension actually resulted in a significant increase in core brand image. This unexpected increase of core brand image after the introduction of an unsuccessful extension is hypothesized to have occurred due to the existence of contrast effects. Thus the contrast between a failed extension and a successful core brand may have caused subjects to evaluate the core brand more favorably than when evaluating the core brand based on core brand information alone. However Romeo does not identify the reasons or conditions which might have led to the occurrence of contrast effects.
While Romeo suggests that brand dilution occurs due to the higher attention getting nature of negative information, attention was not measured, and the affect transfer model proposed to explain brand dilution was not supported.

**Attributions:** Keller & Aaker (1992) investigated the process of brand dilution. They suggest that a high quality core brand is likely to be damaged by an unsuccessful extension, and that the extent of damage is dependent on the effects of the extension on company credibility. When an extension is unsuccessful, a consumer's perception of the company's ability to introduce new products is likely to be damaged. The resulting negative source attributions should decrease company credibility and result in lowered evaluations of the core brand. In other words extension effects on core brand are mediated by company credibility.

In addition Keller and Aaker suggest that the effect of an extension failure on the core brand is moderated by the level of fit between the core brand and the extension. When the fit between the core brand and an unsuccessful extension is high, the evaluation of the core brand is less favorable than when the fit between the core brand and an unsuccessful extension is low. Their reasoning on the role of fit is similar to that of Romeo. Thus when there is a high fit between the core brand and the extension, the performance of the unsuccessful extension is considered more relevant to core brand evaluation, and consequently results in higher levels of core brand dilution.

Keller and Aaker used attitude towards the core brand, and company credibility as dependent measures. They found limited support for their hypotheses regarding the effects
of failure on core brand evaluations. They found that company credibility was adversely affected by extension failure as hypothesized. However the evaluation of the core brand itself was not affected by extension failure. In addition the evaluation of the core brand was not affected by the level of fit between the core brand and the extension. Based on their results, the authors concluded that the evaluation of the core brand was fairly immune to extension failure. Even though company credibility was adversely affected by a failed extension, the core brand did not seem to be affected. Thus, the attribution model was supported insofar as company credibility ratings were concerned but was not supported for extension effects on the core brand.

**Typicality/Bookkeeping models:** While both Romeo (1991) and Keller and Aaker (1992) addressed the diluting effects of extension failure in the market on attitudes towards the core brand, Loken & John (1993) examined core brand dilution effects in terms how inconsistency between core brand and extension attributes could result in the dilution of specific attribute beliefs associated with the core brand. The authors suggest two different theoretical approaches by which extension attributes that are inconsistent with core brand attributes may result in core brand belief dilution. The first is what they call the “bookkeeping model” according to which core brand beliefs change incrementally as new information about the extension is received. Since beliefs change incrementally a high level of inconsistency between core brand attributes and extension attributes will
result in more belief change than a low level of inconsistency between core brand attributes and extension attributes. Thus when the inconsistency between the attributes of the core brand and the extension is high, the dilution of core brand attribute beliefs is hypothesized to be higher, than when the inconsistency between the attributes of the core brand and the extension is low.

The second theoretical approach is based on what the authors call a “typicality based model”. According to this model beliefs about a brand suffer dilution as a function of the typicality of the extension. Loken and John define typicality in terms of the consistency of core brand attributes and extension attributes. In addition they define degrees of typicality based on the degree of inconsistency. For example the data used by Loken and John suggest that “gentle” and “high quality” are the two attributes most commonly associated with the brand name Neutrogena. Subjects’ perception of typicality varied depending on the consistency between the attributes of the Neutrogena extension and attributes of Neutrogena. When the Neutrogena extension was associated with two attributes that were both inconsistent with the core brand, namely attributes of “low-gentleness” and “low-quality”, measures of typicality indicated the extension to be atypical. When the Neutrogena extension was associated with two attributes of which one was inconsistent with the core brand attributes (a combination of low-gentleness and high-quality, or a combination of high-gentleness and low quality), measures of typicality

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1 In the example used by Loken and John ‘gentleness’ was an attribute associated with the core brand Neutrogena. A Neutrogena extension that had the attribute of ‘low gentleness” associated with it was considered to possess attributes inconsistent with the core brand attribute of “gentleness”.

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indicated the extension to be moderately typical. A highly typical Neutrogena extension, would be associated with two attributes that were both consistent with the core brand, namely attributes of “high-gentleness” and “high-quality.

When the extension attributes are highly inconsistent with core brand attributes, the extension is considered atypical, and the consumer is less likely to categorize the core brand and the extension in the same category. This is likely to result in the consumer considering extension information to be irrelevant in evaluating the core brand, thus ignoring extension information when evaluating core brand beliefs. In turn this would imply that the introduction of atypical extensions which possess attributes that are highly inconsistent with core brand attributes, will not result in the dilution of core brand attribute beliefs.

When the extension attributes are moderately inconsistent with core brand attributes, the extension is considered moderately typical, and the consumer is likely to categorize the core brand and the extension in the same category. This is likely to result in the consumer considering extension information to be relevant to evaluating the core brand. In turn this would imply that the moderate differences in consistency between core brand attributes and extension attributes for a moderately atypical extension, will result in the dilution of core brand attribute beliefs.

The typicality and the bookkeeping model thus make differing predictions. The bookkeeping model suggests that the dilution of core brand attribute beliefs will occur for
moderately typical extensions and for atypical extensions. The typicality model suggests that the dilution of core brand attribute beliefs will occur for moderately typical extensions but not for atypical extensions.

Loken and John suggest that the applicability of either the bookkeeping or the typicality models depends on the salience of typicality in a particular context. When the typicality of the extension is salient, the typicality model is likely to be applicable and the dilution of core brand attribute beliefs should follow the predictions of the typicality model. In this case a high level of inconsistency between core brand and extension attributes (an atypical extension) will not result in a dilution of core brand attribute beliefs while a moderate level of inconsistency between core brand and extension attributes (moderately typical extension) will result in the dilution of core brand attribute beliefs.

When the typicality of the extension is not salient, the bookkeeping model is likely to be applicable and the dilution of core brand attribute beliefs should follow the predictions of the bookkeeping model. Thus both high and moderate levels of inconsistency between core brand attributes and extension attributes will result in a dilution of core brand attribute beliefs.

Loken and John varied the salience of extension typicality by varying the order of the dependent measures used in the study. After receiving information about the Neutrogena core brand and the Neutrogena extension, subjects were asked to rate the typicality of the Neutrogena extension and to rate the Neutrogena core brand on the attributes of gentleness and quality. In the typicality condition subjects rated the typicality of the Neutrogena extension before rating the Neutrogena core brand on the attributes of
gentleness and quality. In the bookkeeping condition the order of measures was reversed such that subjects rated the Neutrogena core brand on the attributes of gentleness and quality before rating the typicality of the Neutrogena extension. Presumably varying the order of dependent measures resulted in the salience of the typicality of the Neutrogena extension in the typicality condition, and the lack of salience of the Neutrogena extension in the bookkeeping condition.

The results found by Loken and John supported their hypotheses. When the typicality of the extension was salient in the process of evaluating the core brand attributes, moderately typical extensions resulted in dilution of core brand beliefs, while atypical extensions had no effect on core brand beliefs. When the typicality of the extension was not salient in the process of evaluating the core brand attributes, both moderately typical extensions and atypical extensions resulted in the dilution of core brand belief.

According to Loken and John the typicality model considers the relevancy of extension information to core brand evaluation to depend on the typicality of the extension. In turn the typicality of the extension is dependent on the level of consistency/inconsistency between core brand and extension attributes. In the case of the bookkeeping model however, the basis by which the relevancy of extension information to core brand evaluations is judged, is not clear. Presumably the use of the same brand name results in information about the extension being considered relevant to the core
brand independent of the typicality of the extension product category. Thus there is a basic level of categorization taking place based on the use of the same brand name, independent of the typicality of the extension product category.

Overall, all three theoretical approaches reviewed thus far suggest the importance of either fit or typicality in the consideration of brand dilution effects, even though empirical results have not produced consistent support for the role of this variable. The effects of fit on brand dilution was not significant in the case of Romeo (1991) and Keller & Aaker (1992). In the case of Loken & John (1993), significant effects were found for typicality when typicality was salient in the extension evaluation process. When typicality was salient, dilution effects occurred based on the categorization of the core brand and the extension into the same category, resulting in extension performance being considered relevant to core brand evaluation. When typicality was not salient, dilution occurred unaffected by the level of fit between the core brand and it’s extension.

Gaps in Research on Brand Dilution

The above discussion of prior research on brand dilution raises important issues with regard to inconsistencies and mixed support for theories of brand dilution, the lack of strong empirical findings, and the need for a parsimonious model of core brand dilution. We discuss these issues in the following paragraphs.
Mixed support for the theories proposed: Four different theories (affect transfer, attribution, typicality, and bookkeeping) have been proposed to explain possible dilution effects of unsuccessful extensions on the core brand and on core brand beliefs. However the evidence in support of these theories is mixed.

Romeo suggests affect transfer as the mechanism by which dilution is hypothesized to take place. However there were no measures of affect transfer in the experiments conducted by Romeo, and therefore there was no validation of the theory proposed. In addition significant core brand dilution effects were not obtained.

Keller and Aaker do not specify a theoretical framework explicating the role of company credibility as a mediating variable in the process of core brand dilution. The authors suggest that company credibility is damaged by unsuccessful extensions, and the evidence does support the notion. However the authors do not suggest mechanisms by which company credibility could affect core brand evaluations. Is it a general affect transfer mechanism wherein lowered company credibility rubs off on a core brand which has already been evaluated? Is it a much more thoughtful process by which the consumer mentally downgrades the core brand by updating his/her beliefs about the brand and the company. The fact that Keller & Aaker did not show evidence for core brand dilution, however suggests that at least in their experimental conditions company credibility was irrelevant to extension effects on core brand evaluations.

Loken and John use the typicality and bookkeeping models to explain core brand attribute dilution caused by the introduction of extensions with inconsistent attributes and
show support for their hypotheses. However, Loken and John do not use the typicality and bookkeeping models to explain core brand dilution caused by the failure of extensions.

**Differences in the approach to the brand dilution process:** Loken and John differ from Keller and Aaker, and Romeo in terms of how they approach the brand dilution process. While Keller and Aaker, and Romeo look at how the failure of an extension will result in core brand dilution, Loken and John look at how the introduction of an extension with attributes that are inconsistent with the core brand attributes can cause the dilution of core brand attributes. The dilution of core brand attributes is an important issue, because as we discussed earlier, there are a large number of extensions that fail in the marketplace, and a brand manager would be very interested in understanding the effects of an extension that fails on core brand evaluations. The prior research on typicality and bookkeeping models ignores an important issue, by failing to address the effects of extensions that fail on core brand evaluations.

**Need for a parsimonious model of core brand dilution:** In addition to not examining core brand dilution that may occur due to extension failure, and core brand dilution that may occur due to the failure of typical extensions, the bookkeeping and typicality models do not present an integrated theoretical framework to explain brand dilution. The typicality and the bookkeeping models are two independent theories of core brand dilution. The applicability of either the bookkeeping or the typicality model depends on the salience or the lack of salience of extension typicality in a particular context. Loken
and John suggest that when typicality of the extension to the core brand is salient, the
typicality model is applicable, and when the typicality of the extension to the core brand is
not salient the bookkeeping model is applicable. Given that we have different models
applicable in different situations, the question also arises as to whether we can develop a
model of core brand dilution that will parsimoniously explain the effects of the typicality
and the bookkeeping models. Later in this chapter we propose an anchoring and
adjustment model that can parsimoniously explain the effects of the typicality and the
bookkeeping models.

Overall there are differences in theories of core brand dilution, differences in the
way that core brand dilution has been approached and in the results that have been
obtained. While Keller and Aaker (1992) and Romeo (1991) have looked at core brand
dilution in terms of the core brand dilution that may occur due to the failure of the
extension in the marketplace, they do not find evidence to support the existence of core
brand dilution due to the failure of the extension in the marketplace. Loken and John
(1993) have looked at core brand dilution in terms of the core brand dilution that may
occur due to the introduction of an extension possessing attributes inconsistent with the
core brand, and they do find support for the existence of brand dilution due to the
introduction of an extension with inconsistent attributes. Does the lack of significant
findings by Keller and Aaker and Romeo imply that failures of extensions in the
marketplace will not result in brand dilution? We think not, and review the methodology
adopted by Keller and Aaker, and Romeo that points to other factors that may have
caused the lack of significant findings.
The evidence in support of the different theoretical approaches to core brand dilution is mixed. The evidence in favor of affect transfer and attribution theories is rather weak. The bookkeeping and typicality models do receive some support. However, the typicality model and bookkeeping models are not used to examine dilution of core brand beliefs that may occur for typical extensions.

Our review so far of past research suggests differences in theories of core brand dilution, results that do not support the existence of brand dilution due to failures of extensions, inconsistencies in terms of the effects of the failure of typical extensions on the core brand, and the need for a parsimonious model of core brand dilution.

Next we discuss some of the possible reasons for the lack of significant dilution effects when extensions fail, and the need to develop a theoretical model of brand dilution that incorporates the role of factors other than extension typicality.

**Insignificant Results:** The lack of significant results obtained by Romeo (1991) and Keller and Aaker (1992) may be explained by the nature of the stimuli used and the measures used to evaluate the core brand. The use of real brand names (Tropicana in this case) by Romeo may have resulted in strong and highly accessible attitudes towards the core brand. Such strong attitudes may not change much in strength based on researcher provided negative information. While the core brand used by Keller was fictitious, the description of the stimuli and the extension were very brief. The core brand was described with a paragraph and the failure of the extension was described in a couple of sentences. In our study we use fictitious brands, and provide subjects a fairly rich description of the
core brand (Approximately two to two and a half pages), and a detailed description of extension performance (Approximately one and a half pages). The use of fictitious brands should prevent subjects from forming extremely strong attitudes, and the detailed descriptions of core brand and extension (Parts of the description were derived from real data pertaining to real brands), should provide a meaningful stimulus for the study.

The role of factors other than typicality: Loken and John suggest that the role of typicality in understanding the dilution of core brand beliefs is dependent of the salience of typicality. When the typicality of the extension is salient, the evidence supports the predictions of the typicality model. When the typicality of the extension is not salient, the evidence supports the predictions of the bookkeeping model. The bookkeeping model suggests that information about a failed extension is relevant to evaluating core brand beliefs, irrespective of the typicality of the extension.

Other than the salience or inattention to the typicality of the extension as perceived by the subject, there are other factors that affect the pattern of core brand dilution. Aaker & Keller (1990) provide evidence for the existence of factors other than typicality in affecting extension evaluations. In some situations the transfer of brand attribute associations from the core brand to the extension may result in negative extension evaluations. For example, subjects in the Aaker and Keller study commented that Heineken popcorn would probably taste like beer or have an unappetizing taste. Such negative associations can be neutralized by elaborating on the attributes of the brand extension. In promoting Heineken popcorn one could emphasize the fact that Heineken
popcorn is a product coming “from the makers of a high quality premium beer”, thus closely associating the Heineken extension with the Heineken core brand. Alternatively one could promote the attributes of the extension such as the availability of Heineken popcorn “in regular and cheddar cheese flavors”. When extension attributes are emphasized, the strength of the link between the extension (Heineken popcorn) and the core brand Heineken is reduced. The results obtained suggest that emphasizing the attributes of the extension is effective in neutralizing the transfer of negative associations to the extension. Further analysis suggested that elaborating on the attributes of the extension, did not change the perception of extension typicality but reduced the importance of fit or typicality in the evaluation of the extension. This in turn resulted in a more positive attitude towards the extension.

The ability to neutralize transfer of negative associations from the core brand to the extension without changing the perception of extension typicality would imply that it may also be possible to do the reverse i.e. neutralize the transfer of negative associations from the extension to the core brand without changing the perception of extension typicality. The principle is the same, namely to frame the information about the extension in such a manner as to de-emphasize the link with the core brand and simultaneously provide another point of reference with which the extension may be linked.

Thus in summary there has been little evidence of core brand dilution. Evidence of core brand dilution provided by Loken and John primarily addresses the dilution of core brand attributes rather than the dilution of attitudes towards the core brand. Our review of
existing research suggests that the theoretical and methodological framework that we propose needs to at a minimum

-- address core brand dilution that may occur due to the introduction of unsuccessful typical extensions

-- show the existence of core brand dilution based on extension failures

-- address the lack of significant results in past research

-- use richer stimuli

-- incorporate the role of factors other than typicality such as the framing of extension information, in explaining core brand dilution.

-- attempt to develop a parsimonious theory of brand dilution that can explain the effects of the typicality and bookkeeping models

In the next few sections we review and propose an anchoring and adjustment model of brand dilution that addresses the above issues and provides a general framework for understanding core brand dilution.

The Anchoring and Adjustment Model

Our review of research suggests that the bookkeeping model cannot explain the predictions of the typicality model since the bookkeeping model does not consider the typicality of the extension to be important in considering the relevance of extension performance to core brand evaluations. The typicality model cannot explain the predictions of the bookkeeping model since the bookkeeping model considers extension performance to be relevant in evaluating the core brand, independent of the typicality of
the extension. Thus the typicality and bookkeeping models are alternate conceptualizations of how core brand dilution occurs, and the applicability of the typicality or the bookkeeping model depends on the salience of extension typicality in a particular context. In addition the typicality and bookkeeping models do not indicate a priori as to when the typicality of the extension is likely to be salient.

We propose in this dissertation an anchoring and adjustment model that can parsimoniously explain core brand dilution. We show later in this chapter that the typicality and bookkeeping models may be considered special cases of the proposed anchoring and adjustment model. In addition we discuss how the proposed anchoring and adjustment model may be used to explain the effects of extension information framing, an issue that is not considered by either the typicality or the bookkeeping models. The general nature of the anchoring and adjustment model and the wider applicability of the model in explaining core brand dilution in a number of different contexts are also discussed.

Before reviewing the literature on anchoring and adjustment we briefly outline below the anchoring and adjustment model proposed by us. Broadly, the anchoring and adjustment model proposed has three elements namely the anchoring on the prior opinion about the core brand, the encoding of extension information with specific reference points, and adjustment or the integration of the anchor with encoded extension information.

The model suggests that the process of receiving information about an extension, and then modifying a previously held opinion about the core brand name, is essentially
akin to a sequential belief updating process. First, when a consumer is asked to express an attitude towards the core brand after receipt of extension information, the prior belief about the core brand is likely to serve as an anchor due to the importance of the prior opinion about the core brand, the salience of prior belief about the core brand in memory, and since the prior opinion of the core brand is one of the first pieces of information in arriving at a post extension evaluation of the core brand. This prior belief about the core brand may than be updated based on the new extension information that is encoded.

Second, the encoding of extension information is likely to vary depending on the reference point used. The reference point used in encoding extension information is likely to be a function of factors such as the format of presenting extension information. For example when an extension such as the Ford Taurus is introduced by comparing it with Toyota Camry and Honda Accord, the Camry and the Accord serve as the primary reference point against which information about the Taurus is encoded, though the association with the core brand namely the Ford brand name still exists. However when an extension such as Bud Light is introduced by emphasizing the features of the product, the core brand Bud is likely to serve as the primary reference point against which information about Bud Light is encoded. Thus varying the format in which extension information is presented is likely to result in the use of different reference points in encoding extension information.

Third, the process of updating prior belief about the core brand with extension information i.e. the integration of core brand and extension information is likely to vary depending on the reference point used in encoding extension information. When the prior
belief about the core brand serves as a reference point in encoding extension information, the anchoring and adjustment model suggests that the integration of core brand and extension information is likely to follow an averaging\(^2\) process of information integration. When information other than the core brand serves as the reference point in encoding extension information, the anchoring and adjustment model suggests that the integration of core brand and extension information is likely to follow an adding process of information integration.

Thus the reference point used in encoding extension information may result in consumers evaluating the core brand by integrating core brand and extension information in either an adding or an averaging manner. In addition, the anchoring and adjustment model suggests that the type of reference point used can influence the weight given to extension information, in integrating core brand and extension information. When the prior belief about the core brand serves as the reference point in encoding extension information, the link between the core brand and the extension should be more salient than when information other than the prior belief about the core brand serves as a reference point. This should result in greater weight given to extension information in evaluating the core brand when the prior belief about the core brand serves as the reference point in encoding extension information, than when information other than the prior belief about the core brand serves as a reference point. For example when the Ford Taurus is introduced by comparing it with the Camry and the Accord the Ford - Ford Taurus link is relatively de-emphasized, and in evaluating the core brand Ford, the relative weight given

\(^2\) Adding and averaging forms of information integration are discussed in detail later on in this chapter.
to the performance of the Taurus will be low. When Bud Light is introduced by
emphasizing the features of Bud Light the Budweiser-Bud Light link is relatively not de-
emphasized, and in evaluating the core brand Budweiser, the relative weight given to the
performance of Bud Light is likely to be high.

In summary the anchoring and adjustment model suggests that the attitude towards
the core brand after receipt of extension information is a function of the prior attitude
towards the core brand, the reference point used in encoding extension information, and
the weight given to extension information. Next we discuss anchoring and adjustment
models with a special emphasis on the anchoring and adjustment model of belief updating
proposed by Hogarth and Einhorn (1992). We follow this discussion with a review of
literature on the factors affecting anchoring and adjustment, and than propose an
anchoring and adjustment framework to explain the process of brand dilution.

Research on anchoring and adjustment

The anchoring and adjustment framework has been used to explain a wide variety
of phenomena in past research such as probability estimation (Edwards, Lindman, and
Philips 1965; Peterson and Ducharme 1967, Lopes 1987, Wright and Anderson 1989,
Block and Harper 1991), the combination of utilities (Shanteau and Phelps 1979), utility
assessment (Johnson and Schkade 1988), judgments of subjects’ truthfulness by lie
detector operators’ (Zuckerman, Koestner, Colella, and Alton 1984), outcome predictions
from past event data (Sniezek 1988), prediction of spouses’ preferences for new products
(Davis, Hoch, and Ragsdale 1986), judgments and inferences in accounting (Butler 1986),
consumer perception of price claims (Biswas and Burton 1993), estimating uncertain quantities (Tversky and Kahneman 1974), judgments of well being (Tversky and Griffin 1991), real estate price estimation (Northcraft and Neale 1987), sales prediction (Hogarth 1980), Bayesian updating tasks (Lopes 1981), judgment processes in motivation (Switzer and Sniezek 1991), and the evaluation of product bundles (Yaśav 1994).

At least two studies have specifically used the anchoring and adjustment framework to study order effects in belief updating and change (Hogarth and Einhorn 1992, Adelman and Tolcott 1993). Belief updating itself is a very common part of a wide variety of tasks such as probabilistic inference (Peterson and Beach 1967; Edwards 1968; Slovic and Luchtenstein 1971; Hogarth 1975; Schum 1980;), decision theory (Raiffa and Schlaifer 1961; Winkler 1972), economics (Camerer 1987), social cognition, communication and persuasion and attitude change (Fishbein and Ajzen 1975, Nisbett and Ross 1980, Anderson 1981, Hastie 1983, Hovland, Janis and Kelley 1953, Petty and Cacioppo 1986), and causal inference (Jones 1979, Einhorn and Hogarth 1986, Carlson and Dulany 1988).

Order effects have been an important part of the belief updating literature and Hogarth and Einhorn (1992) developed a theory of order effects in belief updating using an anchoring and adjustment framework. The existence of order effects in belief updating suggests that when a person is asked to express an opinion about a specific proposition or hypothesis based on several pieces of evidence, the presentation of the evidence in different orders may result in different judgments. Under some conditions the information
processes early in the sequence may have a strong effect on judgment, i.e. we have what is called a primacy effect. In other conditions the information processed late in the sequence may have a strong effect on judgment, i.e. we have a recency effect.

Broadly, the form of the anchoring and adjustment model proposed by Hogarth and Einhorn varied depending on three factors. The first factor related to the issue of how new information was encoded. New information could be encoded either relative to a current level of belief, i.e. anchor or in an absolute manner independent of the anchor. The second factor related to the response mode and the issue of whether beliefs were updated based on each piece of new information, or whether beliefs were updated after receiving all the pieces of new information. The third factor related to the nature of the “adjustment process”. The adjustment process of integrating the new information and the anchor was presumed to vary depending on the strength of the anchor and the nature of the new information.

Algebraically the model was expressed as

\[ S_k = S_{k-1} + w_k (S(x)_k - R), \text{ where} \]

\[ S_k = \text{degree of belief in some hypothesis, impression or attitude after evaluating K pieces of evidence (0} < S_k < 1) \]

\[ S_{k-1} = \text{anchor or prior opinion} \]

\[ S(x)_k = \text{subjective evaluation of the Kth piece of evidence} \]

\[ R = \text{the reference point or background against which the impact of the Kth piece of evidence is evaluated} \]
\[ w_k = \text{the adjustment weight for the Kth piece of evidence} \]

The two major parts of the model are \( S_{k-1} \) which represents the anchor, and \( w_k \) \((S(x)_k - R)\) which represents the encoding of new evidence. The manner in which these two pieces are combined represents the adjustment of the anchor based on new information. This model includes the use of a reference point, by suggesting its use in the encoding of additional pieces of evidence. Thus evidence may be encoded either relative to the level of current belief, or in an absolute manner. The manner in which evidence is encoded, has an effect on the value of \( R \). When evidence is encoded in an absolute manner, ‘\( R \)’ may be assumed to be equal to zero or some constant. When evidence is encoded in a relative manner, the prior opinion or the anchor becomes the reference point. The updating of belief is consistent with averaging models of judgment when the prior opinion or the anchor serves as the reference point, and is consistent with adding models of judgment when the reference point ‘\( R \)’ may be assumed to be equal to zero or some constant i.e. the evidence is processed independent of the preceding anchor. In addition the model contemplates important sub-processes, related to (a) how evidence is processed\(^3\), and (b) how the adjustment is accomplished.

The issue of how adjustment is accomplished is hypothesized to depend on the strength of the anchor and on whether the new evidence is positive or negative. When the current anchor or position with respect to a particular hypothesis is weak and a strong piece of negative evidence is received, the new piece of negative evidence will not reduce
the anchor a great deal, since the current anchor is already low. However if the current
anchor or position with respect to a specific hypothesis is strong, a strong piece of
negative evidence will reduce the current anchor a great deal due to a “contrast” effect.
Thus “the bigger the anchor, the harder it will fall”.

The effects of positive evidence are exactly the opposite. If the current anchor or
position is weak, a new piece of strong positive evidence will increase the strength of the
anchor significantly due to a “contrast” effect. However if the current anchor is already
strong, a new piece of strong positive evidence will not help the anchor substantially.
Analogously in a brand extension context, a strong core brand (strong anchor) will be hurt
significantly by a new extension that performs very poorly in the marketplace (new piece
of negative evidence), while a weak core brand (weak anchor) will not be hurt significantly
by a new extension that performs very poorly in the marketplace (new piece of negative
evidence). A successful brand extension (a new piece of positive evidence) will help a
weak core brand (weak anchor) much more than a strong core brand (strong anchor).

Hogarth and Einhorn (1992) apply their model to predict primacy and recency
effects in belief updating. Thus the model is used to predict whether a person who forms
an opinion based on exposure to several pieces of evidence, will respond differently if the
order of presentation of those pieces of evidence were different. Adelman and Tolcott

\[3\] The processing of several new pieces of evidence may take place either one at a time, and integrated with
the anchor one at a time, or the new evidence may be integrated with the anchor after processing of all
new information. This issues is discussed further in chapter IV.
(1993) apply the Hogarth and Einhorn model on trained Army air defense personnel, and find information order effects as predicted by the model on the probability judgments made by the Army air defense personnel.

While Hogarth and Einhorn have used the belief updating model proposed by them to predict order effects in belief updating, they note that the belief updating model can be applied to other phenomena of belief revision such as belief perseverance (Ross and Lepper 1980). The process of brand dilution, from our perspective involves a change in beliefs about the core brand based on additional information received about the extension. This suggests that the process of brand dilution is akin to belief revision, and therefore can be represented by an anchoring and adjustment framework. In addition, because brand extensions follow a successful core brand over a period of time, the process of brand dilution if any is likely to involve sequential updating of core brand beliefs based on the new information that is received about the extension. The sequential nature of information integration is a very important feature of the belief updating process, and can be well represented by an anchoring and adjustment framework (Lopes 1982, Anderson 1981, Johnson and Puto 1987, Yadav 1994). Therefore brand dilution may be viewed as the outcome of belief revision based on a sequential integration process and is well represented by an anchoring and adjustment framework, such as that proposed by Hogarth and Einhorn (1992).

Given that core brand dilution can be represented by an anchoring and adjustment framework, a question arises as to what the factors are that specifically affect anchoring and adjustment? Hogarth and Einhorn do not discuss in detail the factors that result in the
choice of a specific piece of evidence as an anchor. They suggest that subjects will anchor on the first piece of evidence and then adjust based on subsequent pieces of evidence in order to make a judgment.

The factors that affect adjustment are discussed in greater detail than the factors that affect the choice of an anchor. Thus adjustment is presumed to be affected by the implicit scale used in the judgment process, and the extent to which the form of new evidence is compatible with either the use of the anchor as the reference point, or the use on non anchor information as a reference point in encoding new evidence.

In an experiment designed to vary the implicit scale used in the judgment process, subjects were presented information about a malfunctioning stereo and asked to “assess the likelihood” that the malfunction in the stereo was due to a loose connection between the speaker and the amplifier. The manner in which information about the malfunctioning stereo was presented was varied. To ensure use of the prior anchor or hypothesis about the cause of the malfunctioning stereo as the reference point, it was suggested that “60% of the time” the cause of the malfunction in the stereo turned out to be a loose connection between the speaker and the amplifier. To ensure that evidence was not encoded with respect to the hypothesis about the cause of the malfunctioning stereo as the reference point, it was suggested that “more often than not” the cause of the malfunction in the stereo turned out to be a loose connection between the speaker and the amplifier. When information about the malfunction was presented in easy to use quantitative form such as “60% of the time”, the subject could easily encode this information using the hypothesis about the cause of the malfunction as the reference point. However when information
about the malfunction in the stereo was presented in a more abstract form such as “more often than not” it was more difficult for the subject to encode this information using the hypothesis about the cause of the malfunction as the reference point.

In principle the Hogarth and Einhorn methodology suggests that it is possible to change the reference point used in encoding new evidence by changing the form in which new evidence is presented. To arrive at a better understanding of the factors that affect anchoring and adjustment, additional evidence presented by previous research on the factors that affect anchoring and adjustment, and the methodologies that have been used to test for anchoring and adjustment are now reviewed.

Evidence in support of Anchoring: A review of literature suggests three factors that seem critical to the use of a specific piece of information as an anchor namely the salience of the information, the order in which the information is processed, and the importance of the information to the judgment task.

While some studies have not made the attempt to identify the reasons for anchoring (Northcraft and Neale 1987, Block and Harper 1991, Wright and Anderson 1989) on a specific piece of information, others have identified factors that result in anchoring on a specific piece of information. Einhorn and Hogarth (1985) postulate an anchoring and adjustment framework to explain how people make probability judgments under ambiguous situations. In their model the initial assessment of probability or anchor may be obtained from a variety of sources such as previous information about the topic, the best guess of experts, or simply a “number that is salient in memory”. Davis, Hoch,
and Ragsdale (1986) also find that subjects anchor on information that is most readily available or information that first comes to mind. They show that in the context of predicting a spouse’s preference for new products, the most likely anchor will be “the subject’s own preference for the product”, since the subject’s own preference for the product is readily available to the subject.

Yadav (1994) in the context of consumers evaluating product bundles found that consumers scan the bundle items. Consumers than select the most important item in the bundle based on their scanning, make an evaluative judgment of the selected item, and than anchor on this evaluative judgment. For example in evaluating a bundle of three products such as a computer, printer, and a printer stand, Consumers evaluate the bundle by scanning the three items in the bundle, anchoring on the most important item in the bundle namely the computer, arriving at an evaluative judgment of the computer, and than adjusting that evaluation based on information about the printer and the printer stand.

Kahneman and Tversky (1974) and Hogarth and Einhorn (1992) suggest that subjects anchor on the first few pieces of information in a given situation. In a belief updating situation Hogarth and Einhorn suggest that a person anchors on the first or first few pieces of evidence and then adjusts based on the remaining information. For example if a subject is asked to judge the likableness of a person based on the person’s personality traits of “intelligent-tall-mean”, the subject is likely to anchor on the trait “intelligent” in judging likableness and than update that judgment based on the personality traits of tall and mean.
Thus a specific piece of information is likely to be chosen as an anchor if it is salient, if it is one of the first pieces of information processed, or if it is important to the judgment task.

In the context of studying core brand dilution phenomena, when a person is asked to express his/her opinion on the core brand after receipt of extension information, the prior opinion of the core brand is likely to serve as an anchor since it is likely to be the most salient piece of information and be readily available in memory. In addition the prior opinion of the core brand is likely to be the most important piece of information in evaluating the core brand.

Evidence supporting the use of reference points in encoding: The use of reference points as a variable affecting the encoding of information and consequently decision making has been widely studied in Decision making and Economics research. Most of that research suggests that people use reference points in encoding new information, and the specific reference point used can be changed by varying the manner in which the information is presented. In turn the manner in which information is presented may be varied by framing the issue differently (Kahneman and Tversky 1979), by presenting information in verbal/numerical format (Hogarth and Einhorn 1992), by frequency of mention of a particular reference point (Kahneman 1992), or by varying the buying objectives and prior expectations of the buyer (Puto 1987).

Early research in psychophysical perception indicates the use of reference points in encoding information. Helson (1964) found in the context of psychophysical perception
that new information is perceived and compared with an initial reference point that is a function of the context of past and present experience. Additional information is then judged based on this initial reference point and the two combine to form a new reference point that is then used to interpret additional new information.

According to Prospect theory (Kahneman & Tversky 1979) decision alternatives are evaluated as gains or losses relative to a reference point, with people in general being risk averse for choices involving gains and risk taking for choices involving losses. Thus the reference point can affect the manner in which the decision maker frames a particular decision, and thus affect the decision itself. However Prospect theory did not discuss in detail the variables that would determine the use of a particular reference point. A number of other studies however have attempted to identify factors that affect the formation of reference points.

Among studies that have identified factors affecting the formation of reference points Puto(1987) in an organizational buying context examined the variables that affect reference point formation. Puto found that the initial reference points used by the buyer in a buying decision are formed based on (a) buying objectives and (b) prior expectations of the buyer.

Prior expectations were formed based on the buyer’s past experience with the product, and the buyer’s internal assessment of current environmental conditions. The buying objectives of the buyers varied from very specific to very general. The buying objective and prior expectations combined together to form an initial reference point.
Based on additional information received from the sales message and the existence of rewards or the need for justifying the decision the initial reference point was modified and resulted in a final reference point that was used in choice.

Based on his research findings Puto suggests that the sales message can in some situations affect the initial reference point by framing the issue as a gain or as avoiding a loss. Since Prospect theory found that most people are risk averse with losses and risk seeking with gains, a sales message which is successful in it’s ability to frame a particular issue as either a loss or a gain ways will have an impact on whether buyers seek or avoid risk.

Evidence of the ability to change the reference point used by changing the manner in which information is presented was offered by Kahneman and Tversky (1979). Subjects were presented a scenario where they were told that the U.S. was preparing for the outbreak of an Asian disease that could kill 600 people. Two different courses of action were presented to a group of subjects, and the subjects were asked to chose one of the two courses of action. Choosing Alternative A would save 200 lives while choosing alternative B would result in a 1/3 probability of saving 600 people and a 2/3 probability that none would be saved. Seventy-two percent of the subjects chose alternative A. A second group of subjects were presented the same alternatives presented in a different way. For them choosing Alternative A would cause 400 people to die, while choosing alternative B would result in a 1/3 probability that nobody would die, and a 2/3 probability that 600 people would die. In the second group of subjects seventy-eight percent of the subjects chose alternative B.
Changing the reference point from lives saved for the first group of subjects to lives lost for the second group of subjects had resulted in a substantial reversal of alternative preference. Based on essentially equivalent information, seventy-two percent of the first group of subjects chose alternative A, and seventy-eight percent of the second group of subjects chose alternative B. Thus it was possible to change the reference point used by changing the manner in which information was presented, and in the process change the decision of the subjects with regard to the choice of either alternative A or alternative B.

As discussed earlier in a belief updating context Hogarth and Einhorn (1992) also show that the reference point used can be manipulated by varying the nature of the information presented. When the stimuli are presented in easy to use quantitative form such as “60% of the time” the cause of a stereo malfunction is due to a loose connection between the speaker and the amplifier, the prior hypothesis about the cause of the stereo malfunction serves as a reference point in encoding the new stimuli. When the stimuli are presented in an abstract verbal form such as “more often than not” the cause of a stereo malfunction is due to a loose connection between the speaker and the amplifier, the prior hypothesis about the cause of the stereo malfunction is not used as a reference point in encoding the new stimuli, due to the cognitive difficulty of doing so. Thus once again the manner in which the new information is presented can impact the reference point used.

Frequency of mention is another manner in which the reference point used may be manipulated. According to Kahneman (1992) a multiplicity of factors affect reference point formation and across different contexts a consumer may use different reference
points for the same task. The use of different reference points will result in different choices, or at least different evaluations of the same product. In addition Kahneman notes that people may be aware of the multiplicity of reference points in evaluating the same task. To enunciate the notion of multiple reference points Kahneman suggests the hypothetical example of a person offered a $5000 raise. The raise may be coded either as a gain or as a loss, depending on whether the person’s expectation for the raise was zero or five thousand dollars.

The best way to understand the effect of the $5000 raise would be to look at the frequency of times that the employee perceives the $5000 raise as a gain vis-a-vis the frequency of times that the employee perceives the $5000 raise as a loss. If the frequency with which Zero dollars is used as a reference point in encoding the raise is greater than the frequency with which five thousand dollars is used as a reference point in encoding the raise, the five thousand dollar raise is likely to be encoded as a gain, and thus have a satisficing effect on the employee.

Overall our review so far suggests that it is possible to manipulate the reference point used in encoding information by varying the manner in which new information is presented.

Similarly in the context of encoding of brand extension information we may be able to change the reference point that a subject uses in encoding extension information, by framing information about the extension in different ways. By constantly referring to the core brand in the extension information that is provided to the subject, we should be able to induce the subject to encode information about the extension based on the expectations
raised by the core brand. On the other hand we may constantly refer to extension product category competition in the extension information that is provided to the subject. The frequent reference to competition in the extension information should induce the subject to encode information about the extension based on competition in the extension product category, rather than encoding extension information based on expectations raised by the core brand. Thus when the manner in which extension information is presented is different, the reference point used by the subject in encoding extension information is likely to be different. As discussed in the next section the ability to manipulate the reference point used in encoding extension information plays a critical role in testing the validity of the anchoring and adjustment framework that we propose to explain core brand dilution.

So far we have discussed the issue of information that subjects may anchor on, and the manner in which they may encode new pieces of information. Given that we have anchored on the core brand, and then encoded information about an extension, how do we integrate these two pieces of information? Next we discuss in detail the question of how we integrate the anchor with new information, and then apply the anchoring and adjustment model to explain brand dilution phenomena.

**The integration of the anchor with new information:** The descriptive model proposed by Hogarth and Einhorn in equation (1) suggests that the integration of the anchor with new information may follow either an adding or an averaging process. Information integration follows an averaging process when the reference point used in encoding new evidence is relative to the level of current belief. In the brand dilution
context, averaging of core brand and extension information is likely to occur when the consumer evaluates the extension relative to the current level of belief or opinion about the core brand. The evaluation of the core brand is more favorable after receipt of the extension information, if the extension is perceived to be of higher quality than the core brand. Alternatively the evaluation of the core brand is likely to be less favorable after receipt of the extension information, if the extension does not meet the expectations of performance raised by the core brand.

When evidence is encoded in an absolute manner the Hogarth and Einhorn model reveals the integration of new evidence with current belief to be additive in nature. The reference point used to evaluate new evidence is based on criteria which does not depend on the level of current belief about the hypothesis. Based on these independent criteria if the new evidence is supportive of the currently held hypothesis, it increases our faith in the hypothesis. However if the new evidence is not supportive of the currently held hypothesis, it decreases our faith in the hypothesis. The evaluation of new evidence is thus independent of the currently held belief in a particular hypothesis. In the brand dilution context the consumer may evaluate an extension based on criteria other than expectations raised by the core brand. For example competition in the extension product category may serve as a reference point to evaluate the extension. If the extension is evaluated positively in comparison to competition, the evaluation of the core brand is likely to be more favorable after receipt of extension information. If the extension is evaluated negatively in comparison to competition, the evaluation of the core brand is likely to be less favorable after receipt of extension information.
The Hogarth and Einhorn model predicts either the adding or the averaging of the anchor and new information depending on the reference point used. What do adding and averaging mean and what are the implications of adding and averaging? To answer these questions we review past research on the nature of adding and averaging and the methodology that has been used to test for adding and averaging.

Distinguishing between Adding and Averaging

The methodology that has been used to distinguish adding and averaging has remained substantially the same from the time of some of the earliest research on adding and averaging to current research on adding and averaging. To demonstrate the substantial similarities in the methodology used to distinguish between adding and averaging, we review in detail five studies (Troutman and Shanteau 1976, Anderson 1981, 1982, and 1991, Lopes 1985, Hogarth and Einhorn 1992, Yadav 1994) that were carried out at different times beginning from the 1970’s.

Troutman and Shanteau (1976) used simple qualitative methods to test for averaging in a product evaluation task. The method involved providing consumers with information on two products, namely diapers and car seats. For each of the two products, consumers were given information on one or two attributes. For example in the case of diapers, subjects were given information on absorbency in the one attribute case, and information on both absorbency and durability in the two attribute case. Secondly the levels of the attributes were also varied, such that a diaper could perform at a very high level on absorbency and at an above average level on durability. Alternatively a diaper
could perform at a very low level on absorbency, and at below average level on durability. According to the adding model, the combination of information given about the attributes (a highly positive performance on absorbency along with an above average performance on durability), should result in an overall evaluation of the diaper that is higher than in a situation where no information about the second attribute ‘durability’ is provided.

According to the averaging model, the combination of information on high absorbency and above average durability should result in an evaluation of the diaper that is lower than the evaluation of the diaper in a situation where no information about the second attribute ‘durability’ is provided. Thus in an averaging situation, mildly positive information may actually work to the detriment of a strong brand. This is due to the averaging of highly positive information with mildly positive information, resulting in an evaluation that is somewhere in-between the two. In an adding model any level of positive information is good and even mildly positive information should enhance the overall perception of the brand.

Using similar logic for negative information, averaging should result in less extreme evaluation of the product, when a subject is given highly negative and mildly negative information about a product. Adding on the other hand should result in more extreme evaluations.

In general Troutman & Shanteau(1976) found support for the averaging model, and suggest that multi attribute models which assume adding provide an inadequate description of consumers’ psychological processes.
Lopes (1985) suggests that averaging occurs because subjects use an adjustment strategy wherein they adjust the old information based on new information, in such a way as to arrive at a value somewhere between the old and the new. Thus even though subjects do not average in an arithmetic sense, the process which subjects use is qualitatively equivalent to averaging.

In a study that attempts to explain why conservatism occurs in a Bayesian inference task, Lopes suggests that conservatism can be explained by a process of anchoring and adjustment. The process of anchoring and adjustment in a Bayesian context is qualitatively equivalent to averaging, and this results in conservatism. When a subject is exposed to weak positive evidence supporting a hypothesis followed by strong positive evidence supporting the hypothesis, the subject should estimate support for the hypothesis by “adjusting upwards toward, but not past, the value of the second sample”. Such an adjustment towards the value of the second sample is directionally consistent with both a Bayesian and an averaging process. However Lopes also suggests that the subjects’ response is still conservative because “the Bayesian response would necessarily be more extreme than the response to either sample taken alone”.

In the case of strong evidence supporting a hypothesis followed by weak evidence supporting a hypothesis, the averaging process and the Bayesian rule make different predictions. The Bayesian rule would suggest that as long as the evidence is positive, the overall support for the hypothesis should increase irrespective of whether the evidence is
weakly positive or strongly positive. The averaging process suggests that the overall support for the hypothesis would go down, when strong positive evidence is followed by weak positive evidence.

Lopes conducted a study in which subjects made imaginary judgments about the maintenance required for a milling machine, based on the quality of output from the milling machine. If 50% of the output parts were large and 50% small the machine did not require any maintenance. However if the machine produced 75% large parts or 75% small parts the machine was considered broken. Subjects evaluation of sample evidence, clearly showed that they were following an adjustment strategy equivalent to averaging and were not updating in a Bayesian fashion. Subjects were given information about the outcome of two samples. The sample information contained the ratio of large to small parts. Based on the sample information, subjects marked on a response scale, the extent of support for a particular hypothesis. The first experiment were a 7*7 (first sample * second sample) factorial design, in which the levels of the factors contained seven different sample distributions of large and small parts. When weak support for a particular hypothesis (Assume hypothesis was, that the machine produced 75% large parts) in the first sample, was followed by strong support for the same hypothesis in the second sample, subjects’ final evaluation of support for the hypothesis in general increased. This perceived increase in support for the hypothesis, is directionally consistent with a Bayesian prediction. When strong support for a hypothesis in the first example, was followed by weak support for the hypothesis in the second sample, subjects’ final evaluation of support for the hypothesis
was in a majority of cases, lower than the perceived support after receipt of first sample information. This is directionally inconsistent with a Bayesian prediction, and consistent with the predictions of an averaging model.

Hogarth and Einhorn (1992, page 31, experiment # 5) used procedures similar to that of Lopes (1985), and Troutman and Shanteau (1976) to test for averaging. In their study, subjects were asked to assess the likelihood, that a malfunction in a stereo system, was due to a loose connection between the speaker and the amplifier. Information was presented in both verbal and numerical fashion, with the verbal evidence expected to result in adding, and the numerical stimuli in averaging. The strength of the evidence, supporting a particular reason for the malfunction was also manipulated. In the numerical format (weak evidence case), subjects were informed that “60% of the time, the cause turned out to be a loose connection between the speaker and the amplifier”. In the verbal format “more often than not” was used instead of “60% of the time”. The strong version of the evidence used “80% of the time” (numerical), and “in the vast majority of cases” (verbal).

The design used was a 2 (verbal/numerical stimuli) * 2 (weak-strong/strong-weak order of evidence) between subjects factorial design. The results show that in the weak-
strong order of evidence presentation, there were no differences between the verbal and

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4 sample distributions of large and small parts respectively were: 3/7, 4/6, 5/5, 6/4, 7/3, 8/2, and 9/1.
5 When evidence is presented in a numerical fashion, subjects can directly evaluate whether the evidence supports their current hypothesis regarding the cause of the malfunction. This will enhance the sensitivity of the subject to differences between his/her current opinion and the level of opinion suggested by the evidence to be integrated regarding the cause of the stereo malfunction, resulting in an averaging process. When evidence is presented in a verbal fashion, subjects are more likely to treat the new evidence to be
numerical stimuli, while in the strong-weak order there were differences in results between the verbal and numerical stimuli. In the case of the verbal stimuli and strong-weak order subjects’ estimates of the cause of the stereo malfunction was in the direction of the evidence. However in the numerical presentation of evidence subjects’ estimates went up after the presentation of the strong evidence, while it went down after the presentation of the weak evidence. The interaction, when evidence was presented in numerical format, was consistent with the prediction of the averaging model.

Clearly our review of past research starting as early as the 1970’s has indicated a commonality of research methodology, in testing for the averaging model. This methodology involves testing for subject behavior, when strong evidence for a particular hypothesis, is followed by weak evidence supporting a particular hypothesis. If subjects evaluate support for a hypothesis to have decreased after presentation of the weak evidence, their behavior can be said to follow an averaging model of information integration. process. The qualitative prediction of the averaging model of information integration is graphically depicted in the following figure.
Figure 1: Support for a hypothesis as a function of the nature of the evidence in the case of an averaging model of information integration.

Other than the papers discussed so far, the averaging model has also been widely studied under the information-integration paradigm of Anderson (1981, 1982, and 1991).

According to Anderson (1982), the averaging model can be represented by

\[ R = C + \frac{\sum (w \times S)}{\sum w} \]

Wherein ‘R’ is the response to the stimuli ‘S’, and ‘w’ is the weight given to the stimuli. In the averaging model, the relative weight given to any one stimulus will depend on the weight given to the other stimuli. Under the Anderson paradigm, the critical test between adding and averaging is based on the same method identified earlier by Troutman and Shanteau (1976). The addition of mildly positive information to strongly positive information, should result in a lowering of the evaluation of the object under study in an
averaging case, and enhance evaluation in the case of an adding model. Analogously the addition of mildly negative information to strongly negative information, will result in enhancement of the evaluation of the target object in the case of averaging, and a lowered evaluation in the case of adding.

The application of this principle is demonstrated by the following graphical depiction of experimental results (Anderson 1981, page 59)\(^6\).

![Graph showing mean likableness as a function of personality trait and behavior](image)

**Figure 2:** Mean likableness of a man as a function of personality trait and his behavior towards other people.

In the experiment subjects were asked to evaluate the likableness of a man based on two descriptors. One descriptor described a personality trait, while the other described a characteristic behavior towards other people. In the case of the 'none' condition

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\(^6\) The pattern of data depicted in the graph depicts two of the four conditions considered by Anderson. Two of the personality trait descriptors 'friendly' and 'uninteresting' are not depicted, as they are not essential for our analysis.
(depicted by the ‘none’ curve in fig. 2) information about “the man’s characteristic behavior towards other people” was given to the subject i.e. the subjects were given information on the man’s helping behavior (the scale on helping behavior ranged from hates to helps). However no information was given on the man’s personality trait of ‘friendliness’. In the case of the moderate condition (depicted by the ‘moderate’ curve in fig. 2) information about the man’s behavior with regard to helping others and the man’s likableness was provided. Subjects rated a person who helps others as more likable, than a person who helps others (strong positive evidence) and is moderately friendly (weak positive evidence). This pattern of ratings results in a crossover interaction between the ‘none’ curve and the ‘moderate’ curves as shown in fig. 2. The existence of a crossover interaction supports the existence of an averaging model since the combination of strong positive evidence and weak positive evidence results in an evaluation that is lower than that based on strong positive evidence alone.

Yadav (1994) used regression analysis to test for the existence of an averaging model in a product bundle evaluation task. Subjects were asked to evaluate a bundle of items.\(^7\) The evaluation of the bundle was hypothesized to occur based on an anchoring and adjustment process, with subjects anchoring on the most important part of the bundle, and adjusting based on the evaluation of the other items in the bundle. Such a process would represent an averaging model of information integration. To test for the existence of an averaging model, subjects’ overall evaluation of the bundle was treated as a

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\(^7\) Two product categories were tested. In the case of three item bundles the items were (computer, printer, and printer stand) and (Bed, chest, and nightstand).
dependent variable, and regressed against the evaluation of the individual items which were treated as predictor variables. In this regression model (classified as the full model) there were no constraints imposed on the model. To test for averaging a second regression analysis was performed in which the regression coefficients were constrained to be equal to 1 (this is the reduced model) i.e. the sum of the weights given to the evaluation of each item in the bundle were constrained to be equal to 1. The statistic $F^*$ (Neter, Wasserman, and Kutner 1990) was used to compare the full and reduced models. $F^*$ was not statistically significant, suggesting that the weighted average model (i.e. the reduced model) was an appropriate representation for the data.

Overall our review so far on the methodology used to distinguish between adding and averaging suggests that the implications of adding or averaging are different depending on the nature and sequence of the information that is integrated. When mildly positive information is combined with strongly positive information, the resulting combined evaluation will be more positive if the adding model is applicable than if the averaging model is applicable. When strongly positive information is combined with mildly positive information, the averaging model predicts a decrease in the favorability of evaluation after receipt of mildly positive information, while the adding model predicts an increase in the favorability of evaluation after receipt of the mildly positive information.

When mildly negative information is combined with strongly negative information, the resulting combined evaluation will be more negative if the adding model is applicable, than if the averaging model is applicable. When strongly negative information is combined with mildly negative information, the averaging model predicts an increase in the
favorability of evaluation after receipt of the mildly negative information, while the adding model predicts a decrease in the favorability of evaluation after receipt of the mildly negative information.

Our review of past research so far suggests that the Hogarth and Einhorn belief updating model may be applied to the study of core brand dilution. Forming an opinion about a brand name after receipt of information about the extension may be viewed as a sequential belief updating process, and may be represented by an anchoring and adjustment framework. Next we outline the algebraic form of the anchoring and adjustment model proposed by us to explain core brand dilution and discuss the contributions of the model to understanding core brand dilution.

The Proposed Model

In algebraic terms the basic form of the anchoring and adjustment model proposed, to explain the brand dilution process is as follows:

\[ S_k = S_{k-1} + w(S_e - R) \]

where

\[ S_k \] = attitude towards core brand after evaluation of extension information

\[ S_{k-1} \] = anchor or prior opinion of core brand

\[ S_e \] = brand extension information

\[ R \] = the reference point against which the core brand information is evaluated
\[ w = \text{the adjustment weight for extension information in evaluating the core brand} \]

Thus \( S_{k-1} \) takes into consideration the strength of the original brand name, \( w \{ S_e - R \} \) represents the adjustment process wherein ‘\( w \)’ takes into consideration the relevance of extension information in the evaluation of the core brand and, ‘\( R \)’ takes into consideration the manner in which extension information is encoded.

Qualitatively ‘\( R \)’ is primarily of two types similar to the nature of the reference point in the Hogarth and the Einhorn model. The first type is where ‘\( R \)’ is based on the ‘anchor’ or the core brand name i.e. the extension information is encoded with the core brand serving as a reference point. This can happen when the nature of the extension information provided to the consumer results in the use of prior expectations raised by the core brand as a reference point in encoding extension information. There are many ways in which information about the extension may be presented to the consumer. For example advertising the extension by emphasizing the link between the extension and the core brand may result in the use of the core brand as a reference point in encoding extension information. This may also happen when the typicality of the core brand with the extension is salient for example when people are asked to rate the typicality of the extension with the core brand (Loken & John 1993).

The second type of reference point is where ‘\( R \)’ is based on information other than the core brand, or \( R \) is zero such that extension information is encoded in an absolute manner (Hogarth & Einhorn 1992). As discussed earlier the nature of the extension information provided to the subject can be varied by frequently comparing the extension
performance to competitors in the extension category. This is likely to result in the use of non core brand information as the reference point in processing extension information.

When 'R' is of the first type we have \( R = S_{k-1} \) and consequently the model becomes

\[
S_k = S_{k-1} + w(S_e - S_{k-1})
\]

I.e.

\[
S_k = S_{k-1} + wS_e - wS_{k-1}
\]

I.e.

\[
S_k = wS_e + (1-w)S_{k-1}
\]

which describes an averaging process of information integration. The evaluation of the core brand after receipt of extension information is based on an average of the evaluations of the core brand before receipt of extension information and the evaluation of the extension.

When 'R' is of the second type i.e. when \( R=0 \) or some constant \( K \) we have (assuming \( R=0 \) for purposes of simplicity)

\[
S_k = S_{k-1} + w(S_e - 0)
\]

I.e.

\[
S_k = S_{k-1} + wS_e
\]

which describes an adding process of information integration. The evaluation of the core brand after receipt of extension information is assumed to depend on two relatively independent pieces of information namely, the evaluation of the core brand before receipt of extension information, and the evaluation of the extension.

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8 Averaging and Adding are discussed in additional detail when we discuss the methodology for testing the predictions of the anchoring and adjustment model.
The weight ‘w’ given to extension information is dependent on the relevance of the extension information to the evaluation of the core brand. As discussed earlier the level of relevance of extension information in turn may be dependent on factors such as the typicality of extension information or the format of presentation of the extension information.

Conclusion

In this section we discuss how the anchoring and adjustment model addresses some of the problems or issues that we have identified with prior research on brand dilution. In addition we discuss the generality of the anchoring and adjustment framework which is likely to enhance our understanding of the brand dilution process.

Parsimony of the anchoring and adjustment model: The anchoring and adjustment model proposed by us can explain parsimoniously the predictions of the bookkeeping and typicality models, and encompasses the bookkeeping and typicality models as special cases of the anchoring and adjustment framework.

The bookkeeping model accounts for data on core brand dilution when the salience of extension typicality is low. When the salience of extension typicality is low, the consumer is unlikely to encode information about the extension with reference to the typicality of the core brand, but is likely to encode inconsistencies between core brand attributes and extension attributes. Loken and John also suggest that the bookkeeping model is akin to piecemeal processing where additional information about the extension is processed incrementally without attempting to process core brand and extension
information based on categorizing the core brand and the extension in the same category. Thus the bookkeeping model assumes that information about the extension is relevant to the core brand. In addition the model suggests that when the inconsistency between the attributes of the core brand and the extension is high, the dilution of core brand beliefs is greater, than when the inconsistency between the attributes of the core brand and the extension is low.

In the context of the anchoring and adjustment model, an encoding of the level of inconsistency between core brand attributes and extension attributes would suggest that the core brand is used as a reference point in encoding extension information. Thus the encoding of extension information can be represented by \( (S_e - S_{k-1}) \) which results in an averaging model of information integration that can be represented as follows:

\[
S_k = S_{k-1} + w*(S_e - S_{k-1})
\]

A high level of inconsistency between core brand attributes and extension attributes would result in a value of \( (S_e - S_{k-1}) \) that is more negative than would a low level of inconsistency between core brand attributes and extension attributes. Since the typicality of the extension is not salient, the weight \( 'w' \) is not affected by the typicality of the extension. This would imply that a high level of inconsistency will result in a value of \( S_k \) that is lower than that obtained with a low level of inconsistency. Thus when the level of inconsistency between core brand attributes and extension attributes is high the dilution of the core brand will be greater than when the level of inconsistency between core brand attributes and extension attributes is low.
The averaging model is a special case of the anchoring and adjustment model, wherein information about the core brand and the extension are integrated based on an averaging process. Similar to the predictions of the bookkeeping model, an averaging model of information integration would also imply that as the inconsistency between core brand attributes and extension attributes increases, there should be a greater dilution of core brand beliefs. The assumption of the bookkeeping model that information about the extension is relevant to the core brand based on the use of the same brand name between the core brand and the extension is consistent with an averaging model of information integration. In the context of the averaging model, the assumption that the typicality of the extension is not salient would suggest that the weight ‘w’ given to extension information should not change substantially, irrespective of the level of inconsistency between the core brand attributes and extension attributes. The predictions of the bookkeeping model are thus consistent with the predictions of an averaging model and the bookkeeping model may therefore be considered a special case of the anchoring and adjustment model where $R=S_{k-1}$, and the weight ‘w’ given to extension information is unlikely to vary, irrespective of the level of inconsistency between core brand attributes and extension attributes.

In the case of the typicality model, the level of dilution of core brand beliefs is dependent on the typicality of the extension. For highly typical extensions, there is unlikely to be any dilution of core brand beliefs. When the extension is moderately typical, the level of core brand dilution is greater, than when the extension is highly atypical. In the typicality model, the salience of extension typicality is high. Under such conditions, information about the extension is likely to be encoded in comparison with the core brand.
In the context of the anchoring and adjustment model this would suggest a value of $R=S_{k-1}$ with the prior opinion of the core brand serving as a reference point in encoding extension information. This should also result in an averaging model of information integration, which is a special case of the anchoring and adjustment model. An averaging model of information integration would imply that information about the core brand and the extension are integrated based on an averaging process. Since the typicality of the extension information is salient, the weight ‘$w$’ given to extension information is likely to be dependent on the typicality of the extension. Information about a highly typical extension is likely to receive greater weight than information about a moderately typical extension, and information about a highly typical extension is unlikely to be given much weight.

Thus in the case of the bookkeeping model also the encoding of extension information can be represented by $(S_e - S_{k-1})$ which results in an averaging model of information integration that can be represented as follows:

$$S_k = S_{k-1} + w(S_e - S_{k-1})$$

The salience of typicality would imply that a highly typical extension will be given greater weight than a moderately typical extension. However core brand beliefs should not be diluted for a highly typical extension, since there is high consistency between core brand attributes and extension attributes and the value of $(S_e - S_{k-1})$ will be close to zero. As predicted by the typicality model, the averaging model also predicts that atypical extensions will not result in core brand attribute dilution since information about atypical extensions are unlikely to be given much weight when extension typicality is salient, and
the weight parameter ‘w’ is likely to be close to zero. Similar to the predictions of the
typicality model, the averaging model also predicts that moderately typical extensions will
cause core brand attribute dilution since they are likely to be weighed more heavily than
atypical extensions and the value of \((S_e - S_{k-1})\) should be moderately negative.

Thus the predictions of the typicality model regarding the effects of extension
typicality on core brand attribute dilution when extension typicality is salient are consistent
with the predictions of the averaging model. The typicality model therefore represents a
special case of the anchoring and adjustment model with \(R = S_{k-1}\), and the weight ‘w’
given to extension information varying, depending on the typicality of the extension.

Overall the typicality and the bookkeeping models can be represented as special
cases of the anchoring and adjustment model, with the bookkeeping model and the
typicality model represented by an averaging process of information integration.

**Generality of the anchoring and adjustment model:** The structure of the anchoring
and adjustment model is general in nature and can therefore explain the effects of a
number of different factors on the brand dilution process. For example the weight given to
extension information is an important part of the anchoring and adjustment model, and the
identification of the factors that affect the weight given to extension information will
further enhance our understanding of the brand dilution process. So far we have identified
two factors that may affect the weight ‘W’ given to extension information. The first factor
is extension typicality, and the second factor is the format of presentation of extension
information. Competitive positioning is another variable that might affect the weight given
to extension information. Thus if the same competitor is competing with the core brand and the extension, greater weight may be given to the extension information, than if the competing brand in the core brand category is different from the competing brand in the extension category. While the effects of competitive positioning are speculative at this stage, it nevertheless demonstrates the generality of the anchoring and adjustment model, and the possible potential of the model to serve as an impetus for enhancing our understanding of the brand dilution process. For example Coca-Cola competes with PepsiCola, both of which are core brands for their respective companies. The extension Diet Coke also competes with Diet Pepsi. Thus the competing brands are the same in the Cola and the Diet Cola product categories. This may result in a greater weight given to extension information for an extension such as Diet Coke, than in a situation where hypothetically Coke competes with Gatorade in the cola market and with Diet Coke in the diet cola market. Thus when the competing brands in the core brand and the extension product categories are the same, Coca-Cola may have a greater stake in the success/failure of Diet Coke, than when the competing brands in the core brand and the extension product categories are different.

Core brand dilution caused by extension failure: Our primary focus in this dissertation is on extensions that fail, rather than on inconsistencies between core brand and extension attributes. Information about the extension may be encoded in terms of both the inconsistency of attributes and in terms of extension failure. For example information about a Neutrogena extension may be encoded in terms of the specific attribute of
gentleness, or in terms of the failure of the extension due to reasons such as poor quality and competition. The typicality and bookkeeping models as proposed by Loken and John does not address the issue of extension failure. We use the anchoring and adjustment model to examine the issue of extension failure.

Effects of extension information presentation format: The AAM may also be used to study the impact of the format of extension information encoding. In a situation where the extension fails because it does not fulfill expectations raised by the use of the core brand name, the core brand is likely to serve as the reference point for the encoding of extension information. In a situation where the extension fails because of high levels of competition, the competition is likely to be the primary reference point in the encoding of extension information. When the core brand serves as the reference point for the encoding of extension information, the information integration process may be represented by an averaging model of information integration, since \( R = S_{k-1} \). When competition serves as a reference point, the information integration process may be represented by an adding model of information integration, since \( R = 0 \), or a constant. Thus the framing of extension information in different ways, is likely to result in the use of different reference points in encoding extension information and thus different forms of integration of core brand and extension information. As discussed earlier the nature and level of core brand dilution produced by adding and averaging forms of core brand and extension information integration are different. The bookkeeping and the typicality models do not consider the effects of the format of extension information presentation.
Overall the AAM does make additional contributions to research in the area of brand dilution. The analysis of the AAM suggests that the bookkeeping and typicality models are special cases of the AAM. The AAM is also in this dissertation used to address core brand dilution caused by the failure of extensions, and core brand dilution caused by unsuccessful typical extensions. In addition the AAM is better positioned to explain the role of factors other than typicality in core brand dilution, such as the format of presentation of extension information. The AAM also offers potential for enhancing our understanding of brand dilution by identifying additional factors that may affect the weight given to extension information, and thus the extent of core brand dilution.

In summary the major contribution of this research lies in showing us

--- the need to include reference points in trying to understand how people encode extension information.

--- that the format of presentation of extension information can affect the kind of reference point used.

--- how the use of different reference points, results in different forms of information integration via an anchoring and adjustment process.

--- how different forms of information integration namely adding Vs. averaging can result in dilution effects that are different\(^9\).

--- how the AAM accommodates prior theories on brand dilution as special cases of the AAM.

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\(^9\) The nature of the difference in the dilution effects caused by adding and averaging are discussed in detail in Chapter 4.
how factors other than typicality such as competitive positioning in core brand and extension categories may affect the level and nature of dilution.

In the next two chapters we discuss the development of two sets of hypotheses relating to our discussion on core brand dilution, and the methodology and results of two experiments that were carried out to test the hypotheses. The first set of hypotheses suggest that the format of presentation of extension information has an important role to play in the core brand dilution process. Experiment 1 was designed and carried out to test the first set of hypotheses. The second set of hypotheses were developed based on the adding and averaging predictions of the anchoring and adjustment model. Experiment 2 was designed and carried out to test the second set of hypotheses, and thus validate the anchoring and adjustment model by verifying the predictions of the model with experimental data.
CHAPTER 3
EFFECTS OF THE FORMAT OF PRESENTATION OF EXTENSION INFORMATION

In the last chapter we discussed how in addition to typicality the format of presentation of extension information may affect the manner in which extension information is encoded and integrated with core brand information. In this chapter we develop hypotheses related to the effects of the format of presentation of extension information on core brand dilution, propose and implement methodology designed to test the hypotheses, and present an analysis of the results obtained.

Hypotheses

Keller and Aaker (1990) suggest that the transfer of undesirable brand associations from the core brand to the extension can be minimized by elaborating on the attributes of the brand extension rather than focusing on the relationship of the extension to the core brand. One of the core brands which Keller and Aaker used as part of their research was Crest. Subjects were provided information about a fictitious Crest extension, namely Crest chewing gum. The format of information presented to subjects about Crest chewing gum was varied, and emphasized either the quality cues connected with the core brand ‘Crest’
or the attributes of the extension ‘Crest chewing gum’. In the quality cue condition, Crest chewing gum was described as “From a leader in the control of cavities and tartar”. In the extension attribute elaboration condition, Crest chewing gum was described as “In spearmint and peppermint flavors”.

Keller and Aaker suggest that in the quality cue condition, the link between Crest chewing gum (extension) and Crest toothpaste (core brand) is emphasized by introducing Crest chewing gum with the slogan “From a leader in the control of cavities and tartar”. Emphasizing the link between Crest toothpaste and Crest chewing gum may result in the transfer of negative beliefs such as “Crest chewing gum has a toothpaste like taste” from Crest toothpaste to Crest chewing gum. In turn the transfer of negative beliefs from Crest toothpaste to Crest chewing gum should result in the formation of an unfavorable attitude towards Crest chewing gum.

In the attribute elaboration condition, emphasizing the attributes of Crest chewing gum is likely to enhance elaboration of the extension ‘Crest chewing gum’, and reduce elaboration of the extension - core brand association namely the ‘Crest chewing gum - Crest toothpaste’ association. De-emphasizing the Crest chewing gum - Crest toothpaste association should reduce the importance of fit between Crest chewing Gum and Crest toothpaste, and therefore reduce the transfer of negative beliefs from Crest toothpaste to Crest chewing gum. In turn the reduction in the transfer of negative beliefs from Crest toothpaste to Crest chewing gum should result in the formation of a favorable attitude towards Crest chewing gum.
If the transfer of negative beliefs from Crest toothpaste to Crest chewing gum is likely to be reduced in the attribute elaboration condition as compared to the transfer of negative beliefs in the quality cue condition, the attitude towards Crest chewing gum is likely to be more favorable in the attribute elaboration condition than the attitude towards Crest chewing gum in the quality cue condition. An analysis of the results obtained by Keller and Aaker revealed that the importance of fit was significantly lower in the attribute elaboration condition, than in the quality cue condition. Also as hypothesized the attitude towards the extension was significantly more favorable in the attribute elaboration condition than the attitude towards the extension in the quality cue condition. Thus the elaboration of extension attributes appears to have inhibited the transfer of negative beliefs from the core brand to the extension by reducing the perceived fit between the core brand and the extension.

Overall the results obtained by Keller and Aaker suggest that it is possible to reduce the importance of fit and thus inhibit the transfer of negative beliefs from the core brand to the extension by presenting extension information in a format that emphasizes extension attributes. We suggest that it may also be possible to do the reverse i.e. inhibit the transfer of negative beliefs from an unsuccessful extension to the core brand by presenting information in a format that emphasizes extension attributes and de-emphasizes the link between the core brand and the extension. Therefore a critical element to understanding the effects of an unsuccessful extension on the core brand may be the strength of the extension-core brand link. When the extension-core brand link is strong,
extension performance is likely to have an effect on core brand evaluation. When the extension-core brand link is weak, extension performance is unlikely to have an impact on core brand evaluation.

Our review of prior research on brand extensions suggests that two of the factors that affect the strength of the core brand-extension link are, the fit between extension and core brand and the format of presentation of extension information. We build on past research to suggest that the format of presentation of extension information not only affects the importance of the core brand to evaluating extension information, but also affects the importance of the extension to evaluating the core brand.

We also suggest that the effects of the format of presentation of extension information are likely to be moderated by the level of fit between the core brand and the extension. When the fit between core brand and extension is high, the link between the core brand and the extension is already strong, and the format of presentation of extension information is unlikely to have an impact on the link between the core brand and the extension. When the fit between the extension and the core brand is low, the link between the core brand and the extension is weak, and format of presentation of extension information can have an impact on the core brand extension link.

When extension information is presented in a format that emphasizes the link between a low fit extension and the core brand, the performance of an unsuccessful extension will be considered important in evaluating the core brand, and will therefore cause significant core brand dilution. When extension information is presented in a format that de-emphasizes the link between a low fit extension and the core brand, the
performance of an unsuccessful extension is unlikely to be considered important in evaluating the core brand, and will therefore not have a significant impact on the evaluation of the core brand.

Next we look at how the effects of typicality and the format of presentation of extension information on core brand dilution can be explained by an anchoring and adjustment model.

Within the framework of the AAM model we proposed, the weight parameter \( w \) (defined in chapter II) is an indicator of the strength of the link between the core brand and the extension. Prior research on brand extensions and brand dilution suggests that when fit between core brand and extension is high, information about the extension is considered more relevant to evaluating the core brand, than when fit between extension and core brand is low (Romeo 1991, Keller and Aaker 1992, Loken and John 1993). Research on the weighting of information in judgment suggests that information considered relevant to making a judgment will receive more weight than information that is not considered relevant to making the judgment (Anderson 1991). Thus consumers are likely to give greater weight to the core brand when evaluating an extension that has a good fit with the core brand than when evaluating an extension that has a poor fit with the core brand. Similar effects are likely to occur in the reverse direction, i.e. when we consider the effects of the extension performance on the core brand. Thus when fit between core brand and extension is high, consumers are likely to classify the extension and the core brand in the same category and give greater weight to extension information in evaluating the core brand, than when fit between extension and core brand is low.
Within the anchoring and adjustment framework proposed, the fit between the
extension and the core brand is a factor that has an effect on core brand evaluation by
virtue of its ability to affect the weight given to extension information, when the core
brand is evaluated.

The format of presentation of extension information is also likely to have an impact
on core brand evaluation. Its effect is believed to occur by virtue of its ability to affect the
weight given to extension information, when the core brand is evaluated. When
information about the extension is presented in a format that repeatedly emphasizes the
link with the core brand, the link between the extension and the core brand is salient.
Under these circumstances consumers are likely to give greater weight to extension
performance in evaluating the core brand, than when information about the extension
repeatedly de-emphasizes the links to the core brand. However this is unlikely to hold for
high fit extensions, because when fit between extension and core brand is high, consumers
already attach substantial weight to the performance of the extension in evaluating the
core brand.

Keller and Aaker de-emphasized the importance of the link between the core brand
and the extension by asking subjects to elaborate on the attributes of the extension.
Research in the uses of framing suggests that there may be many other ways in which new
information may be encoded depending on how the information is presented (Kahneman
and Tversky 1979, Puto 1987, Hogarth and Einhorn 1992). Other methods of de-
emphasizing the core brand - extension link may include presenting extension information
that elaborates on the performance of the extension in comparison to competition. For

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example, the latest model of the Ford Taurus has been introduced by comparing the Taurus with Toyota Camry and Honda Accord. Comparisons of the Taurus with competition are likely to reduce the salience of the Ford - Taurus link, and enhance the Taurus-Accord and the Taurus-Camry links.

Given that the weight parameter ‘w’ is affected by fit and the format of presentation of extension information the anchoring and adjustment model predicts the following when the fit and the format of presentation of extension information are varied:

*High fit extensions*

For high fit extensions that are compared to the core brand, the core brand dilution process may be represented by

\[
S_{hfcb} = S_{k-1} + w_{hfcb} \times (S_e - S_{k-1})
\] (2-1)

For high fit extensions that are compared to competition, the core brand dilution process may be represented by

\[
S_{hfcomp} = S_{k-1} + w_{hfcomp} \times (S_e - S_{comp})
\] (2-2)

For high fit extensions the weight given to extension information is high, and the format of presentation of extension information is not expected to affect the weight given to extension information. Thus \(W_{hfcb} = w_{hfcomp}\). Assuming attitude towards the extension to be the same in both conditions i.e. \((S_e - S_{k-1}) = (S_e - S_{comp})\) then the attitude towards the core brand will also be the same in both conditions since

\[w_{hfcb} \times (S_e - S_{k-1}) = w_{hfcomp} \times (S_e - S_{comp}).\]
Low fit extensions

For low fit extension failures that are compared to the core brand the core brand dilution process may be represented by

\[ S_{\text{lfcb}} = S_{k-1} + w_{\text{lfcb}}^* (S_e - S_{k-1}) \quad (2-3) \]

For low fit extension failures that are compared to competition the core brand dilution process may be represented by

\[ S_{\text{lfcomp}} = S_{k-1} + w_{\text{lfcomp}}^* (S_e - S_{\text{comp}}) \quad (2-4) \]

For low fit extensions the weight given to extension information should be affected by the format of presentation of extension information. When the performance of the extension is compared to the core brand the weight given to extension information should be higher than when the performance of the extension is compared to competition. Thus \( W_{\text{lfcb}} \) in equation 2-3 should be greater than \( W_{\text{lfcomp}} \) in equation 2-4. Assuming the attitude towards the extension to be the same in both conditions i.e. \((S_e - S_{k-1}) = (S_e - S_{\text{comp}})\), then the attitude towards the core brand should be less favorable in the core brand condition than the attitude towards the extension in the competition condition since \( w_{\text{lfcb}} (S_e - S_{k-1}) \) in equation 2-3 will be more negative than \( w_{\text{lfcomp}} (S_e - S_{\text{comp}}) \) in equation 2-4.

Based on the above discussion it is hypothesized that:

H1: When fit between extension and core brand is high, emphasizing the link between the core brand and a failed extension will not result in a significantly different attitude towards the core brand, than emphasizing a comparison of extension performance to competition.
H2: When the fit between extension and core brand is low, emphasizing the link between the core brand and a failed extension will result in a significantly more unfavorable attitude towards the core brand, than emphasizing a comparison of extension performance to competition.

Methodology

To test hypotheses H1 and H2 regarding the effects of the extension on the core brand, subjects were first provided information on the core brand to provide a basis for subjects to form core brand beliefs. The core brand on which information was provided was fictitious. This was done for two reasons. First, the use of a fictitious core brand ensured better experimenter control over the nature of core brand information that the subject is exposed to. Second, subjects are likely to have extremely strong attitudes towards real core brands. These strong attitudes are unlikely to be affected by negative extension information provided by the experimenter. Even though the core brand itself was fictitious, some of the information provided about the core brand was based on real data. This was done to make the stimuli as realistic as possible.

Design: To test the proposed hypotheses, a 2(fit between core brand and extension: high and low) × 2 (information format: extension compared to competition vs. extension compared to core brand) between subjects design was carried out.
Subjects: 98 subjects from an introductory marketing class participated in the study for extra credit. Subjects were run in groups of five to ten at a time, and randomly assigned to the four different cells.

Procedure: For the experiment, subjects were seated in front of tables and information packets containing brand information and dependent measures were randomly handed out to them. A cover sheet on top of the packets informed subjects, that they were about to participate in a study designed to assess how people process information. They were instructed to read through the information packets at their own pace and wait after completing the questionnaire, till everybody else in the group had completed the exercise. The information packet was divided into two parts. The first part contained information about a fictitious core brand Zabella that contained a description of two products - Zabella frozen chicken and Zabella frozen salmon, followed by information about a fictitious extension. The extension was Zabella Frozen Shrimp in the high fit condition, and Zabella Canned Soup in the low fit condition. The second part contained a filler task (an 15 item need for cognition scale was used ) followed by a thought listing task, and then a series of measures. The thought listing task asked subjects to list the thoughts that went through their mind as they read the information on the Zabella extension. The series of measures included attitude towards the brand name, expectation of quality towards the new product, and attitude towards the extension. These measures were followed by measures of information processing type (a six item Likert scale was used), and measures of fit between the extension and the brand name.
Core brand and extension information: The information on the core brand introduced a fictitious Spanish multinational named Zabella. The information contained details of how an entrepreneur named Zabella accidentally discovered from the Eskimos how frozen food could be kept fresh. Using that discovery Zabella started a company to market frozen foods. The initial products marketed were Zabella frozen Salmon and Zabella frozen chicken, both of which were huge successes in the marketplace. Details were provided of the fresh taste of the products, the process by which the foods were kept fresh, and the company’s overall success in the market. Overall the information provided on the core brand was approximately a page and a half, and some of the details provided was based on real data. For example details about Zabella the entrepreneur was based on Clarence Birdseye the marketer of Birdseye frozen products.

Information about the extension was approximately two thirds of a page. The extension information contained details of how the extension had been developed, and the failure of the extension in the marketplace due to the large number of quality problems associated with the product.

Independent Variables:

Fit between brand name and extension: Two levels of fit between brand name and extension were created by varying the type of extension that was introduced. The extension introduced was Zabella Frozen Shrimp in the high fit condition, and Zabella Canned Soup in the low fit condition. While the extension introduced was different between the high fit and the low fit conditions care was taken to ensure that the extent of
failure was equivalent under both conditions. For example, in the high fit condition the poor quality of the frozen shrimp was described as follows “the quality of the shrimp Zabella was buying from suppliers may not have been as high as expected, since most of the fishermen who supplied Zabella fished close to the coast, where the waters were more polluted”. In the low fit condition the poor quality of the canned soup was described as follows “The quality of the vegetables Zabella was buying from suppliers may not have been as high as expected, since most of the farmers who supplied Zabella grew their produce close to the coast, where the waters were more polluted”.

The fit between brand name and extension was measured using a three item 9 point scale (the items were “bad fit between company and product -- good fit between company and product, not at all logical for Zabella to introduce -- very logical for Zabella to introduce, not at all appropriate for Zabella to introduce -- very appropriate for Zabella to introduce”). The measure was introduced in the second part of the information packet, and served as a manipulation check. The scale used to measure fit was similar to that used by Keller and Aaker (1992).

Type of extension information (comparing the extension to competition (competition condition) versus comparing the extension to expectations raised by the core brand (core brand condition)): Information about the type of extension failure was provided in two different formats. In the first format the extension information provided to subjects contained a number of comparisons (approximately ten) of the performance of the extension to the performance of existing products that formed part of the core brand.
This was done to ensure processing of extension information based on *expectations raised by the core brand*. For example a typical sentence comparing extension performance to the core brand was as follows “*It was not clear why, the quick freezing process which was so successfully used in the case of salmon and chicken, did not work in the case of shrimp*."

In the second format information about the extension was provided to ensure processing of extension information based on the performance of competing products in the extension product category. In this format the extension information provided to subjects contained a number of comparisons (approximately ten) of the performance of the extension to the performance of competition. This was done to ensure processing of extension information based on the performance of competing products in the extension product category. The sentence in the competition format equivalent to the sentence cited above that was used in the core brand format was as follows “*It was not clear why, the quick freezing process which was so successfully used by Ramirez for their frozen shrimp, did not work in the case of Zabella frozen shrimp*”. The quantity of information provided about the extension was equivalent in the core brand format and in the competition format conditions (Three paragraphs and a sentence in both cases).

The thought listing task and a six item Likert scale in the second part of the information packet served as manipulation checks of the type of information processing. At the end of the information packet, subjects were asked to classify the thoughts they had listed into three categories. They classified the thought as a ‘Z’ if the thought pertained to existing Zabella products, a ‘C’ if the thought pertained to competition, and as an ‘O’ if it
was neither of the two. The first three items of the six item Likert scale was designed to measure the nature of extension information processing when extension performance was compared to prior core brand performance, and contained the following statements:

1) Based on the performance of Zabella foods, I expected Zabella frozen shrimp to be a premium product.

2) As I was reading about Zabella frozen shrimp, I was also thinking about other Zabella products.

3) As I was reading about Zabella frozen shrimp, I thought about other Zabella products and expected the frozen shrimp to be of similar high quality.

The last three items of the six item Likert scale was designed to measure the nature of extension information processing when extension performance was compared to competition performance in the extension category, and contained the following statements:

4) As I was reading about Zabella frozen shrimp, I was thinking about how the taste of Zabella frozen shrimp would compare with other frozen shrimp in the market.

5) As I was reading about Zabella frozen shrimp, I was comparing the overall quality of Zabella frozen shrimp with other shrimp in the market.

6) As I was reading about Zabella frozen shrimp, I was thinking of other frozen shrimp I know of.
The six item scale was expected to measure the extent of core brand based comparisons and the extent of competition based comparisons in the core brand format and competition format conditions. It was expected that the mean of the first three items of the scale (the first three items measure core brand related information processing) would be higher in the core brand format condition than the mean in the competition format condition. The mean of the last three items of the scale (the last three items measure competition related information processing) was expected to be higher in the competition format condition than the mean in the core brand format condition.

Dependent Variables:

**Attitude towards Zabella Frozen Foods:** Attitude towards Zabella Frozen Foods served as the primary dependent measure in our study. Attitude was measured using a eleven point, four item semantic differential scale (very good - very bad; very favorable - very unfavorable; very positive - very negative; like very much - dislike very much).

Additional measures:

**Attitude towards the extension:** Attitude towards the extension was measured using a eleven point, four item semantic differential scale (very good - very bad; very favorable - very unfavorable; very positive - very negative; like very much - dislike very much). The attitude towards the extension was measured to verify if differences that might be obtained in the attitude towards the core brand in the low fit condition, could be attributed to differences in the attitude towards the extension. Given that the only
difference between the low fit core brand and the low fit competition conditions was in the format of presentation of extension information, the attitude towards the extension was expected to be equivalent in the low fit core brand and the low fit competition conditions.

If the attitude towards the extension in the low fit competition condition is more unfavorable than the attitude towards the extension in the low fit core brand condition, and if the attitude towards the core brand follows the same pattern of variation as the attitude towards the extension, differences in the attitude towards the core brand could be attributed to differences in the attitude towards the extension. However if the attitude towards the extension between the low fit competition condition and the low fit core brand condition is not significantly different, the only difference between the two conditions would be the format of presentation of extension information. This would suggest that differences in core brand evaluation between the low fit core brand condition and the low fit competition condition could than be attributed to differences in the format of presentation of extension information.

Results

In this section we present the results of the first experiment. Analysis of variance (ANOVA) techniques were used to test the two hypotheses. Directional a priori orthogonal contrasts were carried out using one tailed t-tests. The error term used for the t-tests was the mean square error obtained from the ANOVA table. The degrees of freedom used for each contrast was \((n_1+n_2-2)\).
**Manipulation Checks:**

**Fit:** The fit manipulation was designed to vary the fit between the brand name and the extension. The fit between core brand and extension was expected to be higher in the high fit condition than the level of fit between the core brand and the extension in the low fit condition.

A two (fit) by two (format of presentation of extension information) ANOVA was run on the perceived fit between core brand and extension. As expected the ANOVA indicated a significant main effect for the fit manipulation with subjects in the high fit condition (Mean=6.11) indicating fit to be significantly higher ($F_{(1,94)}=17.30$, $p < 0.001$) than subjects in the low fit condition (Mean=4.23).

**Format of presentation of extension information (competition and core brand conditions):** The manner in which extension information was presented was varied to induce processing of extension information based on either the core brand or on competition. Two measures were used to verify the type of processing of extension information that took place. The first was a thought listing task, and the second was a set of six 7 point Likert scales. The first three items of the six item scale were used to measure processing of extension information in comparison with the core brand, and the second three items were used to measure processing of extension information in comparison with the extension.
Thought listing task: The thought listing task classified the thoughts into three types. The thought was classified ‘Z’ if the thought pertained to other Zabella products, a ‘C’ if the subjects were thinking of competing brands in the extension category, and a ‘O’ if it was neither a ‘Z’ or a ‘C’. A two (fit) by two (format of presentation of extension information) ANOVA was run on the proportion of (Z thoughts/Total thoughts). Pairwise contrasts using the mean square error from the ANOVA were performed with Z/Total for the low fit and the high fit conditions. As predicted the mean Z/Total (Mean=0.2673) in the low fit competition condition was significantly lower ($t_{46}=1.93$, $p<0.05$) than the mean Z/Total (Mean=0.4135) in the low fit core brand condition. As expected the mean Z/Total (Mean=0.3971) in the high fit competition condition was not significantly different ($t_{36}=0.11$, $p>0.25$) from the mean Z/Total (Mean=0.3885) in the high fit core brand condition. The results of the thought listing task support the manipulation of extension information format. Changing the format of presentation of extension information from a core brand based format to a competition based format resulted in a lower proportion of core brand related thoughts for subjects in the low fit condition. For subjects in the high fit condition changing the format of presentation of extension information from a core brand based format to a competition based format did not affect the proportion of core brand related thoughts.

A two (fit) by two (format of presentation of extension information) ANOVA was run on the proportion of (C thoughts/Total thoughts). Pairwise contrasts using the mean
square error from the ANOVA were performed with C/Total for the low fit and the high fit conditions. As predicted the mean C/Total (Mean=0.3036) in the low fit competition condition was higher ($t_{45}=1.59$, $p<0.1$) than the mean C/Total (Mean=0.2122) in the low fit core brand condition. As expected the mean C/Total (Mean=0.2288) in the high fit competition condition was not significantly different ($t_{36}=0.75$, $p>0.25$) from the mean C/Total (Mean=0.1855) in the high fit core brand condition. The results of the thought listing task support the manipulation of extension information format. Changing the format of presentation of extension information from a core brand based format to a competition based format resulted in a higher proportion of competition related thoughts for subjects in the low fit condition. For subjects in the high fit condition changing the format of presentation of extension information from a core brand based format to a competition based format did not affect the proportion of competition related thoughts.

*Type of information processing:* The results of the thought listing task suggest that the manipulation of the format of presentation of extension information was successful. The six item Likert scale was used as an additional measure that served as a manipulation check for the format of presentation of extension information. The six item scale was divided into two three item parts and the analysis was conducted separately on each of those two parts. The first three items were designed to measure core brand related information processing. The score on the three items was averaged, and used as index of core brand related information processing (COREBRAND). A reliability analysis was also performed on COREBRAND and the Cronbach alpha was 0.67. A 2(fit) by 2(format of
presentation of extension information) ANOVA on COREBRAND revealed a significant main effect for fit ($F_{(1,92)}=5.145$, $p<0.05$). The significant main effect for fit suggests that core brand related processing of extension information was higher in the high fit condition (Mean COREBRAND=$5.53$) than the core brand related information processing in the low fit condition (Mean COREBRAND=$4.99$). The interaction between fit and the format of presentation of extension information was not significant ($F_{(1,92)}=2.418$, $p>0.1$).

Pairwise contrasts on COREBRAND were performed for the low fit core brand and the low fit competition conditions. As expected the pairwise contrast revealed mean COREBRAND in the low fit core brand condition (Mean=$5.32$) to be significantly higher ($t_{47}=2.0$, $p=0.025$) than the mean COREBRAND in the low fit competition condition (Mean=$4.64$). Pairwise contrasts on COREBRAND were also performed for the high fit core brand and the high fit competition conditions. As expected the pairwise contrast revealed no significant differences ($t_{47}=0.24$, $p>0.2$) between the mean COREBRAND in the high fit core brand condition (Mean=$5.49$) and the mean COREBRAND in the high fit competition condition (Mean=$5.57$). Thus in the high fit condition the manipulation of extension information format did not make a difference in the way in which extension information was processed. In the low fit condition, when processing extension information, subjects presented extension information in comparison to the core brand placed a greater emphasis on the expectations raised by the core brand than subjects presented extension information in comparison to competition.

The last three items of the six item Likert scale were designed to measure competition related extension information processing. The score on the three items was
averaged and used as an index of competition related information processing (COMPETITION). A reliability analysis was also performed on COMPETITION and the Cronbach alpha was 0.80. A 2(fit) by 2(format of presentation of extension information) ANOVA on COMPETITION revealed a significant main effect for fit (F(1,94)=6.769, p<0.025). The significant main effect for fit suggests that competition related processing of extension information was higher in the low fit condition (Mean COMPETITION=5.33) than the core brand related information processing in the low fit condition (Mean COMPETITION=4.56). The interaction between fit and the format of presentation of extension information was not significant (F(1,94)=1.971, p>0.1). Pairwise contrasts on COMPETITION were performed for the low fit core brand and the low fit competition conditions. As expected the pairwise contrast revealed mean COMPETITION in the low fit competition condition (Mean=5.77) to be significantly higher (t_{49}=2.05, p<0.025) than the mean COMPETITION in the low fit core brand condition (Mean=4.91). Pairwise contrasts on COMPETITION were also performed for the high fit core brand and the high fit competition conditions. As expected the pairwise contrast revealed no significant differences (t_{43}=0.43, p>0.2) between the mean COMPETITION in the high fit core brand condition (Mean=4.74) and the mean COMPETITION in the high fit competition condition (Mean=4.56).

Thus in the high fit condition the manipulation of extension information format did not make a difference in the way in which extension information was processed. In the low fit condition, when processing extension information, subjects presented extension
information in comparison to competition placed a greater emphasis on the expectations raised by competition than subjects presented extension information in comparison to the core brand.

The results obtained by the thought listing task are further supported by the results obtained with the six item scale. Thus the manipulation of the format of presentation of extension information is strongly supported.

Tests of Hypotheses:

Effects of the format of presentation of extension information:

In H1 we hypothesized that for a high fit extension changing the format of presentation of extension information would not result in significantly different attitudes towards the core brand. In H2 we hypothesized that for a low fit extension, the presentation of extension information based on comparisons with the core brand would result in a significantly more unfavorable attitude towards the core brand than the presentation of extension information based on comparisons with competition in the extension category.

A 2 (fit) by 2 (format of presentation of extension information) ANOVA was run on attitude towards the core brand. The means related to the ANOVA are graphically depicted in figure 3.
Figure 3: Two way interaction of fit and extension information format on attitude towards the core brand

As predicted there was a significant interaction between fit and the format of presentation of extension information ($F_{1,94}=4.18$, $p<0.05$). The main effects of fit and the format of presentation of extension information were not significant. Pairwise contrasts were performed on the attitude towards the core brand for the low fit and the high fit core brand and competition conditions. For the low fit extension (Zabella Canned Soup) the attitude towards the Zabella brand name was significantly ($t_{47}=1.73$, $p<0.05$) more favorable in the competition condition ($M=9.08$) than in the core brand condition ($M=8.17$). For the high fit extension (Zabella Frozen Shrimp) the attitude towards the
Zabella brand name was not significantly different ($t_{43}=1.19$, $p>0.1$) between the core brand ($M=8.37$) and the competition ($M=7.73$) conditions. The results provide support for both H1 and H2.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Extension Compared to Core Brand</th>
<th>Extension Compared to Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Fit</td>
<td>High Fit</td>
</tr>
<tr>
<td><strong>Attitudinal Measures</strong></td>
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<td></td>
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<tr>
<td>Attitude Towards the Core Brand</td>
<td>8.17</td>
<td>8.37</td>
</tr>
<tr>
<td>Attitude Towards the Extension</td>
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<td>4.35</td>
</tr>
<tr>
<td><strong>Cognitive Responses</strong></td>
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<td></td>
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<td>Z Thoughts</td>
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<td>2.35</td>
</tr>
<tr>
<td>C Thoughts</td>
<td>1.46</td>
<td>1.17</td>
</tr>
<tr>
<td>O Thoughts</td>
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<tr>
<td>COMPETITION</td>
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<td>4.74</td>
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<tr>
<td>Fit Measure</td>
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<td></td>
</tr>
<tr>
<td>Perception of Fit</td>
<td>4.64</td>
<td>5.49</td>
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</table>

Table 1: Cell Means for Attitude, Cognitive Response, and Fit Measures
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<th>Degrees of Freedom</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1,94</td>
<td>0.75</td>
</tr>
<tr>
<td>Fit</td>
<td>2.38</td>
<td>1,94</td>
<td>0.15</td>
</tr>
<tr>
<td>Presentation format X Fit</td>
<td>4.18</td>
<td>1,94</td>
<td>0.05</td>
</tr>
</tbody>
</table>

*Table 2:* Source Table for Analysis of Variance on Attitude towards the Core Brand.

When the fit between extension and core brand was high, the diluting effect of the extension failure was not affected by the manner in which extension information was presented. Thus for the high fit condition, whether the information about the extension was presented by comparing the performance of the extension to competition performance in the extension category or by comparing the performance of the extension to other Zabella products the diluting effect of the extension failure was still the same. When the fit between extension and core brand was low, the diluting effect of the extension failure was affected by the manner in which extension information was presented. For the low fit condition, the diluting effect of the extension failure was significantly larger, when the performance of the extension was compared to the performance of other Zabella products than when the performance of the extension was compared to competition performance.

The reasons for the significantly more favorable attitude towards the Zabella brand name in the low fit competition condition than the attitude towards the Zabella
brand name in the low fit core brand condition could be due to (a) a more favorable attitude towards the Zabella extension in the low fit adding condition as compared to the attitude towards the Zabella extension in the low fit averaging condition, (b) due to the perception of the Zabella extension as more typical in the low fit core brand condition than in the low fit competition condition, or (c) as a priori hypothesized, the weight given to the Zabella extension may be higher in the low fit core brand condition than in the low fit competition condition. To identify the reason for the significantly more favorable attitude towards the Zabella brand name in the low fit competition condition than the attitude towards the Zabella brand name in the low fit core brand condition, further analysis of the attitude towards the extension in the four conditions and the perception of fit in the four conditions was conducted.

**Additional measures:**

**Attitude towards the extension:** Further analysis was performed to verify if differences in attitude towards the core brand between the low fit core brand condition and the low fit competition condition were due to differences in the attitude towards the extension. A 2 (fit) by 2 (format of presentation of extension information) ANOVA was performed on the attitude towards the extension. The interaction between fit and the format of presentation of extension information was not significant ($F_{(1,94)}=0.055$, $p>0.8$). The format of presentation main effect was not significant ($F_{(1,94)}=0.410$, $p>0.5$). This suggests that changing the format of presentation of extension information did not result in different attitudes towards the extension. To verify if there were differences in the
attitude towards the extension based on format within each level of fit, pairwise contrasts were performed for the low fit and the high fit core brand and competition conditions. As expected the pairwise contrast revealed no significant differences ($t_{47}=0.59$, $p>0.2$) between the mean attitude towards the extension in the low fit core brand condition (Mean=3.88) and the mean attitude towards the extension in the low fit competition condition (Mean=3.58). Pairwise contrasts on the attitude towards the extension were also performed for the high fit core brand and the high fit competition conditions. As expected the pairwise contrast revealed no significant differences ($t_{43}=0.28$, $p>0.2$) between the mean attitude towards the extension in the high fit core brand condition (Mean=4.35) and the mean attitude towards the extension in the high fit competition condition (Mean=4.21). Thus in the high fit and low fit conditions the manipulation of extension information format did not make a difference in the attitude towards the extension. Since there were no differences in the attitude towards the Zabella extension, differences in the attitude towards the extension is unlikely to be the cause for differences in the attitude towards the Zabella brand name between the low fit competition and the low fit core brand conditions.

**Perception of fit:** Additional analysis was performed to verify if the format of presentation of extension information had affected the perception of fit. The perception of fit between the core brand and the extension for subjects in the high fit core brand condition (Mean=6.11) was not significantly different ($t_{43}=0.81$, $p>0.1$) from the perception of fit for subjects in the high fit competition condition (Mean=5.68). The pattern of results obtained with fit perception for subjects in the low fit condition was
similar to the results obtained with subjects in the high fit condition. The perception of fit between the core brand and the extension for subjects in the low fit core brand condition (Mean=4.64) was not significantly different (t_{47}=0.96, p>0.1) from the perception of fit for subjects in the low fit competition condition (Mean=4.15).

Thus changing the format of presentation of extension information did not affect either the attitude towards the extension or the perception of fit between the core brand and the extension. In turn the rejection of attitude towards the extension and extension fit as factors causing the differences in the attitude towards the brand name would imply that the weight given to extension information had a primary role in causing the attitude towards the brand name to be significantly less favorable in the low fit adding condition than in the low fit averaging condition. The diluting effect on the brand name of the failed extension was likely to be higher in the low fit averaging condition than in the low fit adding condition, due to greater weight given to the failed extension in the low fit averaging condition than the weight given to the failed extension in the low fit adding condition.

The notion of extension presentation format affecting the weight given to extension information in evaluating the core brand is further supported by the results obtained with the thought listing task. The results obtained with the thought listing task suggest that the ratio of competition related thoughts to core brand related thoughts, while processing extension information was higher in the competition condition than in the core brand condition. Prior research suggests that more thought about an issue during impression formation reflects greater weighting for that issue in the process of impression
formation (Fiske 1980, Mackenzie 1986). Therefore the proportion of core brand related thoughts to total thoughts (Z/Total) may be used as an index of relative weight given to the core brand in evaluating the extension. As discussed earlier the mean Z/Total (Mean=0.2673) in the low fit competition condition was significantly lower ($t_{49} = 1.93$, $p<0.05$) than the mean Z/Total (Mean=0.4135) in the low fit core brand condition. This would suggest that during the process of encoding extension information, core brand information received greater weight in the low fit core brand condition than in the low fit competition condition. In turn this would imply that during the process of evaluating the core brand, the weight given to the core brand extension link was likely to have been higher in the core brand condition than the weight given to the core brand extension link in the competition condition. As expected the mean Z/Total (Mean=0.3971) in the high fit competition condition was not significantly different ($t_{45} = 0.11$, $p>0.25$) from the mean Z/Total (Mean=0.3885) in the high fit core brand condition. Thus in the high fit condition, changing the format of presentation of extension information did not change the relative weights given to core brand and competition information. In turn this would imply that during the process of evaluating the core brand, the weight given to the core brand extension link was unaffected by changes in the format of presentation of extension information.

Thus as predicted by the anchoring and adjustment model changing the format of presentation of extension information did not affect the perception of fit between core brand and extension, but did affect the weight given to extension information for low fit
extensions. For high fit extensions changing the format of presentation of extension information did not affect the perception of fit between core brand and extension, nor did it affect the weight given to extension information.

Discussion

Overall, our results are supportive of our hypotheses. The format of presentation of extension information has a significant effect on the extent of core brand dilution caused by unsuccessful low fit extensions. In the case of high fit unsuccessful extensions the format of presentation of extension information does not have a significant impact on the level of core brand dilution. This study advances our knowledge of the brand dilution process in three ways. First, the study builds on past research to suggest that we need to go beyond typicality and core brand strength and study the effects of factors such as extension presentation format on core brand dilution, to advance our understanding of the process of core brand dilution. Second, the findings suggest that failures of extensions can significantly affect core brand evaluations at least under certain conditions. Previous research had found weak or insignificant core brand dilution effects due to the failure of extensions in the marketplace (Romeo 1991, Keller and Aaker 1992). Third, the results suggest that consistent with the predictions of the anchoring and adjustment model, changing the format of presentation of extension information does affect the weight given to extension information at least for low fit extensions.

Our data on the thought listing task and the six item scale used to measure type of extension information processing supports the notion that changing the manner in which
extension information is presented also changes the manner in which extension information is processed. When extension information is presented in comparison to competition, subjects process extension information based on expectations built on competition performance. When extension information is presented in comparison to the core brand, subjects process extension information based on expectations built on core brand performance. In addition processing extension information based on expectations raised by the core brand has a different impact on the evaluation of the core brand than processing based on expectations raised by the competition, at least for low fit extensions. For low fit extensions, core brand based extension information processing results in a greater importance given to extension information in evaluating the core brand than competition based information processing. The greater importance given to extension information in core brand based extension processing results in a more unfavorable attitude towards the core brand in the case of core brand based processing in comparison to the attitude towards the core brand arising out of competition based processing of extension information. However, changing the processing of extension information from competition based processing to core brand based processing does not affect the perception of fit between core brand and the extension. Thus adding to past research on brand dilution that had primarily focused on fit and core brand strength, this finding provides evidence that even without affecting perceptions of fit between the core brand and the extension, one can affect the level of core brand dilution.

Our data also indicates that failures of extensions in the market can have significant impact on core brand evaluations. For low fit extensions, the failure of the extension in the
market did have a negative impact on core brand evaluations when extension information was processed based on the expectations raised by the core brand. This suggests that failures of extensions in the market can cause brand dilution at least under the conditions of this experiment. In the next chapter we discuss in further detail more general conditions under which the failure of extensions in the market may cause core brand dilution.

Our findings also support the inference that changing the processing of extension information from competition based processing to core brand based processing increases the weight given to extension information when evaluating the core brand. This inference is consistent with the predictions of the anchoring and adjustment model which suggested that the level of core brand dilution is a function of the weight given to extension information, and the manner in which information is encoded. While we do not have direct measures of the weight given to extension information, the number of thoughts about an issue is as an indirect measure of the weight given to an issue. The results of the thought listing task support our inferences regarding the effects of the format of presentation of extension information. In addition as discussed earlier, the lack of significant differences between the core brand and the competition conditions with regard to the perception of fit and the attitude towards the extension suggest that changing the format of presentation of extension information changed the weight given to extension information.

The consistency of findings with the predictions of the anchoring and adjustment model represents the first step towards establishing the validity of the anchoring and adjustment model. We discuss in further detail in the next chapter additional steps designed to examine the validity of the anchoring and adjustment model.
CHAPTER 4

PREDICTIONS OF THE ANCHORING AND ADJUSTMENT MODEL

In the last chapter we discussed how the anchoring and adjustment model could be used to predict the effects of the format of presentation of extension information on the weight given to extension information and thus predict the effects of the format of presentation of extension information on core brand evaluations. In this chapter, we use the anchoring and adjustment model to predict the effects of the format of presentation of extension information on the type of information integration of core brand and extension information, propose hypotheses based on the predictions of the anchoring and adjustment model, and report the results of an experiment used to test the proposed hypotheses.

Hypotheses

Effects of extension encoding on the form of integration (adding versus averaging) of core brand and extension information:

The issue of whether consumers integrate information by adding or averaging has been of interest to researchers in area of decision decision making for many years as is evident from the large number of research papers on the topic (for example - Shanteau 1969, 1976, Anderson 1981, 1991, Lopes 1985, 1987, Jagacinski 1995). In the area of
consumer decision making, information integration that results in either the adding or averaging of information has been of interest since adding and averaging information about a product are likely to result in different evaluations of the product. A hypothetical example outlined by Shanteau (1976) clearly distinguishes the adding and averaging forms of information integration and its effect on product evaluation.

As stated by Shanteau:

Would consumers of disposable diapers be more inclined to purchase one brand described as having “High Absorbency” or another which has “High Absorbency and Above Average Durability?” Purchase preference would depend, in part on whether consumers judge product quality by adding or averaging attribute information. If a consumer adds information, the latter diaper would be more favorably evaluated because there are two “units” of positive information which would produce a more favorable impression of quality. Thus, adding implies a cognitive system in which “the more, the better.” However if a consumer averages in formation, the former brand would be more favorably evaluated. According to averaging, combining mildly positive information (above average durability) with highly positive information (high absorbency) produces a less favorable impression than highly positive information alone.

As discussed in chapter II in the brand extension context, the AAM(Anchoring and Adjustment model) identifies conditions under which the adding and averaging of prior core brand information and extension information are likely to take place and result in different core brand evaluations. According to the AAM, the evaluation of the core brand is a function of the prior opinion of the core brand and the impact of the extension.
The impact of the extension on the evaluation of the core brand is a function of the weight given to the extension information, and the evaluation of the extension i.e. the impact of an extension equals ‘w \( (S_e - R) \)’ wherein ‘W’ is the weight given to extension information, \( S_e \) is the evaluation of extension information, and ‘R’ is the reference point against which extension information is encoded.

The type of reference point used in encoding extension information is likely to impact the effect of extension performance on core brand evaluations by affecting the form of integration (either adding or averaging) of prior core brand information and extension information. When the reference point \( R \) is the core brand the evaluation of the extension is given by \( (S_e - S_{k-1}) \), and the integration of extension and core brand information is likely to follow an averaging process. When the reference point ‘R’ used to encode the extension is information other than the core brand, the evaluation of the extension is given by \( (S_e - K) \), where ‘K’ is some assumed constant which may represent competition for example. This should result in the integration of core brand and extension information following an adding process of information integration. Next we consider the different ways in which adding and averaging forms of information integration affect the evaluation of the core brand.
Effects of adding and averaging core brand information and extension information on the evaluation of the core brand:

The anchoring and adjustment model in equation form is represented by

\[ S_k = S_{k-1} + w^* (S_e - R) \]  \hspace{1cm} (4 - 1)

wherein the extent of core brand dilution is equal to the term \( w^*(S_e - R) \). We next examine the effects of adding and averaging core brand and extension information when the evaluations of the extension i.e. \( (S_e - R) \) are equivalent in the adding and averaging conditions, and when the evaluations of the extension \( (S_e - R) \) are different between the adding and the averaging conditions. For the purpose of analysis let us assume that in the adding condition the reference point used is competition in the extension category and therefore \( R = S_{\text{comp}} \) and the evaluation of the extension is given by \( (S_e - S_{\text{comp}}) \). In the averaging condition \( R = S_{k-1} \), and the evaluation of the extension is given by \( (S_e - S_{k-1}) \).

\((S_e - S_{k-1}) \ and \ (S_e - S_{\text{comp}}) \ are \ equivalent:\n
When \( (S_e - S_{k-1}) \) and \( (S_e - S_{\text{comp}}) \) are equivalent, the only difference between the adding and the averaging conditions in terms of the extent of core brand dilution is the weight \('w'\) given to extension information. The results of experiment 1 suggest that weight given to extension information is higher when the core brand is used as a reference point in encoding extension information than when the competition in the extension category is used as a reference point. Thus the weight \('w'\) given to extension information is higher in the case of adding than in the case of averaging. If we represent the weight given to extension information in averaging by \( W_{\text{avg}} \) and the weight given to extension
information in adding by \( W_{\text{add}} \), we have core brand dilution for averaging is equal to \( W_{\text{avg}} \) \((S_e - S_{k-1})\) and core brand dilution for adding equal to \( W_{\text{add}} \) \((S_e - S_{\text{comp}})\).

Since \( W_{\text{avg}} > W_{\text{add}} \) and \((S_e - S_{k-1})\) is equal to \((S_e - S_{\text{comp}})\) we have \( W_{\text{avg}} \) \((S_e - S_{k-1})\) > \( W_{\text{add}} \) \((S_e - S_{\text{comp}})\).

\((S_e - S_{k-1})\) is more negative than \((S_e - S_{\text{comp}})\):

When the comparison between an unsuccessful extension and the core brand leads to an evaluation of the extension that is more negative than a comparison of the unsuccessful extension to competition in the extension category we have \((S_e - S_{k-1})\) more negative than \((S_e - S_{\text{comp}})\). In addition based on the results of experiment 1 we have \( W_{\text{avg}} > W_{\text{add}} \). Therefore \( W_{\text{avg}} \) \((S_e - S_{k-1})\) < \( W_{\text{add}} \) \((S_e - S_{\text{comp}})\) and averaging core brand and extension information should result in higher levels of core brand dilution than adding core brand and extension information.

\((S_e - S_{k-1})\) is more positive than \((S_e - S_{\text{comp}})\):

In the case of successful extensions which are evaluated more successfully in comparison to the core brand than in comparison to competition in the extension category we have \((S_e - S_{k-1})\) is more positive than \((S_e - S_{\text{comp}})\). In addition we have \( W_{\text{avg}} > W_{\text{add}} \). Therefore \( W_{\text{avg}} \) \((S_e - S_{k-1})\) > \( W_{\text{add}} \) \((S_e - S_{\text{comp}})\) and averaging core brand and extension information should result in higher levels of core brand enhancement than adding core brand and extension information.

Overall under conditions where \((S_e - S_{k-1})\) and \((S_e - S_{\text{comp}})\) are equivalent, or \((S_e - S_{k-1})\) is more negative than \((S_e - S_{\text{comp}})\), or \((S_e - S_{k-1})\) is more positive than
(S_e - S_{comp}), the extension effects on the core brand are greater in the case of averaging than in the case of adding. In the case of unsuccessful extensions, the dilution effects of the extension on the core brand are greater when core brand and extension information are averaged than when core brand and extension information are added. For extensions that succeed, the favorable effects of the extension on the attitude towards the core brand are greater when core brand and extension information are averaged than when core brand and extension information are added.

Since the nature and extent of core brand dilution effects are different under adding and averaging, it is useful and important for us to know when the integration of core brand and extension information will follow an averaging process, and when the integration of core brand and extension information will follow an adding process. The anchoring and adjustment model helps identify conditions under which adding or averaging forms of integration may occur by explicitly incorporating in the model the reference point used in encoding extension information. However the question arises as to how the predictions of adding and averaging of core brand and extension information made by the anchoring and adjustment model can be tested in the brand dilution context. In chapter II we discussed the methodologies that have been used in prior research to distinguish between adding and averaging forms of information integration. Next we discuss how those methodologies may be modified to distinguish between adding and averaging forms of information integration in the brand dilution context.
Testing for adding and averaging forms of information integration in the brand dilution context:

Two major methods have been used to test for adding and averaging in prior research on adding and averaging (Troutman and Shanteau 1976, Anderson 1982, Lopes 1985, Hogarth and Einhorn 1992). One method to distinguish between adding and averaging involves the use of negative evidence. The second major method to distinguish between adding and averaging involves the use of positive evidence.

When subjects are exposed to strong negative information about a product followed by exposure to weak negative information about the product (strong negative-weak negative scenario depicted in figure 4), the averaging of the two pieces of information suggests an increase in the favorability of evaluation of the product after exposure to weak negative information. An adding process of information integration however would lead to a decrease in the favorability of evaluation of the product after exposure to the weak negative information.

When subjects are exposed to strong positive information about a product followed by exposure to weak positive information about the product (strong positive-weak positive scenario depicted in figure 5), the averaging of the two pieces of information suggests a decrease in the favorability of evaluation of the product after exposure to the weak positive information. An adding process of information integration however would lead to an increase in the favorability of evaluation of the product after exposure to the weak positive information.
Figure 4. Response to strong and weak negative evidence as a function of adding and averaging forms of information integration.

Figure 5. Response to strong and weak positive evidence as a function of adding and averaging forms of information integration.
In situations where the nature of two pieces of information is mixed i.e. if a subject is exposed to positive information about a product followed by negative information about a product (positive-negative scenario) or if a subject is exposed to negative information about a product followed by positive information about the product (negative-positive scenario) both adding and averaging of the two pieces of information result in changes in product evaluation in the same direction. When positive information about a product is followed by negative information about the product, both adding and averaging of the two pieces of information will result in a decrease in the favorability of the evaluation of the product after receipt of the negative information. When negative information about the product is followed by positive information about the product, both adding and averaging of the two pieces of information will result in an increase in the favorability of the evaluation of the product after receipt of the positive information.

We are in this dissertation examining the effect of unsuccessful extensions on successful core brands. In this situation the evaluation of the extension is negative and the prior opinion of the core brand is positive. Both adding and averaging predict that the evaluation of the core brand will decrease when positive information about the core brand is combined with negative information about the extension, making it difficult to methodologically distinguish adding from averaging.

Thus to study the effects of an unsuccessful extension (strongly positive-negative scenario) on the core brand we cannot use existing methods to distinguish between the averaging and adding predictions of the anchoring and adjustment model. Therefore we
propose to solve the problem of distinguishing between the adding and averaging predictions of the anchoring and adjustment model by developing and using a multiple extension methodology. We explore the predictions of the anchoring and adjustment model when a core brand is used to introduce two extensions, and when differences exist in the manner in which extension information is encoded. We show how the use of two extensions helps us distinguish between the adding and the averaging predictions of the anchoring and adjustment model.

We suggest a multiple extension scenario wherein a core brand is followed by a large brand extension failure that is in turn followed by a relatively mild brand extension failure. In this situation we have strongly positive information about the core brand followed by strongly negative information about the first extension, followed by weakly negative information about a second extension (strongly positive-strongly negative-weakly negative scenario {PNN}). Given a PNN scenario, adding and averaging make different predictions regarding the evaluation of the core brand. Averaging suggests that the evaluation of the core brand after receipt of information about the first unsuccessful extension will increase in favorability after receipt of information about the second unsuccessful extension. However adding suggests that the evaluation of the core brand after receipt of information about the first unsuccessful extension will decrease in favorability after receipt of information about the second unsuccessful extension. Next we use the anchoring and adjustment model to show mathematically, the differing predictions of adding and averaging regarding changes in core brand evaluation after receipt of information about the second extension.
The anchoring and adjustment model proposed suggests that in the case of averaging we have

\[ S_k = S_{k-1} + w(S_e - S_{k-1}) \]  \hspace{1cm} (4 - 2)

\[ = wS_e + (1 - w) S_{k-1} \]

\( S_k \): Evaluation of brand after receipt of extension information

\( S_{k-1} \): Evaluation of brand before receipt of extension information

\( S_e \): Evaluation of extension  \( \rightarrow \)  \( S_{LF} \) in the case of a large extension failure\(^1\)

\( \approx \)  \( S_{WF} \) in the case of a weak extension failure

**Averaging:**

In the single extension case we have

\[ S_{ke} = wS_{LF} + (1 - w) S_{k-1} \]  \hspace{1cm} (4 - 3)

In the multiple extension case we have

\[ S_{km} = w(\text{average of } S_{LF} \text{ and } S_{WF}) + (1 - w) S_{k-1} \]  \hspace{1cm} (4 - 4)

Since \( S_{WF} \) leads to a relatively less negative evaluation of the extension than \( S_{LF} \) we have

\[ w(\text{average of } S_{LF} \text{ and } S_{WF}) > w S_{LF} \]

i.e. the extent of dilution is less in the multiple extension averaging case\(^2\). The evaluation of the brand name therefore is likely to become more favorable after receipt of information.

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\(^1\) By a large extension failure, we imply that the product has failed substantially in the marketplace. A small extension failure may be represented by a consumer who is 'dissatisfied' with the product. A large extension failure may be represented by a consumer who is 'extremely dissatisfied' with the market. Thus the difference between large and small extension failure is primarily a matter of degree.

\(^2\) assuming no change in weights given to extension information as a whole in either the single extension or the multiple extension case.
about the second extension. This increased favorability of evaluation is depicted graphically by the averaging line in fig. 4-3.

*Adding:*

In the case of adding we have information presented in the averaging manner for the single extension case and in the adding format for the multiple extension case.

In the single extension case we have

\[ S_{\text{kse}} = wS_{\text{LF}} + (1-w)S_{k-1} \quad (4-5) \]

In the multiple extension case we have

\[ S_{\text{kme}} = wS_{\text{LF}} + (1-w)S_{k-1} + w_1 S_{\text{WF}} \quad (4-6) \]

Since the brand extensions are failures and \( S_{\text{WF}} \) and \( S_{\text{LF}} \) are negative we have\(^3\)

\[ S_{\text{kme}} < S_{\text{kse}} \]

The evaluation of the brand name is therefore likely to become less favorable after receipt of information about the second extension. This decrease in the favorability of the evaluation is depicted graphically by the adding line in figure 6.

\(^3\) Based on the assumption that in the multiple extension case subjects will anchor on the core brand \( S \) and then adjust based on extension information.
Figure 6. Attitude towards the core brand as a function of the performance of the extension and the form of information integration of core brand and extension information.

The above discussion leads us to the following hypotheses.

**H3:** A large extension failure will lead to less favorable evaluations of a strong core brand.

**H4:** The evaluation of a core brand after the introduction of a large extension failure will be enhanced by the presentation of information about a small extension failure that compares the performance of the extension to the performance of the core brand.

**H5:** The evaluation of a core brand after the introduction of a large extension failure, will be further lowered by the presentation of information about a small extension failure that compares the performance of the extension to competition in the extension category.
Methodology

Design: To test the proposed hypotheses, subjects were randomly assigned to four different conditions. Planned comparisons between core brand evaluations in the four conditions were used to test the proposed hypotheses. Subjects in the four different conditions received four different types of information as detailed below:

- Subjects assigned to the control condition received information about the core brand alone.
- Subjects assigned to the single extension condition received information about the core brand and a single unsuccessful extension that was a huge failure.
- Subjects assigned to the two extension adding condition received information about the core brand, information about an extension that was a huge failure, and information about a mildly unsuccessful extension designed to induce processing based on a comparison with competition.
- Subjects assigned to the two extension averaging condition received information about the core brand, information about an extension that was a huge failure, and information about a mildly unsuccessful extension designed to induce processing based on a comparison with the core brand.
Subjects: 124 subjects from an introductory marketing class participated in the study for extra credit. Care was taken to ensure that subjects who had participated in the first experiment on the effects of extension presentation format were not recruited for this experiment.

Procedure: Subjects were run in groups of five to ten at a time, and randomly assigned to the four different cells. For the experiment, subjects were seated in front of tables and information packets containing brand information and dependent measures were randomly handed out to them. A cover sheet on top of the packet informed subjects, that they were about to participate in a study designed to assess how people process information. The cover sheet instructed subjects to turn the pages in the given order. Subjects were informed that the allotted time of thirty minutes was more than enough to complete the exercise. In addition they were instructed to wait after completing the questionnaire, till everybody else in the group had completed the exercise. This was done to minimize disruptions during the processing of the information packet. The information in the packet was divided into two parts. The first part contained information about a fictitious core brand, followed by information about the extension(s) necessary if any for that condition. The core brand information contained information about a fictitious Spanish company named Zabella. Details were provided on how an entrepreneur named Clarence Zabella formed the company based on a discovery that he had made while watching Eskimos hunt in the Arctic tundra. The existing products of the company which were very successful in the marketplace were Zabella frozen Salmon and Zabella frozen Pineapple. Information
was given about the performance of the product in the market and the very good quality of the products. The information provided indicated that the products were rated well in terms of their freshness, juiciness, taste, and ease of cooking.

Information about the core brand was approximately one and one third pages in length, while information about the extensions if included in a specific condition was approximately two thirds of a page for each of the two extensions. The first extension introduced was Zabella Ice Cream Puffs and the second extension introduced was Zabella frozen chicken. Zabella Ice Cream Puffs were described as a large failure in the market while Zabella frozen chicken was described as a moderate failure. A typical sentence describing the performance of the Ice Cream Puffs would be “While a large number of customers tried the Zabella Ice Cream Puffs most of them were dissatisfied with the product”. A typical sentence describing the performance of the frozen chicken would be “It was not clear why, the quick freezing process which was so successfully used in the case of Salmon and Pineapple, did not work in the case of chicken.

While the first part of the information packet contained information about the core brand and the extensions, the second part contained a filler task (an 18 item need for cognition scale was used) followed by a thought listing task, and then a series of measures. Next the details of the information packet for the four different conditions are outlined.
Core Brand condition: The first part of the information packet contained information about the core brand⁴. No information about the extension was given. The second part of the packet contained a filler task, followed by a thought listing task, measures of attitude towards the brand name, measures of attitude confidence, evaluation of a future potential extension, followed by a measure of weights given to information about existing products in arriving at the attitude towards the brand name.

Single extension condition: The first part of the information packet contained information about Zabella frozen Salmon and Zabella frozen Pineapple followed by information about the extension Zabella Ice Cream Puffs. Information about the extension was provided in such a manner as to induce processing of extension information based on expectations raised by the core brand. The second part of the packet contained a filler task, followed by a thought listing task, measures of attitude towards the brand name, measures of attitude confidence, evaluation of a future potential extension, measures of attitude towards the extension, and perception of fit between core brand and extensions.

Two extension condition (adding): The first part of the information packet contained information about Zabella frozen Salmon and Zabella frozen Pineapple followed by information about Zabella Ice Cream Puffs and Zabella Chicken. Zabella Ice Cream Puffs was described as a large failure in the market, while Zabella Frozen Chicken was described

⁴The existing products were frozen salmon and frozen pineapple. The extensions introduced were ice cream puffs in the single extension case, and ice cream puffs followed by frozen chicken in the multiple
as a moderate failure. The second part of the information packet contained a filler task followed by a thought listing task, measures of attitude towards the brand name, measures of attitude confidence, evaluation of a future potential extension, measures of attitude towards the extensions, followed by a measure of weights given to information about existing products in arriving at the attitude towards the brand name.

*Two extension condition (averaging):* The information packet was similar to the packet for the two extension adding group. The only difference was the manner in which information about the extensions were presented. In the case of adding, information about the second extension was provided in the context of comparisons to competition. In the case of averaging, information about the second extension was presented in the context of expectations raised by the core brand.

**Independent Variables:**

**Number of Extensions:** The number of extensions varied from zero to two depending on the condition. In the control condition there were no extensions introduced and information was provided only on the core brand Zabella consisting of Zabella frozen Salmon and Zabella frozen Pineapple. In the single extension condition subjects were provided information on a single extension namely Zabella ice cream puffs in addition to the information on the core brand Zabella. The description of the extension portrayed Zabella ice cream puffs as a huge failure in the market.
In the two extension conditions subjects were provided information on the core brand Zabella and on two extensions namely Zabella Ice Cream Puffs and Zabella frozen chicken. The description of the first extension Zabella ice cream puffs in the two extension conditions was the same description of Zabella ice cream puffs that was provided in the single extension condition. In the two extension conditions also, the first extension Zabella ice cream puffs was described as a large failure in the market. The second extension Zabella frozen chicken was described as a moderate failure in the market. Thus In the two extension case, subjects were exposed to information about the core brand followed by information about an extension that had been a large failure followed by information about another extension that was a moderate failure.

**Format of presentation of information about the second extension:** Information about the second extension was presented in two different ways depending on the condition to which subjects were assigned. Subjects in the two extension averaging condition were presented extension information in a manner designed to induce extension information processing primarily based on expectations raised by the core brand. The information on the second extension contained frequent (approximately eight) references to the performance of Zabella frozen chicken in comparison with the performance of the core brand Zabella. A typical sentence comparing Zabella frozen chicken to other Zabella products would be “It was not clear why, the quick freezing process which was so
successfully used in the case of salmon and pineapple, did not work in the case of chicken”. A table comparing the customer ratings of Zabella chicken to the other Zabella products was also provided.

Subjects in the two extension adding condition were presented extension information in a manner designed to induce extension information processing primarily based on expectations raised by the competition. The information on the second extension contained frequent (approximately eight) references to the performance of Zabella frozen chicken in comparison with competition in the extension product category namely Espanola frozen chicken and Ramirez frozen chicken. A typical sentence comparing Zabella frozen chicken to competing products was “While it was not clear why, the quick freezing process which was so successfully used in the case of Espanola frozen chicken, did not seem to be working in the case of the Zabella chicken”. A table comparing the customer ratings of Zabella frozen chicken with that of other competing products was also provided.

In presenting information about the second extension Zabella frozen chicken it was important to ensure that attitude towards Zabella frozen chicken was equivalent whether information about Zabella frozen chicken was presented in comparison to competition or in comparison to the core brand. If attitudes towards Zabella frozen chicken are not equivalent in the two extension adding condition and the two extension averaging condition, differences in the attitude towards the core brand Zabella between the conditions may be attributed to either differences in attitude towards Zabella frozen chicken or differences in the nature of information integration (adding or averaging) or
both. However if attitudes towards Zabella frozen chicken are equivalent between the two extension adding condition and the two extension averaging condition, differences in attitude towards the core brand Zabella may be attributed to the nature of information integration (adding or averaging) as predicted by the AAM model.

Pretests were carried out on the information about the Zabella frozen chicken (second extension) provided to subjects in the adding and averaging conditions, to test for equivalency of attitude towards Zabella frozen chicken in the two conditions. Attitude towards the Zabella frozen chicken was measured using a four item-eleven point scale, (very good - very bad; very favorable - very unfavorable; very negative - very positive; like very much - dislike very much). In the adding condition the performance of the frozen chicken was compared to the performance of competing brands of frozen chicken. In the averaging condition the performance of the frozen chicken was compared to the performance of the core brand. An ANOVA on the attitude towards Zabella frozen chicken revealed that there was no significant difference($F_{1,35} = 0.29, p>0.5$) in the attitude towards the Zabella frozen chicken between the adding($M=2.66$) and the averaging condition ($M=2.97$). The results suggest that the information about the Zabella frozen chicken in the adding and the averaging conditions resulted in equivalent attitudes towards the Zabella frozen chicken. In addition the information about the core brand (frozen salmon and frozen pineapple), and the first extension (ice cream puffs) are the same in the adding and the averaging conditions. This would imply that if the attitude towards the core brand after receipt of extension information were different between the two extension adding and the two extension averaging conditions, the explanation for the difference
would lie in the nature of the core brand and extension *information integration process*, rather than on the favorability/unfavorability of the frozen chicken information per se.

**Dependent Variables:**

- **Cognitive response measures:** In the thought listing task subjects were asked to list the thoughts that went through their mind as they read the information either on the core brand or the extension depending on the condition to which they were assigned. At the end of the questionnaire after answering all other questions, subjects were asked to classify the thoughts they had listed as a “Z” if the thought pertained to thinking of other Zabella products, as a “C” if the thought pertained to their thinking of competitive ice cream brands, and as an “O” if it was neither of the two.

  In the control condition the thought listing task asked subjects to list the thoughts that went through their mind as they read the information on the core brand. In the single extension condition the thought listing task asked subjects to list the thoughts that went through their mind as they read the information on the first extension. In the two extension adding and the two extension averaging conditions, subjects were asked to list the thoughts that went through their mind as they read the information on the second extension. The purpose of the thought listing task in the control condition and the single extension condition was exploratory in nature. For the two extension adding and the two extension averaging condition the objective of the thought listing task was similar to that for Experiment 1, i.e. the thought listing task served as a manipulation check of the format of presentation of information about the second extension. During the processing of
information about the second extension, the proportion of thoughts about competition was expected to be higher in the two extension adding condition than the proportion of thoughts about competition in the two extension averaging condition.

**Attitude towards the core brand:** The dependent measure was a four item-eleven point semantic differential scale measuring attitude towards the core brand (the items were very good - very bad; very favorable - very unfavorable; very negative - very positive; like very much - dislike very much) and was the same scale that was used to measure attitude towards the extension.

**Attitude towards the extension (Zabella ice cream puffs):** Attitude towards Zabella ice cream puffs was also measured using a four item eleven point semantic differential scale (the items were very good - very bad; very favorable - very unfavorable; very negative - very positive; like very much - dislike very much). The measure of attitude towards Zabella ice cream puffs was taken to verify if the attitude towards Zabella ice cream puffs was the same in the single extension, two extension adding, and two extension averaging conditions.

**Results**

In this section we present the results of the second experiment. Analysis of variance (ANOVA) techniques were used to test the three hypotheses. The Tukey test was used to maintain the Familywise error rate at 0.05 for all post-hoc pairwise comparisons related to testing the three hypotheses.
Manipulation Checks:

**Averaging and Adding:** In the two extension case, the manner in which extension information was presented was varied to induce either averaging or adding of brand name and extension information. Averaging was induced by comparing the performance of the second extension (Zabella Frozen Chicken) with the performance of the core brand while adding was induced by comparing the performance of the second extension with the performance of competition\(^5\). A thought listing task similar to the thought listing task used in Experiment 1 was used in Experiment 2 as a manipulation check for adding and averaging.

**Thought Listing Task:** In the thought listing task subjects were asked to list the thoughts that went through their mind as they read the information on the performance of the Zabella Frozen Chicken. At the end of the questionnaire subjects were asked to classify the thoughts that they had listed into three types. The thought was classified ‘Z’ if the thought pertained to other Zabella products, a ‘C’ if the subjects were thinking of competing brands in the extension category, and a ‘O’ it was neither a ‘Z’ or a ‘C’.

An ANOVA on C/Z (ratio of competition to core brand related thoughts) with type (consisting of four groups of subjects, namely the control group, the single extension group, the two extension adding group, and the two extension averaging group) as the factor was performed. Pairwise contrasts using the mean square error from the ANOVA

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\(^5\) The competing products against which Zabella frozen chicken was compared were two fictitious products – Espanola frozen chicken and Ramirez frozen chicken.
were performed with C/Z for the two extension adding and the two extension averaging conditions. As predicted the mean C/Z (Mean=1.11) in the two extension adding condition was significantly higher ($t_{55}=1.85, p<0.05$) than the mean C/Z (Mean=0.63) in the two extension averaging condition. The results of the thought listing task support the manipulation of extension information format. Changing the format of presentation of extension information from a core brand based format to a competition based format resulted in a higher proportion of competition related thoughts for subjects in the two extension adding condition.

**Tests of Hypotheses:**

The Values of attitude towards the Zabella brand name in the four groups namely, the control group, the single extension group, the double extension adding group, and the double extension averaging group, are graphically represented in Figure 7.
Figure 7. Attitude towards the core brand as a function of the integration of core brand and extension information.

Attitude towards the core brand Zabella in the single extension condition compared to the attitude towards the core brand Zabella in the control group:

Subjects in the control group were provided information on a successful core brand consisting of Zabella Frozen Salmon and Zabella Frozen Pineapple. Subjects in the single extension condition were provided information on a successful core brand Zabella, and additional information on Zabella Ice Cream Puffs, which was introduced as a new brand extension of the Zabella brand that was a huge failure in the marketplace. An ANOVA on attitude towards the core brand Zabella with type (consisting of four groups of subjects, namely the control group, the single extension group, the two extension adding group, and the two extension averaging group) as the factor was performed. Pairwise contrasts using
the mean square error from the ANOVA were performed between the attitude towards the core brand in the different conditions.

As predicted in H3 the mean attitude towards the core brand in the single extension group (Mean=7.81) was significantly less favorable (Mean difference = 0.96, Std. Error = 0.353, p< 0.05) than the mean attitude towards the core brand in the control group (Mean=8.77). The decrease in the mean attitude towards the core brand in the single extension condition compared to the mean attitude towards the core brand in the core brand condition is depicted graphically in figure 7. Thus the introduction of an extension that was a huge failure in the market decreased the favorability of the attitude towards the core brand resulting in significant core brand dilution.

Attitude towards Zabella in the two extension adding condition compared to the single extension condition: The anchoring and adjustment model predicts that under adding conditions, negative information about new extensions is likely to lead to brand dilution. In addition the failure of two extensions is likely to lead to higher levels of dilution of the brand name than the failure of a single extension. Pairwise contrasts were performed between the attitude towards the core brand in the two extension adding condition and the single extension condition. As predicted in H5 the mean attitude towards the core brand in the two extension adding condition (Mean=6.07) was less favorable (Mean difference = 1.74, Std. Error =0.347, p<0.001) than the mean attitude towards the core brand in the single extension condition (Mean=7.81). The decrease in the mean attitude towards the core brand in the two extension adding condition compared to
the mean attitude towards the core brand in the single extension condition is depicted graphically in figure 7. The failure of two extensions resulted in higher levels of brand dilution than the failure of a single extension and these findings are consistent with the predictions of the anchoring and adjustment model under adding conditions.

Attitude towards Zabella in the double extension averaging condition compared to the single extension condition: When an extension that fails badly in the marketplace is followed by an extension that is a moderate failure in the marketplace, the anchoring and adjustment model predicts an increase in the favorability of the attitude towards the brand name in the two extension averaging condition. Pairwise contrasts on attitude towards the core brand Zabella revealed no significant difference (Mean difference = 0.31, Std. Error = 0.347, p>0.7) between the attitude towards the Zabella brand name in the single extension condition (M=7.81) and the attitude towards the Zabella brand name in the double extension averaging condition (M=7.52). The mean attitude towards the core brand in the single extension condition and the double extension averaging condition are depicted graphically in figure 7. Further post hoc analysis of the data was carried out to examine possible reasons for the lack of a significant increase in the favorability of the attitude towards the Zabella brand name in the double extension averaging condition in comparison with the attitude towards the Zabella brand name in the single extension condition.
One possible reason may lie in the differences in the attitude towards the first extension ‘Zabella Ice Cream Puffs’, between the subjects in the single extension condition and the subjects in the double extension averaging condition.

An ANOVA on attitude towards the Zabella Ice cream puffs with type (consisting of three groups of subjects, namely the single extension group, the two extension adding group, and the two extension averaging group) as the factor was performed. Pairwise contrasts on attitude towards Zabella ice cream puffs revealed the attitude towards Zabella ice cream puffs in the single extension condition (M=3.52) to be more favorable (t_{60} = 1.97, p<0.05) than the attitude towards the Zabella Ice Cream Puffs in the double extension averaging condition (M=2.77).

The information provided to subjects on Zabella Ice Cream Puffs was the same in both conditions. So why did subjects in the double extension averaging condition perceive the ice cream puffs less favorably than the subjects in the single extension condition? A potential explanation for such an effect lies in the existence of contrast effects when subjects are exposed to information about the second extension in the double extension averaging and adding conditions. Contrast effects arise when the cognitive resources assigned to the processing of information is high and there is little overlap between the contextual cue and the advertised object (Herr, Sherman, and Fazio 1983, Martin, Seta, and Crelia 1990, Levy and Sternthal 1993). In this experiment there is little category overlap between Zabella ice cream puffs (the first extension) and Zabella frozen chicken (the second extension). In addition subjects are likely to have devoted a high level of cognitive resources to processing information since subjects were informed that the
objective of the experiment was to assess how people process information and the
description of the core brand and the extension was rich in detail (a total of approximately
three pages). In addition there was no incentive for the subject to finish early since
subjects could leave only after all the members in the group had completed the exercise.
The availability of time to process information should have facilitated the allocation of a
higher level of cognitive resources to the processing of information. The average number
of thoughts about Zabella ice cream puffs in the experiment was 8.02 which indicates that
substantial cognitive resources were devoted to information processing. Levy and
Sternthal (1993, p. 364) indicate mean recall for subjects (clarifiers) devoting a high level
of cognitive resources to be 7.71, marginally less than our figure of 8.02 for the average
number of thoughts.

In comparison to the Zabella Ice Cream Puffs the second extension ‘Zabella
Frozen Chicken’ was a moderate failure. Therefore the existence of contrast effects in the
two extension averaging condition would imply that the Zabella Ice Cream Puffs were
perceived to be a bigger failure when compared to the failure of Zabella Frozen Chicken
than when they were not compared to Zabella Frozen Chicken. In the single extension
condition subjects were not given information about a second extension, and thus did not
have the opportunity to contrast the performance of the Zabella Frozen Chicken with the
performance of Zabella Ice Cream Puffs. The perception of the Zabella Ice Cream Puffs as
a bigger failure in the double extension averaging condition than in the single extension
condition could have resulted in a less favorable attitude towards the Zabella Ice Cream
Puffs in the double extension averaging condition than the attitude towards the Zabella Ice Cream Puffs in the single extension condition.

In-spite of the difference in the attitude towards the ice cream puffs due to contrast effects between the single extension condition and the double extension averaging condition, there was no significant difference in the attitude towards the core brand Zabella. Given differences in attitude towards the ice cream puffs, the lack of significant differences in the attitude towards the core brand Zabella between the subjects in the single extension condition and the subjects in the double extension averaging condition could be attributed to the nature of the averaging process.

In the single extension condition, dilution of the core brand was caused by the failure of Zabella ice cream puffs and the extent of core brand dilution would be dependent on the level of failure of the ice cream puffs as represented by the Mean attitude towards Zabella ice cream puffs (Mean= 3.53). In the two extension averaging condition the existence of an averaging process would suggest that core brand dilution was caused by the failure of Zabella ice cream puffs and the failure of Zabella frozen chicken and the extent of core brand dilution should be based on average of the attitudes towards the frozen chicken and the ice cream puffs (Mean attitude towards the ice cream puffs = 2.77, and mean attitude towards the frozen chicken should be higher than 2.77 since the frozen chicken was a moderate failure in comparison to the failure of the ice cream puffs). The average of the evaluations of the frozen chicken and the ice cream puffs should be higher than 2.77 and closer to 3.52 which was the mean attitude towards the ice cream puffs in the single extension condition. If the average of the attitudes towards the two failures in
the two extension condition is equivalent to the attitude towards the failure in the single extension condition, the levels of core brand dilution are also likely to be equivalent.

Given the differences in the attitude towards the Zabella ice cream puffs between the single extension condition and the two extension averaging condition, the lack of a significant difference in the attitude towards the core brand between the single extension condition and the two extension averaging condition can be explained by an averaging process of information integration.

**Difference in Attitude towards the Zabella brand name between the adding and the averaging conditions.** The anchoring and adjustment model predicts that in the double extension condition with a huge extension failure followed by a moderate extension failure, the adding process of core brand and extension information integration should result in an attitude towards the brand name that is significantly less favorable than the attitude towards the brand name that arises from an averaging process of core brand and extension information integration. Pairwise contrasts were performed between the attitude towards the core brand in the two extension adding condition and the attitude towards the core brand in the two extension averaging condition. The mean attitude towards the core brand in the two extension adding condition (Mean=6.07) was significantly less favorable (Mean difference = 1.45, Std. Error = 0.350, p<0.005) than the mean attitude towards the core brand in the two extension averaging condition (Mean=7.52).

Information about the core brand and the first extension is the same in the two extension adding and the two extension averaging conditions. Pairwise contrasts indicate
that the attitude towards the first extension Zabella ice cream puffs in the two extension adding condition (Mean = 2.54) was not significantly different (t=0.61, p>0.2) from the attitude towards Zabella ice cream puffs in the two extension averaging condition (Mean = 2.77). The only difference between the double extension adding and the double extension averaging conditions was in the type of information provided on frozen chicken. Pretests had indicated that the information on frozen chicken provided in the two extension adding and in the two extension averaging conditions did not result in different attitudes towards the frozen chicken. Therefore we can attribute the difference in attitude towards the Zabella brand name between the two extension adding and the two extension averaging conditions to the nature of the core brand and extension information integration process.

In the two extension adding condition the failure of the frozen chicken results in a further dilution of the Zabella brand name. In the two extension averaging condition, the average of the attitudes towards the ice cream puffs and the attitude towards the frozen chicken results in an average attitude that is more favorable than the attitude towards the ice cream puffs alone. This averaging of attitudes towards the ice cream puffs and the frozen chicken prevents further dilution of the Zabella brand name. The results are thus consistent with the predictions of the anchoring and adjustment model on the effects of adding and averaging core brand and extension information.

Overall the results obtained provide strong support for the process of brand dilution, and for the use of the anchoring and adjustment model to explain the brand dilution process. In all three groups where extension information was provided to subjects,
there was a significant decrease in the favorability of the subjects' attitude towards the brand name. While previous studies (Romeo 1991, Keller and Aaker 1992) have not found support for the existence of brand dilution, the results of this study suggest otherwise. In all cases where brand dilution was predicted, this study found results that supported those predictions.

In addition the results also support the validity of the anchoring and adjustment model in predicting brand dilution phenomena. The use of the two extension methodology and the manipulations of adding and averaging did in general result in brand evaluations that were predicted a priori. The exception was the two extension averaging condition which did not result in a significant increase in the favorability of the attitude towards the brand name in comparison with the attitude towards the brand name in the single extension condition. However the evaluation of the first extension (Zabella Ice Cream Puffs) in the two extension condition was significantly less favorable than the evaluation of the same extension in the single extension condition, and this suggests that the results obtained are still consistent with an averaging process of information integration.

Attitude towards a future brand extension

In the absence of any other information, subjects' attitude towards a future extension should follow a pattern of variation in the different conditions similar to the pattern of variations in the attitude towards the brand name. As expected the variation in attitude towards a future brand extension was similar to the variation in the attitude towards the core brand, further strengthening the support for the anchoring and
adjustment model. The proposed new Zabella extension was “noodles in stir fry sauce”.

The analysis of the attitude towards a proposed future extension was similar to the analysis performed on the attitude towards the core brand. An ANOVA of attitude towards a proposed future extension on type consisting of four groups of subjects, namely the control group, the single extension group, the two extension adding group, and the two extension averaging group) as the factor was performed. The mean square error from this ANOVA was used to perform all pairwise contrasts of attitude towards the proposed future extension.

The Values of attitude towards the future Zabella extension in the four groups namely, the control group, the single extension group, the double extension adding group, and the double extension averaging group, are graphically represented in Figure 8.

![Figure 8: Attitude towards a proposed future extension as a function of the integration of core brand and extension information.](image-url)
Attitude towards a proposed future Zabella extension in the single extension condition compared to the attitude towards the extension in the control group: Pairwise contrasts were performed between the attitude towards the proposed Zabella extension in the single extension condition and the attitude towards the proposed Zabella extension in the control group. The mean attitude towards the proposed Zabella extension in the single extension condition (Mean=6.61) was less favorable (Mean difference = 1.71, Std. Error = 0.547, \( p<0.01 \)) than the mean attitude towards the proposed Zabella extension in the control group (Mean=8.32). The mean attitude towards the proposed Zabella extension in the single extension condition and the control group (core brand condition) are graphically depicted in figure 8. Thus the failure of the Zabella extension that had already been introduced in the market resulted not only in a dilution of the Zabella brand name, but also in a dilution of the attitude towards a proposed future extension of Zabella.

Attitude towards a proposed future Zabella extension in the two extension averaging condition compared to the attitude towards the future Zabella extension in the single extension condition:

Pairwise contrasts were performed between the attitude towards the proposed Zabella extension in the two extension averaging condition and the attitude towards the proposed Zabella extension in the single extension condition. The mean attitude towards the proposed Zabella extension in the two extension averaging condition (Mean=7.03) was more favorable than the mean attitude towards the proposed Zabella extension in the single extension condition (Mean=6.61). The difference was however not significant
(Mean Difference = 0.42, Std. Error = 0.552, p > 0.8). The mean attitude towards the proposed Zabella extension in the two extension averaging condition and in the single extension condition are graphically depicted in figure 8.

**Attitude towards a proposed future Zabella extension in the two extension adding condition compared to the attitude towards the future Zabella extension in the single extension condition:** Pairwise contrasts were performed between the attitude towards the proposed Zabella extension in the two extension adding condition and the attitude towards the proposed Zabella extension in the single extension condition. The mean attitude towards the proposed Zabella extension in the two extension adding condition (Mean = 4.97) was less favorable (Mean difference = 1.64, Std. Error = 0.539, p < 0.01) than the mean attitude towards the proposed Zabella extension in the single extension condition (Mean = 6.61). The mean attitude towards the proposed Zabella extension in the two extension adding condition and in the single extension condition are depicted graphically in figure 8.

**Attitude towards a proposed future Zabella extension in the double extension adding condition compared to the attitude towards the future Zabella extension in the double extension averaging condition:** Pairwise contrasts were performed between the attitude towards the proposed Zabella extension in the two extension adding condition and the attitude towards the proposed Zabella extension in the two extension averaging condition. The mean attitude towards the proposed Zabella extension in the two extension adding condition (Mean = 4.97) was less favorable (Mean difference = 2.06, Std. Error = 0.544, p < 0.001) than the mean attitude towards the proposed Zabella extension in the
two extension averaging condition (Mean=7.03). The mean attitude towards the proposed Zabella extension in the two extension adding condition and in the two extension averaging condition are depicted graphically in figure 8.

Overall the pattern of variation in the attitude towards a future Zabella extension is similar to the pattern of variation in the attitude towards the Zabella brand name. The results suggest that Subjects' are likely to have anchored on the attitude towards the brand name in assessing their attitude towards a future extension. These results further support the validity of the anchoring and adjustment model in explaining brand dilution phenomena.

Step by Step (SBS) versus End of Sequence (EOS) processing of core brand and extension information: The results of experiment two offer support for our assumption (Equation 4 - 4) that information about both extensions are processed before integration with the core brand information. Equation 4 - 4 was written based on the assumption that consumers integrate extension information with the core brand at the end of the sequence of extension information (EOS) i.e. after processing information about both extensions. Based on the assumption of EOS the anchoring and adjustment model predicted that the attitude towards the core brand in the two extension adding condition would be less favorable than the attitude towards the core brand in the two extension averaging condition. However, if the processing of extension information of the two extensions had been on a SBS basis⁶, the anchoring and adjustment model predicts that the attitude

⁶ In the case of SBS processing, information about the first extension is integrated with the core brand followed by integration of information of the second extension with the core brand.
towards the core brand in the two extension adding condition would be more favorable than the attitude towards the core brand in the two extension averaging condition (the basis for this conclusion is discussed below). Our findings show that the attitude towards the core brand in the two extension adding condition was less favorable than the attitude towards the core brand in the two extension averaging condition. This suggests that the processing of extension information was EOS rather than SBS.

In the two extension adding and the two extension averaging conditions information about the first extension was presented by frequently comparing the performance of the extension with the performance of the core brand. The core brand was used as the reference point in the processing of information about the first extension. If we assume SBS processing of extension information in the two extension conditions, the attitude towards the core brand after processing information about the first extension in the two extension adding and the two extension averaging condition is represented by

\[ S_k = S_{k-1} + w_1 (S_e - S_{k-1}) \]

In the two extension adding condition the reference point used to process information about the second extension is competition, while in the two extension averaging condition the reference point used to process information about the second extension is the core brand. Thus in the two extension adding condition, the attitude towards the core brand after processing information about the second extension is represented by

\[ S_{\text{adding}} = S_k + w_{\text{adding}} (S_e - S_{\text{comp}}) \]
In the two extension averaging condition, the attitude towards the core brand after processing information about the second extension is represented by

\[ S_{\text{averaging}} = S_k + w_{\text{averaging}} (S_e - S_k) \]

Since the attitude towards the extension in the two extension adding condition and the two extension averaging condition are equivalent we have \((S_e - S_{\text{comp}}) = (S_e - S_k)\). The results of the first experiment suggest that the weight given to extension information in the averaging condition is higher than the weight given to extension information in adding condition. Thus \(w_{\text{averaging}}\) should be greater than \(w_{\text{adding}}\). This would imply that \(S_{\text{averaging}}\) will be less than \(S_{\text{adding}}\) i.e. the attitude towards the core brand in the two extension averaging condition will be less favorable than the attitude towards the core brand in the two extension adding condition. Since we found the attitude towards the core brand in the two extension averaging condition to be more favorable than the attitude towards the core brand in the two extension adding condition, we could infer that the processing of extension information was not SBS but rather was EOS as originally assumed in the design of the experiment.
<table>
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<th>Single Extension</th>
<th>Two Extensions</th>
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<td>Adding</td>
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<td>Attitudinal Measures</td>
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<td>Attitude Towards a Future Extension</td>
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<td>6.61</td>
<td>4.97</td>
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</tbody>
</table>

Table 3: Cell Means for Attitudinal Measures

Discussion

Overall the findings are supportive of the proposed hypotheses. Evidence of adding and averaging processes in the integration of core brand and extension information as predicted by the anchoring and adjustment model were obtained. The results of this study -- offers further support for and adds substantially to the findings from our first experiment, offers evidence in support of the anchoring and adjustment model proposed to explain brand dilution, and builds on past research to further our understanding of the brand dilution process.
The findings from the first experiment offered evidence supporting the effects of extension presentation format on core brand evaluations, the existence of core brand dilution caused by the failures of extensions in the marketplace, and the use of an anchoring and adjustment model to explain the process of brand dilution. The results of the second experiment offer additional support and go beyond the findings of the first experiment.

First, the results of the first and the second experiments reveal different ways by which extension presentation format may affect the evaluation of the core brand. The results obtained in the first experiment suggest that for low fit extensions changing the extension presentation format changes the weight given to extension information, while the results obtained in the second experiment suggest that changing the extension presentation format changes the form of integration of core brand and extension information. The results obtained in the first experiment had indicated that presenting extension information in comparison to the core brand would result in more weight given to extension information than presenting extension information in comparison to competition, at least for low fit extensions. The higher weight given to extension information when extension information was compared to the core brand than when extension information was compared to competition resulted in higher levels of core brand dilution. The results obtained in this experiment reveal that presenting extension information in comparison to the core brand results in evaluations of the core brand and potential future extensions that are consistent with an averaging form of integration of core brand and extension information. Presenting extension information in comparison to
competition results in evaluations of the core brand and potential future extensions that are consistent with adding form of integration of core brand and extension information. For the PNN extension scenario (positive - negative - negative) scenario, averaging core brand and extension information resulted in an attitude towards the core brand that was more favorable than that obtained by adding core brand and extension information.

Second, the results of the second experiment offers stronger evidence than that obtained in the first experiment, to support the existence of core brand dilution due to the failure of extensions in the marketplace. In the first experiment the existence of core brand dilution caused by the failure of the extensions in the market could be inferred since the attitude towards the core brand was more unfavorable when an extension that was a failure in the market was compared to the core brand than when the extension was compared to competition. In the second experiment, there was a more direct measure of brand dilution caused by the failure of the extension in the market, namely the comparison of the attitudes towards the core brand in the core brand condition and the single extension condition. In the core brand condition subjects were provided information on the core brand alone, while in the single extension condition subjects were provided information about a core brand and a single extension that had failed in the market. The attitude towards the core brand was more unfavorable in the single extension condition than the attitude towards the core brand in the core brand condition. Since the only difference between the core brand condition and the single extension condition was the provision of information about the extension that had failed in the market, the decrease in
the favorability of attitude towards the core brand in the single extension condition in comparison to the core brand condition could be directly attributed to the failure of the extension in the marketplace.

Third, the results obtained in the first experiment and the second experiment taken together offer strong support for the use of the anchoring and adjustment model in explaining the brand dilution process. In the first experiment the anchoring and adjustment model was used to suggest that changing the extension presentation format would result in changes in the weight given to extension information. As predicted by the anchoring and adjustment model, changes in the extension presentation format did change the weight given to extension information. In the second experiment, the anchoring and adjustment model was used to predict the existence of adding and averaging forms of information integration and to identify the conditions under which adding and averaging forms of information integration would occur. The results obtained in the second experiment support the existence of adding and averaging forms of information integration under the conditions identified by the anchoring and adjustment model. As predicted by the anchoring and adjustment model, presentation of extension information in comparison to the core brand resulted in averaging forms of information integration, and presentation of extension information in comparison to competition resulted in adding forms of information integration.

The validation of the anchoring and adjustment models suggests that it may be a useful tool, to help brand managers understand the effects of an extension on the brand name. Our research on anchoring and adjustment in the brand dilution context suggests
that the effect of an extension on the core brand is a function of the weight given to extension information, and of the reference point used in encoding extension information. We have identified the format of presentation of extension information as one of the factors that affects the weight given to extension information and the manner in which extension information is encoded. Thus given an understanding of how extension information has been presented, a brand manager should be able to assess the effect of the presentation on the weight given to extension information and on the reference point that may be used to encode extension information. The ability to assess the weight given to extension information and the reference point used in encoding should help the brand manager identify the nature of extension effects on core brand evaluation. In the case of a single extension, when the weight given to extension information is high, the effect of the success/failure of the extension on the core brand is higher than when the weight given to extension information is low. Similarly when the reference point used in encoding extension information is processed based on expectations raised by the core brand, the impact of the success/failure of the extension on the core brand is likely to be higher than when extension information is processed based on expectations raised by non core brand information.
CHAPTER 5

SUMMARY & CONCLUSIONS

In this dissertation we started with an area that has received relatively little attention from marketing researchers: namely the effect of extension failures in the market on brand equity. Empirically this is an important issue since a large number of extensions fail in the market (ANA 1984). The failure of such a large number of brand extensions raised a number of questions that needed to be addressed. First was whether the failure of a brand extension would adversely affect the core brand. Second was to identify the process by which an extension failure would affect the core brand. Third was to identify the factors that would have an impact on the level of damage caused by a failed extension on the core brand.

Our Research Approach

To address these questions we used a theory driven approach. The theory was formulated based on a review of research in a number of different areas, namely research on brand extensions, information integration, belief updating, and consumer judgment and information processing. The theory proposed was tested in two phases. In the first phase we advanced existing research on brand extension effects on the core brand by using the
theory to explain the effects of an additional factor not considered in prior research namely extension presentation format. In the second phase stronger tests of the proposed theory were carried out, by experimentally testing the predictions of the theory with regard to the nature of the information integration of core brand and extension information.

The anchoring and adjustment model of core brand dilution

The anchoring and adjustment model shows that consumers' attitude towards a core brand after receipt of information about an unsuccessful extension is based on a process of anchoring on the prior opinion of the core brand, and adjustment based on information about the extension. The adjustment of the prior opinion of the core brand is a function of the weight given to extension information, and the nature of the reference point against which information about the extension is encoded.

*Effects of Extension Presentation Format:*

The process of core brand dilution is affected by the format in which extension information is presented. When fit between core brand and extension is low, the weight that consumers give to extension information varies depending on the format in which information about the extension is presented. Presenting information about the extension in a manner that emphasizes the link between the core brand and the unsuccessful extension results in the extension information receiving more weight, than emphasizing a comparison of extension performance to competition. In turn the difference in the weight
given to extension information results in a more unfavorable attitude towards the core brand when the extension - core brand link is emphasized than when the performance of the extension is compared to competition. When fit between extension and core brand is high, changing the format of presentation of extension information does not change the weight consumers give to extension information, and therefore has no effect on their attitude towards the core brand.

*Adding and averaging of core brand and extension information:*

In addition to suggesting that changes in extension presentation format affect the attitude towards the core brand by affecting the weight given to extension information, the anchoring and adjustment model also shows that changes in extension presentation format changes the reference point used in encoding extension information. When information about the extension is presented in a manner that emphasizes the link between the core brand and the extension, the core brand is used as a reference point in encoding extension information. The use of the core brand as a reference point in encoding extension information results in the integration of core brand and extension information following an averaging process. When information about the extension is presented in a manner that compares the extension to competition, non core brand information namely competition is used as a reference point in encoding extension information. The use of competition as a reference point in encoding extension information results in the integration of core brand and extension information following an adding process.
Theoretical Contributions

Our research makes theoretical contributions in terms of building on past research, parsimoniously explaining the predictions of the typicality and bookkeeping models, identifying the criticality of the reference point used in encoding extension information to understanding the core brand dilution process, and proposing a general model of core brand dilution that can incorporate the effects of a number of different variables on core brand dilution.

First, this dissertation builds on prior research on core brand dilution. Prior research on the effect of brand extensions on the core brand (Romeo 1991, Keller and Aaker 1992, Loken and John 1993) had suggested that the strength of the core brand and the fit between the core brand and the extension were the main factors affecting the process of core brand dilution. Our research builds on prior research by showing the importance of another factor - extension presentation format. In addition we use the anchoring and adjustment model to explain the effects of extension presentation format on core brand dilution.

Second, the anchoring and adjustment model proposed in our research explains parsimoniously the predictions of the bookkeeping and typicality models. The bookkeeping model which is applicable when the typicality of the extension is not salient, predicts that moderate and high levels of inconsistency between the attributes of the core brand and the extension i.e. the introduction of moderately typical and atypical extensions will result in core brand dilution. The typicality model which is applicable when the typicality of the extension is salient, predicts that moderate levels of inconsistency between
the attributes of the core brand and the extension i.e. the introduction of moderately
typical extensions will result in core brand dilution. However the introduction of atypical
extensions will not result in core brand dilution.

The anchoring and adjustment model suggests that when the typicality of the
extension is not salient, differences in the typicality of extension information will not affect
the weight given to extension information. Thus both moderately typical extensions and
atypical extensions will result in core brand dilution. The core brand is however used as a
reference point in encoding extension information, resulting in an averaging process of
integration of core brand and extension information. The bookkeeping model therefore
makes predictions similar to the averaging model of anchoring and adjustment with the
weight given to extension information unaffected by typicality.

The typicality model which is applicable when the typicality of the extension is
salient predicts that core brand dilution will occur for moderately typical extensions, but
not for atypical extensions. The anchoring and adjustment model suggests that when the
typicality of the extension is salient, core brand information is likely to be used as a
reference point in encoding extension information, resulting in an averaging process of
integration of core brand and extension information. In addition when evaluating the core
brand moderately typical extensions will receive greater weight than atypical extensions.
Thus when the typicality of the extension is salient, the anchoring and adjustment model
also predicts that core brand dilution will occur for moderately typical extensions, but not
for atypical extensions.
The typicality model therefore makes predictions similar to the averaging model of anchoring and adjustment with the weight given to extension information depending on the typicality of the extension.

Thus both the typicality and the bookkeeping models are special cases of the anchoring and adjustment model. The bookkeeping model is well represented by an averaging model of anchoring and adjustment with the weight given to extension information independent of the typicality of the extension, and the typicality model is represented well by an averaging model of anchoring and adjustment with the weight given to extension information dependent on the typicality of the extension.

Third, our research demonstrates the criticality of the need to identify the reference point used in encoding extension information in order to gain a better understanding of the process of core brand dilution. Our research shows that when the reference point used in encoding extension information is based on the core brand, the integration of core brand and extension information follows an averaging process. When the reference point used in encoding extension information is based on non core brand information, the integration of core brand and extension information follows an adding process.

Fourth, the structure of the anchoring and adjustment model proposed is general in nature and can therefore be used to understand the effect of variables that we have not examined in our research. The model suggests that core brand dilution is a function of the weight given to extension information, and the reference point used in encoding extension information. To understand the effect of any variable on the core brand dilution process, we need to understand the effect of that variable on the weight given to extension information.
information, and on the reference point used in encoding extension information. For example let us consider the case of consumers who possess prior knowledge about the core brand. Consumer with high prior knowledge about the core brand are more likely to use the core brand as a reference point in encoding extension information than consumers with low prior knowledge about the core brand. This would suggest that high knowledge consumers are more likely to follow an averaging process of information integration, than low knowledge consumers. The generality of the anchoring and adjustment model is therefore an important contribution since it enables us to a priori hypothesize and subsequently study the effects of variables not considered in this research, on the core brand dilution process.

Contributions to Practice

Our research contributes to practice in four different ways. First, this research shows that dilution can occur when extensions fail in the market. This suggests that brand managers should track the effect of extension failures on the core brand, in order to understand the effects of extension failures on core brand equity.

Second, brand managers will have an a priori understanding of how providing information about an extension in different ways can have different effects on the attitude towards the core brand. For low fit unsuccessful extensions, introducing the extension by emphasizing the link between the extension and the core brand hurt the core brand image more than introducing the extension by comparing it to competition. For high fit extensions that are unsuccessful, changing the manner in which the extension was
presented did not have a significant impact on the damage to the core brand. since the
damage to the core brand does not vary, brand managers have greater latitude in terms of
how they present extension information when introducing high fit extensions than when
introducing low fit extensions.

Third, the anchoring and adjustment model by identifying core brand dilution to be
a function of the weight given to extension information and the reference point used in
extension encoding helps the brand manager identify the questions that need to be asked in
order to understand the potential damaging effects of extension failures on the core brand
- How will my consumer encode extension information? What is the reference point that
the consumer will use in evaluating the extension? In evaluating the core brand what is the
weight that consumers will give to extension information? What are the factors that affect
the weight given to extension information? and What leverage do I have over the factors
that affect the weight given to extension information?

Fourth, the evidence with regard to adding and averaging forms of information
integration suggests that in order to minimize core brand dilution, managers need to keep
in mind that in many situations it will not suffice for the brand extension to be better than
competition in the extension category. It is equally important that the brand extension
meet the expectations raised by the use of the core brand name.

Future Research

We have in our research proposed and tested a theoretical model of core brand
dilution. This represents only the first step in our understanding of the process of core
brand dilution. Related to the issue of core brand dilution, there is a need for further research in expanding our theoretical understanding of core brand dilution, applying the theory to real life empirical data, and applying the theory to the study of the effects of successful extensions on the core brand.

In our research we applied and tested the anchoring and adjustment model by examining only the impact of extension presentation format and typicality on the process of core brand dilution. To further our theoretical understanding of core brand dilution, future research could potentially examine the impact of other variables on core brand dilution such as prior knowledge, involvement, and the structure of competition. We discuss next the potential impact on core brand dilution of two variables - prior knowledge and competition structure. While the discussion is speculative, it nevertheless offers an indication of future research possibilities.

Prior research shows that people possessing prior knowledge about a subject are likely to elaborate more on information about the subject than subjects possessing low prior knowledge about the subject (Petty and Cacioppo 1991). Similarly consumers with prior knowledge about the core brand are likely to elaborate more on the brand extension than subjects with low prior knowledge about the core brand. In turn the higher level of elaboration of high knowledge consumers is likely to result in high knowledge consumers giving more weight to extension information than low knowledge consumers. Due to the greater salience of core brand information, high knowledge consumers are also more likely to use the core brand in encoding extension information than low knowledge consumers. The anchoring and adjustment model predicts that the use of the core brand in encoding
extension information is likely to result in high knowledge consumers following an averaging model of information integration of core brand and extension information, while low knowledge consumers who are unlikely to use the core brand in encoding extension information, should follow an adding model of information integration. Future research could test the predictions of the anchoring and adjustment model regarding the differing forms of information integration that high knowledge and low knowledge are likely to use in evaluating the core brand.

The structure of competition in the core brand and the extension product categories is another variable that could affect the weight given to extension information, and thus affect the core brand dilution process. When the competing brand is the same for the core brand in the core brand product category and in the extension product category, the performance of the extension may be more critical to the image of the core brand, than when the competing brands in the core brand and the extension categories are different. This may result in extension information receiving greater weight when the competing brand in the core brand and the extension category are the same than when the competing brand in the core brand and the extension category are different. Thus when the extension fails in the market, the anchoring and adjustment model predicts that the greater weight given to extension information may result in higher levels of core brand dilution when the competing brand in the core brand and the extension category is different. Future research could test the predictions of the anchoring and adjustment model regarding the effects of competition structure on the level of core brand dilution.
In the marketplace a large number of extensions are introduced every year and many of them fail. Testing the anchoring and adjustment model with data on real brand extensions that have failed in the market would help the marketing practitioner obtain useful information on effect size and thus represent an important step towards enhancing the application and the use of the model.

Our research has focused on the effect of extension failures on the core brand. However a large number of extensions also succeed in the marketplace and it is important to identify the benefits that a successful extension is likely to provide for the core brand. Applying the anchoring and adjustment model to successful extensions would suggest that the benefits to the core brand of a successful extension is likely to be a function of the weight given to extension information and the reference point used in encoding extension information. Future research could examine the applicability of the anchoring and adjustment model to explaining the effects of successful extensions on the core brand.

In our research we have limited ourselves to examining the dilution of core brand equity in terms of a decrease in the favorability of the consumer’s attitude towards the core brand. Other research has examined the effect of extension failures on institutions such as the stock market (Lane and Jacobson 1995). Future research could overcome the limitations of our research by examining the effect of extension failures on other constituencies that have a stake in the performance of the extension namely - distributors, retailers, suppliers, shareholders, and internal company personnel.
APPENDIX A

INFORMATION PROVIDED TO SUBJECTS IN THE HIGH FIT COMPETITION CONDITION IN EXPERIMENT ONE OF CHAPTER III

Zabella’s Frozen foods

In 1963 as he neared the pivotal age of forty, Clarence Zabella of Madrid, Spain, looked back over his varied career as a field naturalist, fur trader, purchasing agent, fisheries investigator, and holder of several “in-between” jobs and asked himself if there was anything, in that curious mixture of experience, that could be turned into a substantial commercial success.

He concluded that he had been exposed to a major opportunity nearly a decade earlier and had passed it by. During the arctic winters in Labrador, as a fur trader, he had watched the Eskimos spread their freshly caught fish on the snow, in temperatures of thirty to fifty degrees below zero, Fahrenheit, and had noted that, months later, when one of those fish was thawed and cooked, it tasted like one freshly caught. And he watched the Eskimos achieve the same results with freshly-killed caribou and geese.

The secret of the Eskimo success, Zabella concluded, was all in the speed of the freezing. In his Labrador years, along with the quick frozen foods, he had tasted the less satisfactory results of the more gradual freezing of fish and game at higher than sub-zero temperatures.

Clarence Zabella was confident he could make the super fast freezing of foods work on a practical basis, confident enough to borrow on his life insurance and begin formal production and sales. In the initial stages the products were marketed in a small geographical area around Madrid. The market responses to the products were good, and within a year Zabella began to market nationwide in Spain.

The two major products introduced by Zabella were Zabella frozen Salmon, and Zabella frozen Chicken. Zabella Frozen Salmon had around 10% market share, while Zabella Frozen chicken had around 5% market share in their respective categories. Both
products had freshlike flavor and taste. The Salmon were frozen fresh and within fifteen minutes after they were caught in the Arctic Tundra. The Salmon were somewhat juicy to taste and not difficult to cook.

Zabella's frozen chicken was procured from Southern Spain, and like the Salmon the chicken were frozen within 15 minutes after they were cut. The chickens were tender and had a fresh taste. Also since the chickens were grown in neat surroundings, given good quality feed, and in general taken care of very well, the taste of Zabella frozen chicken was better than some of the other brands available in the market.

Overall Zabella's products were rated well in terms of their freshness, juiciness, taste, and ease of cooking. In the mid 1980's the total frozen food market in Spain had already reached 900 million U.S. dollars annually, and Zabella was selling around 70 million dollars of frozen food for a market share of close to 7%. By the late 1990's the frozen food market in Spain was expected to grow to over 2 billion dollars annually and Zabella expected to continue maintaining their market share. While Zabella was not the leading brand in the market, it was a highly respected contender known for it's innovativeness and high quality products. As any reasonable business would, Zabella was constantly researching new product ideas, with the hope of expanding both their market and market share.

Recent News

The following outlines the performance of a new product currently marketed by Zabella in Spain.

Zabella's managers watched as its main competitor Ramirez introduced Ramirez frozen shrimp into the market. Within a few months Ramirez frozen shrimp became an outstanding success and was in great demand by consumers all over Spain and in Europe. Observing the great success of Ramirez Zabella also decided to introduce frozen shrimp in the market before it became too late. The company wanted to prevent Ramirez from totally dominating the market for frozen shrimp and hoped that the consumer was open enough to consider buying other brands of frozen shrimp.

Things began to go wrong within a few months after launch. While a large number of customers tried the Zabella Frozen Shrimp most of them were dissatisfied with the product in comparison to Ramirez frozen shrimp. Some customers complained that while Ramirez frozen shrimp tasted good, Zabella frozen shrimp had a stale taste. Others believed that Zabella used preservatives in their frozen shrimp, and Ramirez did not. In the case of Ramirez frozen shrimp, the fresh-like flavor was retained, but for some reason the freshness of the Zabella shrimp was not.

It was not clear why, the quick freezing process which was so successfully used by Ramirez for their frozen shrimp, did not work in the case of the Zabella frozen shrimp.
One possible reason may have been, the quality of the shrimp that Zabella was buying from suppliers may not have been as high as expected, since most of the fishermen who supplied Zabella fished close to the coast, where the waters were more polluted. The fishermen who supplied Ramirez on the other hand, fished further away from the coast, where the waters were deep blue and not polluted. This and other processing differences between Ramirez and Zabella might have also made the shrimp lose tenderness when thawed.
APPENDIX B

INFORMATION PROVIDED TO SUBJECTS IN THE HIGH FIT CORE BRAND CONDITION IN EXPERIMENT ONE OF CHAPTER III

Zabella’s Frozen foods

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Clarence Zabella was confident he could make the super fast freezing of foods work on a practical basis, confident enough to borrow on his life insurance and begin formal production and sales. In the initial stages the products were marketed in a small geographical area around Madrid. The market responses to the products were good, and within a year Zabella began to market nationwide in Spain.

The two major products introduced by Zabella were Zabella frozen Salmon, and Zabella frozen Chicken. Zabella Frozen Salmon had around 10% market share, while Zabella Frozen chicken had around 5% market share in their respective categories. Both
products had freshlike flavor and taste. The Salmon were frozen fresh and within fifteen minutes after they were caught in the Arctic Tundra. The Salmon were somewhat juicy to taste and not difficult to cook.

Zabella frozen chicken was procured from Southern Spain, and like the Salmon the chicken were frozen within 15 minutes after they were cut. The chickens were tender and had a fresh taste. Also since the chickens were grown in neat surroundings, given good quality feed, and in general taken care of very well, the taste of Zabella frozen chicken was better than some of the other brands available in the market.

Overall Zabella’s products were rated well in terms of their freshness, juiciness, taste, and ease of cooking. In the mid 1980’s the total frozen food market in Spain had already reached 900 million U.S. dollars annually, and Zabella was selling around 70 million dollars of frozen food for a market share of close to 7%. By the late 1990’s the frozen food market in Spain was expected to grow to over 2 billion dollars annually and Zabella expected to continue maintaining their market share. While Zabella was not the leading brand in the market, it was a highly respected contender known for it’s innovativeness and high quality products. As any reasonable business would, Zabella was constantly researching new product ideas, with the hope of expanding both their market and market share.

Recent News

The following outlines the performance of a new product currently marketed by Zabella in Spain.

Craig Smith, the chief of R&D at Zabella was attempting to develop new uses for the frozen food technology that had been so successfully applied to Salmon and Chicken. As Mr. Smith carried out his research, he concluded that he could use the same frozen food technology to freeze Shrimp. Based on the results obtained by Mr. Smith, and Zabella’s well established reputation for frozen food, the company decided to launch the new product in Europe under the brand name Zabella Frozen Shrimp. The company hoped that the brand name Zabella, and the use of the same frozen food technology that had been used for the other products would strongly position Zabella’s Frozen Shrimp in the consumer’s mind and result in a successful launch.

Things began to go wrong within a few months after launch. While a large number of customers tried the Zabella Frozen Shrimp most of them were dissatisfied with the product. Some customers complained that the shrimp had a stale taste unlike the other Zabella products. Others believed preservatives had been used in the frozen shrimp, even though they did not believe that preservatives had been used in the salmon, and the
chicken. In the case of the company’s other products namely - the chicken and the salmon, the fresh-like flavor was retained, but the freshness of the shrimp was not.

It was not clear why, the quick freezing process which was so successfully used in the case of salmon and chicken, did not work in the case of the shrimp. One possible reason may have been, the quality of the shrimp that Zabella was buying from suppliers may not have been as high as expected, since most of the fishermen who supplied Zabella fished close to the coast, where the waters were more polluted. The salmon and the chicken were however obtained from other suppliers, who made sure the quality of the product was good. This and other processing differences between the shrimp, and the other Zabella products may have also made the shrimp lose tenderness when thawed.
APPENDIX C

INFORMATION PROVIDED TO SUBJECTS IN THE LOW FIT COMPETITION CONDITION IN EXPERIMENT ONE OF CHAPTER III

Zabella's Frozen foods

In 1963 as he neared the pivotal age of forty, Clarence Zabella of Madrid, Spain, looked back over his varied carrier as a field naturalist, fur trader, purchasing agent, fisheries investigator, and holder of several "in-between" jobs and asked himself if there was anything, in that curious mixture of experience, that could be turned into a substantial commercial success.

He concluded that he had been exposed to a major opportunity nearly a decade earlier and had passed it by. During the arctic winters in Labrador, as a fur trader, he had watched the Eskimos spread their freshly caught fish on the snow, in temperatures of thirty to fifty degrees below zero, Fahrenheit, and had noted that, months later, when one of those fish was thawed and cooked, it tasted like one freshly caught. And he watched the Eskimos achieve the same results with freshly-killed caribou and geese.

The secret of the Eskimo success, Zabella concluded, was all in the speed of the freezing. In his Labrador years, along with the quick frozen foods, he had tasted the less satisfactory results of the more gradual freezing of fish and game at higher than sub-zero temperatures.

Clarence Zabella was confident he could make the super fast freezing of foods work on a practical basis, confident enough to borrow on his life insurance and begin formal production and sales. In the initial stages the products were marketed in a small geographical area around Madrid. The market responses to the products were good, and within a year Zabella began to market nationwide in Spain.

The two major products introduced by Zabella were Zabella frozen Salmon, and Zabella frozen Chicken. Zabella Frozen Salmon had around 10% market share, while Zabella Frozen chicken had around 5% market share in their respective categories. Both
products had freshlike flavor and taste. The Salmon were frozen fresh and within fifteen minutes after they were caught in the Arctic Tundra. The Salmon were somewhat juicy to taste and not difficult to cook.

Zabella frozen chicken was procured from Southern Spain, and like the Salmon the chicken were frozen within 15 minutes after they were cut. The chickens were tender and had a fresh taste. Also since the chickens were grown in neat surroundings, given good quality feed, and in general taken care of very well, the taste of Zabella frozen chicken was better than some of the other brands available in the market.

Overall Zabella’s products were rated well in terms of their freshness, juiciness, taste, and ease of cooking. In the mid 1980’s the total frozen food market in Spain had already reached 900 million U.S. dollars annually, and Zabella was selling around 70 million dollars of frozen food for a market share of close to 7%. By the late 1990’s the frozen food market in Spain was expected to grow to over 2 billion dollars annually and Zabella expected to continue maintaining their market share. While Zabella was not the leading brand in the market, it was a highly respected contender known for it’s innovativeness and high quality products. As any reasonable business would, Zabella was constantly researching new product ideas, with the hope of expanding both their market and market share.

Recent News

The following outlines the performance of a new product currently marketed by Zabella in Spain.

Zabella’s managers watched as the leading manufacturer of canned vegetable soup; Ramirez introduced Ramirez soup into the market. Within a few months Ramirez soup became an outstanding success and was in great demand by consumers all over Spain and in Europe. Observing the great success of Ramirez, Zabella also decided to introduce canned vegetable soup in the market before it became too late. The company wanted to prevent Ramirez from totally dominating the market for canned vegetable soup and hoped that the consumer was open enough to consider buying other brands of soup.

Things began to go wrong within a few months after launch. While a large number of customers tried the Zabella canned soup most of them were dissatisfied with the product in comparison to Ramirez soup. Some customers complained that while Ramirez soup tasted good, Zabella soup had a stale taste. Others believed that Zabella used a lot of preservatives in their soup, and Ramirez did not. In the case of Ramirez soup, the freshlike flavor of the vegetables was retained, but for some reason the vegetables in the Zabella soup seemed stale.
It was not clear why, the quick deoxidizing process which was so successfully used by Ramirez for their soup, did not work in the case of the Zabella soup. One possible reason may have been, the quality of the vegetables that Zabella was buying from suppliers may not have been as high as expected, since most of the farmers who supplied Zabella grew their produce close to the coast, where the waters were more polluted. The farmers who supplied Ramirez on the other hand, grew their produce further away from the coast, where the waters were not polluted, and the land was more fertile. This and other processing differences between Ramirez and Zabella may have also made the Zabella vegetables lose tenderness, when subject to deoxidization.
APPENDIX D

INFORMATION PROVIDED TO SUBJECTS IN THE LOW FIT CORE BRAND CONDITION IN EXPERIMENT ONE OF CHAPTER III

Zabella’s Frozen foods

In 1963 as he neared the pivotal age of forty, Clarence Zabella of Madrid, Spain, looked back over his varied carrier as a field naturalist, fur trader, purchasing agent, fisheries investigator, and holder of several “in-between” jobs and asked himself if there was anything, in that curious mixture of experience, that could be turned into a substantial commercial success.

He concluded that he had been exposed to a major opportunity nearly a decade earlier and had passed it by. During the arctic winters in Labrador, as a fur trader, he had watched the Eskimos spread their freshly caught fish on the snow, in temperatures of thirty to fifty degrees below zero, Fahrenheit, and had noted that, months later, when one of those fish was thawed and cooked, it tasted like one freshly caught. And he watched the Eskimos achieve the same results with freshly-killed caribou and geese.

The secret of the Eskimo success, Zabella concluded, was all in the speed of the freezing. In his Labrador years, along with the quick frozen foods, he had tasted the less satisfactory results of the more gradual freezing of fish and game at higher than sub-zero temperatures.

Clarence Zabella was confident he could make the super fast freezing of foods work on a practical basis, confident enough to borrow on his life insurance and begin formal production and sales. In the initial stages the products were marketed in a small geographical area around Madrid. The market responses to the products were good, and within a year Zabella began to market nationwide in Spain.

The two major products introduced by Zabella were Zabella frozen Salmon, and Zabella frozen Chicken. Zabella Frozen Salmon had around 10% market share, while Zabella Frozen chicken had around 5% market share in their respective categories. Both
products had freshlike flavor and taste. The Salmon were frozen fresh and within fifteen minutes after they were caught in the Arctic Tundra. The Salmon were somewhat juicy to taste and not difficult to cook.

Zabella frozen chicken was procured from Southern Spain, and like the Salmon the chicken were frozen within 15 minutes after they were cut. The chickens were tender and had a fresh taste. Also since the chickens were grown in neat surroundings, given good quality feed, and in general taken care of very well, the taste of Zabella frozen chicken was better than some of the other brands available in the market.

Overall Zabella’s products were rated well in terms of their freshness, juiciness, taste, and ease of cooking. In the mid 1980’s the total frozen food market in Spain had already reached 900 million U.S. dollars annually, and Zabella was selling around 70 million dollars of frozen food for a market share of close to 7%. By the late 1990’s the frozen food market in Spain was expected to grow to over 2 billion dollars annually and Zabella expected to continue maintaining their market share. While Zabella was not the leading brand in the market, it was a highly respected contender known for it’s innovativeness and high quality products. As any reasonable business would, Zabella was constantly researching new product ideas, with the hope of expanding both their market and market share.

Recent News

The following outlines the performance of a new product currently marketed by Zabella in Spain.

Craig Smith, the chief of R&D at Zabella was attempting to develop new uses for the technology that had been so successfully applied to Salmon and Chicken. As Mr. Smith carried out his research, he concluded that he could use some of the same frozen food technology to deoxidize vegetables which could then be used to make canned vegetable soup. Based on the results obtained by Mr. Smith, and Zabella’s well established reputation, the company decided to launch the new product in Europe under the brand name Zabella vegetable soup. The company hoped that the brand name Zabella, would strongly position Zabella’s canned vegetable soup in the consumer’s mind and result in a successful launch.

Things began to go wrong within a few months after launch. While a large number of customers tried the Zabella soup most of them were dissatisfied with the product. Some customers complained that the soup had a stale taste unlike the other Zabella products. Others believed large quantities of preservatives had been used in the canned soup, even though they did not believe that preservatives had been used in the salmon, and the
chicken. In the case of the company's other products namely - the chicken and the salmon, the fresh-like flavor was retained, but for some reason the freshness of the vegetables and the soup was not.

It was not clear why, the technology which was so successfully used in the case of salmon and chicken, did not work in the case of the vegetable soup. One possible reason may have been, the quality of the vegetables that Zabella was buying from suppliers may not have been as high as expected, since most of the farmers who supplied Zabella grew their produce close to the coast, where the water was more salty and polluted. The salmon and the chicken were however obtained from other suppliers, who made sure the quality of the product was good. This and other processing differences between the canned vegetable soup, and the other Zabella products may have also made the Zabella vegetables lose tenderness, when subject to the same technology.
APPENDIX E

INFORMATION PROVIDED TO SUBJECTS IN THE CORE BRAND CONDITION IN EXPERIMENT TWO OF CHAPTER IV

**Zabella's Frozen foods**

In 1963 as he neared the pivotal age of forty, Clarence Zabella of Madrid, Spain, looked back over his varied carrier as a field naturalist, fur trader, purchasing agent, fisheries investigator, and holder of several “in-between” jobs and asked himself if there was anything, in that curious mixture of experience, that could be turned into a substantial commercial success.

He concluded that he had been exposed to a major opportunity nearly a decade earlier and had passed it by. During the arctic winters in Labrador, as a fur trader, he had watched the Eskimos spread their freshly caught fish on the snow, in temperatures of thirty to fifty degrees below zero, Fahrenheit, and had noted that, months later, when one of those fish was thawed and cooked, it tasted like one freshly caught. And he watched the Eskimos achieve the same results with freshly-killed caribou and geese.

The secret of the Eskimo success, Zabella concluded, was all in the speed of the freezing. In his Labrador years, along with the quick frozen foods, he had tasted the less satisfactory results of the more gradual freezing of fish and game at higher than sub-zero temperatures.

Clarence Zabella was confident he could make the super fast freezing of foods work on a practical basis, confident enough to borrow on his life insurance and begin formal production and sales. In the initial stages the products were marketed in a small geographical area around Madrid. The market responses to the products were good, and within a year Zabella began to market nationwide in Spain.

The two major products introduced by Zabella were Zabella frozen Salmon, and Zabella frozen Pineapple. Zabella Frozen Salmon had around 10% market share, while Zabella Frozen pineapple had around 5% market share in their respective categories. Both
products had freshlike flavor and taste. The Salmon were frozen fresh and within fifteen minutes after they were caught in the Arctic Tundra. The Salmon were somewhat juicy to taste and not difficult to cook.

Zabella frozen Pineapple was procured from South America and like the Salmon the pineapple slices were frozen within 15 minutes after they were cut. The pineapples were moderately juicy and sweet to taste. Also since the original pineapples were not allowed to grow too large in size the taste of Zabella frozen pineapples was better than some of the other brands available in the market.

Overall Zabella’s products were rated well in terms of their freshness, juiciness, and ease of cooking. In the mid 1980’s the total frozen food market in Spain had already reached 900 million U.S. dollars annually, and Zabella was selling around 70 million dollars of frozen food for a market share of close to 7%. By the late 1990’s the frozen food market in Spain was expected to grow to over 2 billion dollars annually and Zabella expected to continue maintaining their market share. While Zabella was not the leading brand in the market, it was a highly respected contender known for it’s innovativeness and high quality products. As any reasonable business would, Zabella was constantly researching new product ideas, with the hope of expanding both their market and market share.
APPENDIX F

INFORMATION PROVIDED TO SUBJECTS IN THE SINGLE EXTENSION CONDITION IN EXPERIMENT TWO OF CHAPTER IV

Zabella’s Frozen foods

In 1963 as he neared the pivotal age of forty, Clarence Zabella of Madrid, Spain, looked back over his varied carrier as a field naturalist, fur trader, purchasing agent, fisheries investigator, and holder of several “in-between” jobs and asked himself if there was anything, in that curious mixture of experience, that could be turned into a substantial commercial success.

He concluded that he had been exposed to a major opportunity nearly a decade earlier and had passed it by. During the arctic winters in Labrador, as a fur trader, he had watched the Eskimos spread their freshly caught fish on the snow, in temperatures of thirty to fifty degrees below zero, Fahrenheit, and had noted that, months later, when one of those fish was thawed and cooked, it tasted like one freshly caught. And he watched the Eskimos achieve the same results with freshly-killed caribou and geese.

The secret of the Eskimo success, Zabella concluded, was all in the speed of the freezing. In his Labrador years, along with the quick frozen foods, he had tasted the less satisfactory results of the more gradual freezing of fish and game at higher than sub-zero temperatures.

Clarence Zabella was confident he could make the super fast freezing of foods work on a practical basis, confident enough to borrow on his life insurance and begin formal production and sales. In the initial stages the products were marketed in a small geographical area around Madrid. The market responses to the products were good, and within a year Zabella began to market nationwide in Spain.

The two major products introduced by Zabella were Zabella frozen Salmon, and Zabella frozen Pineapple. Zabella Frozen Salmon had around 10% market share, while Zabella Frozen pineapple had around 5% market share in their respective categories. Both
products had freshlike flavor and taste. The Salmon were frozen fresh and within fifteen minutes after they were caught in the Arctic Tundra. The Salmon were somewhat juicy to taste and not difficult to cook.

Zabella frozen Pineapple was procured from South America and like the Salmon the pineapple slices were frozen within 15 minutes after they were cut. The pineapples were moderately juicy and sweet to taste. Also since the original pineapples were not allowed to grow too large in size the taste of Zabella frozen pineapples was better than some of the other brands available in the market.

Overall Zabella’s products were rated well in terms of their freshness, juiciness, and ease of cooking. In the mid 1980’s the total frozen food market in Spain had already reached 900 million U.S. dollars annually, and Zabella was selling around 70 million dollars of frozen food for a market share of close to 7%. By the late 1990’s the frozen food market in Spain was expected to grow to over 2 billion dollars annually and Zabella expected to continue maintaining their market share. While Zabella was not the leading brand in the market, it was a highly respected contender known for it’s innovativeness and high quality products. As any reasonable business would, Zabella was constantly researching new product ideas, with the hope of expanding both their market and market share.

Recent News

The following outlines the performance of a new product currently marketed by Zabella in Spain.

New Product Introduction:

Craig Smith the chief of R&D at Zabella was attempting to develop new uses for the frozen food technology that had been so successfully applied to salmon and pineapple. As Mr. Smith carried out his research he concluded that he could get a high quality Ice Cream Puff by pumping liquid ice cream with air bubbles and immediately freezing the ice cream at a very low temperature. The method of freezing was the same as that used in the other Zabella products. Based on the results obtained by Mr. Smith, and Zabella’s well-established reputation for frozen food, the company decided to launch the new product in Europe under the brand name Zabella’s Ice Cream Puffs. The company hoped that the brand name Zabella and the use of the same frozen food technology that had been used for the other products would strongly position Zabella’s Ice Cream Puffs in the consumer’s mind and result in a successful launch.
Things began to go wrong within a few months after launch. While a large number of customers tried the Zabella Ice Cream Puffs most of them were dissatisfied with the product. Some customers complained the puffs left a bitter after-taste. Other customers believed many preservatives had been used.

Simultaneously, reports began to come in from retailers that many consumers who had bought the puffs returned them with the complaint that they were stale and the taste was unpleasant. In the case of the company's other products namely - the chicken, the pineapple, and the salmon, the fresh-like flavor was retained but, for some unexplainable reason the flavor of the ice cream was not.

Some customers complained that the product was not really creamy. Rather, it tasted like sweetened ice. In-spite of the Zabella name and the new frozen food technology that had been used so successfully for the other products, Zabella Ice Cream Puffs were a total failure.
APPENDIX G

INFORMATION PROVIDED TO SUBJECTS IN THE TWO EXTENSION ADDING CONDITION IN EXPERIMENT TWO OF CHAPTER IV

**Zabella's Frozen foods**

In 1963 as he neared the pivotal age of forty, Clarence Zabella of Madrid, Spain, looked back over his varied career as a field naturalist, fur trader, purchasing agent, fisheries investigator, and holder of several “in-between” jobs and asked himself if there was anything, in that curious mixture of experience, that could be turned into a substantial commercial success.

He concluded that he had been exposed to a major opportunity nearly a decade earlier and had passed it by. During the arctic winters in Labrador, as a fur trader, he had watched the Eskimos spread their freshly caught fish on the snow, in temperatures of thirty to fifty degrees below zero, Fahrenheit, and had noted that, months later, when one of those fish was thawed and cooked, it tasted like one freshly caught. And he watched the Eskimos achieve the same results with freshly-killed caribou and geese.

The secret of the Eskimo success, Zabella concluded, was all in the speed of the freezing. In his Labrador years, along with the quick frozen foods, he had tasted the less satisfactory results of the more gradual freezing of fish and game at higher than sub-zero temperatures.

Clarence Zabella was confident he could make the super fast freezing of foods work on a practical basis, confident enough to borrow on his life insurance and begin formal production and sales. In the initial stages the products were marketed in a small geographical area around Madrid. The market responses to the products were good, and within a year Zabella began to market nationwide in Spain.

The two major products introduced by Zabella were Zabella frozen Salmon, and Zabella frozen Pineapple. Zabella Frozen Salmon had around 10% market share, while Zabella Frozen pineapple had around 5% market share in their respective categories. Both
products had freshlike flavor and taste. The Salmon were frozen fresh and within fifteen minutes after they were caught in the Arctic Tundra. The Salmon were somewhat juicy to taste and not difficult to cook.

Zabella frozen Pineapple was procured from South America and like the Salmon the pineapple slices were frozen within 15 minutes after they were cut. The pineapples were moderately juicy and sweet to taste. Also since the original pineapples were not allowed to grow too large in size the taste of Zabella frozen pineapples was better than some of the other brands available in the market.

Overall Zabella's products were rated well in terms of their freshness, juiciness, and ease of cooking. In the mid 1980's the total frozen food market in Spain had already reached 900 million U.S. dollars annually, and Zabella was selling around 70 million dollars of frozen food for a market share of close to 7%. By the late 1990's the frozen food market in Spain was expected to grow to over 2 billion dollars annually and Zabella expected to continue maintaining their market share. While Zabella was not the leading brand in the market, it was a highly respected contender known for it's innovativeness and high quality products. As any reasonable business would, Zabella was constantly researching new product ideas, with the hope of expanding both their market and market share.

**Recent News**

The following outlines the performance of a couple of new products currently marketed by Zabella in Spain.

**Product 1:**

Craig Smith the chief of R&D at Zabella was attempting to develop new uses for the frozen food technology that had been so successfully applied to salmon and pineapple. As Mr. Smith carried out his research he concluded that he could get a high quality Ice Cream Puff by pumping liquid ice cream with air bubbles and immediately freezing the ice cream at a very low temperature. The method of freezing was the same as that used in the other Zabella products. Based on the results obtained by Mr. Smith, and Zabella's well-established reputation for frozen food, the company decided to launch the new product in Europe under the brand name Zabella’s Ice Cream Puffs. The company hoped that the brand name Zabella and the use of the same frozen food technology that had been used for the other products would strongly position Zabella’s Ice Cream Puffs in the consumer’s mind and result in a successful launch.
Things began to go wrong within a few months after launch. While a large number of customers tried the Zabella Ice Cream Puffs most of them were dissatisfied with the product. Some customers complained the puffs left a bitter after-taste. Other customers believed many preservatives had been used.

Simultaneously, reports began to come in from retailers that many consumers who had bought the puffs returned them with the complaint that they were stale and the taste was unpleasant. In the case of the company’s other products namely - the chicken, the pineapple, and the salmon, the fresh-like flavor was retained but, for some unexplainable reason the flavor of the ice cream was not.

Some customers complained that the product was not really creamy. Rather, it tasted like sweetened ice. In spite of the Zabella name and the new frozen food technology that had been used so successfully for the other products, Zabella Ice Cream Puffs were a total failure.

**Product 2:**

A few months after the failure of the ice cream puffs frozen chicken was launched. Here, like in the case of other competing frozen chicken products, the chickens were frozen within 15 minutes after they were cut. Espanola frozen chicken, the leading frozen chicken brand in Spain, was tender and juicy to eat. Zabella chicken however was not tender, and rather stringy. The leading frozen chicken brands in the market, Espanola, Ramirez, and Qasada paid careful attention to the conditions under which the chicken were grown. Compared to the other chicken brands, the environment within which the Zabella chickens were grown was bad. The chicken suffered more trauma and therefore did not taste as good.

While it was not clear as to the reason why, the quick freezing process which was so successfully used in the case of Espanola frozen chicken, did not seem to be working in the case of the Zabella chicken. One possible reason may have been, that unlike Espanola which had been in the market for many years, Zabella needed to learn the correct process of freezing chicken. Secondly the quality of the chicken that Zabella was getting from suppliers, may not have been as high as expected. Clearly Zabella needed to carry out further research to understand why the chicken was not doing well.

**Overall Zabella frozen chicken was a failure, compared to the other frozen chicken products such as Espanola, Qasada, and Ramirez.**
The reaction of consumers to the leading frozen chicken brands in the market, and to Zabella’s chicken, based on a survey of consumers is summarized in the following table:

<table>
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<th></th>
<th>Freshness</th>
<th>Juiciness</th>
<th>Flavor</th>
<th>Taste</th>
<th>Overall Quality</th>
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<td>7.8</td>
<td>7.1</td>
<td>7.2</td>
<td>7.6</td>
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<tr>
<td><strong>Ramirez Frozen Chicken</strong></td>
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<td>6.7</td>
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<tr>
<td><strong>Zabella Frozen Chicken</strong></td>
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<td>3.3</td>
<td>3.0</td>
<td>3.7</td>
<td>3.2</td>
</tr>
</tbody>
</table>

* Based on a random survey of 202 customers. Ratings are on a scale of 1-10 with ‘10’ being very good and ‘1’ as very bad.
APPENDIX H

INFORMATION PROVIDED TO SUBJECTS IN THE TWO EXTENSION AVERAGING CONDITION IN EXPERIMENT TWO OF CHAPTER IV

Zabella’s Frozen foods

In 1963 as he neared the pivotal age of forty, Clarence Zabella of Madrid, Spain, looked back over his varied carrier as a field naturalist, fur trader, purchasing agent, fisheries investigator, and holder of several “in-between” jobs and asked himself if there was anything, in that curious mixture of experience, that could be turned into a substantial commercial success.

He concluded that he had been exposed to a major opportunity nearly a decade earlier and had passed it by. During the arctic winters in Labrador, as a fur trader, he had watched the Eskimos spread their freshly caught fish on the snow, in temperatures of thirty to fifty degrees below zero, Fahrenheit, and had noted that, months later, when one of those fish was thawed and cooked, it tasted like one freshly caught. And he watched the Eskimos achieve the same results with freshly-killed caribou and geese.

The secret of the Eskimo success, Zabella concluded, was all in the speed of the freezing. In his Labrador years, along with the quick frozen foods, he had tasted the less satisfactory results of the more gradual freezing of fish and game at higher than sub-zero temperatures.

Clarence Zabella was confident he could make the super fast freezing of foods work on a practical basis, confident enough to borrow on his life insurance and begin formal production and sales. In the initial stages the products were marketed in a small geographical area around Madrid. The market responses to the products were good, and within a year Zabella began to market nationwide in Spain.

The two major products introduced by Zabella were Zabella frozen Salmon, and Zabella frozen Pineapple. Zabella Frozen Salmon had around 10% market share, while Zabella Frozen pineapple had around 5% market share in their respective categories. Both
products had freshlike flavor and taste. The Salmon were frozen fresh and within fifteen minutes after they were caught in the Arctic Tundra. The Salmon were somewhat juicy to taste and not difficult to cook.

Zabella frozen Pineapple was procured from South America and like the Salmon the pineapple slices were frozen within 15 minutes after they were cut. The pineapples were moderately juicy and sweet to taste. Also since the original pineapples were not allowed to grow too large in size the taste of Zabella frozen pineapples was better than some of the other brands available in the market.

Overall Zabella’s products were rated well in terms of their freshness, juiciness, and ease of cooking. In the mid 1980’s the total frozen food market in Spain had already reached 900 million U.S. dollars annually, and Zabella was selling around 70 million dollars of frozen food for a market share of close to 7%. By the late 1990’s the frozen food market in Spain was expected to grow to over 2 billion dollars annually and Zabella expected to continue maintaining their market share. While Zabella was not the leading brand in the market, it was a highly respected contender known for it’s innovativeness and high quality products. As any reasonable business would, Zabella was constantly researching new product ideas, with the hope of expanding both their market and market share.

**Recent News**

The following outlines the performance of a couple of new products currently marketed by Zabella in Spain.

**Product 1:**

Craig Smith the chief of R&D at Zabella was attempting to develop new uses for the frozen food technology that had been so successfully applied to salmon and pineapple. As Mr. Smith carried out his research he concluded that he could get a high quality Ice Cream Puff by pumping liquid ice cream with air bubbles and immediately freezing the ice cream at a very low temperature. The method of freezing was the same as that used in the other Zabella products. Based on the results obtained by Mr. Smith, and Zabella’s well-established reputation for frozen food, the company decided to launch the new product in Europe under the brand name Zabella’s Ice Cream Puffs. The company hoped that the brand name Zabella and the use of the same frozen food technology that had been used for the other products would strongly position Zabella’s Ice Cream Puffs in the consumer’s mind and result in a successful launch.
Things began to go wrong within a few months after launch. While a large number of customers tried the Zabella Ice Cream Puffs most of them were dissatisfied with the product. Some customers complained the puffs left a bitter after-taste. Other customers believed many preservatives had been used.

Simultaneously, reports began to come in from retailers that many consumers who had bought the puffs returned them with the complaint that they were stale and the taste was unpleasant. In the case of the company’s other products namely - the chicken, the pineapple, and the salmon, the fresh-like flavor was retained but, for some unexplainable reason the flavor of the ice cream was not.

Some customers complained that the product was not really creamy. Rather, it tasted like sweetened ice. In-spite of the Zabella name and the new frozen food technology that had been used so successfully for the other products, Zabella Ice Cream Puffs were a total failure.

**Product 2:**

A few months after the failure of the ice cream puffs, frozen chicken was launched. Here again, like in the case of the pineapples and salmon, the chickens were frozen within 15 minutes after they were cut. Unlike the salmon, the Zabella chicken was not tender, and was difficult to cook. Unlike the salmon and the pineapple environment, the environment within which the chickens were raised was bad. The chicken suffered more trauma and therefore did not taste as good.

It was not clear why, the quick freezing process which was so successfully used in the case of salmon and pineapple, did not work in the case of chicken. One possible reason may have been, that unlike salmon, chicken may be more likely to lose it’s tenderness when it’s frozen and thawed again. Secondly the quality of the chicken that Zabella was buying from suppliers may not have been as high as expected. Clearly Zabella needed to carry out further research to understand why the chicken was not doing well.

Overall Zabella’s performance had been mixed. The successful launch of Zabella Salmon and Zabella Pineapple, was followed by the disastrous introduction of Zabella Ice Cream Puffs. Even though the Zabella frozen chicken was a failure, it was a mild failure, compared to the disastrous performance of the ice cream puffs.
The reaction of consumers to Zabella’s products based on a survey of consumers is summarized in the following table:

<table>
<thead>
<tr>
<th></th>
<th>Freshness</th>
<th>Juiciness</th>
<th>Flavor</th>
<th>Taste</th>
<th>Overall Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Zabella Salmon</strong></td>
<td>7.2</td>
<td>7.8</td>
<td>7.1</td>
<td>7.2</td>
<td>7.6</td>
</tr>
<tr>
<td><strong>Zabella Frozen Pineapple</strong></td>
<td>6.1</td>
<td>6.7</td>
<td>6.6</td>
<td>6.0</td>
<td>6.5</td>
</tr>
<tr>
<td><strong>Zabella Ice Cream Puffs</strong></td>
<td>1.5</td>
<td>---</td>
<td>1.2</td>
<td>1.2</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Zabella Frozen Chicken</strong></td>
<td>3.1</td>
<td>3.3</td>
<td>3.0</td>
<td>3.7</td>
<td>3.2</td>
</tr>
</tbody>
</table>

* Based on a random survey of 202 customers. Ratings are on a scale of 1-10 with ‘10’ being very good and ‘1’ as very bad.
APPENDIX I

QUESTIONNAIRE USED IN EXPERIMENT ONE OF CHAPTER III

NAME: ____________________________________________

SS# : ____________________________________________

College of Business
The Ohio State University

INSTRUCTIONS:

1. Please read and follow the instructions carefully

2. The objective of this exercise is to understand how people process information.

3. You will be given half an hour to go through a short case and then answer questions based on material in the case. The total time available is 30 minutes, which should give you more than ample time to complete the exercise.

4. Please turn the page in the given order. Please do not look at the questions till you have finished reading the case.

5. Please be as sincere as possible in answering all questions.

Thank you for your participation
A) For each of the statements below, please indicate whether or not the statement is characteristic of you. If the statement is extremely uncharacteristic of you (not at all like you), code in "1"; if the statement is extremely characteristic of you (very much like you), code in "5". Code in a "2" if the statement is somewhat uncharacteristic of you; code in a "3" if you are uncertain; and code in a "4" if the statement is somewhat characteristic of you.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) I prefer complex to simple problems.</td>
<td>(      )</td>
</tr>
<tr>
<td>2) I like to have the responsibility of handling a situation that requires a lot of thinking.</td>
<td>(      )</td>
</tr>
<tr>
<td>3) Thinking is not my idea of fun.</td>
<td>(      )</td>
</tr>
<tr>
<td>4) I would rather do something that requires little thought rather than something that is sure to challenge my thinking abilities.</td>
<td>(      )</td>
</tr>
<tr>
<td>5) I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.</td>
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<td>6) I find satisfaction in deliberating hard for long hours.</td>
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<td>7) I only think as hard as I have to.</td>
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<td>13) I prefer my life to be filled with puzzles that I must solve.</td>
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<tr>
<td>14) The notion of thinking abstractly is appealing to me.</td>
<td>(      )</td>
</tr>
<tr>
<td>15) I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.</td>
<td>(      )</td>
</tr>
</tbody>
</table>
B) We are interested in the thoughts that went through your mind as you read the information on Zabella frozen Shrimp. In the lines below please list all thoughts/ideas/images that crossed your mind as you read the information on Zabella Frozen Shrimp. Please do not worry about grammar or punctuation. Also write only one thought per line.
C) Please answer each of the following questions by placing an “X” in the appropriate category of each response scale.

1. Based on your reading all the material that was presented to you about Zabella frozen foods, how would you describe your overall feelings toward Zabella Frozen Foods?

   My overall feelings toward Zabella Frozen Foods are

   Very good __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very bad

   Very unfavorable __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very favorable

   Very negative __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very positive

   Like very much __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Dislike very much

2) Presently Zabella Frozen Foods is planning to launch a new variety of frozen foods including ‘noodles in stir fry sauce’. Based on your knowledge of Zabella Frozen Foods, please rate your expectation of the quality of this new product.

   The new Zabella Frozen Food product will be of

   Very low quality __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very high quality

3) Based on the news report that you read about Zabella Frozen Shrimp how would you describe your overall feelings toward Zabella Frozen Shrimp?

   My overall feelings toward Zabella Frozen Shrimp are

   Very good __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very bad

   Very unfavorable __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very favorable

   Very negative __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very positive

   Like very much __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Dislike very much
D) Rate the following statements on the extent to which they match the method or thought process which you went through while reading about Zabella frozen shrimp.

1) Based on the performance of Zabella foods I expected Zabella frozen shrimp to be a premium product.

Strongly agree  ___  ___  ___  ___  ___  ___  ___  Strongly disagree

2) As I was reading about Zabella frozen shrimp, I was also thinking about other Zabella products.

Strongly agree  ___  ___  ___  ___  ___  ___  ___  Strongly disagree

3) As I was reading about Zabella frozen shrimp, I thought about other Zabella products and expected the frozen shrimp to be of similar high quality.

Strongly agree  ___  ___  ___  ___  ___  ___  ___  Strongly disagree

4) As I was reading about Zabella frozen shrimp, I was thinking about how the taste of Zabella frozen shrimp would compare with other frozen shrimp in the market.

Strongly agree  ___  ___  ___  ___  ___  ___  ___  Strongly disagree

5) As I was reading about Zabella frozen shrimp, I was comparing the overall quality of Zabella frozen shrimp with other shrimp in the market.

Strongly agree  ___  ___  ___  ___  ___  ___  ___  Strongly disagree

6) As I was reading about Zabella frozen shrimp, I was thinking of other frozen shrimp I know of.

Strongly agree  ___  ___  ___  ___  ___  ___  ___  Strongly disagree
E) Based on the information provided to you about Zabella, how would you describe your perception of the fit between Zabella and its extension into frozen shrimp?

bad fit between
between
company and product

good fit

comp any and product

not at all logical for Zabella
to introduce shrimp

very logical for Zabella
to introduce shrimp

not at all appropriate for Zabella
to introduce shrimp

very appropriate for Zabella
to introduce shrimp

Please go back to the thoughts you listed and write next to each thought:
i) A “Z” if the thought pertains to your thinking of other Zabella Products such as the frozen salmon or the frozen chicken.

ii) A “C” if the thought pertains to your thinking of other competitive frozen shrimp products.

iii) A “O” if it is neither of the two.
APPENDIX J

QUESTIONNAIRE USED IN EXPERIMENT TWO OF CHAPTER IV

NAME: ____________________________________________

SS# : ____________________________________________

College of Business
The Ohio State University

INSTRUCTIONS:

1. Please read and follow the instructions carefully

2. The objective of this exercise is to understand how people process information.

3. You will be given half an hour to go through a short case and then answer questions based on material in the case. The total time available is 30 minutes, which should give you more than ample time to complete the exercise.

4. Please turn the page in the given order. Please do not look at the questions till you have finished reading the case.

5. Please be as sincere as possible in answering all questions.

Thank you for your participation
A) For each of the statements below, please indicate whether or not the statement is characteristic of you. If the statement is extremely uncharacteristic of you (not at all like you), code in "1", if the statement is extremely characteristic of you (very much like you), code in "5". Code in a "2" if the statement is somewhat uncharacteristic of you; code in a "3" if you are uncertain; and code in a "4" if the statement is somewhat characteristic of you.

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<td>(      )</td>
</tr>
</tbody>
</table>

16) Please circle the appropriate response. Have you lived in the United States for more than five years?

YES NO
B) We are interested in the thoughts that went through your mind as you read the information on Zabella Chicken. For example you might have thought about other Zabella products such as the ice cram puffs/salmon/or pineapple, you might have thought about other frozen chicken products, or you might have had other thoughts/ideas/images. In the lines below please list all thoughts/ideas/images that crossed your mind as you read the information on Zabella Chicken. Please do not worry about grammar or punctuation. Also write only one thought per line.

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195
C) Please answer each of the following questions by placing an “X” in the appropriate category of each response scale.

1. Based on your reading all the material that was presented to you about Zabella frozen foods, how would you describe your overall feelings toward Zabella Frozen Foods?

   My overall feelings toward Zabella Frozen Foods are

   Very good __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very bad

   Very unfavorable __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very favorable

   Very negative __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very positive

   Like very much __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Dislike very much

2) Please rate the confidence with which you expressed your overall feelings toward Zabella Foods.

   Very Confident __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Not at all confident

3) Presently Zabella Frozen Foods is planning to launch a new variety of frozen foods including ‘noodles in stir fry sauce’. Based on your knowledge of Zabella Frozen Foods, please rate your expectation of the quality of this new product.

   The new Zabella Frozen Food product will be of

   Very low quality __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very high quality

4) Based on the news report that you read about Zabella Ice Cream Puffs how would you describe your overall feelings toward Zabella Ice Cream Puffs?

   My overall feelings toward Zabella Ice Cream Puffs are

   Very good __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very bad

   Very unfavorable __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very favorable

   Very negative __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Very positive

   Like very much __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ __:__ Dislike very much
Please go back to the thoughts you listed and write next to each thought:

i) A “Z” if the thought pertains to your thinking of other Zabella Products such as the puffs, salmon, or the pineapple.

ii) A “C” if the thought pertains to your thinking of other competitive frozen chicken brands.

iii) A “O” if it is neither of the two.
LIST OF REFERENCES


