

2016-02-08

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<http://hdl.handle.net/10026.1/4367>

10.1108/EJM-01-2014-0036

European Journal of Marketing

Emerald

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Wilkins, S., Beckenuyte, C. and Butt, M. M. (2016), Consumers' behavioural intentions after experiencing deception or cognitive dissonance caused by deceptive packaging, package downsizing or slack filling. *European Journal of Marketing*, 50(1/2), 213-235.

Consumers' behavioural intentions after experiencing deception or cognitive dissonance caused by deceptive packaging, package downsizing or slack filling

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Abstract

Purpose – The purpose of this study is to discover the extent to which consumers are aware of air filling in food packaging, the extent to which deceptive packaging and slack filling – which often result from package downsizing – lead to cognitive dissonance, and the extent to which feelings of cognitive dissonance and being deceived lead consumers to engage in negative post purchase behaviours.

Design/methodology/approach – The study analysed respondents' reactions to a series of images of a specific product. The sample consisted of consumers of FMCG products in the UK. Five photographs served as the stimulus material. The first picture showed a well-known brand of premium chocolate in its packaging and then four further pictures each showed a plate with a different amount of chocolate on it, which represented different possible levels of package fill.

Findings – Consumer expectations of pack fill were positively related to consumers' post purchase dissonance, and higher dissonance was negatively related to repurchase intentions and positively related to both intended visible and non-visible negative post purchase behaviours, such as switching brand and telling friends to avoid the product. Furthermore, consumers with low product involvement were less likely to repurchase the brand and were more willing to engage in visible and non-visible negative behaviours.

Research implications – The key message from this research is that consumer post purchase dissonance is likely to damage the firm. Although firms may initially achieve increased sales through deceptive packaging and slack filling, these practices risk damaging a brand's reputation and consumer loyalty to the brand. Firms need to strike a balance between packaging size and content, and as consumer expectations are likely to vary across different products, individual companies should engage in market research and substantive market testing.

Originality/value – To the authors' knowledge, this is the first study that investigates antecedents and consequences of cognitive dissonance experienced by consumers which was caused by perceived deceptive packaging and/or slack filling.

Keywords Consumer research, Packaging, Deception, Consumer behaviour

Paper type Research paper

1. Introduction

Consumers might wonder why their household groceries do not last as long as they did in the past. In most cases, the reason is manufacturers' package downsizing. Package downsizing is the practice where package content is reduced, without a corresponding reduction in selling price, and where the package size and appearance stay the same, or the package is changed to hide the reduced content. Package downsizing affects every consumer because it is a practice used by most manufacturers of

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fast-moving consumer goods (FMCG). For example, in the UK, in 2013-14, Alpen muesli pack content fell from 1.5kg to 1.3kg; Hovis Best of Both bread fell from 800g to 750g; Aunt Bessie's frozen chips from 750g to 700g; Tetley tea bags from 80 to 75 bags; Birds Eye Select Mixed Vegetables from 750g to 690g; Surf washing powder from 2kg to 1.61kg; and Domestos spray bleach cleaner from 750ml to 700ml (Which?, 2015).

Unless selling prices are reduced, package downsizing represents an invisible price increase of products, which goes unnoticed by most consumers. In 2013, *The Mirror*, a British tabloid, ran the headline "Yorkie chocolate bar cut in size by 14% two years ago and no-one noticed" (Hayward, 2013). Consumers tend not to notice package downsizing at the time of purchase because most consumers do not read the content information on packaging, but instead use visual estimations of package volume as a proxy for actual volume (Lennard *et al.*, 2001), or they rely on previous purchase experience (Gupta *et al.*, 2007). However, when consumers do realise that a product has been downsized, they are often disappointed and feel deceived.

Hayward (2013) was not entirely right when he said no-one noticed the smaller Yorkie chocolate bar. A student in Scotland noticed, and he protested on Facebook. He soon achieved 111,000 likes and many other consumers also expressed their disappointment or annoyance with the smaller bar. This 'large-sized' product had previously targeted 'real men', like truck drivers, and one well-known advertising slogan declared "It's not for girls". The protesting student wrote in his Facebook post "You might as well bin your slogan 'it's not for girls', along with your dignity."

When a consumer opens a package and is surprised by the low product content, it is very likely that the consumer will experience some degree of cognitive dissonance. Cognitive dissonance may be defined as the discomfort that is created when an individual holds two or more elements of knowledge that are inconsistent with one another (Harmon-Jones and Harmon-Jones, 2008); for example, belief in a high quality brand and disappointment caused by perceived slack or underfilling. Although a substantial body of research supports the causal link between consumer dissatisfaction and negative post purchase behaviours (e.g. Bearden and Teel, 1983; Day and Landon, 1976), the effect of cognitive dissonance on consumers' post purchase behaviour has received less attention, probably because of the popularity among both scholars and practitioners of customer satisfaction as an evaluative post purchase construct.

Customer satisfaction is generally accepted as a post purchase judgement or evaluation that might be shaped by consumer expectations, consumption and accumulative experiences (Tse and Wilton, 1988). In the case of packaging deception or perceived excessive slack filling, we argue that it is more relevant to consider cognitive dissonance because this construct might actually be a key determinant of customer satisfaction/dissatisfaction. The discovery by a consumer of perceived pack underfill has the potential to create immediate and strong dissonance in the consumer, who might then engage in various negative behaviours that hurt the firm.

When firms experience higher costs, they might respond by increasing selling prices, opting for cheaper materials or ingredients, or reducing the amount of product content that packs contain. When a manufacturer reduces the content in a pack but keeps the pack the same size, increased slack filling occurs. Slack filling is one of the most common forms of deception through packaging because the packaging is designed to suggest a certain amount of content when in fact much of the package is filled with air rather than product. Previous research has suggested that consumers are approximately four times as sensitive to price as they are to package size (Çakir and Balagtas, 2014), which might explain why so many manufacturers choose package downsizing over price increases.

The purpose of this research is to discover the extent to which consumers are aware of air filling in food packaging (i.e. where there is a discrepancy between package size and actual content), the extent to which deceptive packaging and/or slack filling lead to cognitive dissonance, and the extent to which feelings of cognitive dissonance and being deceived lead to negative post purchase behaviours. Surprisingly, deceptive packaging, package downsizing, and slack filling have received little attention in the marketing literature (Çakir and Balagtas, 2014), so this research provides valuable information for manufacturers of FMCG products, as well as for marketing researchers.

Although there have been few studies that explored the impacts of deceptive packaging, a lot of research on deception in advertising has been undertaken. Some aspects of the literature on deceptive

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advertisements are relevant to this study, but these might not provide a comprehensive explanation of customer behaviour after buying products with deceptive packaging. Very few researchers realise the importance of specifically looking at deception manifested through a product's packaging. In fact, there are several ways packaging can be deceptive for the consumer, such as 'me too' brands, projecting oversized products, and reduced product content. These different techniques that deceive consumers might generate different levels of cognitive dissonance and post purchase reactions. This research focuses on only one aspect of deceptive packaging, which is low package fill.

Few researchers have considered how the levels of cognitive dissonance experienced by consumers are influenced by consumer expectations and consumer attitudes to firms' marketing practices. This study investigates the influence of perceived deception in food product packaging by considering the extent to which consumers' product expectations and consumers' general attitudes to firms' marketing practices lead to cognitive dissonance and intended negative post purchase behaviours. Post purchase consumer dissonance could be highly damaging to a firm, as consumers might engage in both visible and non-visible negative behaviours, such as switching brand and telling friends to avoid the product. Furthermore, it might be expected that consumers who experience post purchase dissonance are more likely to end up dissatisfied with their purchase. This is an important area for research because deceptive packaging and slack filling risk damaging a brand's reputation and consumer loyalty to the brand.

The following sections provide a summary of relevant literature on deception in marketing and advertising; deception in packaging; and consumer cognitive dissonance; as well as an examination of legal attitudes to deception in the United States and Germany, as examples of practice in two different countries. Then, the conceptual model and hypotheses are presented, before the methodology is explained. Following this, the results are presented. Finally, the conclusion summarises the key findings of this study and identifies the implications for firms as well as the study's main limitations.

2. Deception in marketing and advertising

Although marketing scholars have examined and analysed deception on the Internet (e.g. Grazioli and Jarvenpaa, 2003) and deception in packaging (e.g. Naylor, 1962), issues related to advertising have been by far the most popular area for research on deception. Grazioli and Jarvenpaa (2003, p. 95) define deception as "a cognitive interaction between two parties under conflict of interest, where the deceiver manipulates the environment of the other party, the target, so as to intentionally foster an incorrect cognitive representation of the target's situation and instigate a desired action, one the target would be unlikely to take without the manipulation." Deception should be distinguished from lying; a lie is a deliberate false statement communicated to the target whereas deception need not involve false or inaccurate statements (Carson *et al.*, 1985).

Aditya (2001) claims that only isolated aspects of deceptive marketing have been addressed in the literature, which give a pluralistic view about deception in marketing. Scholars have debated whether advertisements that might result in inaccurate perceptions should be regarded as deceptive or simply misleading. Jacoby and Small (1975) and Russo *et al.* (1981) prefer the term 'misleading', because this includes not only the effects initiated by the sender but also the perceptions of the receiver, which are not necessarily influenced by the sender. In contrast, deceptive practices are limited only to the intended manipulations by the sender. Darke and Ritchie (2007) found that deceptive advertisements lead to a negative perception of advertisements and marketing practices in general, regardless of the company or product category. Hence, deceptive practices can reduce the future impact of advertisements or marketing practices in general. Thus, Darke and Ritchie (2007) argue the importance of not deceiving consumers, as deception is likely to negatively alter their perceptions and behaviour.

Researchers have actively engaged in the development of adequate measures of deception and consumer beliefs about it. Russo (1976) provides procedures to measure misleadingness in advertisements. He extends the research of Jacoby and Small (1975), who concentrated on the problem of identifying misleading advertisements for drugs. Later, Russo *et al.* (1981) developed a method to identify misleading advertising by measuring consumer beliefs. Armstrong *et al.* (1979) developed a set of criteria to evaluate techniques of deception measurement and applied it to existing empirical

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studies. Johar (1995) extends the research on deceptive advertisements by studying moderator involvements within the creation of deceptive inferences from advertisements. More recently, researchers have become interested in the use of deception on the Internet (e.g. Grazioli and Jarvenpaa, 2003) and in packaging, which is discussed in the following section.

3. Deception in packaging

A review of the literature on deception in marketing reveals that consideration of deceptive packaging often occurs in research about other topics. However, over five decades ago, Naylor (1962, p. 393) wrote, "deceptive packaging involves a deliberate attempt to mislead the consumer regarding some aspect of the product (usually quantity) by using packages specifically designed to convey a false impression concerning this product attribute". Naylor (1962) observed that deceptive packaging typically involves oversize packaging with little content. Gardner (1968, p. 57) emphasised the quality aspect in deceptive packaging: "if any package transmits information in any form that induces the shopper to purchase, and the value of the item adds less quality to the assortment of goods than expected, then deception in packaging exists."

Although deception in packaging can occur in various ways – for example, when private label products are made to look like branded products (Aditya, 2001) – this research is concerned with deception through slack filling. Naylor's (1962) study involved giving consumers regular and underfilled packs of potato crisps. It was found that most of the participants did not realise the difference in weight. However, as the weight in the experimental pack was decreased, the preference for the regular pack increased.

Naylor (1962) identified two types of deception. The first, purchase deception, occurs when the consumer is deceived at the time of purchase but realises the deception later at the time of consumption. Second, if the consumer does not discover the deception at all, then consumption deception has occurred. Naylor declares that consumption deception is more serious from an ethical point of view, because the consumer continues to be satisfied with a product that deceives him/her, whereas in purchase deception the consumer can decide to not purchase the deceptive product again. However, Naylor (1962) found that when a consumer is subjected to consumption deception, the individual might still be dissatisfied but unable to identify the reason. In such a situation, the consumer might decide not to make further purchases of the deceptive product. Further research on deceptive packaging was undertaken by Folkes and Shashi (2004), who investigated how the shape of packaging influenced consumers' judgements of product quality.

4. Consumer cognitive dissonance

Cognitive dissonance may result when a consumer makes a post purchase comparison of what was purchased versus the other alternatives that were available (Powers and Jack, 2013). If this comparison is not favourable, the consumer may experience psychological discomfort (Elliot and Devine, 1994), which might be associated with feelings of anxiety, uncertainty or doubt (Menasco and Hawkins, 1978; Montgomery and Barnes, 1993) as well as feelings of regret or remorse (Insko and Schopler, 1972). Sweeney *et al.* (2000) argue that dissonance is not stimulated in every purchase but needs certain conditions. First, it must be a decision important to the consumer, possibly because a substantial amount of money or psychological cost has been invested and the purchase matters personally to the consumer. Second, the consumer must make the buying decision voluntarily. Third, the decision must be irreversible; this means that once a product is bought, the consumer is committed to the decision.

Cognitive dissonance comprises of both cognitive and emotional dimensions. The cognitive dimension refers to a person's recognition that beliefs are inconsistent with a decision after the purchase has been made, while the emotional dimension is related to the person's psychological discomfort subsequent to the purchase decision (Sweeney *et al.*, 2000, p. 374). Customers who experience post purchase dissonance may seek to reverse the effects of their purchase decision by returning the product in question (Gilovich and Medvec, 1995; Powers and Jack, 2013). However, for low value FMCG products, product returns are less likely; instead, the consumer is more likely to simply not purchase the product again.

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When consumers consider the alternatives they could have chosen, they might conclude that they had made a mistake and should have selected a different product (Keaveney *et al.*, 2007). Research has indicated that consumers experiencing a sense of regret are more likely to generate thought about superior alternatives than thought about inferior alternatives, which could make them feel less regretful or disappointed (Markman *et al.*, 2003; Roese, 1994). Consumers experiencing dissonance often consider various aspects of the original purchase decision, for example, whether a persuasive sales person was to blame or whether an impulse purchase was made without sufficient thought (Simonson, 1992).

Numerous researchers have developed techniques to measure dissonance, which have included cognitive, psychological, and behavioural measures. Cognitive measures might include evaluating the purchase or wisdom of the decision, while psychological measures might consider anxiety, feelings, or comfort. Sweeney *et al.* (2000) developed a scale to measure cognitive dissonance that can be used to measure both the emotional and cognitive aspects of dissonance in the post purchase, pre-use phase of consumption. Another validated scale was developed by Montgomery and Barnes (1993) who established a general scale to measure post purchase dissonance. They tried to measure cognitive dissonance through concurrent psychological experiences such as displaying anxiety. However, Sweeney *et al.* (2000) criticised this approach, arguing that there was no framework or basis for assuming that such feelings represented dissonance, beyond correlational evidence from previous studies.

5. Legal attitudes to deception

A high proportion of the studies on deception has been conducted by American researchers, which explains why the United States Federal Trade Commission (FTC) is mentioned in many articles when the legal aspects of deception in marketing are considered. Most FTC actions against deceptive acts and practices are based on Section 5 of the FTC Act, which states that unfair or deceptive acts or practices in commerce are illegal (Ford and Calfee, 1986). The Act, with its origins dating back to 1938, is considered by some legal experts to be unsuitable in dealing with the increasing amount of different deception cases, and therefore reference to the Act might not provide the ideal point of departure for a study that investigates deception in packaging.

In Germany, food legislation and the law of official calibration prohibit the sale of products with designs that might result in inaccurate assumptions about the content. However, the law contains no regulations about the packaging/content ratio (Verbraucherzentrale Nordrhein-Westfalen, 2013). The prevailing legal norm in Germany says that a package should contain not more than 30% air. However, a higher percentage is allowed if it is attributable to technical or product reasons, for example a box of chocolates that needs to be protected. Since the European Union (EU), to which Germany belongs, repealed all mandatory quantity standards in April 2011, all different sizes of packages are allowed in Germany. This led to an increase in packages with reduced content, but with products sold at the same price (Verbraucherzentrale Nordrhein-Westfalen, 2013).

6. Conceptual framework and hypotheses

Although a substantial body of research supports the hypothesised causal chain between dissatisfaction and negative post purchase behaviours (e.g., Bearden and Teel, 1983; Day and Landon, 1976), the effects of cognitive dissonance has received less attention. Nevertheless, the literature suggests that consumer expectations (Cardello and Sawyer, 1992; Clow *et al.*, 1998) and consumers' overall attitude or sentiment toward firms' marketing practices (Barksdale and Darden, 1972; Hustad and Pessemier, 1973) can lead to consumer dissonance and negative post purchase behaviours. This study was designed to further our understanding of the influence of perceived deception on consumers' intended post purchase behaviours, and it integrates consumers' product expectations and consumers' attitudes toward firms' marketing practices with cognitive dissonance theory. The proposed model seeks to capture the cognitive and emotional processes of consumers who bought a product with potentially deceptive packaging and their intended post purchase behaviours. Hypotheses were established to test the extent to which consumer expectations and positive/negative sentiment towards firms' general

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marketing practices influence the amount of cognitive dissonance experienced by consumers after purchasing a product.

Since the 1960s, several researchers have attempted to assess the antecedents and consequences of cognitive dissonance in consumer behaviour (e.g. Gbadamosi, 2009; Holloway, 1967; Koller and Salzberger, 2007; Lindsey-Mullikin, 2003; O'Neill and Palmer, 2004; Soutar and Sweeney, 2003). After a purchase decision is made, the consequences are experienced and additional information is available. Consumers might compare their experience of the purchased product against their expectations before purchase and the information they hold about alternative brands and products (Woodruff *et al.*, 1983). Consumer expectations have been found to influence the level of dissonance experienced by consumers (Cardello and Sawyer, 1992; Clow *et al.*, 1998). Often, the differences between expectations and actual experience are small, but post purchase surprises tend to be perceived by consumers negatively (Harrison and March, 1984), which can have detrimental effects on firms.

In this study, expectations refer to consumer beliefs about a product prior to purchasing the product (Olson and Dover, 1979). Del Bosque *et al.* (2006) have provided empirical evidence about the relationships between consumer expectations, satisfaction, and loyalty. Also, Spreng and Page (2001) found that consumers with high levels of confidence in their expectations use both disconfirmation and perceived performance to form feelings of satisfaction, whereas low-confidence consumers use only perceived performance. Dissonant consumers are likely to experience low levels of expected satisfaction with a product and dissonance may therefore lead to eventual dissatisfaction with their purchase (Montgomery and Barnes, 1993). It is logical to suppose that the more positive or optimistic consumers' expectations are, the higher the probability of experiencing higher levels of post purchase dissonance. Hence:

H1. Consumer expectations of pack fill are positively related to post purchase cognitive dissonance experienced by consumers.

As firms have become increasingly aware that their long term success and prosperity depends upon satisfying their customers, most successful firms have to some extent adopted a customer focus. Nevertheless, many consumers believe that firms do not always act in their best interests and so researchers have considered consumers' satisfaction with businesses in general, as well as their attitudes to businesses' marketing practices (e.g. Barksdale and Darden, 1972; Hustad and Pessemier, 1973). In fact, the University of Michigan developed a survey of consumer sentiment as early as 1946.

Gaski and Etzel (1986) developed a questionnaire to measure consumer attitudes and sentiment towards marketing in general. Their procedure involves monitoring of the public's perception of the marketing establishment. Considering consumer perceptions about marketing is useful to sensitise marketers to the views and attitudes of potential customers. Moreover, it creates a positive marketing image because it shows that marketers do care about the opinion of their customers. Nevertheless, no research can be found that involves measuring consumers' attitudes to firms' general approach to marketing and the cognitive dissonance experienced by consumers that results from perceived deception. If consumers hold a high opinion of firms' moral and ethical principles, then they are more likely to experience dissonance if they are disappointed by package fill. Thus:

H2. Consumers' attitudes toward firms' general marketing practices is positively related to the post purchase cognitive dissonance experienced by consumers.

Consumers with less dissonance may develop brand loyalty and hence may be less willing to switch brands (Losciuto and Perloff, 1967). In contrast, consumers who experience dissonance are more likely to return the product, switch to another brand (Hunt, 1991), and lower their repurchase intentions (Kim, 2011). Montgomery and Barnes (1993) suggest that brand loyalty may be a function of dissonance at purchase. Researchers have investigated various aspects of post purchase behaviour after experiencing dissonance. Richins (1983) investigated negative word of mouth and complaint behaviour. Later, Richins (1987) extended her previous exploratory study in four aspects: the intention to switch brands as a response to dissatisfaction; consumer characteristics; the relationship of the three responses (negative word of mouth, complaining, switching brands); and cultural differences in

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responding to dissatisfaction within West Europe and the United States. Richins' 1987 study was important in the field of consumer dissonance research because it examined the relationships between three common consumer responses to dissonance.

Bearden and Mason (1984) further investigated different behaviours that occur after an unsatisfactory purchase, because some variables in Richins' study (1983) showed weak correlations. Lindberg-Repo and Grönroos (1999) investigated negative word of mouth as a method to overcome cognitive dissonance and they found differences between loyal and first time customers. Folkes (1984) used attribution theory to predict consumer responses to product failure. Various consumer attitudes and actions were considered, such as the expectation to receive an apology from the firm, the desire to return or exchange the product, and even the desire to hurt the firm's business.

Despite the existence of considerable research on responses to dissatisfaction and cognitive dissonance, to our knowledge, no study has yet explored consumers' post purchase behaviour resulting from cognitive dissonance that was caused by perceived deceptive packaging and/or slack filling. This is to the detriment of companies, because complaining is not the only response to dissatisfaction, and the opportunity to achieve service recovery or educate the consumer might go missed, thus also losing the opportunity to evoke positive word of mouth and strengthen loyalty (Shields, 2006). We distinguish between three types of post purchase behaviours: buying the product again (a positive action); visible negative actions, such as complaining to the retailer or manufacturer; and non-visible negative actions, such as switching to a different brand and telling friends to avoid the product. Hence:

- H3. Post purchase dissonance experienced by consumers is negatively related to consumers buying the product again.
- H4. Post purchase dissonance experienced by consumers is positively related to consumers engaging in visible negative behaviours.
- H5. Post purchase dissonance experienced by consumers is positively related to consumers engaging in non-visible negative behaviours.

The conceptual model presented in Figure 1 summarises the hypothesised relationships between constructs that are tested in this study.

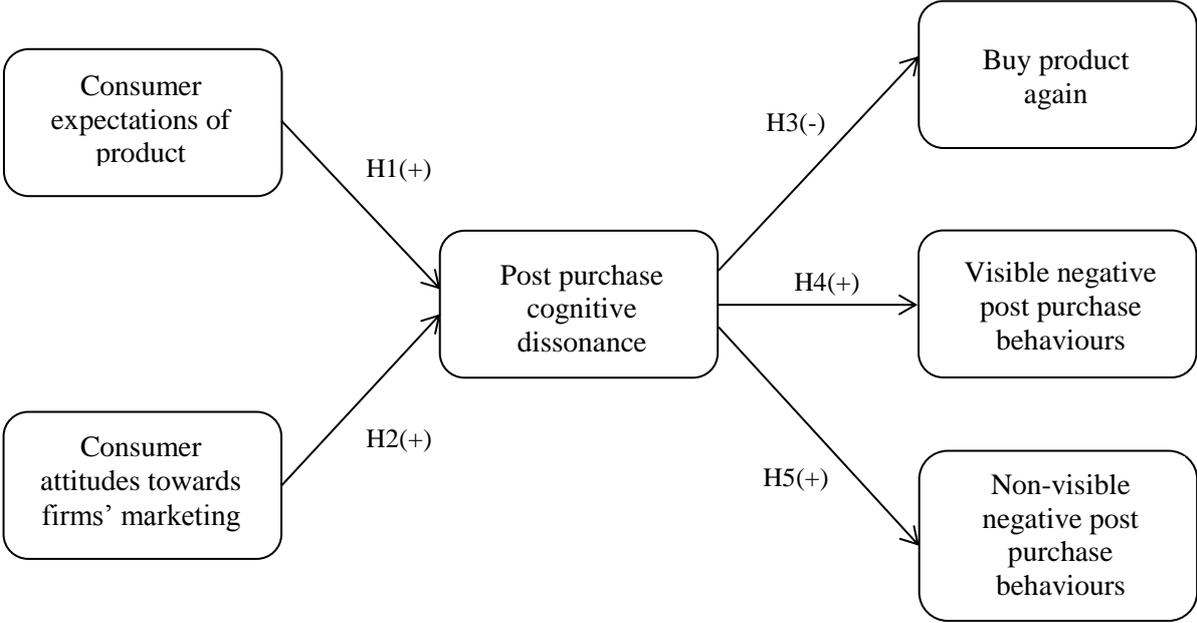


Figure 1.
Conceptual model

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7. Method

7.1 Sample and data collection

The study analysed respondents' reactions to a series of images of a specific product. The convenience sample consisted of 245 consumers of FMCG products in the UK. Five photographs served as the stimulus material. The first picture showed a well-known brand of premium chocolate in its packaging and then four further pictures each showed a plate with a different amount of chocolate on it, which represented different possible levels of package fill. Although virtually every respondent recognized the brand, over a third of the respondents had never consumed the brand. Figures 2 and 3 show examples of the images used. We showed images of package fill that were both higher and lower than the actual package fill. Respondents were able to touch and hold the product wrapped in its packaging, to better appreciate the dimensions of the box, as well as to see close-up the quality of the printing and finishing on the box. The respondents were told to imagine that they had bought (for £9.00) the product shown in the stimulus image as a birthday gift for their mother, partner, or someone else close to them. After giving the gift to the receiver, the product would be opened and shared between the giver and receiver.

The respondents were not told that the study was about *deceptive* packaging, only that it was about the design of product packaging more generally. Looking at pictures of the product and plates with different quantities of chocolates, the respondents completed the pen-and-paper questionnaire. Respondents were shown the images of three plates with different amounts of chocolate and were asked which quantity of chocolate they would expect in the box given its size, appearance and (premium) price (for a high quality product) in order to be satisfied with their purchase. Then, for the purpose of this experiment, a fourth image was shown, where the plate had fewer chocolates than the previous three images. The respondents were told that this was the quantity contained in the box.



Figure 2.
Image representing high product fill

7.2 Measures

To test the first hypothesis about consumer expectations and cognitive dissonance, no suitable scale could be found to measure consumer expectations. A reason for this is that the topic of deception in packaging is very specific and rarely investigated. Another reason is that existing scales were designed for specific products. For example, Spreng and Page's (2001) scale was designed for televisions while Bosque *et al.*'s (2006) was for travel agents. Hence, a new scale needed to be developed. These existing scales provided the starting point when generating items for our customer expectations scale.

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Figure 3.
Image representing low product fill

A number of experts in the field were consulted to ensure content validity, and the proposed scale was presented and discussed at a major marketing conference to gain feedback. Face validity was confirmed in the pretest in which 18 undergraduate students participated. Internal reliability was assessed using Cronbach's alpha, and the score of .94 exceeded the .70 cut-value. Principal component exploratory factor analysis (EFA) with varimax rotation was conducted to establish factor convergence. Confirmatory factor analysis (CFA) was used to establish the reliability and validity of the new scale.

To test the second hypothesis about consumer attitudes to firms' marketing practices and cognitive dissonance, a scale was needed for consumer attitudes. The scale for consumer attitudes was adapted from Gaski and Etzel (1986). The original survey instrument contains 41 items subdivided into five categories: product quality, price of product, advertising for product, retailing/selling, and marketing in general. Our adapted scale has six items, which reflect only consumers' attitude or sentiment toward firms' marketing practices in general.

To measure cognitive dissonance, the scale of Sweeney *et al.* (2000) was adapted. The items relate to three dimensions: emotional (a person's psychological discomfort subsequent to the purchase decision); wisdom of purchase (a person's recognition after the purchase has been made that they may not have needed the product or may not have selected the appropriate one); and concern over purchase (a person's recognition after the purchase has been made that they may have been influenced to make a poor choice). Finally, to test the fourth and fifth hypotheses, about cognitive dissonance and post purchase behaviours, a list of possible consumer responses was required. This list was adapted from Day and Landon (1976). Respondents were allowed to select multiple items in order to see the whole spectrum of their behaviours. Two scales were used for visible and non-visible negative post purchase behaviours. 'I would buy this product again' was a single-item measure that represented a positive post purchase behaviour. Single-item measures are suitable when concepts are simple and easy to understand, and there are many examples to be found in the top marketing journals (Petrescu, 2013).

The items used in all of our scales are shown in Appendix 1. All items used a seven-point rating scale where 1 = strongly disagree and 7 = strongly agree. The 18 pretest participants were asked to comment on every aspect of the questionnaire that could be improved or that might not be easily understood. A few changes were recommended by the participants. For example, the items 'I felt hollow' and 'I felt furious with myself' in the cognitive dissonance construct were felt too extreme by the pretest respondents to describe a feeling of being dissatisfied with a fast moving consumer good. Therefore, these items were removed from the questionnaire along with another two items. In the attitudes to firms' marketing practices construct, the word 'shirk' in the item 'Most businesses seldom

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shirk their responsibility to the consumer' was not understood by several respondents, so the word was replaced with 'avoid'. Another aspect examined in the pretest was the pictures that illustrated the product and different levels of pack filling. The pretest participants found the pictures relatively straightforward to interpret.

7.3 Preliminary analysis and measurement model

This section provides the results of the series of statistical analyses conducted to establish the reliability and validity of the scales and to test the conceptual model. Reliability was tested to establish the internal consistency of each construct; EFA was conducted to examine factor convergence; and CFA was conducted to confirm the manifestation of variables on their respective latent constructs. To summarise the structure of the set of variables used in our conceptual model, we performed principal component EFA with varimax rotation. CFA was used to establish construct reliability and validity. The CFA indicates whether the observed variables are loading on their respective latent constructs (Kline, 2010), critical for establishing convergent validity of the scales used (Anderson and Gerbing, 1988). To establish discriminant validity, the approach suggested by Fornell and Larcker (1981) was adopted. Composite reliability and average variance extracted were used as evidence of construct reliability. Full structural equation modelling (SEM) procedure using AMOS (Version 19.0) was used to test the proposed model, including the possibility of cognitive dissonance as a mediating variable between consumer expectation and purchase intentions. Finally, we conducted a multigroup moderation analysis to investigate possible differences in the data between high and low involvement groups.

The EFA produced a four-factor solution. The value of KMO was 0.94, and the Bartlett test of sphericity (Chi square, 8707.13, $df = 378$, and $p < .001$) was significant. These results imply that the factors extracted are distinct and reliable (Hair *et al.*, 2010). To eliminate the possibility of common method bias in the data, Harman's one-factor test for common method variance (CMV) was applied (Podsakoff *et al.*, 2003). Exploratory factor analysis (fixed on a one factor extraction without any rotations) revealed that this factor only explains 51.6% of the variance of the initial 28 variables as compared to the four-factor solution, which explains more than 81.0% of the variance. This indicates the non-existence of CMV bias (Hair *et al.*, 2010; Ng *et al.*, 2014).

The CFA results indicated that all the item loadings in the measurement model were statistically significant and in the range between .61 and .94. A battery of fit indices was used to test the model fit. The test results indicated that the data had a reasonably good fit with the model ($\chi^2_{(264)} = 765.33$, $p < .001$; $\chi^2/df = 2.89$; CFI = .93; IFI = .93; RMSEA = .088 (Byrne, 2009). However, an examination of modification indices revealed that covarying two items in the cognitive dissonance scale could result in a large reduction of Chi-square value. The content examination of two items ('I felt angry' and 'I felt annoyed') revealed that they were measuring quite the same aspect of consumer dissonance, and thus we removed one item from the scale to improve the model fit. Similarly, one item from consumer attitudes towards firms' marketing and one item from non-visible negative post purchase behaviours were also removed due to large modification indices. The final results of this modified measurement model suggest that the data fits quite well with the hypothesized model: $\chi^2_{(264)} = 472.36$, $p < .001$; $\chi^2/df = 2.38$; CFI = .95; IFI = .95; RMSEA = .076. All other items were retained in the model and no item was dropped due to a non-significant or low factor loading, thus providing evidence for construct reliability.

Table 1 reports the composite reliability (CR) and average variance extracted (AVE) for each construct in our research model. All the variables yielded acceptable values for construct reliability; composite reliability was $>.70$ and AVE $>.50$ (Said *et al.*, 2011; Yap and Khong, 2006). To establish discriminant validity, the approach suggested by Fornell and Larcker (1981) was adopted. Fornell and Larcker (1981, pp. 45-6) indicate that for any two constructs, A and B, the AVE for A and the AVE for B both need to be larger than the shared variance (i.e., square of the correlation) between A and B; that is, both AVE estimates have to be greater than the shared variance estimate. For example, the AVE for consumer expectations is .94, and for consumer attitudes towards firms' marketing it is .64. Both these values are greater than the square of the correlation (.62) between these two constructs. Thus, it can be concluded that the scales in our proposed research framework (Figure 1) are valid,

Wilkins, S., Beckenuyte, C. and Butt, M. M. (2016), Consumers' behavioural intentions after experiencing deception or cognitive dissonance caused by deceptive packaging, package downsizing or slack filling. *European Journal of Marketing*, 50(1/2), 213-235.

reliable and distinct from each other (Yap and Khong, 2006). Table 2 reports the correlations between the six constructs.

Table I.
Composite reliability and average variance extracted

Construct	Composite reliability (CR)	Average variance extracted (AVE)
Consumer expectations	.96	.94
Attitude towards marketing	.91	.64
Post purchase dissonance	.97	.83
Visible negative behaviours	.98	.94
Non-visible negative behaviours	.97	.89

Table II.
Construct correlations

	Consumer expectations	Attitude towards marketing	Post purchase dissonance	Buy product again	Visible negative behaviour
Consumer expectations	1				
Attitude towards marketing	.62**	1			
Post purchase dissonance	.41**	.27**	1		
Buy product again	-.29**	-.20**	-.87**	1	
Visible negative behaviours	.30**	.25**	.78**	-.76**	1
Non-visible negative behaviours	.31**	.20**	.79**	-.90**	.85**

** Correlation significant at the .01 level (2-tailed).

Based on the acceptable results for the measurement model, we proceeded with the full structural equation modelling (SEM) procedure using AMOS (Version 19.0) to test the proposed model and related hypotheses.

8. Results

The SEM results suggest that the data are a good fit to the proposed model: $\chi^2_{(223)} = 605.42$, $p < .001$; $\chi^2/df = 2.71$; CFI = .94; IFI = .94, RMSEA = .08. Table 3 presents the results for the proposed hypotheses. All associations were significant ($p < 0.05$) except for hypothesis H2, indicating that consumers' general attitudes towards firms' marketing has no effect on consumers' post purchase dissonance. We also examined the variance explained estimates for the intended post purchase behaviours. The model explained 75% of the variation in buy product again ($R^2 = .75$), 57% of the variation in visible negative post purchase behaviours ($R^2 = .57$), and 57% of the variation in non-visible negative post purchase behaviours ($R^2 = .57$).

Based on the results of the initial structural model, we applied the bootstrapping mediation test procedure in order to establish the possible mediating role of consumer dissonance between consumer expectations and repurchasing intentions. Among several methods available to test mediation effects, the bootstrapping procedure is considered suitable due to its ability to analyse mediation between complex latent constructs. We first established that there exists a direct and significant relationship between consumer expectations and buying intentions. In the second step, we introduced consumer dissonance as a mediating variable. The introduction of this mediating variable resulted in the direct relationship between consumer expectations and repurchasing intentions becoming non-significant. To further establish the mediation effect, we calculated the indirect effect based on the extraction of 2000 bootstrap samples with 95% bias-corrected confidence intervals. The p value for the indirect effect was significant at .01, thus providing further evidence that consumer dissonance fully mediates the relationship between consumer expectations and repurchase intentions.

Wilkins, S., Beckenuyte, C. and Butt, M. M. (2016), Consumers' behavioural intentions after experiencing deception or cognitive dissonance caused by deceptive packaging, package downsizing or slack filling. *European Journal of Marketing*, 50(1/2), 213-235.

Table III.
Standardized estimates

	Hypothesis	Standardized estimate	Standard error	Critical ratio	Result
H1	Consumer expectations to post purchase dissonance	.36	.09	4.32*	Supported
H2	Attitude towards marketing to post purchase dissonance	.06	.13	.08	Not supported
H3	Post purchase dissonance to buy product again	-.87	.06	19.12***	Supported
H4	Post purchase dissonance to visible negative behaviours	.76	.06	14.85***	Supported
H5	Post purchase dissonance to non-visible negative behaviours	.76	.06	15.53***	Supported

Note: * $p < .05$; *** $p < .001$

We then considered whether consumer dissonance and post purchase behaviours were influenced by previous consumption of the brand, which we term involvement. To conduct moderation analysis, we first converted the involvement construct into a categorical variable by using the split mean procedure. The respondents who scored below the mean value were labelled as consumers with low involvement and those who scored higher than the mean value in the data were coded as the high involvement group. To test for moderating effects of consumer involvement on the proposed hypotheses, we used the critical ratio test (Pappas *et al.*, 2014). However, we first needed to establish if the non-significant path from consumers' general attitude towards firms' marketing to post purchase dissonance remains non-significant for both high and low involvement groups. The multi group analysis indicated that this path is non-significant for both groups. Therefore, we removed the path from the model. In step two, we constrained the causal paths to be equal in the revised structural model and then ran a critical ratio difference test.

Table 4 provides the results of moderation analysis using the test of critical ratio difference. The results indicate that consumer involvement is a significant moderator for all of the paths in the model except consumer expectations to post purchase dissonance. The results for the other paths reveal a very interesting pattern, as the more involved a consumer, the less likely that post purchase dissonance is influential in predicting their future buying intentions, as compared to the low involvement group. Similarly, the low involvement group is more likely to engage in both visible and non-visible negative behaviours, as compared to the high involvement group (Table 5).

Table IV.
Mediation effects – two tailed significance via bias corrected (BC) percentile test

Relationship	Mediator	Direct relationship without mediator	Direct relationship with mediator	Indirect Effect
Consumer expectations to repurchase intention	Post purchase dissonance	.310**(.001)	.050(.737)	.010**

Note: **Significant at $\alpha = 0.05$

9. Conclusion

9.1 Summary of key findings

Despite the existence of considerable research on responses to dissatisfaction and cognitive dissonance, to our knowledge, no study has yet explored consumers' post purchase behaviour resulting from cognitive dissonance that was caused by perceived deceptive packaging and/or slack filling. To

Wilkins, S., Beckenuyte, C. and Butt, M. M. (2016), Consumers' behavioural intentions after experiencing deception or cognitive dissonance caused by deceptive packaging, package downsizing or slack filling. *European Journal of Marketing*, 50(1/2), 213-235.

bridge this important gap in the literature, this study was conducted to investigate the influence of perceived deception in food product packaging by considering the extent to which consumers' product expectations and consumers' general attitudes to firms' marketing practices lead to cognitive dissonance and intended negative post purchase behaviours. It is likely that the link between consumer expectations and cognitive dissonance varies according to the type of product and consumers' expectations regarding content, quality or performance.

Table V.
Moderation tests for high and low involvement groups

Hypothesis	High involvement group (unstandardized coefficients)	Low involvement group (unstandardized coefficients)	Critical Ratio (Z score) ^a
H1 Consumer expectations to post purchase dissonance	.03	.39	0.74
H3 Post purchase dissonance to buy product again	-.83	-1.09	-2.05***
H4 Post purchase dissonance to visible negative behaviours	.56	.93	2.84***
H5 Post purchase dissonance to non-visible negative behaviours	.58	.91	2.20**

Notes: ** $p < .01$; *** $p < .001$; ^aTwo groups that differ significantly with a critical ratio value of more than 1.96 indicates a moderating effect.

The results indicate that consumer expectations are an important and significant antecedent of post purchase dissonance. Although there has been some research that rejects a link between consumer expectations and cognitive dissonance (e.g. Montgomery and Barnes, 1993), the results of this study were quite in line with the existing main stream literature, which suggests that consumer expectations influence the level of dissonance experienced by consumers (Cardello and Sawyer, 1992; Clow *et al.*, 1998). However, consumers' general attitude towards firms' marketing was not a significant influencer on consumers' post purchase dissonance. The context of our research design highlighted a specific aspect of product assessment (package fill) and the broad nature of the scale for general attitude towards firms' marketing practices might not be an appropriate construct in this context. A more specific scale that focuses on attitude towards deceptive marketing practices, or even deceptive packaging, might serve as a more robust antecedent as compared to general attitude towards firms' marketing.

As we expected, consumer dissonance was negatively related to repurchase intentions. In fact, the path linking consumer dissonance with repurchase intention got the highest beta value (-.87). Past research has reported similar results to our findings with regard to the consequences of post purchase dissonance. For example, Hunt (1991) reported that consumers who experience dissonance are more likely to return the product or switch to another brand. Similarly, others reported that cognitive dissonance resulted in lower repurchase intentions (Kim, 2011). Nonetheless, it is important to note that despite the existence of considerable research on responses to dissatisfaction and cognitive dissonance, to our knowledge, this is the first study which explored consumers' post purchase behaviour resulting from cognitive dissonance that was caused by perceived deceptive packaging and/or slack filling.

Consumer cognitive dissonance appears to be a significant predictor of both visible and non-visible post purchase negative behaviours. Both visible and non-visible negative behaviours have significant and high beta values. This emphasizes the fact that many consumers are quite aware of deceptive packaging practices and are not very impressed with these marketing gimmicks. Finally, we also investigated the moderating role of involvement (previous consumption of the brand) on the proposed relationships in the model. The results suggest that consumer involvement moderates several paths in

Wilkins, S., Beckenuyte, C. and Butt, M. M. (2016), Consumers' behavioural intentions after experiencing deception or cognitive dissonance caused by deceptive packaging, package downsizing or slack filling. *European Journal of Marketing*, 50(1/2), 213-235.

the proposed model; consumers with low involvement are less likely to repurchase the brand and are more willing to engage in visible and non-visible negative behaviours. This means that consumers with high involvement should score lower on cognitive dissonance as compared to consumers with low involvement. We conducted the independent samples t-test to establish if this is the case. The independent samples t-test for post purchase dissonance was significant, indicating that consumers with high involvement significantly differ from consumers with low involvement in terms of the level of dissonance experienced ($t = 9.01$, $df = 213$, $p < .001$). A comparison of mean values for the cognitive dissonance scale reflects that consumers high on involvement have less cognitive dissonance (3.98) compared to those who score low on involvement scale (5.32).

9.2 Implications for practice

Our findings indicate that if a consumer experiences post purchase dissonance then there is a very high chance that the consumer will not repurchase the product, but will engage in both visible and non-visible negative behaviours. Thus, the firm will lose future potential revenues and it will likely also suffer loss of reputation and damage to the brand. Negative word of mouth is very bad for firms because it may cause dissonance even among satisfied customers (Kim, 2011). However, in many cultures, consumers dislike complaining and rarely complain about goods and services to companies (Shields, 2006). The fact that relatively few consumers actually complain to either retailers or producers has great implications for firms as it means that companies may be largely unaware of dissatisfaction with products. This emphasises the need for high quality market research, so that consumers do not engage in negative behaviours that are unknown to the firm.

Expectations and levels of cognitive dissonance experienced will vary between consumer groups (Çakir and Balagtas, 2014). For example, larger low-income households, with more family members, will be more sensitive to package downsizing and slack filling. This indicates that manufacturers should consider who their target customers are when making decisions about package downsizing or slack filling. To minimise the occurrence of consumer dissonance and negative post purchase behaviours, firms should avoid using deceptive marketing practices, but a firm might use advertising and marketing communications to inform consumers of its positive policies and practices so that the firm can differentiate itself from more unscrupulous competitors.

This research contributes to the literature on packaging, cognitive dissonance and consumers' post purchase behaviour after experiencing perceived deception. In conclusion, it appears that although firms may initially achieve increased sales through deceptive packaging and slack filling, these practices risk damaging a brand's reputation and consumer loyalty to the brand. This implies that FMCG producers cannot assume they will get away with deceptive packaging and slack filling in the long term. Firms need to strike a balance between packaging size and content, and as consumer expectations are likely to vary across different products, individual companies should engage in market research and substantive market testing. Market researchers could use 'what if' scenarios to assess the likely consequences resulting from different packaging designs and levels of slack filling.

9.3 Limitations and further research

The study is not without limitations. The results represent the opinions and reactions of only British consumers with regard to one chocolate confectionery product, which makes the results less generalizable. As cognitive dissonance is more likely to occur with products that have higher monetary value, consequences in the long term, and higher psychological costs to the consumer (Oliver, 2010; Powers and Jack, 2013), the choice of chocolate confectionery in this study might have underplayed the influence of cognitive dissonance compared to other products. That said, the results do suggest that consumers will not tolerate deceptive packaging or slack filling once they become aware of these practices and that consumers will then engage in various behaviours that can hurt a firm.

Cognitive dissonance is a complex construct. For example, Mao and Oppewal (2010) note that consumers experiencing cognitive dissonance may actually spread positive word of mouth in order to reduce their own dissonance. Future research could investigate the motivations for spreading positive and negative word of mouth as well as the links and differences between cognitive dissonance and

Wilkins, S., Beckenuyte, C. and Butt, M. M. (2016), Consumers' behavioural intentions after experiencing deception or cognitive dissonance caused by deceptive packaging, package downsizing or slack filling. *European Journal of Marketing*, 50(1/2), 213-235.

satisfaction. It would be interesting to explore the trade-off between dissonance and satisfaction and to discover the points at which repurchasing a product does/does not occur for different individuals and types of product. Another avenue for future research could be to explore the extent to which individuals tolerate slack filling and perceived deception and the reasons of individual differences. Finally, it should be noted that this study investigated intended future behaviours; future research could compare intended with actual post purchase behaviours.

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Appendix 1.

Measurement scales.

Consumer expectations of product ($\alpha = .94$)

- This product will be a treat
- I can trust this brand
- This product will not disappoint
- This product gives good value for money
- The box will contain a fair quantity of chocolates

Consumer attitudes toward firms' marketing practices in general ($\alpha = .91$)

- The quality of most products is as good as can be expected
- I am satisfied with most of the products I buy
- Most prices are reasonable considering the high costs of doing business
- In general, I am satisfied with the prices I pay
- Most businesses operate on the philosophy that the consumer is always right
- Most businesses seldom avoid the responsibility to the consumer

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Cognitive dissonance ($\alpha = .97$)

- I felt disappointed with myself
- I felt uneasy
- I felt I'd let myself down
- I felt annoyed
- I wonder if I've been fooled
- I wonder if I made the right choice

Positive post purchase behaviour

- I would buy this product again

Visible negative post purchase behaviours ($\alpha = .98$)

- I would contact the shop to complain
- I would contact the manufacturer to complain
- I would return the product to the shop

Non-visible negative post purchase behaviours ($\alpha = .97$)

- I would never buy this product again
- I would tell my friends to avoid this product
- Next time I would switch to a different brand
- Next time I would switch to a different product