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Journal of Consumer Behaviour; Jun 2003; 2, 4; ABI/INFORM Global pg. 320

ACADEMIC PAPERS

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Received (in revised form): 16th March, 2002

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Keywords:
Cause-related marketing, social marketing, donation, attitude, marketing

Abstract
Two experiments are presented in this paper that explore the effect of cause-related marketing (CRM) on product choice. To allow evaluation of the effect of experience and the role of individual differences, the experiments used a repeated choice setting. The results of Experiment 1 showed that the effect of CRM was stable over time. However, the direction of the effect was sensitive to the value of the product. CRM served as an equaliser: it helped disadvantaged alternatives and reduced the attractiveness of superior alternatives. Experiment 2 showed that the effect of CRM decreased but did not disappear in an easy choice task. These findings are summarised in a simple model and discussed in terms of their potential marketing applications.

One of the challenges of the marketing profession lies in the choice of product features in addition to the raw product. Previous studies showed that additional product features, such as gifts and rebates, can increase product choice but
can also provide reasons for not buying the promoted product (Simonson et al., 1994). One of the critical decisions a marketer has to make in this respect is whether to influence the paying customer directly, for example, by enlarging the product (such as by adding an ‘extra 10 per cent free’), reducing its cost or giving a direct bonus (either a secondary product, a gift or a benefit); or indirectly increasing the positive attitude of consumers by such means as popular acts and donations to socially accepted causes.

In cause-related marketing (CRM) a product is promoted by the information that part of the payment for the product will be donated to some cause (Osterhus, 1997; Brown and Dacin, 1997). Other terms for this or similar marketing strategies include pro-social marketing (Osterhus, 1997) and charity incentives (Strahilevitz and Myers, 1998). This promotion strategy has become rather popular in recent years. With the growing public concern for environmental and social issues (Mackoy et al., 1995), companies have begun to affiliate their products with a variety of popular causes, including ecological issues, social and medical rights, and crime prevention (Murphy, 1997; Brown and Dacin, 1997; Tate, 1995; Arnott, 1994; Benjamin, 1994; Carringer, 1994; Garfield, 1993).

Extant research suggests that CRM can be quite effective as it affects the consumer’s attitude towards the product (Osterhus, 1997; Brown and Dacin, 1997; Smith, et al., 1994). The main goal of the current paper is to extend this research by clarifying the attitude-related effects of CRM. Two questions are addressed that examine the conditions under which CRM is expected to succeed. The first question concerns the stability of the effect experienced with the product. Under one interpretation of the effect of CRM, the contribution serves as a signal that the product is of ‘high quality’. The notion that consumers use extrinsic cues, such as brand name, warranties and even the physical appearance of products, as ‘signals’ of product quality has become widely accepted in the marketing and economic literature (Erevelles, et al., 2001; Dawar and Parker, 1994; Kirmani and Rao, 2000). According to the signal theory, assuming a perfectly competitive market and rational consumers, the quality of the product can be signalled to the consumer through an external feature. For example, in warranties the signal possibly implies a long-term commitment from the producer to the product (Erevelles et al., 2001). A high monetary value of a product may also serve as a cue for product quality, although prices also represent a direct financial risk (Rao and Monroe, 1989). In CRM, a contribution to the cause is likely to signal the commitment of the producers to social norms. It can also serve as a signal that the producers are powerful enough so that they can allocate money to purposes that (at least apparently) do not lead to financial gains. Thus, the consumer may be led to believe that the producers are not after ‘short bucks’, and favour quality.

According to this explanation, when consumers are faced with a new product, promoted by CRM, they initially believe that its quality is relatively high. This belief facilitates initial experimentation with the product, but if the product’s quality is low, then consumers can learn to ignore the signal (see Yechiam et al., 2001). As a result, the long-term effect of CRM is expected to depend on the quality of the product: the effect is expected to be robust for high-quality products and to diminish with time for low-quality products.

Under an alternative interpretation, CRM affects the subjective utility of the product. An increase in utility is expected based on altruistic motivations (Schwartz, 1977), but can also be justified on other grounds. For example, like the effect of placebo, CRM can
facilitate self-fulfilling expectations (Eden, 1993). In a series of studies, Eden (1993) examined the case of new employees known by their employers to have external features, such as previous positive or negative evaluation scores. He found that the evaluation of the employees on the basis of these features persisted even when they were not correlated with actual ability (the 'previous evaluations' were based on a random draw). The underlying theory of the so-called 'Pygmalion effect' is that different expectations lead to different interpretations of equivocal experience, which in turn strengthen the original expectations. Under this logic, the CRM effect is expected to be robust to experience.

The second question addressed here concerns individual differences. The observation that CRM influences attitude implies that, in addition to affecting the mean attitude towards products, it is also likely to increase the between-consumer attitude variability, because consumers have strong attitudes, either positive or negative, towards cultural norms embedded in causes (Gregory and Munch, 1997). The second-order (variability) effect is potentially important to marketers because it can determine the conditions under which CRM is likely to be effective. Specifically, if polar attitudes exist about the donation target or the donation process, then CRM is expected to serve as an equaliser: to improve the market share of a disadvantaged product, but impair the market share of leading products.

The idea that individual differences in response to manipulations can induce the equaliser effect is elegantly explained in Hutchinson et al., (2000). Hutchinson et al. consider a situation in which consumers can be grouped into classes that are relatively homogenous in their response to an experimental treatment. If one homogenous group is relatively small, it is tempting to ignore it, but this may lead to an estimation bias in some contexts. For example, if a small group A does not favour a donation target (say, a fund for soldiers in need), then the effect of this group might be assumed to be cancelled out by the large majority of cause supporters. However, such an assumption runs into problems when a ceiling or floor effect is relevant to all but the small group. One such case is a leading product bought by most of the population (including most cause supporters). In this special case, CRM is expected to affect only group A, because group B is already choosing the product. For this reason, marketers advise using different marketing strategies for groups with different backgrounds (Annik, 1998).

Yet, in many cases this segregation is not possible (such as in television commercials), and it is important to consider the effect of heterogeneity on product choice.

Two experiments are presented here to examine these questions. Experiment 1 demonstrates that the effect of CRM is surprisingly robust to experience, even in the case of low-quality products. The effect did not diminish with 400 'simulated shopping' experiences. In addition, this experience reveals that CRM increases individual differences and has the associated equalising effect. Experiment 2 provides additional examination of the robustness of CRM to experience. It shows that increasing the clarity of the utility differences between products can decrease but not eliminate the CRM effect.

**EXPERIMENT 1: THE RELATIVE VALUE OF CRM BONUSES**

In order to evaluate the two questions presented above, the current research used a repeated choice paradigm. This paradigm simulates a repeated shopping experience. The experiments consisted of 400 trials. In each trial the participant was asked to select from two options that served as 'products'. These options were presented on screen as two buttons, labelled 'A' and 'B'. Each time a
button was pressed, participants received points, simulating the utility of a product. The participants' goal was to maximise their accumulated sum of points. This paradigm has two desired properties: first, it allows direct evaluation of the effect of experience. In addition, the observation of 400 choices by each consumer facilitates the assessment of individual differences.

The 'basic payoff' from each choice was determined based on a (rounded) random draw from the selected option's payoff distribution. In the first experiment the distribution was normal with a standard deviation of 20. The mean of the distribution for the high value option (alternately A or B) was 120, while the mean of the distribution for the inferior option was 100. The distributions did not change during the experiment. The participants did not receive prior information concerning the distribution, and had to form their preferences (and their estimates of the distributions) based on the observed draws. At the conclusion of the experiment, points were converted to money with the conversion rate of one US cent per 80 points.

Four groups were compared. The groups differed with respect to the 'additional' payoff. In Group Personal Bonus – Low (PB – L) an additional payoff of 10 per cent of the 'basic' payoff was added to each choice of the low-payoff alternative (mean of 100). The participants were aware that they received this 10 per cent bonus but were not aware that this alternative was also the low-payoff option. Condition CRM – Low (CRM – L) was identical to condition PB – L with the exception that the additional payoff was contributed to a cause (selected by the participant as explained below). The third and fourth groups served as controls. The third group (No – bonus) received no extra bonus for their choice. Condition CRM – High (CRM – H) was identical to CRM – L with the exception that the 10 per cent contribution was made after each choice of the high-value alternative instead of the inferior one.

The CRM target was a choice that subjects made from the following three funds: a fund for students with learning disabilities, a fund for army soldiers and a fund for children at risk. These funds were chosen after having received the highest donation priority in an open-question interview with ten students.

Participants
One hundred students from the Technion Institute (mostly engineering students, 63 males and 37 females) participated in the experiment. They were paid a sum of 20 to 25 shekels (US$5 – 7) for their participation, depending on their success in the experimental assignment. Participants were randomly assigned to the four experimental groups. Thirty participants were assigned to each of the two experimental groups and 20 participants were allocated to each of the two control groups.

Procedure and apparatus
Subjects were informed that they were playing a 'computerised money machine' (see a translation of the instructions in Appendix A), but received no prior information as to the game's payoff structure with the exception of the CRM/bonus manipulation. Their task was to select one of the machine's two unmarked buttons (see Appendix B) in each of the 400 trials. The number of trials was unknown to the players. Payoffs were contingent upon the button chosen and were drawn from the two normal distributions described above. Two types of feedback immediately followed each choice: (1) The basic payoff for the choice, which appeared on the selected key for a duration of one second, and (2) updates of a most recent basic payoff counter and an accumulating basic payoff counter, which were displayed constantly. At the end of the experiment
participants were briefed as to their total personal bonus or donation.

**Results and discussion**

Figure 1 presents the proportion of high-value choices (in eight blocks of 50 trials) in each of the four conditions. It shows that, with time, the proportion of choices that maximise expected value increases in all four conditions, and two nontrivial effects of the experimental manipulations: first, comparison of conditions CRM–L and PB–L shows that CRM can be more effective than personal bonus even after 400 rounds of repeated choice. In the last block the choice rate of the 100 option was 46 per cent in CRM–L and only 28 per cent in PB–L. A comparison of condition No–bonus and CRM–H shows a second nontrivial finding: in the last block the choice rate of the 120 option was higher without CRM (96 per cent in condition No–bonus) than with CRM (88 per cent in condition CRM–H).

An ANOVA analysis for the first and last blocks of all four groups shows a main effect of time \( (F(1, 96) = 0.94; p < 0.01) \) and group \( (F(3, 96) = 18.86; p < 0.01) \). An ANOVA comparing only the No–bonus condition and the CRM–H condition revealed main effects of time \( (F(1, 38) = 32.10; p < 0.01) \) and group \( (F(1, 38) = 3.51; p < 0.1) \), with the No–bonus group choosing the superior product more than the CRM–H group. In addition, there was a marginally significant interaction effect of group and time \( (F(1, 38) = 3.09; p < 0.1) \), indicating that the differences between groups increased with time.

A third MANOVA analysis compared the CRM–L condition and the No–bonus condition. The results showed main effects of time \( (F(1, 48) = 11.63; p < 0.01) \) and group \( (F(1, 48) = 25.56; p < 0.01) \), with CRM this time increasing the choice of the inferior product. Also, there was a marginally significant interaction effect of group and time \( (F(1, 48) = 2.71; p < 0.1) \). The interaction again showed that differences between the CRM group and the control group increased in time.

Finally, a comparison of the CRM–L and PB–L conditions showed only an effect of group \( (F(1, 58) = 5.01; p < 0.05) \) with the CRM–L promoting the inferior product to a greater extent.

It can be seen that the results provide a clear answer to the first experimental question. The effect of CRM on choice was robust, it did not diminish in 400 repetitions with immediate feedback. Indeed, the results show some increase in the magnitude of the effect with time.

To facilitate an evaluation of the second question, relating to the effect of CRM on individual decision makers, Figure 2 presents the individual learning curves of the first ten subjects in each of the four conditions. The results show that, in line with the assumption that CRM increases individual differences, the between-subject variability in the CRM conditions was higher than in the no-CRM conditions. This visual impression is supported by the standard deviation measures. Over the 400 trials the between-subject standard deviation was 0.34 in condition CRM–L compared with 0.26 in condition PB–L and 0.08 in
the No–bonus condition. The standard deviation in condition CAR–H (0.14) was also higher than in the No–bonus condition. Additional support for the effect of CRM on individual differences comes from the existence of the equalising effect (derived from the assertion that CRM increases individual differences). As noted above, CRM significantly increases the attractiveness of the inferior option (EV of 100), but significantly decreases the attractiveness of the superior option (EV of 120).

**EXPERIMENT 2: THE EFFECT OF PAYOFF VARIABILITY**

Experiment 1 examined a noisy environment in which consumers could not know with confidence the exact cost of their contribution. According to the signalling approach, this situation may be a necessary condition for CRM to promote an inferior product (Hoch and Ha, 1986; Hoch and Deighton, 1989). For example, Hoch and Ha (1986) showed that when consumers had access to unambiguous evidence regarding product quality, judgments of quality were dependent only on the objective physical evidence and were unaffected by advertising. Advertising had dramatic effects on perceptions of quality when the evidence was ambiguous.

To examine this point, Experiment 2 examined three conditions in which the CRM bonus was added to the inferior option, with a varying level of ambiguity in the differences between products. This was manipulated by changing the amount of the payoff standard deviation (SD = 5, 10 or 20). As in Experiment 1, the mean of the distribution for the high value option (alternately A or B) was 120, while the mean of the distribution for the inferior
option was 100. Note that under the constraint of the SD = 5 condition the chance of the inferior option resulting in a payoff larger than that of the high-value option was 0.5 per cent. Thus, in this condition, assuming profit maximisation, there was almost no overlap in the profit from the two options.

Sixty Technion students (39 males and 21 females) participated in the experiment. They were paid a sum of 20 to 25 shekels (US$5–7) for their participation, depending on their success in the experimental assignment. Participants were randomly assigned to three equal groups. All groups chose between a high-value option and a low-value option, which was accompanied by a CRM bonus (consisting of 10 per cent of earnings). The three groups (Low variability, medium variability and high variability) had different noise levels (SD = 5, 10 and 20, respectively). The procedure and apparatus were as in Experiment 1.

Results and discussion

Figure 3, which summarises the main results, shows an initial decrease in the effectiveness of CRM with a decrease in payoff variability, but similar long-term effects compared to the No–bonus group studied in Experiment 1. In the low variability group, most of the learning occurred in the first block, and the high-value (no CRM) option was chosen for an average proportion of 67 per cent. In the medium variability group, subjects slowly learned to prefer the high-value option, starting from a no preference point (a 50 per cent choice), and moving to a top preference which also amounted to about 67 per cent. The high variability group also started from a no preference choice and reached a slightly lower rate of 56 per cent of choice of the high value option.

An ANOVA was performed to test for the effects of the bonus conditions and time compared to the No–bonus group in Experiment 1, with time as the repeated measurement factor. The results show a main effect of group (F(3, 76) = 13.56; p < 0.01) and an interaction effect of time and group (F(3, 76) = 5.80; p < 0.01), with the effect of variability being more pronounced in initial choices. A post hoc Duncan test showed that in both the first two blocks and the last two blocks the No–bonus group chose the superior product more than the three CRM groups of the current experiment (p < 0.05). In addition, the high variability and low variability groups showed a significant difference (p < 0.05). That is, the results show that even when quality differences between alternative options were clear, there was a positive effect of CRM on promoting the disadvantaged product. On the other hand, the effect of CRM was most pronounced in the high-variability group, indicating that part of the effect was related to signaling.

Summary and a simple model

The results can be summarised in three main assertions. First, CRM increases between-consumer variability. Secondly, the CRM effect decreases but does not disappear when the direct values of the product are clearer. Thus, the effect appears to be rather robust to experience. Thirdly, it seems that CRM increases the mean attractiveness of the
promoted product, but this effect is more obvious. In order to clarify these assertions and to evaluate if they provide sufficient explanation of the results, the following section presents one possible quantification of the verbal summary. The authors chose to use the Logit framework (McFadden, 1974; Naert and Bultez, 1973). Using this framework, the probability that Consumer i selects the high-payoff option in Condition j can be written as:

$$P_i^j = \frac{1}{1 + \exp[-(D_i - C_i)\lambda]}$$

(1)

where $\lambda$ is a preference strength parameter, $D_i$ is the difference in expected payoffs between the high and low options (ten in condition PB–L and 20 in all other conditions), and $C_i$ is the effect of CRM on the specific consumer. Individual differences are abstracted by the distribution of $C_i$.

To account for the effect of payoff variance, it was assumed that the distribution of $C_i$ depends on the payoff variance. Specifically, it was assumed that $C_i \sim N(\mu - \alpha S, \mu + \alpha S)$, where $S$ is the payoff standard deviation in the relevant condition. Thus, the model has three parameters: $\lambda$, $\mu$, and $\alpha$. It should be noted that the assertion that CRM increases individual differences implies $\alpha > 0$; while the assertion that CRM increases the mean attractiveness of the promoted product implies $\mu > 0$.

Computer simulations were run to estimate the model's parameters and to evaluate its descriptive power. The authors focused on the choice probabilities following experience (last block of 50 trials) and used a mean squared deviation (MSD) criterion. Table 1 presents the observed and fitted values, and shows good fit (MSD = 0.0096 and $r = 0.99$). The estimated parameters are $\lambda = 0.1$, $\mu = 13$, and $\alpha = 2.2$.

It is important to recall that the almost perfect correlation does not mean that the model is correct. Some differences between the observed and predicted behaviour are presented in Figure 4, which presents the observed and predicted choice distributions in the last block. The results reveal that, while the model captures the main trends, it under-predicts the variability in condition PB–L. The distribution in condition PB–L suggests that few participants behaved as if the 10 per cent addition (with a value of ten points) was better than 20 points. This behaviour appears to represent confusion. Since the participants were engineering students who received clear instructions, the authors are confident that this 'experimental' confusion is no different to the confusion created by bonuses in natural settings. This observation can be added to the current model by the assumption that the observed individual differences stem from two additive sources: the donation and the confusion created by the delayed 10 per cent payoffs. In addition, it appears that the model under-predicts a tendency to cling to the extreme allocation solutions (100 per cent no donation or 100 per cent donation).

Another obvious limitation of the model involves its static nature; it

| Table 1: Proportion of high-value option choice in the last block: observed results in the seven conditions and the model's prediction |
|-----------------|-----------------|---|---|---|
| Experiment | Condition | CAM | D | Observed | Predict |
| 1 | 1. CRM–L | Yes | 20 | 0.54 | 0.57 |
| 2 | 2. No–bonus | No | 20 | 0.96 | 0.88 |
| 3 | PB–L | No | 10 | 0.72 | 0.73 |
| 4 | CRM–H | Yes | 20 | 0.85 | 0.84 |
| 5 | SD = 20 | Yes | 20 | 0.54 | 0.58 |
| 6 | SD = 10 | Yes | 20 | 0.61 | 0.62 |
| 7 | SD = 5 | Yes | 20 | 0.67 | 0.65 |

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ignores the effect of experience. This limitation can be addressed by replacing the term $D_i$ (in equation 1) with a term that summarises what the consumer has learned about this difference during the previous trials. For example, when $D_i$ is replaced with $D_i(t)$, the difference in obtained payoffs, the modified dynamic model predicts a convergence to the proportions predicted by the static model. With one addition, the normalisation of $\lambda$, the model becomes a generalisation of the reinforcement learning rule proposed by Erev et al., (1999). This model captures a wide set of published experimental data.
was shown to be robust to decreased choice difficulty in the evaluation of quality differences. These findings indicate that the possible positive and negative effects of CRM, discussed above, are unlikely to disappear. These findings also support the idea that CRM works not only by signalling that a product is of high quality, but also by actually affecting the utility of choice, either due to altruistic motives or to the long-term effect of placebo. This explanation is in line with the more general averaging explanation (e.g. Troutman and Shanteau, 1976) for the way consumers integrate information about a product. According to this view, consumers form an overall impression of alternatives by averaging the value of different components, such as price and brand name. Thus, the major effect of external features, such as CRM, is predicted to be robust to experience.

The negative effects of CRM, such as unnecessary product features (observed by Simonson et al., 1994) can be explained by the notion of a very small sub-population to whom the product features seem annoying. According to this explanation, negative effects of product features are likely to occur only for additional features which actually bother consumers. This topic deserves the attention of future research.

The positive effect of CRM was maximised when used to promote an inferior alternative in a noisy (ambiguous) environment. These results are consistent with the findings that frivolous products, which tend to be associated with higher payoff variability than practical products, are less affected by CRM (Strahilevitz and Myers, 1998; Irwin, 1999). Indeed, the largest effect in Strahilevitz and Myers’ study involved a comparison of a weekend getaway (large variability) and a US$500 textbook credit (no variability). This observation is consistent with the assertion that in situations in which the accumulated experience does not provide a single, clear direction, people come to rely on
beliefs and reasons (Kivets, 1999; Petty and Cacioppo, 1986).

An alternative explanation is that, in a very clear choice situation, the addition of a relatively small feature to an alternative may be perceived as a signal that a product is of low quality (Simonsson et al., 1994). However, this explanation is contrasted by the experimental findings of Simonsson et al. (1994) which show that when consumers have information about the quality of products, they are less likely to use promotions as reasons against making a choice. Thus, it appears that in an ambiguous environment, the effects of external features, such as CRM, on product choice are enhanced.

In order to demonstrate that this simple description of the present findings can provide interesting insights, consider a farmer who produces and sells three products in a fixed-price market: eggs, tomatoes and avocados. Assume that the avocados are of higher quality than the competing goods and that the tomatoes and eggs are of lower quality. In addition, the quality variability is larger for the tomatoes than for the eggs. The current analysis provides a clear recommendation. If there is a small minority that is unsympathetic to the promoted cause, then CRM will impair the attractiveness of the avocados. In addition, CRM will be most effective in increasing the value of the tomatoes but will also be effective in promoting the eggs. Finally, the effect of CRM will not disappear in time, but might decrease for the tomatoes, bringing them down to the level of the eggs.

Interestingly, one of these recommendations (taking advantage of quality variability) is consistent with one of the oldest uses of CRM. Over 2,000 years ago, Jewish farmers were encouraged to donate a percentage of certain products to the poor. In one system of donations (called 'Truma'), farmers had to decide what percentage to donate, choosing a percentage between ten and 30. This donation is one of the precepts specified in the Old Testament (eg Ruth, 2:1–3). It is reasonable to assume however that farmers would want to donate a minimal percentage, whereas the system encouraged the donation of a larger percentage. Interestingly, the prescribed donation was given from high-variability products such as wheat (in the arid Middle East wheat crops were unpredictable). Less variable products, like cattle, were not included in this donation system, but were included in other donation systems in which farmers had no choice about the prescribed amount.

**APPENDIX A: INSTRUCTIONS**

Welcome and thank you for your participation. You are about to participate in an experiment in which you must choose between two virtual buttons in a 'money machine', one labelled 'A' and the other labelled 'B.' To select one of the virtual buttons, you must move the mouse cursor to a position over the selected button and left-click the mouse.

Following each choice, you will receive an output in the upper window on the screen, specifying the number of points you lost in that round. You will also receive an output in the bottom window on your screen specifying your total cumulative token earnings so far. Following the output for the first round, you must make another choice, await the output, and so on, until the end of the experiment.

The accumulated number of points you make will determine your payoff at the end of the experiment. After the experiment ends, you will receive 1 agora (0.25 US cents) for each 20 points you earn.

**CRM bonus groups only**

In addition, every time button 'B' is pressed, an additional sum of 10 per cent of the profit of this round will be
donated to one of the following
donation funds:

(1) A fund for students with learning
disabilities.

(2) A fund for army soldiers.

(3) A fund for children at risk.

Please mark the fund that you want to
contribute to, assuming you will choose
the ‘B’ option.

Customer-centred bonus only
In addition, every time button ‘B’ is
pressed, an additional sum of 10 per
cent of the profit of this round will be
given to you at the end of the
experiment.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
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<tbody>
<tr>
<td>101</td>
<td>101</td>
</tr>
</tbody>
</table>

You got: **101**

Total: **403**

ACKNOWLEDGMENTS
The authors would like to thank Ernan Haruvy, Lital Green and Efrat Gatty.

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