

**COPING WITH CONFUSION:
THE CASE OF THE DUTCH MOBILE PHONE MARKET¹**

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ABSTRACT

Purpose

This exploratory study provides insight into how consumers cope with confusion caused by overload in information and/or choice. We investigate whether consumers who face different degrees of confusion use different coping strategies depending upon their decision-making styles.

Design/methodology/approach

The Dutch mobile phone market is a typical example of a turbulent market, overloaded with information and/or choice, which creates consumer confusion. A survey was conducted among 203 mobile phone users, using valid and reliable multi-item scales to measure consumer confusion, decision-making styles and coping strategies. Cluster analysis and Mancova were used to provide insight into the results.

Findings

We find that consumers of mobile phones can be characterized by combinations of decision-making styles and find three clusters based on decision-making styles: ‘price conscious and cautious’ consumers, ‘brand-loyal and quality-driven’ consumers, and ‘functionalist’ consumers. Results show significant main effects of the degree of confusion and the decision-making styles on the use of coping strategies as well as a significant interaction effect of these two. Higher levels of consumer confusion lead to an increased use of seven coping strategies: downsizing the consideration set, keeping status quo, reduced information search, search deferral, buying what others have bought, disengagement from decision and decision delegation. ‘Price conscious and

cautious' consumers engage less in downsizing the consideration set than the two other clusters, and are less inclined to keep the status quo as compared to 'functionalist' consumers.

Originality/value

Because of the intangible and heterogeneous nature of services, knowledge about coping with confusion due to an overload in information and choice is especially important for service providers in their efforts to build and sustain strong relationships with consumers. Practical implications in terms of different approaches on how to cope with confused consumers are provided.

Keywords: coping with confusion strategies, decision-making styles, consumer confusion, consumer decision-making, mobile phones

Research paper

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1. Introduction

The service sector has become a dominant force in the economy. From a service dominant logic perspective (Lusch *et al.*, 2007) all products (goods and services) are viewed in terms of service flows, in which the service is provided through an object. Co-creation between service provider and consumer is a central feature. Because of this nature of services, particularly with regard to intangibility and heterogeneity (Lovelock and Wright, 2002; Zeithaml *et al.*, 2006), knowledge of consumer decision-making, and especially knowledge of how consumers cope with confusion, is really important for service providers in their efforts to build and sustain strong relationships with consumers. Moreover, it is essential to generate knowledge on how consumers use different coping strategies depending on their decision-making styles when faced with different degrees of consumer confusion caused by an overload in information and/or choice.

Consumer decision-making processes are interrelated with information processing activities. The right amount of information is critical here. Too little information may lead to wrong decisions; however, too much information may also cause problems. In the latter case, consumers are said to suffer from information overload, which may cause confusion. The concept of overload in relation to consumer decision-making was first addressed by Jacoby (1977) and Malhotra (1984). Information overload can be explained and defined as follows: “there are finite limits

to the ability of human beings to assimilate and process information during any given unit of time. Once these limits are surpassed, the system is said to be overloaded and human performance (including decision-making) becomes confused, less accurate, and less effective". Information overload has been shown to lead to bad consumer choice (Lee and Lee, 2004).

In addition to the overload in information, there can also be an overload in choice. Like information, choice may be seen as positive (Oppewal and Koelemeijer, 2005), but too much choice may cause confusion. Iyengar and Lepper (2000) state that excessive choice may be extremely de-motivating for consumers. They hold (p. 996): "although the provision of extensive choice may sometimes still be seen as initially desirable, it may also prove unexpectedly de-motivating in the end." The attractiveness of an abundance of choice is likely to be overestimated. Mick *et al.*, (2004) proposed the concept of hyper-choice that prevails in many markets today: consumers are overwhelmed by products, services and information and seem to lack the time to process all the choices and act rationally. This information processing problem requires renewed attention from a consumer decision-making perspective.

Information and choice overload are closely linked. A large variety in choice typically leads to more information about attributes of the product or service, which can cause feelings of dissatisfaction when the information cannot easily be processed (Huffman and Kahn, 1998). Similarly, new products with many complex features may overwhelm consumers, persuading them to buy a product with many unnecessary features, which also leaves them unsatisfied with their choice (Thompson *et al.*, 2005). Information and choice overload thus share negative consequences for consumer decision-making.

Information and choice overload together lead to a phenomenon known as consumer confusion (Cohen, 1999; Turnbull *et al.*, 2000; Walsh *et al.*, 2007). Turnbull *et al.*, (2000, p. 145) define it as “... consumer failure to develop a correct interpretation of various facets of a product/service, during the information processing procedure. As a result this creates misunderstanding or misinterpretation of the market.” Walsh *et al.*, (2007) combine the effects of information and choice overload and define a new construct they call ‘overload confusion proneness’. They define this (p. 9) as “consumers’ experienced difficulty when confronted with more product information and alternatives than they can process in order to familiarize themselves with, compare and comprehend alternatives.” We conceptualize consumer confusion as the consumer’s cognitions, feelings and experiences of being overloaded by the market supply. Thus, in our conceptualization, consumer confusion is a self-reported overload, and as such a conscious phenomenon. Consumers are aware of their own confusion (Walsh *et al.*, 2007), but may not be aware of the true magnitude of the overload. It is important to notice that not overload as such, but the way it is perceived by consumers is critical to their decision-making behavior.

Because of the negative consequences of information and choice overload, consumers need ways to deal with the confusion that is caused by the overload. Consumers try to mitigate the negative consequences of confusion. The first goal of our study therefore is to investigate the relationship between consumer confusion and the various strategies consumers apply to cope with confusion. The second goal of our study is to research whether the impact of the degree of consumer confusion on the coping strategies depends on consumer decision-making styles. To the best of our knowledge, the link between consumer confusion and the strategies to cope with it, has received little attention in the literature so far and therefore we use an exploratory

approach for our research. We assume coping strategies differ for various groups of consumers, and we therefore will investigate whether these coping strategies are dependent on (1) the degree of consumer confusion and (2) various consumer decision-making styles. The empirical part of our study relates to the Dutch mobile phone market, as an example of one of the many markets where consumers are confused.

In the remainder of this article we will first focus on the theoretical background with regard to coping strategies and consumer decision-making styles. Second, we formulate a number of propositions. Then we will provide information about the empirical setting, the applied methodology and the results. Finally, we will provide a conclusion and discussion, including theoretical and managerial implications.

2. Coping Strategies

Coping strategies refer to the strategies consumers use to avoid the negative effects of confusion. At the core of this concept is the fundamental assumption that consumers are actively responsive to forces that impinge upon them.

Mitchell *et al.* (2005) developed a theoretical model proposing a number of strategies to reduce or eliminate confusion. In their theoretical model they propose coping strategies such as abandoning purchase, clarifying buying goals (mainly via narrowing down the options or setting one or more criteria which have to be satisfied), seeking additional information (e.g. from sales people or consumer reports), involving/consulting family and friends, sharing or delegating the purchase, postponing the purchase, or doing nothing at all.

In addition, other coping strategies are suggested in the literature, like relying on brand name or price (Sproles *et al.*, 1980), changing to a non-compensatory decision-making strategy (Iyengar and Lepper, 2000) and using cut-off points to determine minimum requirements for consumer choice and reject all choices that do not meet those requirements (Wright, 1975), deferring choice in situations with equally acceptable alternatives or situations where none of the alternatives is attractive (Dhar, 1997), choosing the same option as before or ‘keeping the status quo’ (Samuelson and Zeckhauser, 1988), delegating decision-making to third parties such as virtual agents, personal shoppers, friends and family (Poiesz, 2004). These strategies or heuristics contribute to simplifying the decision-making processes of consumers. They focus on reduced information search and diminishing the set of alternative products and services to choose from. Such use of heuristics is very problem-focused and aimed at making decision-making processes simpler by avoiding the complexity (Viswanathan *et al.*, 2005).

3. Consumer Decision-making Styles

Research on consumer decision-making styles originates from the 1950s and heavily hinged upon investigating various ways of shopping behavior in – mainly – supermarkets. In the 1980s, Sproles (1985) and Sproles and Kendall (1986) developed a methodology claiming to be universally applicable for all kinds of shopping behavior and consumer decision-making. They define a consumer decision-making style as “a mental orientation characterizing a consumer’s approach to making choices” (Sproles and Kendall, 1986, p. 268). They concluded from their study in the United States that eight consumer decision-making styles exist:

1. perfectionist, high-quality conscious consumers;

2. brand conscious, price equals quality consumers
3. novelty-fashion conscious consumers;
4. recreational and hedonistic shopping conscious consumers;
5. price-conscious, value for money consumers;
6. impulsive, careless consumers;
7. confused by over-choice consumers;
8. habitual, brand-loyal consumers.

Sproles and Kendall (1986) claim that the decision-making styles with respect to personal goods are the same as the decision-making styles towards all other goods and services, since decision-making styles reflect a personality trait. Their study reveals that consumers apply restricted choice sets in making decisions. The way consumers restrict their choices differs per style. For example, habitual brand-loyal consumers choose from their favorite brands and shops, while novelty-fashion conscious consumers pay much attention to specific brands and/or price images. These examples show that consumers may lack the motivation and/or the capacity and/or the opportunity to make rational choices (Poiesz, 2004) and relate also to the limited information processing capacity of human beings (Jacoby, 1977; Malhotra, 1984).

Many other studies have been carried out in other countries after the original Sproles and Kendall study on decision-making styles (Hafstrom *et al.*, 1992; Durvasula, *et al.*, 1993; Lysonski *et al.*, 1995; Fan and Xiao, 1998; Mitchell and Bates, 1998; Siu *et al.*, 2001; Walsh *et al.*, 2001a; Walsh *et al.*, 2001b; Kamaruddin and Mokhlis, 2003; Wickliffe, 2003; Bakewell and Mitchell, 2004; Wang *et al.*, 2004; Bauer *et al.*, 2006; Wesley *et al.*, 2006;). The overall finding is that not all styles originally distinguished by Sproles and Kendall (1986) were found in all studies,

some styles were modified slightly, while others had to be added. Most studies focus on buying personal goods, none of them focuses on buying services.

It is important to realize that Sproles and Kendall (1986) and all other studies on consumer decision-making styles assume that a consumer uses only one particular decision-making style. We challenge this assumption. It is more likely that consumers use a number of styles, and that some decision-making styles may dominate. In other words, different consumers may be characterized by different combinations of decision-making styles. A similar way of reasoning can be found in Walsh *et al.* (2001b, p.90) who concluded amongst others that “... there is reason to believe that consumers can be clustered into segments, given that powerful discriminant decision-making traits can be found.” We will follow this suggestion to cluster consumers with similar decision-making styles into homogeneous segments in this article.

4. Propositions

The first goal of our study is to investigate the relationship between consumer confusion and the various strategies consumers apply to cope with this confusion. More precisely, will coping strategies differ among consumers with a different degree of confusion?

In line with Ballantyne *et al.* (2006) we hold that increased consumer confusion will make consumers search for ways to simplify the decision-making processes, which we call coping strategies. We expect that consumers will turn to particular coping strategies depending upon the degree of confusion they face. Delegating decision-making to others may be the case when the confusion is very high and consumers need the advice of others. On the other hand when confusion is not that high, consumers may simply buy the same product again and rely on the

brand. It therefore seems plausible to expect that, depending on the degree of the confusion, consumers may adopt different strategies to cope with this confusion. Given the exploratory nature of our study, we will not provide hypotheses about specific coping strategies. Instead we formulate our first research proposition as follows:

Proposition 1: Coping strategies differ between various degrees of consumer confusion.

The second goal of our study is to investigate whether the impact of the degree of consumer confusion on the coping strategies depends on consumer decision-making styles. Therefore, we first have to address the direct impact of consumer decision-making styles on coping strategies. In other words: will coping strategies differ among consumers with different (combinations of) consumer decision-making styles?

In section three we concluded that the ways consumers cope with confusion caused by the information and/or choice overload may be affected by particular restricted choice sets in making decisions: their decision-making styles. Overall, we expect that consumers with a more rational decision-making style (e.g. perfectionist, high-quality conscious consumers or price-conscious, value for money consumers) will react to confusion with different coping strategies than consumers with a more emotion based decision-making style (e.g. impulsive, careless consumers or recreational and hedonistic shopping conscious consumers).

Our expectations are backed up by exploratory face- to -face interviews. We interviewed a number of buyers of mobile phones (our research setting) in the

Netherlands about how they dealt with confusion. These consumers indicated that there is so much information about mobile phones that it is hard to choose, even for young consumers who are quite well aware of the benefits of these new technologies. Making a choice is even more difficult when these consumers have limited time available to investigate all the alternatives and information supply. They pleaded for a smaller supply of mobile phones, contracts and providers. They indicated to be inclined towards repeat purchase of the same brand, for instance, in order to avoid all the hassle of collecting and evaluating all the available information. Thus, overload in information and/or choice is not only a state of mind, but influences the decision-making process too. This example indicates that every consumer may become overloaded with information and/or choice overload to a certain extent and has to find ways to cope with this confusion. Since every consumer has an individual approach to making choices, (i.e., one or more decision-making styles), they may also develop particular ways to deal with that confusion. The perfectionist, high-quality conscious consumers may choose the same high-quality product as before because they have extensively evaluated the products bought thus far and are very satisfied with it. In such circumstances these consumers will not look for additional information to make a better choice than before. More price-conscious consumers may postpone their decision; they may wait until they find alternatives that are equally acceptable in terms of value for money.

Another argument can be found in Schwartz *et al.* (2002) who differentiate between ‘maximizing’ and ‘satisficing’ personalities of consumers. Although not defined by Sproule and Kendall (1986) and others as particular decision-making styles, ‘maximizing’ and ‘satisficing’ can also be characterized as mental orientations characterizing a consumer’s approach to making choices. A satisficer is looking for

products and services meeting his or her minimum requirements (a product that is good enough) and do not engage in extensive search and comparison processes. A maximizer seeks and accepts only the best, engages in more product comparisons and takes more time to come to a purchase decision. Consequently, maximizers are more sensitive to regret and may be less satisfied with the outcome of their decisions than satisficers (Botti and McGill, 2006). This means that the effects of confusion are likely to be stronger and more negative for maximizers than for satisficers. In our opinion, both types of consumer personalities will take actions to avoid such situations by coping with this confusion in a particular way.

Given the exploratory nature of our study, we will not provide specific hypotheses here either. Instead we formulate our second research proposition as follows:

Proposition 2: Coping strategies differ between (combinations of) consumer decision-making styles.

Since the second goal of our study is to research whether the impact of the degree of consumer confusion on the coping strategies depends on consumer decision-making styles, we now have to address the interaction effect between consumer confusion and decision-making styles.

Sproles and Kendall (1986) argue that a consumer decision-making style is in fact a kind of personality trait (Schwartz *et al.*, 2002). The use of particular coping strategies doesn't depend only upon the personality of the consumer in terms of the decision-making style, but clearly also on the degree of experienced confusion in a certain domain (see e.g. Van Raaij and Verhallen, 1994). Therefore we assume that

consumer decision-making styles moderate the relationship between consumer confusion and coping strategies. As in all other consumer decision-making processes there is an interaction between the person(ality) of the consumer and the situation that determines how the consumer decides; in our case the strategies a consumer uses to cope with confusion. We formulate our third research proposition as follows:

Proposition 3: The impact of consumer confusion on coping strategies depends on consumer decision-making styles

5. Empirical Setting

The mobile phone market is a typical example of a turbulent market characterized by extensive information about many types, brands and suppliers of mobile phones (the equipment), many kinds of contracts, and a limited number of highly competitive network providers (see also Turnbull *et al.*, 2000). Usually, the market structure is characterized by two or three large players and a few smaller network providers. Furthermore, various combinations of mobile phone, contract and provider can be made. The mobile telephone market in the Netherlands is no exception: a consumer information web site (bellen.com) listed 93 combinations of network providers and subscription contracts on offer in the market during the time of this study in 2007. When combinations with mobile phones are made the number of possible combinations becomes seemingly infinite. Therefore, the mobile telephone market in the Netherlands would typically be a market where an overload in information and choice exists, and where consumers experience confusion. Moreover, the mobile phone market is characterized by complex technological developments and a fast pace of innovation, which can further increase consumer confusion.

6. Methods

Measures

The scale to measure *consumer confusion* is based upon topics that were found in our literature search on confusion in Jacoby (1977), Malhotra (1984), Iyengar and Lepper (2000), Mick *et al.* (2004) and on topics mentioned in the exploratory interviews. The scale items are a summary of all the relevant items found.. The scale taps both domains of confusion: the overload in choice and the overload in information (see Table 1a). The scale items also refer to essential activities in consumer buying processes, such as studying information, choosing the product or service, and actually purchasing it. The interviews showed that consumers associated feelings of being overwhelmed by all the information and choice as a particular feature of confusion. This was also the case with respect to the perceived complexity and/or (im)possibility to make a choice. In the interviews consumers mentioned that confusion was related to the time available to study all the information on mobile phones, contracts and providers to make the purchasing decision. The interviews also showed that consumers who pleaded for a smaller supply of mobile phones, contracts and providers in fact expressed feelings of confusion. Eventually, we measured consumer confusion with a Likert-type scale ranging from 1 (= totally disagree) to 5 (= totally agree) containing the ten items shown in Table 1b. We added three items from the consumer decision-making styles scale in order to avoid conceptual overlap and low discriminant validity. Table 1b provides also an overview of the mean scores, the standard deviation, the factor loadings and other measurement properties of the scale.

Table 1a and Table 1b here

Based on the work of Sproles and Kendall (1986), we developed a 45 item scale to measure *consumer decision-making styles* (Table 2). Again a five-point Likert scale has been used ranging from 1 (= totally disagree) to 5 (= totally agree). We extended the initial number of items (41) in the original Consumer Styles Inventory to reflect the fact some consumers may decide on the mobile phone itself, the provider or the contract (or a combination of these three). Therefore we distinguished five domains and included items for each of these domains:

1. purchasing behavior in general (= not linked to the purchase of a mobile phone plus contract);
2. buying the mobile phone;
3. choosing the provider;
4. buying the mobile phone plus contract; and
5. decisions about making a choice for the mobile phone plus provider plus contract.

Most items from the original scale were reworded to relate to the mobile phone market. Not all original items of Sproles and Kendall (1986) could be copied because respondents in our exploratory interviews indicated they did not fully understand the item or because they were not relevant to the research setting. Based on the exploratory interviews, items referring to the use of internet for buying products or for searching for information were added.

The original Sproles and Kendall (1986) scale includes items pertaining to consumer confusion, which form the 'confused by overchoice' decision-making style (Sproles and Kendall, 1986). Our initial analysis of the items revealed that four of our scale items also formed a 'confused by overchoice' decision-making style. As

mentioned, to avoid conceptual overlap and low discriminant validity of our measures, we took three of these items from the consumer decision-making styles scale and used them to improve our consumer confusion scale.

The final scale items to measure consumer decision-making styles can be found in table 2. To determine the consumer decision-making styles, we followed the procedure of Sproles and Kendall (1986), in which all 45 items of our adaptation of the Consumer Style Inventory are subjected to a principal component analysis. The principal component analysis revealed six consumer decision-making styles, which correspond largely with other studies on consumer decision-making styles (Sproles and Kendall, 1986, Bauer *et al.*, 2006, Walsh *et al.*, 2001b). Five items were dropped because of bad psychometric properties, in addition to the four items referring to consumer confusion (of which three, due to their psychometric properties, could be added to the consumer confusion scale). The psychometric properties of the scales measuring the six consumer decision-making styles can be found in table 2.

Table 2 here

To measure *coping strategies*, we developed a set of eight independent scale items. This set of scale items is based on the literature search mentioned earlier on strategies to cope with confusion and on the exploratory interviews conducted. A critical interpretation of the literature reveals that some coping strategies will not be adequate in alleviating confusion. Because gathering additional information may not always reduce confusion (Drummond, 2004) one may doubt whether this is an appropriate coping strategy. Therefore, this strategy was excluded from our empirical study. In our opinion, setting of one or more criteria that have to be satisfied and non-

compensatory coping strategies are essentially the same. Moreover, the similarity between deferring, abandoning and postponing the purchase as strategies to cope with confusion, has lead us to propose to group these together.

The scale summarizes the various coping strategies found and avoids overlap in formulation of concepts applied in all those studies. Each of the scale items refers to one of the strategies that can be applied when coping with confusion: reliance on heuristics, downsizing the consideration set, keeping status quo, reducing the information search, choice deferral or postponing the choice, buying what other people have bought, disengaging from the decision to buy, and delegation of the decision. The eight strategies to cope with consumer confusion are measured on a scale ranging from 1=totally disagree to 5=totally agree. Table 3 provides an overview of the items and their mean scores and standard deviation.

Insert Table 3

Sample and data collection

We conducted a survey among mobile phone users in The Netherlands in 2007. An online questionnaire was sent to 850 users. After checking for item non-response we obtained 203 usable responses, i.e., of respondents owning a mobile phone with a (subscription) contract (24% response rate). We excluded mobile phone users with a prepaid scheme, because they were unable to answer the questions referring to the contract. Of the 203 respondents, a little more than 90 per cent had had a mobile phone for four years or longer. With respect to age, 114 respondents were younger than 30 years, 39 were between 30 and 50 years old, and 50 were 50 and over. This

means that young consumers, and to some degree old consumers, are over-represented in our sample, and that the middle groups are under-represented.

7. Results

Descriptives

The mean scores and standard deviations on the ten items representing the *consumer confusion* scale provided in table 1b indicate that there is considerable variation in consumer confusion. The mean score for overall consumer confusion is 2.95 with a standard deviation of .77. Although there is a group of consumers that is not very confused by the offerings on the Dutch mobile phone market, there is also a group that is confused. More specifically, 25% of all respondents report a confusion score of 3.60 and higher. These consumers experience a cognitive overload and report a negative attitude towards the high number of choices on the market and the great amount of information available. The large numbers of mobile phones, the variety in contracts and the number of service providers make decision-making processes very complex (even for those consumers that have already possessed a mobile phone for a long time) and seem to confuse consumers. In that respect it is understandable that consumers would like the number of mobile phones, contracts and providers to decrease (average item score 3.10). The items that refer to the amount of information, score relatively low (average item score 2.85, 2.81 and 2.66). Probably the excessive choice rather than excessive information seems to be the major cause of consumer confusion.

As we established in our review of the literature, it is not likely that every consumer possesses only one *decision-making style*. It is more likely that a consumer's decision-making behavior can be characterized by a combination of

styles. Therefore, a cluster analysis was conducted using the scores of the individual respondents on each of the six scales for consumer decision-making styles. Three stable clusters were found, following a procedure suggested by Malhotra (2007) which starts out with a hierarchical clustering algorithm using Ward's method based on squared Euclidean distances, followed by k-means cluster analysis to determine stability. Each cluster accounts for about one-third of the total sample of 203 respondents. Table 4 shows the three clusters and their characteristics. Firstly, it is important to note that all six styles are, to some degree, present in each cluster, indicating that consumers may apply all styles to a certain extent. Secondly, all clusters score relatively high on the cautious, perfectionist style while the scores on the variety seeking style are relatively low, indicating that these styles typically reflect consumer decision-making processes in the Dutch mobile phone market. Thirdly, each cluster is dominated by specific styles:

1. The first cluster shows high scores on two decision-making styles: the cautious, perfectionist and the price-conscious style. In fact, these cautious consumers search for the best price for a combination of mobile phone, type of contract and provider. Hence, we labeled the cluster *price-conscious and cautious* consumers. They seem to be looking for the best quality/price ratio regardless of the brand;
2. The second cluster is dominated by high scores on brand consciousness and loyalty and on quality and novelty seeking. The cluster has the lowest score on variety seeking. These consumers are similar to early-adopters: they want the best new option from their favorite brand and care less about prices. They are committed to finding this best new option, as witnessed by their high

scores on caution/perfectionism. Hence we labeled this cluster as *brand-loyal and quality-driven* consumers;

3. The third cluster is dominated by very low scores on recreational, hedonistic aspects. These consumers do not enjoy buying mobile phones and associated services. They also have low scores on quality seeking, novelty consciousness and variety seeking. They do, however, want to make the best choice available for them, as witnessed by their high scores on caution/perfectionism. These consumers do not care about brands, and seem to be very pragmatic in their choice: they want a mobile phone that suits their simple needs, against a reasonable price. Therefore we labeled the cluster *functionalist* consumers.

Consumers aged over 50 and females are over-represented in the ‘functionalist’ cluster. Consumers aged under 30 are over-represented in the ‘brand-loyal and quality-driven’ cluster, while males are overrepresented in the ‘price-conscious and cautious’ cluster.

Insert Table 4

To deal with confusion the most frequently used *coping strategy* is reliance on heuristics, such as only looking at the brand or the price (see table 3). The second most popular strategy is downsizing the consideration set. Thus, in the two most popular strategies used to cope with consumer confusion the Dutch consumers seem to limit themselves to a specific brand, store, provider or price. They do not disengage

from the decision that much nor do they delegate the decision to someone else: they do make the decisions by themselves eventually.

Proposition testing

In order to test our propositions, we conducted a MANCOVA with the eight coping strategies as dependent variables, the decision-making style clusters as factor, and consumer confusion as covariate. A model was estimated with both main effects and an interaction between confusion and decision-making style clusters. This analysis allows us to test the three propositions for all eight coping strategies simultaneously by performing three omnibus tests. The first omnibus test, for the effect of consumer confusion on all of the eight coping strategies, shows a significant effect (Roy's largest root = .416, F -statistic = 9.888, $p = .000$). The effect size, measured by partial η (eta), is .542, which implies a large effect. This means that the degree of consumer confusion, in general, has an effect on the use of the eight coping strategies. Proposition 1 is therefore supported.

The second omnibus test, for the effect of decision-making style clusters on all of the eight coping strategies, also shows a significant effect (Roy's largest root = .130, F -statistic = 3.112, $p = .003$). The effect size, measured by partial η (eta), is .339, which implies a medium effect. Proposition 2 is therefore also supported.

A third omnibus test was conducted to test for the moderating effect between consumer confusion and decision-making style cluster on the eight coping strategies. It yields a significant effect (Roy's largest root = .114, F -statistic = 2.710, $p = .008$). The effect size, measured by partial η (eta), is .319, which implies a medium effect. Therefore, proposition 3 is supported. In conclusion, the MANCOVA shows that there are significant main effects on coping strategies of the degree of confusion and

of the decision-making style clusters, as well as a significant interaction effect of these two.

Insert Table 5

Whereas the omnibus tests allow us to test the three propositions for all of the coping strategies together, we also explore the effects for specific coping strategies. Table 5 shows the correlations between consumer confusion and each of the six decision-making styles and the eight coping strategies. The higher the degree of consumer confusion the greater the use of seven out of the eight coping strategies. The only coping strategy that is not used significantly more frequently with increased consumer confusion is ‘reliance on heuristics’ (correlation = .050). As indicated before, this coping strategy is rather popular among all consumers in the Dutch mobile phone market, irrespective of their level of consumer confusion. Consumer confusion has the strongest effect on the coping strategy ‘reduced information search’ (correlation = .387) and choice deferral (correlation = .372). Highly confused consumers limit their information sources and postpone decision-making. These highly confused consumers try to overcome the complexity this way.

The size of the correlation coefficients in table 5 indicates that the strategies of downsizing the consideration set, keeping the status quo and reduced information search are highly correlated; they are all related to reducing the amount of information or choice. Table 5 also indicates that the strategies of choice deferral, buying what others have, disengagement from decision, and decision delegation are correlated; they seem to have in common a certain stepping away from the responsibility of making the decision or avoiding to make the buying decision.

Insert Table 6

Table 6 shows detailed results with the scores on each of the eight coping strategies for the three decision-making style clusters, as well as tests for significance of the differences between the clusters and each coping strategy. The use of some strategies differs significantly between the clusters. There is an overall effect of the three decision-making style clusters on the use of ‘downsizing the consideration set’ and on ‘keeping the status quo’ as coping strategy.

Post-hoc tests allow us to further explore differences between the clusters with respect to these two coping strategies (see also table 6). ‘Brand-loyal and quality-driven’ consumers are significantly more likely to downsize the consideration set (3.71) than ‘price-conscious and cautious’ consumers (2.94) who – in turn – are significantly less likely to downsize the consideration set than the ‘functionalist’ consumers (3.53). The ‘functionalists’ will keep the status quo (2.69) to a significantly larger degree than the ‘price-conscious and cautious’ consumers (2.32).

8. Conclusion and Discussion

In the turbulent, highly competitive Dutch mobile phone market, consumers suffer from various degrees of consumer confusion. Depending on the level of confusion, consumers use particular strategies more often than other strategies in order to cope with this confusion. Some strategies that are used relate specifically to diminishing the amount of information and/or choice, whereas other strategies relate more to postponing the decision or avoiding that consumers have to make a decision. The most often mentioned strategies relate to relying on particular heuristics (focus on a

brand or the price) or downsizing the consideration set. Clearly, confused consumers limit themselves to a specific brand, store, provider or price to cope with the excessive amount of choice. Two direct effects were found in this study: (1) the degree of consumer confusion affects the use of coping strategies, and (2) the consumer decision-making style affects the use of coping strategies.

The higher the degree of consumer confusion, the greater the use of seven out of the eight coping strategies: only the use of “reliance on heuristics” does not differ to the degree of consumer confusion. The most confused consumers downsize their consideration set, keep the status quo, reduce the information search, defer the choice, buy what others buy, disengage from the decision and delegate the decision.

Three clusters of consumers with a particular combination of decision-making styles were found. The three clusters have been labeled ‘price-conscious and cautious’ consumers, ‘brand-loyal and quality-driven’ consumers, and ‘functionalist’ consumers.

It is remarkable to see that all three clusters consider the strategies “reliance on heuristics” and “downsizing the consideration set” as the most often used strategy to cope with consumer confusion. However, there are also differences. The ‘functionalist’ consumers differ significantly from the ‘price-conscious and cautious’ consumers in two ways: they downsize the consideration set to a larger extent as well as keep the status quo to a larger extent. The brand-loyal and quality-driven consumers downsize the consideration also to a larger extent than the ‘price-conscious and cautious’ consumers.

This study in a particular service industry shows that providing more information and choice creates more problems (confusion) than solutions. Providing additional information and choice increases confusion and does not contribute to

consumer welfare in our society's mobile phone market in which consumers already feel confused. Therefore, managers should carefully check whether providing additional information and choice really contributes to improving consumer decision-making. Not all consumers are able, willing or motivated to process all available information and choice options, given their limited information processing capacity. In order to help consumers in their decision-making, managers could develop new "overload-reducing services", as for instance the many successful web sites with comparative testing on mobile phones, contracts and providers show.

The three clusters of decision-making styles require a different approach to diminish their confusion. The 'functionalists' show the greatest degree of confusion. This segment can be characterized by a repeat buying behavior or so called 'spurious loyalty' since they prefer to keep the status quo. Spurious loyalty reveals a loyalty in terms of buying what they are used to based on inertia without elaboration (see e.g. Bloemer and Kasper, 1995). Managers should not offer consumers in this segment additional information or choices, but instead this segment needs re-confirmation of the choices made in the past. Marketing communication should focus on telling consumers that they made the right decision and therefore justify their choice. This segment does not want to be bothered with extra information or extra choices.

The 'price-conscious and cautious' consumers' are less confused when compared to the 'functionalists'. These consumers like to compare many alternatives in order to find the best buy in terms of quality-price ratio. However, the specific brand is not so important to them. Managers should remember however that also this segment is confronted with confusion as a consequence of an overload in information and choice. Since this segment clearly prefers to downsize the consideration set, managers should offer these consumers a clear overview of the best buys in terms of

quality-price ratio showing how their own product or service outperforms competitors.

The 'brand-loyal and quality-driven' consumers' are also less confused compared to the 'functionalists'. This segment is characterized by consumers that consider the innovativeness of a brand the most important decision-making criterion despite the price. Managers should therefore provide an overview of a restricted set of the most innovative brands. For this segment, they should focus on showing how their product outperforms others in terms of innovativeness instead of discounts.

The main limitation of this study is its focus on just one market in one country; therefore the results of our study cannot be generalized. More and other studies need to be performed in other services markets and countries. Concerning the theoretical implications of this exploratory study more and other variables than only the degree of confusion and the decision-making style need to be taken into account, in order to determine the strategies consumers use to cope with confusion. Coping with confusion needs also to be studied in the light of the many negative feelings and emotions created by confusion, perceived risk reduction, technology readiness, brand loyalty, switching barriers and the adoption of new products and services, in order to gain better insight in the complex antecedents and consequences of consumer confusion.

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Table 1a: Initial items consumer confusion scale

Item	Domain	
	Number of products & suppliers	Amount of information
Because I have very little time apart from my daily activities it is impossible to study the entire supply of mobile phones, contracts and providers	•	•
The purchase of a mobile phone plus contract has become complex due to the high number of combinations of mobile phones, contracts and providers available on the market	•	
I would love to see the number of mobile phones, contracts and providers to be smaller	•	
I find it difficult to make a choice because the supply of mobile phones, contracts and providers is so large	•	
I feel overwhelmed by the amount of information about mobile phones, contracts and providers		•
It is impossible to make the right choice due to the amount of information on mobile phones, contracts and providers		•
It is impossible to purchase a mobile phone plus contract due to the high number of combinations of mobile phones, contracts and providers on the market	•	

Table 1b: Final consumer confusion scale

Scale & Items	Mean score	Standard deviation	Factor loading
<i>Consumer Confusion (Cronbach's $\alpha = .913$; Eigenvalue = 5.690; Explained variance = 56.9 %)</i>			
Because I have very little time apart from my daily activities it is impossible to study the entire supply of mobile phones, contracts and providers	3.37	1.05	.518
The purchase of a mobile phone plus contract has become complex due to the high number of combinations of mobile phones, contracts and providers available on the market	3.35	.96	.774
I would love to see the number of mobile phones, contracts and providers to be smaller	3.10	1.03	.719
I find it difficult to make a choice because the supply of mobile phones, contracts and providers is so large	2.99	1.11	.860
The more I learn about mobile phones, contracts and providers, the more difficult becomes my choice*	2.96	.99	.639
There are so many brands of mobile phones, contracts and providers to choose from, that I often feel confused*	2.88	1.06	.792
I feel overwhelmed by the amount of information about mobile phones, contracts and providers	2.85	1.05	.862
All the information I get about mobile phones, contracts and providers confuses me*	2.81	1.04	.757
It is impossible to make the right choice due to the amount of information on mobile phones, contracts and providers	2.66	.98	.805
It is impossible to purchase a mobile phone plus contract due to the high number of combinations of mobile phones, contracts and providers on the market	2.53	.95	.752
<i>Entire scale</i>	2.95	.77	

* Indicates items added from the Consumer Styles Inventory (Sproles and Kendall, 1986)

Table 2: Consumer decision-making style scales

Scale & Items	Mean score	Standard deviation	Factor loading ^(a)
<i>Cautious, perfectionist (Cronbach's $\alpha = .855$; Eigenvalue = 7.927; Explained variance = 17.6%)</i>			
I buy a mobile phone plus contract quickly; I do not really take the time for it (R)	3.64	.97	.794
I carefully search for the mobile phone, subscription and provider offering me the best value for money	3.45	.94	-.721
I take the time to shop carefully for best buys	3.75	.93	-.711
I am impulsive when purchasing a mobile phone plus contract (R)	2.17	.86	.676
When it comes to purchasing a mobile phone plus contract, shopping the stores and/or websites wastes my time (R)	2.26	.96	.675
I shop quickly, buying the first mobile phone plus contract I find that seems good enough (R)	2.29	.97	.645
I really don't give my purchase of a mobile phone plus contract much thought (R)	2.61	1.03	.586
When it comes to purchasing a mobile phone plus contract, I try to make the perfect choice	3.91	.74	-.529
I carefully watch how much I spend when buying a mobile phone plus contract	3.91	.77	-.512
I should plan my buying of a mobile phone plus contract more carefully than I do (R)	2.37	.89	.495
<i>High-quality, novelty-conscious (Cronbach's $\alpha = .853$; Eigenvalue = 5.024; Explained variance = 11.2 %)</i>			
The more expensive mobile phones brands are usually my choice	2.53	1.08	.733
My standards and expectations for products I buy are very high	3.05	1.03	.715
I always buy the newest and most fashionable mobile phones	1.98	.95	.690
I make special effort to choose the very best quality mobile phones	2.90	1.08	.636
A mobile phone's styling is very important to me	2.79	1.21	.616
When buying a mobile phone I especially look for the newest mobile phones	2.94	1.17	.603
I change mobile phones I buy regularly	2.04	.99	.580
A mobile phone doesn't have to be perfect to satisfy me (R)	3.38	.99	-.474
In general, I usually buy the best quality	3.58	.74	.471
Getting very good quality is very important to me	4.22	.63	.403
<i>Recreational, hedonistic (Cronbach's $\alpha = .812$; Eigenvalue = 3.233; Explained variance = 7.2 %)</i>			
It's fun and exciting to buy a new mobile phone plus contract	2.97	1.03	.769
Buying a mobile phone plus contract is not a pleasant activity to me (R)	2.82	1.02	-.700
I enjoy buying a mobile phone plus contract	2.45	.98	.687

Buying a mobile phone plus contract is one of the enjoyable activities in life	2.04	.95	.637
To get variety, I always buy different mobile phones	2.32	1.06	.497
<i>Variety seeking (Cronbach's α = .770; Eigenvalue = 2.323; Explained variance = 5.2 %)</i>			
I change providers regularly	2.14	.94	.794
Once I find a provider I like, I stick with them (R)	3.50	1.06	-.771
I have one favorite provider I choose over and over (R)	2.97	1.16	-.688
To get variety, I always choose a different provider	1.83	.70	.672
Often I later wish I had not chosen that particular provider	2.19	.85	.605
<i>Brand conscious and brand-loyal (Cronbach's α = .610; Eigenvalue = 1.802; Explained variance = 4.0 %)</i>			
Once I find a mobile phone brand I like, I stick with it	3.44	1.07	.616
Nice and attractive stores and/or websites offer me the best products	3.06	.89	.608
I have a few favorite mobile phone brands I buy over and over	3.60	1.15	.565
To me, the most advertised brands of mobile phones, are the best	3.10	.97	.558
<i>Price-conscious (Cronbach's α = .687; Eigenvalue = 1.629; Explained variance = 3.6 %)</i>			
The lower price products are usually my choice	2.89	.96	.789
I buy as much as possible at sale prices	3.41	.90	.766

(R) Reversed item.
^(a) Factor loadings are the loadings on the respective factors.

Table 3: Eight coping strategies

Coping strategy	Description	Mean score	Standard deviation
Reliance on heuristics	I use particular criteria to make my decision. For instance I only look at the brand, the price of the contract or the provider to make my choice easier	3.49	.97
Downsizing consideration set	I do not take the trouble to check all combinations of mobile phones, contracts and providers; I'd rather limit myself to a specific brand, a specific store of provider to facilitate my choice	3.39	1.09
Keeping status quo	I stick to the brand of the mobile phone or the provider I already have in order not to be bothered by all the choices offered by the market	2.55	.92
Reduced information search	I limit myself to one particular source of information (e.g. a colleague, a particular web site) because the choice is getting too complex when I try to process all the information available on mobile phones, contracts and provider	2.50	.84
Choice deferral	I postpone the decision to buy a mobile phone because I am afraid to choose too quickly and make the wrong choice as a consequence	2.41	.92
Buying what others have	I will buy whatever mobile phone other people have	2.10	.76
Disengagement from decision	I do not make a choice because I do not dare to make a choice given the huge supply of mobile phones, contracts and providers	1.82	.76
Decision delegation	I have someone else make the decision for me	1.74	.72

Table 4: Descriptives of the three decision-making styles clusters

Characteristics	Decision-making style clusters		
	Price-conscious and cautious	Brand-loyal and quality-driven	Functionalist
	(1)	(2)	(3)
<i>Decision-making styles</i>			
Cautious, perfectionist	3.89	3.74	3.49
High-quality, novelty conscious	2.83	3.36	2.45
Recreational, hedonistic	2.61	3.20	2.03
Variety seeking	2.69	2.10	2.24
Brand conscious and brand-loyal	3.43	3.68	2.84
Price-conscious	3.92	2.57	2.97
<i>Consumer confusion</i>	2.86	2.83	3.13
<i>Demographics</i>			
Female (within cluster)	42.4 %	47.7 %	51.4 %
Aged under 30 (within cluster)	57.6 %	70.8 %	56.2 %
Aged over 50 (within cluster)	25.8 %	9.2 %	37.5 %
<i>Cluster size</i>	66	65	72

Table 5: Correlation matrix

	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Consumer confusion	-.221**	-.083	-.196**	.030	-.017	-.042	.050	.202**	.306**	.387**	.372**	.288**	.241**	.253**
<i>Decision-making styles</i>														
2. Cautious, perfectionist		.199**	.210**	.207**	-.027	.149*	-.052	-.380**	-.362**	-.374**	.002	-.168*	-.240**	-.200**
3. High-qual., novelty-conscious			.593**	.042	.376**	-.156*	-.072	-.044	-.079	-.081	-.034	.121	-.015	-.022
4. Recreational, hedonistic				.033	.264**	-.068	-.055	-.112	-.130	-.193**	.042	.092	.015	.007
5. Variety seeking					-.089	.092	-.114	-.474**	-.442**	-.103	.160*	.001	.069	.111
6. Brand-conscious and loyal						-.092	.171*	.252**	.162*	.113	.033	.177*	-.027	-.020
7. Price-conscious							.023	-.185**	-.085	-.052	.113	-.045	.133	.072
<i>Coping strategies</i>														
8. Reliance on heuristics								.286**	.241**	.139*	-.047	-.022	-.216**	-.051
9. Downsizing consideration set									.525**	.379**	-.118	.046	-.003	.006
10. Keeping status quo										.384**	.077	.214**	.208**	.143*
11. Reduced information search											.108	.275**	.182**	.174*
12. Choice deferral												.316**	.393**	.395**
13. Buying what others have													.376**	.419**
14. Disengagement from decision														.546**
15. Decision delegation														

* $p < .05$, ** $p < .01$

Table 6: Coping strategies and decision-making style clusters

Coping strategies	Decision-making style clusters			<i>F</i> -statistic ^(a)	<i>p</i> -value ^(a)
	Price-conscious and cautious	Brand-loyal and quality-driven	Functionalist		
	(1)	(2)	(3)		
Reliance on heuristics	3.48	3.51	3.47	.056	.946
Downsizing consideration set	2.94 ^(2,3)	3.71 ⁽¹⁾	3.53 ⁽¹⁾	9.678	.000
Keeping status quo	2.32 ⁽³⁾	2.63	2.69 ⁽¹⁾	2.641	.074
Reduced information search	2.42	2.46	2.60	.105	.900
Choice deferral	2.53	2.31	2.39	1.847	.160
Buying what others have	2.09	2.17	2.06	1.332	.266
Disengagement from decision	1.86	1.78	1.81	.492	.612
Decision delegation	1.74	1.71	1.76	.070	.933

^(a) *F*-statistic and *p*-value from ANOVA, testing for differences between the three clusters.

^(1,2,3) Post-hoc test (Tukey) shows significant difference between the cluster and the cluster(s) with the respective number(s) ($p < .05$)