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How Consumers Trade Off Behavioural Costs and Benefits

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Abstract

Many psychological models of consumer behaviour use the construct of attitude, whereas in economic models behaviour is determined by costs and benefits under budget constraints. In this article, a behavioural cost-benefit approach to consumer behaviour is proposed. Behavioural costs include time, physical and psychic costs of initiating, maintaining and changing behaviour. A behavioural model is proposed, in which cost-benefit trade-offs of behaviours play a central role. Some marketing applications on the evaluation of products, on the prediction of behavioural intentions, and on shopping behaviour are discussed.

Introduction

In several psychological models motivation is treated as an unrestricted behavioural tendency towards goals. In the Fishbein-Ajzen (1975) attitude model only unfavourably evaluated beliefs may serve as restrictions to behaviour. For instance, predicting purchasing behaviour, an unfavourably evaluated price may be a restriction to buying a product with favourably evaluated characteristics. However, as a consequence of the linear-compensatory combination rule of the Fishbein-Ajzen model, an unfavourably evaluated price may be compensated by the favourably evaluated beliefs/attributes of the product, or the beliefs about the consequences of buying/possessing the product. Restrictions or costs do not play a specific role within the Fishbein-Ajzen model of reasoned action.

Meyer (1982), an economist addressing the attitude-behaviour relationship, observes that attitude measurement does not include the relevant opportunity costs of an act and consequently cannot be used as a reliable predictor of behaviour.

In this article, a theoretical model of behaviour will be presented, extending the Fishbein-Ajzen model of reasoned action. Special attention will be given to the "two-valued logic" of microeconomics, comprising the (positive) benefits or consequences of behaviour, as well as the (negative) behavioural costs that have to be incurred by the individual in order to behave.

Towards a Behavioural Model

Both in psychology and in economics, models have been developed to describe, to explain and to predict behaviour, e.g., consumer behaviour. The behavioural model we

want to introduce is a combination of the extended attitude-behaviour model and a utility model. We depart from the Fishbein-Ajzen (1975) model of reasoned action. This model will be critically evaluated and some extensions will be introduced. Then a behavioural extension of the economic cost concept will be discussed. Finally, we hope to integrate both approaches.

Fishbein and Ajzen's model has the purpose of contributing to the understanding and prediction of behaviour. It can be represented in the form of three formulas (Fishbein and Ajzen, 1975):

$$B \sim BI = w_1 (A_{act}) + w_2 (SN) \quad (1)$$

$$A_{act} = \sum_{i=1}^n (b_i * e_i) \quad (2)$$

$$SN = \sum_{j=1}^m (nb_j * mc_j) \quad (3)$$

In the model it is supposed that the intention (*BI*) to perform a certain behaviour (*B*) is a function of the weighted (w_1) attitude (Fishbein and Ajzen define attitude as affect) towards performing a behaviour (A_{act}) and the weighted (w_2) Subjective Norm (*SN*) (formula (1)). A behavioural intention is seen as consisting of a personal and a social normative component. The attitude towards a behaviour is a function of the expected consequences or outcomes of behaviour (beliefs = b_i) and the evaluations of these expected consequences or outcomes (e_i) (formula (2)); n is the number of beliefs.

The Subjective Norm in the model is a function of normative beliefs to perform a behaviour (nb_j) and the motivation to comply with these norms (mc_j) (formula (3)); m is the number of normative beliefs.

If no unanticipated circumstances occur, a behavioural intention will be converted into the corresponding behaviour.

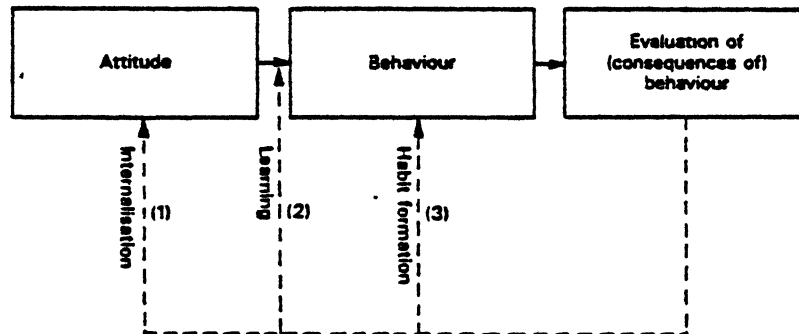
In the manifold applications of the model, convincing evidence is provided of the predictive and explanatory power of the model (see, for a review, Ajzen and Fishbein, 1980). Several issues with regard to the application of the model have been raised: problems with regard to theoretical assumptions underlying the model, operationalisation problems with concepts in the model and a number of analytical problems.

Extensions of the Fishbein-Ajzen Model

In the Fishbein-Ajzen (1975) attitude model it is assumed that the attitude towards the act precedes the performance of the act. However, Bem (1967, 1972), in his self-perception theory, proposed the reversed order: attitudes following behaviour. Fishbein and Ajzen (1975) state that past behaviour can only influence future behaviour through beliefs or the motivation to comply. Bentler and Speckart (1979) and Bagozzi (1981(a), 1981(b), 1982) demonstrate that this assumption is incorrect. Van Raaij and

Verhallen (1983(a)) argue that behaviour may be induced by attitudes *and* that, through feedback, attitudes may change as a consequence of behaviour (see Figure 1).

Figure 1. Three Feedback Mechanisms



Three types of feedback effects may be distinguished (Van Raaij and Verhallen, 1983(a)).

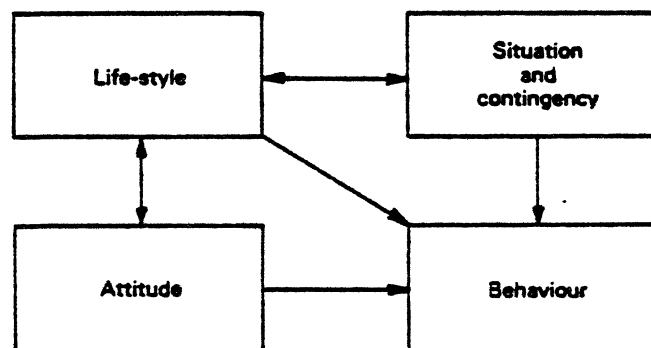
- (a) *Internalisation*. According to Bem's (1967) self-perception theory, persons adapt their attitudes in such a way that these become consonant with their behaviour. The formation and change may occur through a process of internalisation or self-perception.
- (2) *Learning*. From their behaviour persons may learn the consequences, and change their evaluative beliefs accordingly. They may also learn to relate certain consequences of behaviour to general attitudes. Changes in relational beliefs (Fishbein, 1967), may occur.
- (3) *Habit formation*. By performing behaviour people may establish new patterns of behaviour that, once formed, are repeated over time, and remain to be performed as such, with little or no cognitive or evaluative content.

In the behavioural model of van Raaij and Verhallen (1983(a)) the attitude-behaviour or behaviour-attitude discussion is "solved" by allowing both orders to exist.

Non-Intentional Behaviour

The Fishbein-Ajzen (1975) attitude model only attempts to predict and to explain intentional behaviour under volitional control. They refer to their model as to a theory of reasoned action (Ajzen and Fishbein, 1980). However, not all behaviour is intentional. Some authors include "other variables" in their attitude-behaviour model. Sheth (1974) adds a separate habit-controlled mechanism. Van Raaij and Verhallen (1983(a)) distinguish situational and behavioural contingencies to explain energy conservation behaviour (Figure 2).

Figure 2. Determinants of Behaviour



In Figure 2, it is shown that behaviour, as reasoned action, can be determined by attitudes, influenced by life-style (values and established behavioural patterns) and by the social and physical situation. Verhallen and De Nooij (1982) show that specific store choices for daily shopping can be understood from the perspective of store patronage, as part of a shopping pattern. Oppedijk van Veen and Verhallen (1986) demonstrate that specific vacation activities can be part of different vacation styles or patterns. Specific acts can be understood and predicted from the behavioural patterns of which they are part (Van Raaij and Verhallen, 1983(b)). The situation has also a direct effect on behaviour, in the sense that people are constrained by physical, temporal, institutional, spatial, social and financial factors. Anticipated situations are another determinant. For instance, people may anticipate the formality of a situation and dress accordingly. Sarver (1983) argues that a "context of opportunity" is a necessary requirement for an attitude and its corresponding behavioural intention to be expressed in overt behaviour. We may also argue that a given situation may facilitate or even trigger a certain behavioural response. Some authors (e.g., Dawes, 1975, and Foxall, 1984) even argue that most behaviour is adapted to or contingent on situational or task factors.

Factors Moderating the Attitude-Behaviour Relationship

Ajzen and Fishbein (1977) describe the conditions for the observation of a significant relationship of attitudes and behaviour. Attitudes and behavioural entities consist of four elements: (1) the action, (2) the target at which the action is directed, (3) the context in which the action is to be performed and (4) the point in time when the action is performed. The content of these elements might be either general or specific. A significant relationship between attitude and behaviour cannot be observed, unless both the attitude and the behavioural entity correspond with regard to those four elements.

By specifying the four behavioural elements (action, target, context and time) a maximum correspondence is achieved between attitudes and actions. The more specifying the conditions the more the attitude-behaviour relationship is defined in such a way that the amount of overlap between the mental (attitude) and the corresponding behavioural level (act) is minimised. In this way, as soon as an aspect of the context changes, the attitude may not be relevant any more. The generality, stability and the enduring character of the attitude concept is sacrificed in order to gain predictive power.

Another aspect of the attitude-act specification requirements should be mentioned. If we have to measure an attitude for each of the thousands of acts (see Barker, 1980) an individual performs each day, we should be endlessly repeating attitude-act studies, every time with a somewhat different act. Olshavsky (1982) criticises such an approach of Warshaw (1980). Further, it is questionable whether such a specific act is still an object of human reasoning. For example, Ehrenberg (1974) and Lastovicka and Bonfield (1982) assert the non-existence of brand attitudes in many instances.

Rather than making attitudes more and more specific, we look for more enduring and lasting relationships. This means that we should define larger behavioural entities, broadening the scope of the behavioural measure (Weigel and Newman, 1976) or broadening the attitude measure (Heberlein and Black, 1976).

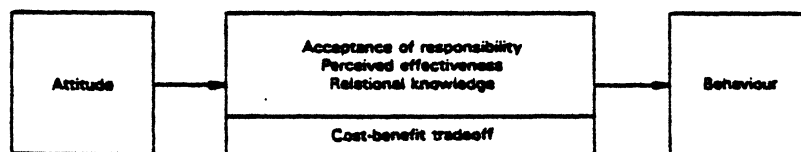
It has also been argued that the study of attitude should encompass both specific as well as general measures.

Both specific and general attitudes ought to be included in a study to predict behaviour, and the entire causal model from general attitudes to specific attitudes to behaviour ought to be charted (Heberlein and Black, 1976, p. 479; Triandis, 1980).

In the behavioural model of Van Raaij and Verhallen both specific and general attitudes are represented. Justifying this inclusion they mention (Van Raaij and Verhallen, 1983(a), p. 52): "general attitudes may provide a general context shaping more specific and critical factors".

Relating general attitudes to specific behaviour leads to the inclusion of intervening factors that specify the attitude-behaviour relationship (Verhallen and Pieters, 1984). In van Raaij and Verhallen (1983(a)) four intervening factors between attitude and behaviour are postulated (see Figure 3). Modifying Schwartz's (1970, 1975) theory of the activation of moral norms, the factors "acceptance of responsibility" and "perceived effectiveness" are included, in order to relate general attitudes to specific behaviour. Van Raaij and Verhallen (1983(a)) add the factors "relational knowledge" and "cost-benefit trade-off".

Figure 3. Intervening Factors in the Attitude-Behaviour Relationship



- (1) *Acceptance of responsibility* is the attribution of responsibility for the effects to oneself. Consumers may have a negative attitude towards environmental pollution, but may blame others (industry, government, agriculture) for polluting the environment. Denying one's responsibility means that there is no need to change one's polluting behaviour.
- (2) *Perceived effectiveness* of one's behaviour refers to the personal efficacy one perceives. The effects of behaviours should exceed a threshold of effectiveness or minimal benefits to be performed. This may point to a conjunctive decision rule: acceptable behaviours are behaviours with a minimal level of perceived effectiveness.
- (2) *Relational knowledge* is the knowledge of the costs and benefits of the behavioural alternatives. Knowledge is needed to accept responsibility, to judge the perceived effectiveness, and to make cost-benefit trade-offs. The opposite of relational knowledge is uncertainty. Knowledge is defined as the sum of relational descriptive beliefs (Fishbein, 1967). This means that an individual knows that the act belongs to a behavioural category, i.e., the set of acts that have a common goal or valued end state (Ajzen and Fishbein, 1980). Thus an energy attitude will only explain the turning off of a pilot flame of the central heating system, when the individual is aware of the energy consequences of such an act. The act has to be related with the attitude. Verhallen and Pieters (1984) define a behavioural field as the set of instrumental acts that lead to the *same* goal. These acts are more or less substitutable. The choice between acts that lead to the same goal or valued state will be governed by their relative costs and benefits.
- (4) In the *cost-benefit trade-off*, the costs and benefits of the instrumental acts are compared. This is the main theme of this article, to be treated in later sections.

The Psychological and Economic Approaches

The psychological approach to explaining and predicting behaviour is largely motivational. Attitudes and lifestyle are frequently used constructs as determinants of behaviour. General attitudes are poor predictors of specific behaviours, unless a number of intervening variables have been included. In most economic models, preferences are taken for granted, and utility is maximised under budget restrictions.

In economic models, price is not simply a product attribute, but price is traded off against other product attributes, such as quality. However, one should distinguish price and cost; cost being the ratio of price and budget: $\text{cost} = \text{price}/\text{budget}$. This means that the price of a product or service will be traded off against the product attributes (quality). The costs, however, take away part of one's budget. It is likely that the costs of expenditures will be compared on a generic level, i.e., the costs of a vacation versus the costs of a new washing machine. Individuals differ with regard to the budgets they allocate to expenditure categories, based on income differences and on product involvement. For some, a vacation is very important and, consequently, a relatively large allocated budget will be seen as a generic choice between product/service

categories or between behavioural fields, whereas specific choice is the choice between alternatives or instrumental acts within a category or behavioural field.

Behavioural Goals and Benefits

The definition of behaviour in psychological and economic models has received less attention than the definition of the constructs determining behaviour.

Verhallen and Pieters (1984) distinguish *goal acts* and *instrumental acts*. Goal acts or consummatory responses are defined as acts which, by being performed, lead to a state of the organism which is desirable for the actor and which ensures that the goal ceases to exist. Pure consumption is such a goal act. Instrumental acts are acts that bring the person in the direction of a goal. In many instances, people have a choice between a number of instrumental acts. For instance, to get a healthy condition one may select a number of instrumental acts, such as jogging, exercising and dieting. The set of instrumental acts leading to the same goal or valued state (equipfinality) is called a *behavioural field*.

Acts or behaviours are evaluated in terms of the degree to which they lead to the goal. Instrumental acts that will bring you closer to the goal will be preferred, unless the costs are too high. Instrumental acts are *substitute* ways of reaching a goal. Selecting one instrumental act reduces the need to select another instrumental act, because they constitute independent ways in the direction of the goal. Instrumental acts may be *complementary* as well; one instrumental act may support another instrumental act to reach a goal (interaction effect). In a sequential manner, one instrumental act may be followed by another instrumental act to reach a goal.

Acts will thus be chosen based on their instrumentality of reaching the goal. Goals may be stated in terms of a desired financial, social, physical status, self-realisation, or in terms of possessions. Terminal goals may be too far away to reach; thus realistic sub-goals might be stated. Atkinson (1957) argues that "achievers" set a realistic goal to reach, and select instrumental acts to attain the goal. The attainment of a goal that is too easy or the non-attainment of a goal that is too difficult does not lead to an internal but to an external attribution. Either everyone or no one could reach that goal. Attaining goals of an intermediate level of difficulty leads to an internal attribution. Through one's capability and effort, the goal has been attained. A stable internal attribution (capability) is predictive of future successes. An unstable internal attribution (effort) is less predictive, and only if enough effort is spent may one be successful. Most achievement behaviour, however, is a combination of capability and effort (Van Raaij, 1985).

Behavioural Costs

Instrumental acts are characterised by benefits and costs. The costs are social, physical, psychological and time costs involved in pursuing the instrumental act. Social costs comprise compliance, instrumental services and acceptance (Blau, 1964). Individuals have time *budgets* and limited physical resources to pursue an instrumental act. The behavioural price of an instrumental act is the time and physical energy spent on the act. For instance, a shopping trip takes time and effort to be successful. The behavioural *costs* are the prices related to the behavioural budget, e.g., the amount of time and effort allocated to shopping.

The behavioural costs (*BC*) are the summation of the ratios of the prices and the budgets:

$$BC = \sum \left(\frac{T}{TB}, \frac{Ph}{PhB}, \frac{Ps}{PsB} \right) = \frac{\text{behavioural price}}{\text{behavioural budget}}$$

in which: *T* = time price,
Ph = physical price,
Ps = psychological price,
TB = time budget,
PhB = physical budget,
PsB = psychological budget.

Except the behavioural costs, monetary and social costs are distinguished. Monetary costs are the ratio of monetary price and monetary budget. Social costs are the ratio of social price and social budget.

Substitutions are many. One may save money by spending time and effort (do-it-yourself products), one may save time by spending money (frozen dinners), or one may save effort by spending money (delivery service). It depends on one's budgets, how much money, time and effort one can spend on an instrumental act.

The *price* consists of task or behaviour characteristics, i.e., the sacrifice the task/behaviour requires of the person, in terms of the money to be paid, the time to be spent and the effort to be expended to perform the task or to complete the behaviour.

The *budget* provides the means to expend on a task or behaviour. Persons possess financial, time and physical budgets to allocate to a number of instrumental behaviours (or tasks). The budget is a constraint, although highly involved persons may allocate larger partial budgets to goals they consider to be important. The physical budget depends on the physical capacities of the person (endurance). Sivacek and Crano (1982) use the word "vested interest" as a proxy for the behavioural budget allocated to a behavioural field.

In economics, several types of costs are distinguished: fixed versus variable costs, investment versus operating costs, and sunk costs. *Fixed costs* are preparatory investments in order to perform a number of instrumental behaviours, e.g., learning BASIC in order to use the personal computer. *Variable costs* are the costs of using BASIC at a number of occasions of personal computer (PC) use. However, mastering BASIC might also be seen as *investment costs*, in order to make future (programming) behaviour less costly. *Operating costs* are the costs of using BASIC on later occasions. Higher investment costs may reduce later operating costs. *Opportunity costs* are the costs of forgone gains, missed income or missed opportunities. Working more hours has the opportunity costs of forgone leisure. Attending school has the opportunity costs of forgone income. Thaler (1980) mentions *out-of-pocket costs* or direct expenses as "losses". Out-of-pocket costs as a loss are more negatively valued than forgone gains (opportunity costs) (Van Raaij, 1985). A surcharge for not paying in

time is perceived as a more severe penalty than forgoing a discount for paying in time. Although opportunity costs are often overlooked, they should be added to the behavioural costs of an instrumental act (Meyer, 1982). *Sunk costs* (Thaler, 1980) imply that paying for the right to use a good or service will increase the rate at which the good will be utilised. Historical costs matter and not only incremental costs and benefits affect decisions. Dramatic examples are the constructions of the Oosterscheldedam and the nuclear reactor of Kalkar; their immense sunk costs are a major incentive to complete these constructions. Aronson and Mills (1959) studied the effect of the degree of effort (behavioural cost) on the evaluation of group membership. The severe initiation group enjoyed group membership better than a control group. Money, time and effort spent in the past are a major determinant in continuing and enjoying the consequent behaviour. Sivacek and Crano's (1982) concept of "vested interest" is a social analogon of sunk costs.

Cost-Benefit Trade-offs

Stating a goal and trying to attain this goal through instrumental acts requires a trade-off between the benefits and the costs of alternative instrumental acts. This is certainly not new. Clawson (1950) already applied Lewin's field or topological theory to consumer behaviour. The basic concept in Clawson's model is that consumer behaviour is governed by the outcome of an internal psychological conflict. Each decision has a number of positive and negative aspects, called "valences". A purchase will result, if the sum of all positive valences is greater than the sum of all negative valences. Hence, in Lewin's field theory, positive and negative valences are balanced in a summation rule.

General intentions, such as energy conservation, have to be implemented in instrumental acts to attain the goal of a lower energy consumption level. Examples of these instrumental behaviours are: turning down the thermostat, closing curtains, insulating the home, installing a more efficient heating system, wearing a jersey or a sweater, etc. Each of these instrumental behaviours has its own costs and benefits. Home insulation is effective, but at high investment costs. Wearing a sweater is less effective, but at low costs. People will select that instrumental behaviour that has the most favourable cost-benefit ratio, provided that the price can be paid from the available budget.

Social exchange theory (Homans, 1961) states that social prices, such as compliance, have to be paid (Blau, 1964) in order to receive an intrinsic or unilateral social reward. Individuals trade off social costs and social benefits or rewards. Again, social cost is the ratio of social price and social budget. Many behaviours are at once desirable (benefits) and undesirable (costs). You like candy, but you do not want to get fat. The costs and benefits may be about equal and create an "approach-avoidance conflict". A child enjoys school, but looks forward to vacation; his or her attitude towards school is ambivalent. A goal that is at once attractive and dangerous results in vacillation. The dangers (costs) seem less real when the goal is at a distance, so that the inviting character (benefits) leads to approach behaviour. But the sense of danger increases as the goal is approached, so that nearer to the goal one has a tendency to withdraw. Both opposing tendencies lead to a point near enough to the goal for one to be aware of the dangers, but distant enough to be safe from them (Brown, 1948 and

Miller, 1959). Both tendencies can be depicted as approach and avoidance gradients; benefits and costs, respectively.

Positive *investment behaviour* occurs, when the behavioural costs are "paid" at time t_1 , whereas the benefits come at a later point in time t_2 , e.g., preventive health care. Negative investment behaviour occurs, when the benefits come at time t_1 , and the costs at a later time t_2 , e.g., drinking and smoking. It depends on one's time perspective, whether one engages in negative or positive investment behaviour. Future costs and benefits may be discounted and have to be higher than present-time costs and benefits (cf., interest rate).

Behaviours may bring *benefits for oneself*, but *costs* ("external costs") *for others*, e.g., a noisy party. Altruistic behaviour brings costs to oneself, but benefits to others, although it may be argued that altruistic behaviour, e.g., gift giving, brings social benefits to a person to offset the financial costs. Behaviours that result in short-term personal benefits, but long-term societal costs (external effects) constitute a "social trap" (Platt, 1973). People tend to engage in these behaviours, e.g., behaviours with negative environmental consequences such as car driving, without being aware of the long-term societal costs, e.g., acid rain.

Another distinction that should be made, is the distinction between engaging a behaviour (*initiation*) versus *maintaining* a behaviour. Different costs and benefits may be involved in a behavioural change and in maintaining a behaviour. *Behavioural change* involves the opportunity costs of forgoing the existing behaviour, the costs of learning the new behaviour, including habit formation, forgetting about alternatives and positive feedback information about the behaviour. Sunk costs may be a major reason why people continue their behaviour as well as the high costs of changing one's behaviour.

Marketing Applications

The following three applications are related to costs and benefits. Some experimental evidence will be discussed on the perception of costs and how this influences the value judgment of a good in a gift-giving situation. In a second study, cost-benefit trade-offs of shopping are investigated, and shopper segments are identified, based on these cost-benefit trade-offs. In a longitudinal study, the effect of costs and benefits and of attitudes on behavioural intentions is assessed.

(1) Product Evaluation

In experiments on the evaluations of gifts, Verhallen and Robben (1984) found that the perception of behavioural costs (time, psychic and physical costs) of the giver by the receiver influences the evaluation of gifts. Both the price and the budget of the giver led to a cost perception by the receiver, both in a gift-giving and a gift-receiving situation. In the gift-receiving experiment, the cost treatment leads to a cost perception and a corresponding preference effect: gifts that are evaluated as more costly in terms of time, psychological and physical effort, are significantly more preferred. In the gift-giving experiment no relationship could be found between the cost perception and the preference for the gifts to give.

This indicates that, when receiving a gift, the evaluation is affected by a perception of costs incurred, whereas, in giving, the giver did not expect the receiver to value the gift more highly if more costs were incurred.

The authors, discussing their findings, state the hypothesis that the price-quality relationship should be broadened into a cost-value relationship. Thus, other than financial factors only, the behavioural price and budget of the "supplier" (e.g., producer or giver) affect the evaluation of a good by a customer.

Marketing applications include that suppliers should display their total (financial and behavioural) costs in order to gain a higher valuation of their goods by customers.

(2) Cost-Benefit Trade-Offs

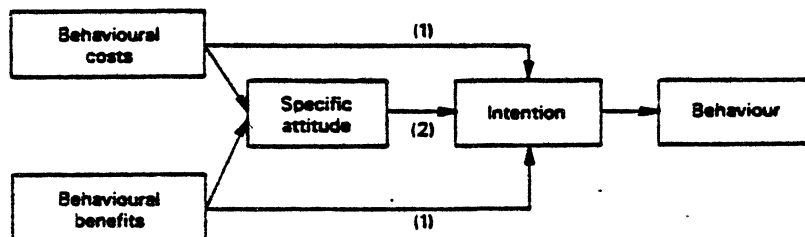
Shopping is a combination of spending money, time and effort. Using conjoint analysis, Verhallen and De Nooij (1982) show that housewives differ in the way they trade-off differences in price, distance, assortment and quality of stores for their daily shopping. These trade-off differences were related to socio-demographic characteristics, such as family size, income and availability of a car. These trade-off differences are called sensitivities. For instance, not being willing to trade-off distance for other store characteristics indicates a sensitivity for distance. Distance-sensitive consumers are found more often to have small children and less often a car available for shopping. These differences in sensitivities for price and distance explain shopping patterns quite well. The authors were able to segment the shoppers in ten segments on the basis of their cost-benefit trade-offs. Assessing patterns of shopping in a later, separate wave, patronage profiles could be distinguished and related to differences in cost-benefit trade-offs. Discount shoppers (for instance), could be separated into two different sensitivity groups: the very price-sensitive consumers and the wide-assortment-sensitive consumers.

(3) Prediction of Behavioural Intentions

Pieters and Verhallen (1986), in a longitudinal design, study household participation in a waste separation project. A small study was conducted in two waves, respectively at the start and at the end of the project, with a sample of 68 households. Both investment and operating costs and benefits of a personal and a collective nature were included. The behavioural intentions included short-term intentions (intention to participate until the end of the project) and long-term intentions (intention to participate after the end of the project).

Some results attract the attention. At the start of the project attitudes toward waste separation explain only 17 per cent of the variance in the short-term intention and only 19 per cent of the variance in the long-term intention. Yet, at the end, general attitudes explain 50 per cent and 53 per cent, respectively, of the variance in the short-term and the long-term intention. So, the percentages of variance explained by general attitudes in intentions rise sharply during the project. Looking at the percentages of explained variance in short-term and long-term intention by the separate costs and benefits, a different picture emerges. At the start, the costs and benefits explain 69 per cent of the variance in short-term and 56 per cent of the variance in long-term intention. At the end, costs and benefits explain 70 per cent and 71 per cent of the variance, respectively, in the short-term and the long-term intention. So, the percentages of variance explained are at a high level at the start, and are slightly higher at the end. Together, separate costs and benefits and the specific attitude explain about the same amount of variance in the intentions at the start and at the end.

Figure 4. Behavioural Costs and Benefits, and Specific Attitude Determining Behavioural Intention



- (1) Start of the project
 (2) End of the project

The results indicate that directly after the start of the waste separation project, households do not have a balanced calculated overview of the costs and benefits that are incurred as a consequence of their participation. This situation results in a high effect of the specific costs and benefits on both short-term and long-term intention. After participating for a longer period, households have weighed the costs and benefits more thoroughly. Consequently, the overall cost-benefit evaluations (attitudes) better reflect the underlying cost-benefit structure, and the short-term and long-term intentions are best explained by the overall cost-benefit evaluations, that is the attitude. Separate costs and benefits do not add significantly to the attitude at the end of the project (see Figure 4).

This means that consumers buying a new and unfamiliar product might carefully assess and trade-off costs and benefits before making a decision. Repeat buying, however, might be governed by an overall cost-benefit evaluation (attitude).

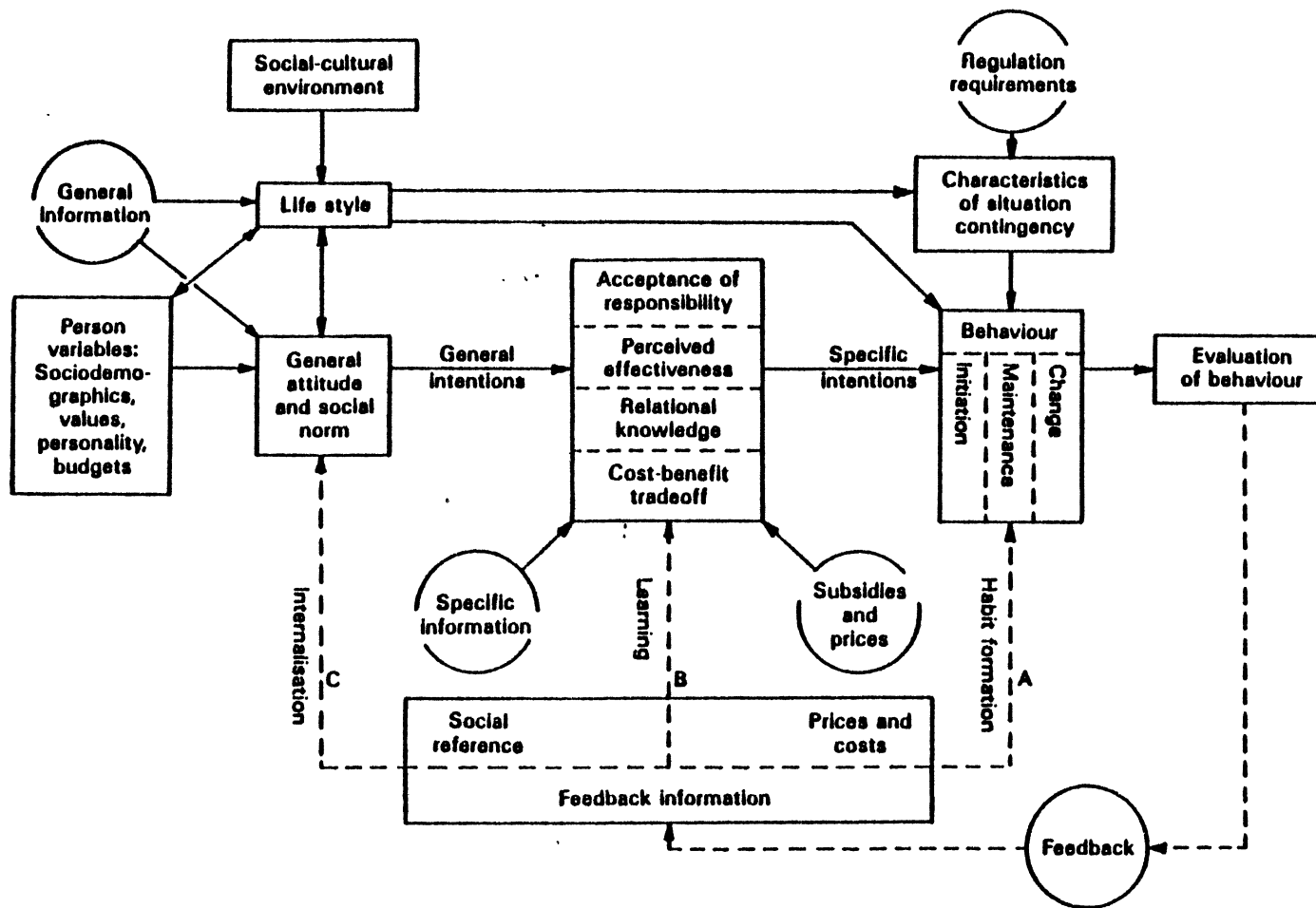
A General Model of Consumer Behaviour

The several aspects of consumer behaviour treated in this article could be summarised in a general model. The backbone of the model is the attitude-behaviour relationship (Figure 3) with the intervening factors. Feedback loops from the evaluation of behaviour (Figure 1) are added to show the dynamic relationships between attitude and behaviour. Not only attitudes but other factors, such as life-style and contingency, determine behaviour (Figure 2) as well. These aspects are brought together in a general model of consumer behaviour (see Figure 5).

Three types of behaviour are distinguished: initiation, maintenance and change. In the example by Pieters and Verhallen (1986), it was shown that the determinants of behaviour initiation differ from the determinants of behaviour maintenance, just as a first-time trial differs from repeat buying.

The behavioural model contains five ways to affect behaviour for public and marketing policy (circles in the model): (1) general information, e.g., institutional advertising; (2) specific information, e.g., action advertising; (3) subsidies and prices; (4) three

Figure 5. A General Model of the Determinants of Behaviour



types of feedback (product experience); and (5) requirements and regulation approaches, (type and level of distribution). It is predicted that specific information is more effective in influencing behaviour than general information, because of the fact that specific information may directly influence the cost-benefit trade-offs of the instrumental behaviours. General information may, however, be needed to justify public and marketing policy measures. Prices, subsidies and taxes change the costs of instrumental acts and, thus, make these more or less attractive (e.g., merit and demerit goods). The fifth policy approach is to broaden the contingencies, e.g., to increase the distribution level, so that desirable behaviours can be pursued or are made easier to pursue, e.g., make distribution points more accessible.

Conclusions

It is not our purpose to propose a model of consumer behaviour that can be tested as such. It is a comprehensive model that integrates research findings and assists in structuring research designs in consumer behaviour, e.g., attitudinal or feedback research. New concepts introduced in this article are the behavioural, monetary, and social costs and benefits as determinants of consumer behaviour. As demonstrated before (parts of) the model can be applied in marketing policy.

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