Irritation Due to Direct Mailings from Charities

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ABSTRACT AND KEYWORDS	
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Irritation due to direct mailings from charities[*]

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Abstract

Direct mailing is the main tool that charities employ for fundraising. With increasing amounts of soliciting mailings and with the best donators receiving more mailings as a result of target selection, irritation might increase. As a result, such irritation could cause individuals to donate less, and hence reduce revenues for charities.

We develop a conceptual model, which relates donating behavior to irritation and to mailing frequencies. We consider mailing frequencies relative to a reference point, which we call the maximum acceptance level. Furthermore, we allow for asymmetric effects of positive and negative differences with this maximum acceptance level, and hence we consider the effects of receiving excessive and acceptable amounts of mailings.

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Keywords: DM, irritation, junk mail

1   Introduction

Fundraising is one of the most important activities for charity organizations, as they need money to carry out their projects. This can be a continuous process, such as fundraising for cancer research, or it can be for a specific one-time issue, for example after an environmental disaster. In all cases charities rely heavily on donations by individuals.

The main fundraising tool is sending soliciting direct mailings. These mailings generally plead the case of the charity and request either a single donation or a membership. Over the years, this method of fundraising has become increasingly popular, resulting in large amounts of mailings sent annually (Direct Marketing Association, 2005). As each direct mailing provides a potential donator with an opportunity to donate, high mailing frequencies reduce the probability that an individual does not read the mailing, for example because it gets lost in the mail.

The term 'junk mail' is nowadays often associated with direct mailings, also in the case of charities. A recent survey amongst over a thousand individuals in the Netherlands revealed that 66% of the public is annoyed by the amount of soliciting direct mailings they receive (TNS NIPO, 2003). Thus, on the one hand, sending many mailings to get the most out of a donator and to maximize revenues may seem a fruitful strategy, on the other hand, it may have counterproductive results when people start feeling overloaded by 'junk mail' and get irritated. Moreover, and even more critical for charities, this irritation may in turn render responses to mailings less probable and lead to lower revenues.

This problem may be even more serious than it appears at first sight. As each direct mailing costs a certain amount of money[1], the mailing organization does not send unlimited amounts of mailings to each address available. Instead, for each mailing campaign, the company aims to select the most profitable indivdiuals. Usually, potential donators are selected based on their behavior in the past, as good donators in the past are likely to be good donators in the future. As a result of these behavior-driven target

selection rules, the best donators also receive the most requests, so that the company is actually harming the relationship with its best donators.

Very little research has been done concerning both attitudinal and behavioral consequences of direct mailings in general and direct mailing frequencies in particular (for an exception, see Simester et al., 2005). Mailings from charities have never been studied this way. There are some surveys that indicate the possible existence of an irritation problem in general (TNS NIPO, 2003; Verhoef et al., 2003), but we are not aware of any studies that empirically investigate the potentially negative effects of high mailing frequencies.

The purpose of this paper is to fill in part of this gap and to provide an insight into charitable direct mailing consequences by studying the following central research questions. Do the current large amounts of charitable direct mailings lead to irritation with potential donators? And if so, does this irritation reduce revenues for charities? The conceptual model we develop therefore consists of three main constructs, which are mailing frequencies, direct mailing appraisal (consisting of a low/high evaluation and direct mailing irritation) and donating behavior.

The remainder of this paper is organized as follows. Section 2 provides an overview of the background theory and presents our conceptual framework in detail. Section 3 describes the data and Section 4 the estimation results. Finally, Section 5 provides a discussion of the results and concludes the paper.

2   Background and conceptual framework

In this section we describe the relevant background that motivates our study and constitutes the basis of our conceptual model. The central issue in this research is the fact that many people nowadays feel overloaded by direct mailings. The term junk mail surfaces frequently in reference to direct mailings. These unwanted exposures may cause irritation and a negative attitude, which in turn could influence behavior, for example by reducing annual charity donations.

Background

Over the past decades, companies have continuously increased their use of direct marketing, with direct mail as the most important direct marketing activity of all (Direct Marketing Association, 2005). One type of company that is known for making extensive use of direct mail is the charity. In the fundraising process, charity organizations largely depend on soliciting direct mailings for approaching potential donators. As each direct mail provides an individual with an opportunity to donate, it may seem appealing to send direct mailings at high frequencies. This would minimize the probability that an individual does not read the mailing because it gets lost in the mail or s/he is simply too busy. Indeed, the amount of charitable direct mailings is unabatedly on the rise (Direct Marketing Association, 2005).

Despite the unmistakable relevance of the subject, not much research has been devoted to investigating the attitudinal and behavioral consequences of direct mailing advertising in general and charitable direct mail in particular. An exception is the study of Korgaonkar et al. (1997), who investigate consumers' attitudes towards direct marketing solicitations. They find that even though part of the consumers enjoys direct mailings (e.g. catalogs) and describes them as informative and entertaining, many view them as useless junk mail, which also confirms the findings of Rogers (1989).

However, even more interesting than the prevalent opinion as such, is how these opinions come about and what can influence them. In this regard, Akaah et al. (1995) note that the role of direct marketing attributes in consumer attitudes has to a large extent been disregarded in the literature. However, they find that one of the antecedents of a negative appraisal of direct marketing solicitations is the feeling of "too much direct mail".

Direct mailing irritation

Recently there have appeared some studies establishing that too many direct mailings in a short period of time may have a negative long run effect on the appraisal of the mailing

company, for example caused by irritation (Diamond and Noble, 2001, Elliott and Speck, 1998). Independent of the displeasure the content of a mailing incurs, the sheer frequency of exposure may cause annoyance (Greyser, 1973). Further evidence for this frequency induced irritation is presented by Naik and Piersma (2002), who find that cumulative direct mailing exposures cause irritation which erodes goodwill towards the company.

This negative effect of direct mailings may be even worse in the case of charitable direct mailings as opposed to, for example, catalogs, as charitable requests suggest obligation and the benefits for the consumer are less obvious. Indeed, people much more often complain about the amount of charitable mailings they receive than about the frequency of retail mailings. Diamond and Noble (2001), for example, find that, as people do not like being confronted with an appeal, high frequencies of unsolicited donation requests induce defensive responses. Additionally, Bruce (1995) notes that direct mail donors frequently complain about the frequency of approaches, amongst other things.

Behavioral consequences

So far, only individuals' attitudinal responses were discussed. High frequencies of direct mailings can cause an unfavorable appraisal, such as irritation. Obviously, however, the true significance of this knowledge lies in the potential link between this appraisal and the direct mail effectiveness. Naik and Piersma (2002) argue that the role of marketing communications and their effects on attitudinal variables in direct mailing response is generally ignored. This is particularly striking as it is generally agreed that consumer attitudes influence consumer behavior (Fishbein and Ajzen, 1975). For example, perceived advertising clutter may have an effect on the effectiveness of direct mail (Stafford, 2003), possibly due to ad avoidance (Elliott and Speck, 1998). In sum, individuals who feel they receive too much direct mail have lower intentions to respond to the mail they receive (Rogers, 1989). Also, she found that the proportion of direct mail that is actually read has reduced with the increase of direct mailing frequencies. Thus,

the potential negative appraisal resulting from high direct mailing frequencies is likely to adversely affect consumer behavior.

In the case of charitable solicitations, irritation caused by direct mailing overload could prevent responses and reduce donations. This connection will be most pronounced when considering an aggregate donating behavior measure, such as total annual charity donation, as a single donation event is not representative for overall donating behavior (Diamond and Gooding-Williams, 2002).

RFM targeting

The direct mailing overload and irritation problem may be even more serious than one would think at first. The reason for this is the way direct marketing companies exercise their mailing strategies. In deciding on direct mailing strategies, most direct marketing companies focus on the static single mailing context, without acknowledging the possible impact today's communications can have on future responses. Thus, instead of concentrating on optimal mailing strategies in the long-run, the problem is reduced to selecting the most profitable targets for a single mail shot (Kestnbaum et al., 1998).

As it is generally believed that past behavior is the best predictor for future behavior (Rossi et al. 1996), most companies use (some derivative of) the Recency, Frequency, Monetary value (RFM) technique to implement target selection. Essentially, this amounts to predicting future response probabilities using variables in the RFM categories. Examples are an indicator for response to the last mailing for Recency, the number of purchases in the past for Frequency and the average amount spent per purchase for Monetary value. As a consequence of these behavior-driven target selection rules, the best customers/donators receive the most requests, potentially resulting in their feeling being overloaded by "junk mail" and getting irritated. In this way, the company is harming the relationship with its best customers/donators.

Conceptual framework

Up till now, the central variables and relationships of interest can be depicted as in Figure 1. We expect that direct mailing frequency has both a direct impact and an indirect impact (via appraisal) on donating behavior. Furthermore, the direct effect on total donations is expected to be positive, as each direct mail provides an opportunity to donate, while the effect of irritation caused by cumulative mailing exposure would be negative. Below we will describe each part in more detail in order to arrive at our final conceptual framework.

Insert Figure 1

Mailing frequency

A generally held notion is that in many situations evaluations and attitudes are formed relative to some reference point (Klein and Oglethorpe, 1987; Kahneman and Tversky, 1991). A well-known example is a consumers' internal reference price to which s/he compares price information when evaluating a product and making a purchase decision (Kalyanaram and Winer, 1995). In the consumer satisfaction literature, the expectancy disconfirmation theory provides another example of reference points in comparative judgments (Oliver, 1980). Finally, in the service literature a number of studies relate evaluations to the difference between waiting time and a reference point; the acceptance bound or tolerance level (Pruyn and Smidts, 1998; Antonides et al., 2002). When we apply this to our context of direct mail, it can be expected that, even more important than the mere frequency of mailings is, whether a potential donator judges the total amount of mailings as acceptable or excessive. Here, the acceptance level for mailings is defined as the maximum number of direct mailings an individual still finds tolerable over a specific period.

In addition, according to the reference-dependent utility theory of Kahneman and Tversky (1991), the effects of gains and losses relative to a reference point may be asymmetric. Consumers react more strongly to a negative than to a positive outcome. This loss aversion hypothesis can be applied in many contexts. In the case of direct mailings, this means that mailings at an excessive frequency, that is, the number of mailings exceeds the maximum acceptance level (a negative event), has a larger effect than a negative difference between the number of mailings and the maximum acceptance level (a positive event). Thus, we distinguish the total amount of mailings, the negative difference between mailings and the maximum acceptance level, which we call acceptable mailings, and the positive difference between mailings and the maximum acceptance level, or excessive mailings. Note that for each individual only one of the last two variables is non-zero, depending on whether or not the maximum acceptance level is exceeded.

Appraisal

Analogous to Pruyn and Smidts (1998) we assume that the appraisal of direct mailings consists of two parts, that is, a low/high evaluation of the mailing frequency that subsequently results in irritation/annoyance. The low/high evaluation is a judgment of the quantity of mailings. We assume that this evaluation (partially) mediates the effect of mailing frequency on irritation. This accommodates the fact that some individuals are more lenient than others, so that individuals with the same amount of excessive mailings but a different experience can have a different level of irritation. For example, some individuals may find 5 excessive mailings not so bad and have a relatively low irritation level, while others feel that this is very high and are therefore highly annoyed. By including the low/high evaluation as a mediator we can accommodate this kind of heterogeneity.

We expect direct effects of mailing frequencies on both appraisal parts, although they may differ. As explained above, we expect that only the reference-dependent variables, acceptable and excessive mailings, affect appraisal. Nevertheless, as we do not

want to impose this restriction, we also allow for an effect of total mailings. In this way, our model nests the possibility that the maximum acceptance level is of no importance.

For the low/high evaluation we expect both acceptable mailings and excessive mailings to have a positive effect. Then, for a given maximum acceptance level, a positive effect means that the more mailings are received, the higher an individual evaluates the amount of mailings. Thus, positive effects are consistent with individuals behaving rationally due to their numerical skills. Nevertheless, according to the loss aversion theory, we expect the effect of excessive mailings to be larger than that of acceptable mailings.

Concerning irritation however, it may be that only excessive mailings have an effect. As long as the amount of mailings does not exceed the maximum acceptance level, there is no need to get annoyed. Nevertheless, we allow for both effects in the model and will let the data speak for themselves. Figure 2 depicts the loss aversion hypothesis applied to direct mailing appraisal.

Insert Figure 2

Donating behavior

The main contribution of our study concerns the hypothesized effect of irritation on donating behavior. When potential donators get irritated by charitable direct mailings, this could prevent responses and reduce donations. Thus, we expect a direct negative effect of irritation on annual donation. For the sake of completeness, we also allow for a direct effect of the evaluation part of appraisal, although we do not expect it to be relevant.

Besides the indirect effects through appraisal, we also expect direct mailing frequency effects. First of all, as each direct mailing provides a potential donator with an opportunity to donate, we expect the total amount of direct mailings to have a direct

positive effect on annual donation, in contrast to the frequency-appraisal relationships. Furthermore, we allow for direct effects of acceptable and excessive mailings, although it is unlikely the first will be significant. Excessive mailings, however, could have a negative effect on annual donation, which, in addition to the irritation effect, would be a further reflection of the detrimental effects of high mailing frequencies. In sum, our conceptual framework is as in Figure 3.

Insert Figure 3

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3 Data

Individuals generally base their opinions and behavior on their perception of the truth, instead of on its objective counterpart. From the satisfaction literature for example, we know that an individual's perception of the attributes that comprise a product or service form the key in explaining attitudes. Price response studies are a second example, as consumer behavior is influenced by the perception of price relative to an internal reference price (Monroe, 1973) instead of objective prices. Furthermore, Elliott and Speck (1998) indicate that perceived clutter is a better predictor of attitudes and behavior than objective clutter. Finally, Pruyn and Smidts (1998) found that the effect of objective waiting time on satisfaction is fully mediated by perceived waiting time. Thus, in many situations we need data on perceptions instead of objective measures, although naturally the two directly relate. Summarizing, we expect the appraisal of charitable mailings and the resulting donating behavior to be influenced by the perceived direct mailing frequency and particularly the perceived difference with the maximum acceptance level.

In addition to the fact that perceptions are the key drivers of consumer attitudes and behavior, obtaining objective data on individual overall mailing frequencies is next to

impossible, as charity organizations (and companies in general) at best keep track of their own mailing actions but for obvious reasons not of their competition. Thus, in order to get an overall view of mailing frequencies at the individual level, one would have to connect the databases of all direct mailing charity organizations. However, the large amount of charity organizations and strict privacy legislation cause insurmountable problems to do so.

However, this issue is hardly relevant for mailing frequencies, as it is perception that matters. Nevertheless, when it comes to donating behavior, ideally one would want objective data. But even if one had access to the databases of a number of charities and found a way to reliably connect these on the individual level, it would still be impossible to come to a proper estimation of total individual donating behavior. For example, an obvious linear transformation based on charity market proportions does not suffice, due to unknown varying preferences and overlap rates. Intuitively one would agree that donating €100 in total to two health funds in a market of 20 funds in multiple categories does not necessarily mean a €1000 overall donation. Therefore, self-report donating behavior measures, acquired through a survey, are the best achievable for our purposes.

There is of course the possibility of social desirability bias of self-stated data. Charitable donating is a typical example of this phenomenon. People tend to overestimate their true behavior in an attempt to appear more socially acceptable (Burt and Popple, 1998). However, as our interest is not in estimating the level of charity donations but in the variation across individuals caused that is by irritation, social desirable answering will not cause problems.

To test our conceptual model empirically we conduct a survey in order to investigate the relationships between mailing frequencies, irritation and donating behavior. Below we will describe the data in detail.

Measures

Data were collected through a questionnaire which was conducted on three consecutive working days with as interview locations various intercity trains in the Netherlands. The

questionnaire started by introducing the purpose of the study, that is, gaining insight in the attitude towards fundraising charities in the Netherlands. Furthermore it was explained that only charities that operate nationally should be taken into account. So, for example a local foundation like a church fund or sports club should be left out of consideration. The questionnaire continued by first asking some general questions on ways of donating, which set a neutral tone in the survey. Next, we asked for the respondents' donating behavior. Instead of focusing on a single donation event which would not be representative for overall donation behavior (Diamond and Gooding-Williams, 2002), we consider an aggregate donation behavior measure, namely average annual donation to charities. This was measured in seven categories, ranging from "Less than 25 euros" to "More than 1000 euros". We started by measuring this variable in order to avoid salience of mailing frequencies and irritation, which might negatively influence donation estimation. Hence, we can safely assume respondents answered this question open-mindedly so that possible irritation effects will not be spurious.

Next, we assessed the appraisal of the direct mailing frequency. Perceived direct mailing frequency itself was measured by asking the respondent to estimate the number of direct mailings s/he received in the past twelve months in each of the following categories: Health, International Aid, Culture & Welfare and Nature & Environment[2]. The evaluation component of the appraisal of these frequencies was measured on a five-point scale ranging from "Very low" (1) to "Very high" (5). Also, the respondent was asked to indicate the maximum acceptable annual amount of direct mailings for each category to assess the maximum acceptance levels.

These questions concerning category-specific measures were followed by questions on overall measures for the total direct mailing frequency. First, an overall low/high evaluation of the total amount of direct mailings received in the past year was assessed on the same five-point scale as described before. Subsequently, the irritation construct was measured through four items that all related to direct mailing induced irritation (intrusiveness, redundancy, quantity, boredom) and were partly based on Akaah et al. (1995). For each item respondents indicated their degree of

agreement/disagreement on a 5-point Likert scale. As irritation can be considered an emotion it is very hard for respondents to attribute different levels of irritation to the various charity categories. Therefore, irritation was measured as an overall construct, instead of as category-specific.

Finally, also on five-point Likert scales, the information content of direct mailings and the attitude towards charities in general were measured with respectively six (e.g. useful, interesting, reliable) and three (e.g. contribution to a better society) items. For further control variables, the respondents were asked a number of questions on demographics (e.g. gender, age, income).

To minimize common method bias the main constructs of interest were measured using different methods. That is, we used quantity measures for the mailing frequencies, a semantic differential for the low/high evaluation, a multi item Likert scale for irritation and an ordinal scale for donating behavior. Furthermore, we attempt to control for common method variance using Harman's one-factor test (Podsakoff and Organ, 1986). As factor analysis does not indicate a single 'general' factor that accounts for the majority of the covariance in our variables, common method bias is unlikely to be present here.

Data cleaning and reduction

Our initial sample consisted of 228 individuals. Fifteen of them skipped over 30 percent of the relevant questions and were therefore removed from the sample. This left us with 213 individuals, with on average 0.4% missing answers. The variable with most missing values (9.9%) is household income. Outlier analysis did not lead to further reduction of the sample.

To manage remaining missing values, we applied mean and mode substitution for continuous and categorical demographic variables respectively. For measures that act as dependents in any of the analyses (see figure 3) we did not apply substitution, so that these observations are left out of the particular analysis. For the remaining variables that only act as independents, we again used mean and mode substitution. Furthermore, for

perceived and acceptable mailing frequency variables we create missing value dummies, as these are key constructs in our study.

To construct overall perceived and acceptable mailing, the category-specific variables concerning mailing frequencies are added. As the four specified categories are exhaustive, this results in the overall perceived and acceptable mailing frequency for charities in general. Next, confirmatory factor analysis and reliability analysis is applied to form composite scales of the multiple item measures. Indeed, irritation, information content and attitude towards charities appear to be one-dimensional constructs. For the irritation items, 71% of the variance is accounted for by one component. Furthermore, this measurement is sufficiently reliable (Cronbach's alpha=0.86). Similar results hold for the information content measurement (56% of the variance accounted for, Cronbach's alpha=0.84) and the attitude towards charities measurement (65% of the variance accounted for, Cronbach's alpha=0.73). Thus, regression factor scores are used to form three composite variables. See the appendix for further details, such as scree plots.

Descriptive data analysis

After data cleaning our sample contains 213 individuals, 49% of which are men and 51% women. Respondents' ages varied between 18 and 74, with an average reported age of 38. Of these individuals, 16% is catholic, 23% is protestant, 11% has another religion and 50% is non-religious. Furthermore, 61% has a partner, while 39% is single. The distribution of gross monthly household income can be found in Figure 4. It appears that most individuals have a household income of €2500-€3500. As a check, we note for example that over 84% of the individuals with an income of €2500 or higher has a partner, which is what one would expect.

Insert Figure 4

In our sample 70% of the respondents are working, 16% are students and the remaining 14% are otherwise classified, like unemployed or retired. The relatively large student group might explain the low monthly incomes in the data. The highest completed education level is a little skewed towards higher education levels, although also much lower levels are in the sample.

Besides demographics, our questionnaire contained questions on our key constructs regarding direct mailings and donations. Figure 5 depicts the distribution of the annual donation to charity. The main part of the respondents donates annually up to a maximum of 250 euro, but some individuals even donate more than 1000 euro.

Insert Figure 5

Insert Table 1

Next, we turn our attention to the amounts of direct mailings people receive. First, we consider the yearly maximum accepted direct mailing levels in the four different categories, see Table 1. We observe that individuals, on average, find a charitable direct mailing once a month acceptable, but this ranges from zero to almost twice a week. Using Anova, we test whether there are differences in the maximum acceptance levels between categories. The null hypothesis of equal means is rejected (p-value=0.000). For example, we see that the maximum acceptance level is lowest for the category Culture & Welfare. To test for pairwise differences we perform paired sample t-tests. All combinations are significantly different at a significance level of 1%, except for Health-International Aid (p-value=0.143) and International Aid-Nature & Environment (p-value=0.130).

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Insert Table 2

Next, we consider the perceived amount of direct mailings people receive, see Table 2. Health funds appear to be felt like mailing the most, followed by International Aid funds. Again, we test whether there are differences between categories using Anova. This results in the rejection of the null hypothesis of equal means (p-value = 0.000). Also all pairwise combinations are significantly different (maximum p-value=0.040).

Insert Table 3

Remarkably, except for the Health category, the mean perceived amount does not differ much from the mean maximum acceptance level for the different charity categories. To test this, we consider the individual differences between perceived and maximum acceptable amount of mailings in Table 3. We find that on average the perceived total amount of mailings is larger than acceptable. However, this result is mainly driven by the category Health, as the differences for the other categories are not significantly different from 0.

Insert Table 4

Finally, we turn to the appraisal of direct mailings. First, we consider the low/high evaluation component, see Table 4. We find that, although on average the categories International Aid, Culture & Welfare and Nature & Environment do not mail more often than acceptable, still their mailing frequencies are considered slightly high (mean

evaluations in excess of 3 on a five-point scale). The frequency of the Health category is considered even higher, which could be expected based on the results in Table 3. And, with an average evaluation of 3.7 the total number of mailings is consistently considered highest. Only 8.3% of the individuals considered their total number of mailings low.

Finally, regarding direct mailing irritation, we find that 118 of 213 individuals (55.4%) have an average score higher than 3 across the four items, which means they are annoyed by charitable direct mailings. Furthermore, 49 individuals (23.0%) scored 4 or 5 on all items and are accordingly very irritated. Thus, irritation is indeed a potential problem.

4   Modeling Results

To test our conceptual model in Figure 3 we consider each relationship separately. Furthermore, to accommodate the asymmetric effect of excessive and acceptable mailings we estimate two different effects for positive and negative differences. Moreover, we not only include mailing frequencies in reference to the maximum acceptance levels, we also include the absolute perceived mailing frequency. Even though attitude formation is generally assumed to concern reference-dependent measures (Klein and Oglethorpe, 1987), this need not be the case for actual behavior.

Appraisal

Low/high evaluation

As explained before, the appraisal of direct mailings consists of two parts, the low/high evaluation and direct mailing irritation. First, we look at the evaluation, both per category and in total, and estimate the regression models below, where we only display the main variables of interest. Besides these, we also include demographic variables and dummy variables for missing values in perceived or acceptable mailing amounts as control variables.

$$\text{evaluation}_{cat} \quad = \quad \alpha_{cat}^{eval} + \beta_{1,cat}^{eval}\text{mailings}_{cat}$$
$$+ \beta_{2,cat}^{eval}\text{excessive}_{cat} + \beta_{3,cat}^{eval}\text{acceptable}_{cat} \tag{1}$$
$$+ \theta_{1,cat}^{eval}\text{information content} + \theta_{2,cat}^{eval}\text{attitude} + \varepsilon_{cat}^{eval}$$

$$\text{evaluation}_{tot} \quad = \quad \alpha^{eval} + \beta_{1}^{eval}\text{mailings}_{tot}$$
$$+ \beta_{2}^{eval}\text{excessive}_{tot} + \beta_{3}^{eval}\text{acceptable}_{tot} \tag{2}$$
$$+ \theta_{1}^{eval}\text{information content} + \theta_{2}^{eval}\text{attitude} + \varepsilon^{eval}$$

In (1), the variable *mailings* indicates the perceived amount of charitable direct mailings. The variable *excessive* represents the positive difference between the perceived and maximum acceptable amount of mailings, if the maximum acceptance level is exceeded. Furthermore, the variable *acceptable* reflects the negative difference between the perceived and acceptable amount of mailings, if the maximum acceptance level is not exceeded. Hence, both parameters are expected to be positive. Finally, we include the information content of direct mailings and the respondent's attitude towards charities in general. The index *cat* refers to each category, that is, Health, International aid, Culture & Welfare, Nature & Environment. Furthermore, the subscript *tot* indicates overall, or category nonspecific, variables, either directly extracted from the questionnaire or constructed out of the relevant variables, as explained before. Variables without a subscript are measured overall. We use OLS to estimate the model parameters. In Table 5 we first present the significant results from the category-specific models in (1), where boldface denotes significant at 5% and regular denotes significant at 10%.

Insert Table 5

In all categories, the effect of excessive mailings, or more mailings than maximum acceptable, is larger than that of acceptable mailings (less mailings than maximum acceptable), in some categories even twice as large. Thus, we find evidence for asymmetry. Furthermore, all reference-dependent frequency effects are positive, which is what one would expect. For a given maximum acceptance level, a positive parameter means that the more mailings are received, the higher an individual judges the number of mailings. Thus, positive parameters are consistent with rationally counting individuals.

Additionally, we find that total perceived frequencies are insignificant in all categories: in the evaluation of charitable direct mailing frequencies only reference-dependent perceptions matter. Also, the more informative a respondent thinks direct mailings are, the lower s/he evaluates the number of mailings s/he receives on the 5-point scale from "very low" to "very high", irrespective of the number of mailings s/he thinks s/he actually received. So, for example, two individuals with the same maximum acceptance levels and the same frequency perceptions but different information content scores, would evaluate their direct mailing frequencies differently. An explanation could be that when one finds direct mailings very informative, a high number just does not feel that high. A similar interpretation holds for the effect of attitude towards charities, although the effect is significant only in the Nature & Environment category.

Finally, various demographic variables turn up significantly in the different categories. For example, age has a significant effect on the low/high evaluation of Health charities. Older people evaluate the number of direct mailings from the category Health they receive more highly than younger people. Note that this is not simply a result of Health charities targeting older people so that their number of mailings is higher, as this variable is also included in the model. In terms of mediation analysis, the effect of age is not fully mediated by the perceived amount of mailings. Furthermore, if we include an interaction term of age and total mailings it turns out insignificant so it is not a case of older people reacting more strongly to an extra mailing. The effect is purely an effect of *age*, so the older, the higher one evaluates the number of Health mailings you receive, whatever it is. An explanation could be that as people get older, they get more conscious

of their mortality and health issues so that Health mailings are more salient (see for example Reed (1998)).

We use an F-test to test if the parameters for all variables are jointly equal across categories. At a p-value of 0.3544 the null hypothesis of equality is not rejected. However, when we consider all variables separately we find that the coefficients for excessive mailings (p=0.0616) and age (p=0.0067) differ significantly across categories. For example, individuals react most extremely in the category Culture & Welfare, where an extra excessive mailing increases the low/high evaluation by 0.276. Individuals react least extremely in the category Health, where an extra excessive mailing increases the low/high evaluation by 0.122. Interestingly, these two categories also comprise the extremes concerning mailing behavior, according to our respondents. The highest average amounts of mailings are received from the category Health (5.2 per year per individual) and the lowest from the category Culture & Welfare (1.8 per year per individual). Thus, the category that causes the least inconvenience is punished most. An alternative argument could be that these charities know they cause much irritation and hence mail less. Finally, the coefficients for *age* differ significantly across categories. The only category where it is significant is Health.

Insert Table 6

Next, we estimate model (2) for the overall evaluation, the low/high evaluation of the total amount of charitable direct mailings people receive. The significant results are displayed in Table 6. The results roughly mimic those from the category-specific models. Again, we find an asymmetric effect for positive and negative differences with the maximum acceptance level. Too many mailings has a larger effect than too few. Also, the total mailing frequency is insignificant. Furthermore, information content of mailings lowers the overall evaluation.

In two cases the missing value dummy variables in the category Health appear as significant. In the Health evaluation, if one did not fill out the number of mailings received in this category, one evaluates this number as higher[3]. In the total mailing evaluation, if one did not fill out the maximum acceptance level of mailings in the health category, the evaluation of the total number of mailings is higher. Assuming that people skip a question because they are uncertain about the answer, we can explain these significant results by the fact that the health charity category is highly competitive (meaning that in this category a very large number of charities is active), and sends by far the most mailings annually (see for example Table 2). Thus, individuals can easily get confused if they receive many mailings. They do not exactly know how many they received or would want to receive, they just feel overwhelmed, which finds expression in a higher evaluation.

Irritation

The second part of our appraisal construct is the level of irritation. We estimate the following regression model, where again we only display the main variables of interest. The same set of control variables is included. As explained before, we do not have category-level data on irritation and therefore we only estimate the parameters in the full model.

$$
\begin{aligned}
\text{irritation} \quad = \ & \alpha^{irr} + \beta_1^{irr}\text{mailings}_{tot} \\
& + \beta_2^{irr}\text{excessive}_{tot} + \beta_3^{irr}\text{acceptable}_{tot} \\
& + \gamma^{irr}\text{evaluation}_{tot} \\
& + \theta_1^{irr}\text{information content} + \theta_2^{irr}\text{attitude} + \varepsilon^{irr}
\end{aligned}
\tag{3}
$$

In (3), all variables are defined as above, with the addition of the irritation level. We use OLS to estimate the model parameters and we present the significant results in Table 7, where the same notation is used as before.

Insert Table 7

We find that, of the mailing variables only the excessive mailing variable has a significant effect. Thus, first of all, and according to our expectations, we can conclude that irritation is determined only on the basis of reference-dependent frequencies. On top of that, only negative events have a significant impact in irritation formation, reflecting an extreme form of loss aversion. Note that this is conditional on the low/high evaluation, where a similar asymmetric effect was found.

Furthermore, we find that the higher the evaluation of the amount of mailings, the higher the level of irritation, which is what one would expect. Thus, irrespective of what the actual frequencies are, individuals who feel the number of mailings they receive is very high are more irritated by direct mailings.

Next, both information content of direct mailings and a positive attitude towards charities in general reduce direct mailing irritation. Thus, for example, someone who thinks direct mailings are a source of information is not as annoyed by the same amount of excessive direct mailings as a person with a different view. Finally, men are more irritated by direct mailings than women.

Insert Table 8

Besides the direct effect of mailings on irritation, there is also an indirect effect through the low/high evaluation, as we can deduce from Table 6 and 7. Therefore, it is interesting to assess the total effect of mailing frequencies on irritation. We do this by estimating the model in (3) excluding the evaluation variable, which results in the parameter estimates for the mailing variables reported in Table 8.

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In terms of mediation analysis (Baron & Kenny, 1986), we note the following. We already know from Table 6 that both excessive and acceptable mailings significantly affect low/high evaluation, which is a necessary condition for mediation. Furthermore, from Tables 7 and 8 we conclude that including the low/high evaluation in the irritation equation reduces both effects, actually rendering the acceptable mailing effect insignificant. Thus, low/high evaluation partially mediates excessive mailings and fully mediates acceptable mailings.

As explained before, we only consider overall direct mailing irritation, instead of category-specific irritation. Nevertheless, we could include category-specific explanatory variables in our model, as far as available. This would mean category-specific, instead of overall, low/high evaluations, for example. However, both the Aikaike Information Criterion (AIC) and the Schwarz Information Criterion (SIC) for non-nested model selection are minimized for, and thus favor, the overall model. Furthermore, the category-specific model did not lead to qualitatively different conclusions. Thus, for reasons of parsimony and interpretability, we limit our analysis to the overall irritation model.

Donating behavior

We now turn to the analysis of donating behavior. As explained before, we consider total annual charity donation, which we measure as a categorical variable with seven categories, ranging from "Less than 25 euros" to "More than 1000 euros". Because of the ordinal nature of our dependent variable, we estimate the following ordered logit model.

$$
\begin{aligned}
\text{donation}^* \;=\; & \beta_1^{don}\text{mailings}_{tot} \\
& + \beta_2^{don}\text{excessive}_{tot} + \beta_3^{don}\text{acceptable}_{tot} \\
& + \gamma^{don}\text{evaluation}_{tot} + \delta^{don}\text{irritation} \\
& + \theta_1^{don}\text{information content} + \theta_2^{don}\text{attitude} + \varepsilon^{don}
\end{aligned}
\tag{4}
$$

With

$$donation = 1 \quad \text{if } donation^* \leq \mu_1$$
$$donation = j \quad \text{if } \mu_{j-1} < donation^* \leq \mu_j, j = 2,\dots,6 \qquad (5)$$
$$donation = 7 \quad \text{if } \mu_6 < donation^*$$

where *donation** is a latent variable related to the annual donation and μ_1 to μ_6 are unobserved thresholds that satisfy $\mu_1 < \mu_2 < \dots < \mu_5 < \mu_6$. Finally, ε^{don} has a cumulative standard logistic distribution. We estimate this model using Maximum Likelihood and present the significant results in Table 9, where again boldface denotes significant at 5% and regular denotes significant at 10%.

Insert Table 9

We find that, in contrast to the appraisal results where only reference-dependent frequencies mattered, the total perceived mailing frequency has a significant positive effect on annual donation. Thus, the more mailings an individual receives, the higher is the expected annual donation. As each direct mailing provides an individual with an opportunity to donate, it seems natural that the amount of mailings will increase total donation.

Nevertheless, excessive mailings have as significant negative effect on annual donation which is a first indication that high mailing frequencies can have a counterproductive effect. On top of that, direct mailing induced irritation has a significant negative effect on annual donation. Thus, although charitable direct mailings clearly increase expected annual donation up to a certain point, once they pass the maximum acceptance level they not only have an additional direct negative effect, but also induce irritation which in its turn decreases expected annual donation. Hence, we find ample evidence of the detrimental effect of high charitable mailing frequencies.

Whereas information content of direct mailings has no significant effect, a positive attitude towards charities increases expected annual donation. Thus, individuals may consider charitable mailings a useful source of information, but this will not cause them to donate more, except for the indirect effect through irritation. However, when individuals approve of charities, this will increase their annual donation. Both results seem plausible and intuitively appealing.

Next, of all missing value dummy variables, only the international aid mailing dummy has a significant effect. A possible explanation may be the tsunami disaster in December 2004, which indeed happened within a year before the survey was held. It brought about an enormous surge of charitable activity from both fundraisers and donators. Therefore, individuals may not exactly know how many mailings they received from international aid organizations that year, but do know they donated a high amount in total.

Finally, we have some significant results from demographics. For example, we find that *age* increases expected annual donation, which is a frequently recurring result (Sargeant, 1999). Furthermore, we find that lower incomes have a lower expected annual donation, which is also often replicated (Sargeant, 1999).

Again, analogous to the irritation model, we also consider the model with category-specific explanatory variables, such as mailing frequencies and low/high evaluations. However, as before, both the AIC and SIC favor the overall model. So, again we limit our analysis to the overall donation model.

5   Discussion and conclusion

We presented a framework for the relationships between charitable direct mailing frequencies, irritation and donating behavior. Instead of just considering absolute mailing frequencies, we recognize the importance of a point of reference, the maximum acceptable level of direct mailings. Furthermore, our framework allows for asymmetric effects of exceeding this maximum acceptance level or not.

We find ample evidence that high perceived mailing frequencies cause irritation. The amount of excessive mailings, and the evaluation that the received amount of mailings is high, do increase direct mailing irritation. Concerning the low/high evaluation, we find that the more mailings people perceive, the higher they evaluate this amount, which is consistent with individuals having numerical skills. However, positive differences with the maximum acceptance level have a larger effect than negative differences. Thus, people react more strongly when their maximum acceptance level is exceeded. Furthermore, acceptable mailings have no significant direct effect on irritation. Together, these results provide strong support for the loss aversion hypothesis of reference dependent utility theory of Kahneman and Tversky (1991).

In summary, we conclude that we can answer our first central research question - do the current large amounts of charitable direct mailings lead to irritation with potential donators? – in an affirmative way. Yet, it is not so much the absolute mailing frequencies that induce irritation (after all, what is large?), but the mailing frequencies in reference to the maximum acceptance level. Thus, we can rephrase and conclude that *too many* mailings lead to irritation.

We also find that, although the absolute amount of mailings directly increases total annual donation, too many mailings and irritation have a negative effect. Thus, our second research question – Does direct mailing irritation reduce income for charities? – is also confirmed.

Our results, and especially the last one, have strong implications for charitable organizations. Instead of focusing on the short term and selecting targets for each mail shot separately, without acknowledging the long term consequences of the current mailing strategies, charities should be aware of the detrimental irritation effects these direct mailings could have for some individuals. Perhaps better results could be achieved by targeting only those individuals whose maximum acceptance level has not yet been reached. After all, the excessive mailings are the main cause of irritation. Of course, as these individual maximum acceptance levels are unknown, further research on this issue is needed.

Appendix

Below are the results of the factor analyses for the various multi-item scales from the questionnaire.

	Irritation	Information content	Attitude charities
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.788	0.840	0.682
Bartlett's Test of Sphericity	391.5 (0.000)[a]	475.9 (0.000)[a]	136.4 (0.000)[a]

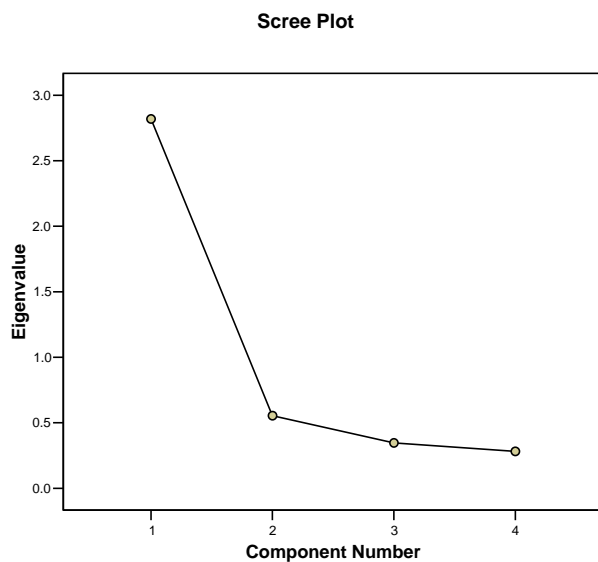[a]approximate Chi-squared statistic with p-value in parentheses

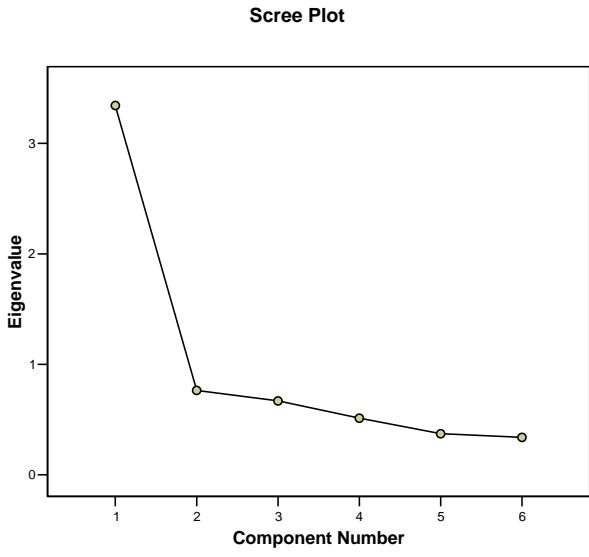

Figure 6: Scree plot for the four irritation items

Scree Plot

Figure 7: Scree plot for the six information content items
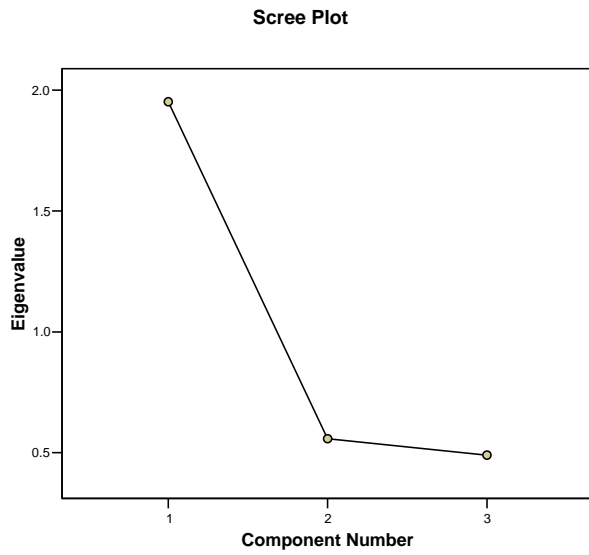
Scree Plot

Figure 8: Scree plot for the three attitude towards charities items

Tables

Table 1: Maximum acceptable amount of mailings

Charity	Mean	Standard deviation	Median	Minimum	Maximum
Health	3.5	3.9	2	0	30
International Aid	3.2	3.6	2	0	24
Culture & Welfare	1.9	2.3	2	0	20
Nature & Environment	2.8	3.8	2	0	30
Total	11.4	11.4	9	0	85

Table 2: Perceived amount of mailings

Charity	Mean	Standard deviation	Median	Minimum	Maximum
Health	5.2	6.2	4	0	50
International Aid	3.4	3.8	3	0	25
Culture & Welfare	1.8	2.4	1	0	15
Nature & Environment	2.9	3.4	2	0	25
Total	13.3	12.4	10	0	90

Table 3: Difference between perceived and maximum acceptable amount of mailings

Charity	Mean	Standard deviation	Median	Minimum	Maximum
Health	1.8*	6.5	1	-20	49
International Aid	0.2	4.6	0	-24	19
Culture & Welfare	-0.1	2.9	0	-17	10
Nature & Environment	0.0	3.2	0	-18	9
Total	1.9*	13.5	1	-51	56

* significantly different from 0 at the 5% level

Table 4: Mean evaluation per category

Charity	Mean evaluation
Health	3.4
International Aid	3.2
Culture & Welfare	3.2
Nature & Environment	3.2
Total	3.7

Table 5: Estimation results for category evaluations

	Evaluation health		Evaluation international aid	
	Par. Est.	Std. Err.	Par. Est.	Std. Err.
constant	**2.426**	**0.424**	**3.211**	**0.485**
total mailings	-	-	-	-
excessive mailings	**0.114**	**0.024**	**0.152**	**0.039**
acceptable mailings	**0.109**	**0.023**	**0.088**	**0.024**
information content	**-0.161**	**0.064**	**-0.167**	**0.071**
att_charities	-	-	-	-
miss_mail	**0.452**	**0.225**	-	-
age	**0.021**	**0.006**	-	-
religion=other[1]	-	-	-0.401	0.226

	Evaluation culture & welfare		Evaluation nature & environment	
	Par. Est.	Std. Err.	Par. Est.	Std. Err.
constant	**3.335**	**0.455**	**3.853**	**0.410**
total mailings	**-**	**-**	**-**	**-**
excessive mailings	**0.276**	**0.071**	**0.232**	**0.035**
acceptable mailings	**0.164**	**0.033**	**0.110**	**0.028**
information content	-0.113	0.066	**-0.125**	**0.059**
att_charities	-	-	**-0.129**	**0.057**
social position= student[2]	-	-	-0.508	0.284
educ=academic[3]	-	-	-0.306	0.181
educ=other[3]	-	-	-0.429	0.231
religion=catholic[1]	**0.362**	**0.179**	-	-
religion= protestant	0.275	0.152	-	-

[1]base=non-religious
[2]base=other, options={working, student, other}
[3]base=high school, options={professional ed., high school, academic, other}

Table 6: Estimation results for overall evaluation

	Evaluation total	
	Par. Est.	Std. Err.
constant	3.187	0.452
total mailings	-	-
excessive mailings	0.039	0.011
acceptable mailings	0.024	0.009
information content	-0.149	0.068
att_charities	-	-
miss_acc health	1.186	0.417
age	0.017	0.007

Table 7: Estimation results for irritation

	Irritation	
	Par. Est.	Std. Err.
constant	-0.162	0.488
total mailings	-	-
excessive mailings	**0.029**	**0.011**
acceptable mailings	-	-
evaluation total	**0.250**	**0.073**
information content	**-0.270**	**0.065**
att_charities	**-0.141**	**0.064**
male	**0.268**	**0.122**

Table 8: Estimation results for irritation mediation analysis

	Irritation	
	Par. Est.	Std. Err.
total mailings	-	-
excessive mailings	**0.041**	**0.011**
acceptable mailings	**0.020**	**0.009**

Table 9: Estimation results for annual donation

	Annual donation	
	Par. Est.	Std. Err.
total mailings	**0.100**	**0.026**
excessive mailings	**-0.070**	**0.033**
acceptable mailings	-	-
evaluation	-	-
irritation	-0.319	0.191
information content	-	-
att_charities	**0.320**	**0.161**
miss_mail international aid	**3.088**	**1.149**
age	**0.075**	**0.016**
social position= working[1]	**2.163**	**0.484**
social position= student	**3.233**	**0.854**
educ=other[2]	-1.129	0.597
income <€500[3]	**-2.310**	**0.871**
income €500-€1500	**-1.046**	**0.532**
income €1500-€2500	**-1.300**	**0.456**
μ_1	**3.300**	**1.122**
μ_2	**4.764**	**1.149**
μ_3	**6.227**	**1.189**
μ_4	**8.083**	**1.234**
μ_5	**9.438**	**1.277**
μ_6	**10.654**	**1.362**

[1]base=other
[2]base=high school, options={professional ed., high school, academic, other}
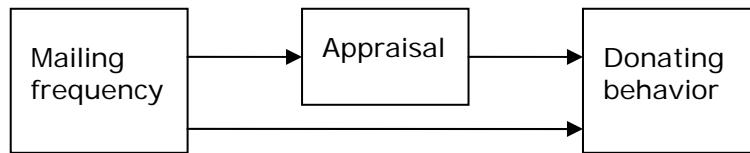[3]base=€2500-€3500
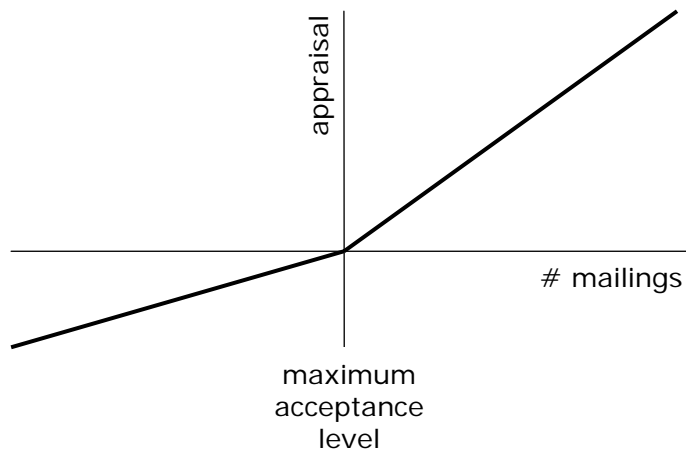
Figures

Figure 1: Central variables and relationships

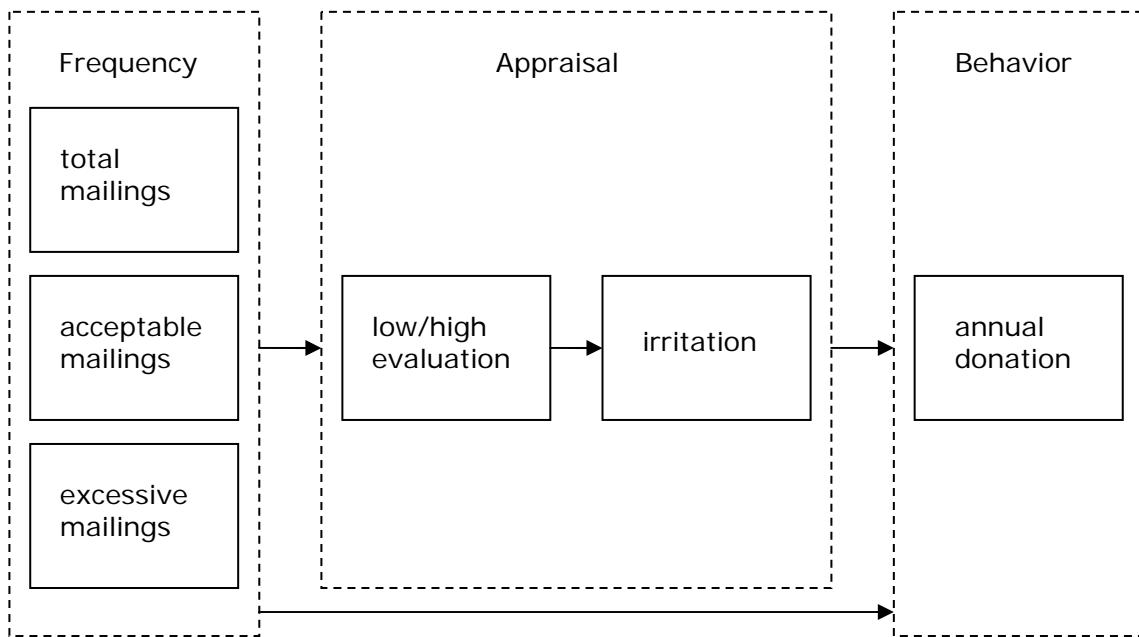Figure 2: The effect of mailing frequency on the appraisal of mailing frequency
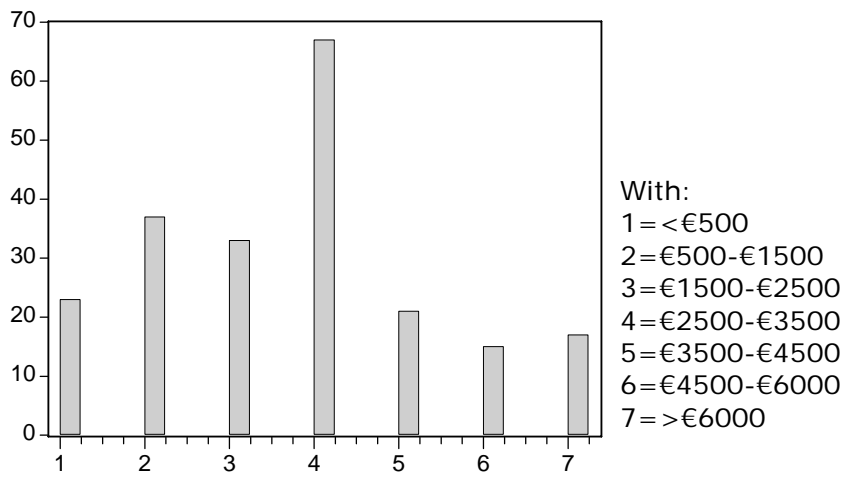
Figure 3: Conceptual framework

With:
1=<€500
2=€500-€1500
3=€1500-€2500
4=€2500-€3500
5=€3500-€4500
6=€4500-€6000
7=>€6000
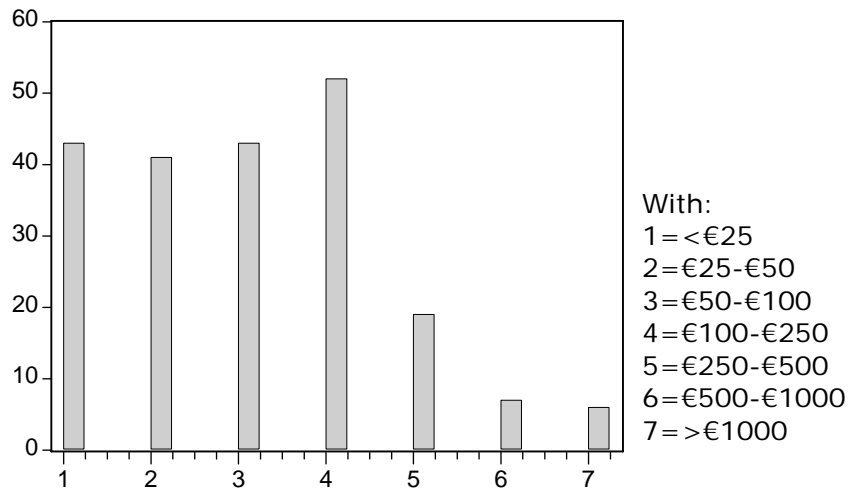
Figure 4: Distribution of gross monthly household income

Figure 5: Annual donation to charity

With:
1=<€25
2=€25-€50
3=€50-€100
4=€100-€250
5=€250-€500
6=€500-€1000
7=>€1000

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Footnotes

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[1]   Note that we only consider postal direct mail, as opposed to e-mail.

[2]   This is the classification used by both the branch organization and an independent hallmark supervisor for charities in the Netherlands. For each category, some well-known Dutch examples were provided for clarification.

[3]   Note that only observations of individuals who did fill out the evaluation are included in the analysis, as missing values in the evaluation variables were not substituted.

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