Reducing financial hardship by establishing contact

A personalized and targeted communication intervention to prevent problematic debt

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REDUCING FINANCIAL HARDSHIP BY ESTABLISHING CONTACT

Technical Report

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TECHNICAL REPORT

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Abstract

Since financial hardship is increasing in the Netherlands, we conducted two studies to test possibilities to prevent unnecessary debt accumulation. In these studies, we investigated two communication strategies to motivate customers to make a payment arrangement with their creditor before their debt increased. Among clients of a large Dutch energy provider we tested the effect of personalization of text messages (compared to non-personalized messages) on payment arrangements. Results confirmed our hypothesis that a personalized text message (versus a non-personalized text message) increased the amount of payment arrangements customers made, particularly among one of their labels. In our second study, we tested the effect of targeting among loyal customers of a telecom provider, who suddenly failed to pay their bill on time. We tested the effectiveness of four different text messages on this group. Two messages were fitted to their specific situation, mentioning the possibility of a payment arrangement, and the other two messages did not contain any targeting. We found that one of the targeted messages resulted in significantly more payment arrangements compared to the original text message of the company. We conclude that both personalization and targeting are interesting strategies to further explore to prevent unnecessary debt accumulation.

Keywords: Debt, Problematic debt, Personalisation, Targeting, Text messages

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1. Introduction

1.1. Problematic Debts; some facts and figures

In the Netherlands 1.4 million Dutch households have problematic debts or a risk thereof. Generally, these debts cannot be repaid within 3 years (Dutch Government, 2018). Of the households that are in debt, the average debt was 43,300 Euros in 2018, spread over an average of fourteen different creditors (NVVK, 2018). Strikingly, from the total debt, two-thirds are additional collection costs and fines; only one-third is the actual claim.

1.2. It can happen to everybody

Life events like a divorce, (health-related) incapacity for work, or job loss often contribute to the risk of running in financial problems (Schonewille & Crijnen, 2018). For example, unemployment increases the chance of financial problems with 63% and a divorce increases the chance of financial problems with 17% (Westhof, De Ruig, & Kerckhaert, 2015). During such life events people often have to deal with multiple challenges, which impedes cognitive function (Mani, Mullainathan, Shafir, & Zhao, 2013). This may subsequently result in neglecting problematic financial situations leading to additional collection costs and fines. This unnecessary accumulation of debts can be prevented when customers proactively contact their creditors and ask for help with managing their debts. Early detection and management of relatively small debts can therefore contribute to reducing serious debt problems.

1.3. Creditors are willing to help customers with financial problems

More and more primary creditors take their responsibility in the growing debt problems and are looking for solutions. A good example of this is the establishment of the creditors' coalition (i.e., Schuldeiserscoalitie). The coalition consists of several large Dutch creditors. Various sectors are represented such as telecom, (health) insurance, energy, housing and other facilities. Their common goal is to ensure that customers do not run into financial problems unnecessarily and, when needed, help their clients to get out of debt. Together they have drawn up an ethical manifesto consisting of 10 principles (https://www.schuldeiserscoalitie.nl/manifest/) dealing with honest and humane client interaction.

2. Theoretical Framework

2.1 Increasing contact: Personalization and Targeting

Establishing contact between customers facing financial problems and their creditors in an early stage, i.e., when no extra costs or fines are charged yet, is key to prevent further financial problems (NVVK, 2018). Therefore, this research focuses on how we can activate customers who are unable to pay their bills to contact their creditors to set a payment arrangement. From previous research we know that sending mobile text messages can effectively influence behavioural outcomes (Fjeltsoe, Marshall, & Miller, 2010). A study of Van der Werf and Schonewille (2017) found, for example, that people with debt problems were more likely to show up at their appointment with the credit bank when they received a text message as compared to no message. The advantage of text messages is that they allow instant delivery with asynchronous receipt; this is probably why many companies already use text message payment reminders to collect their bills. However, sending these messages does not always elicit the desired action, for example, seeking contact when unable to pay. A strategy to motivate people to take action is personalization, i.e., adding personal information (e.g., name) to a message. In 2013, the Behavioural Insights Team in the UK has tested the effectiveness of text messages as an alternative method of inducing people to pay their outstanding fines. Their results show that text messages significantly increase average payment of fines and that text messages were especially effective when they use personalization (Haynes, Green, Gallagher, John, & Torgerson, 2013). We expect that customers who are unable to pay their bill will also be more inclined to contact their creditors to settle a payment arrangement when they receive a personalized message. Personalized messages have been found to attract more attention (Shapiro, Caldwell, &

Sorensen, 1997) and might be perceived as warmer and friendlier which may subsequently reduce perceived barriers of seeking contact to set a payment arrangement. Although previous research is inconclusive on the effectiveness of personalization (e.g., Dijkstra 2014; Maslowska, van den Putte, & Smit, 2011), we expect that a personalized text message results in more payment agreements than a non-personalized text message.

Another strategy that may activate customers to take action is message targeting. Targeting or behavioural targeting can be defined as customizing a message on a specific group of customers (based on their previous behaviour) and it is often used in online marketing. When behavioral targeting is used in the right way it can, for example, lead to significantly more clicks and purchases (Boerman, Kruikemeier, & Zuiderveen Borgesius, 2017). Interestingly, companies currently have much customer data available (e.g., payment history, and outstanding debt) to target text messages on different groups. Moreover, due to technological developments it has become possible to link different data making it feasible to send behavioural-targeted messages. In the current context we propose that customers who cannot pay their bill due to a possible life-event will be more motivated to set a payment agreement when we explicitly ask them to do so in a text message than when they receive a standard message asking them to pay the outstanding bill or even threatening them with additional costs that are charged if they do not comply. We refer to this as a targeted message since the content of the message (i.e., set a payment arrangement) is targeted at the situation these people are in (i.e., inability to pay the bill). In this study we focus on loyal customers who have previously paid their bills on time and now suddenly change their payment behaviour. By tracking these

deviations in payment history, we aim to identify customers who might be facing a life event, and by sending them a targeted text message we aim to motivate them to contact their creditors for a payment arrangement. We expect that a targeted text message reminder results in more payment arrangements than a non-targeted text message reminder.

2.2 Research Questions and Hypotheses

In this study we aim to answer the following research question and test two additional hypotheses:

What are the effects of a) personalized and b) targeted text message payment reminders on establishing contact, i.e., close payment arrangements with customers in debt?

Hypothesis 1: A personalized text message will elicit more payment arrangements than a non-personalized text message.

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Hypothesis 2: A targeted text message will elicit more payment arrangements than a non-targeted text message.

3. Method & Results

3.1 Set Up

We conducted two separate studies to answer our research question and test our hypotheses. We collected the data in two large Dutch companies. The first study was conducted among customers of a major energy supplier. Here we measured the effect of personalized text message reminders on payment arrangements. We conducted a second experiment with a telecom company, to study the effects of targeted text message reminders on payment arrangements.

3.2 Study 1: Personalization

3.2.1. Participants, procedure and research design

In this study all customers of an energy supplier who didn't pay their bill on time from mid-December 2018 until February 2019 participated in this study. As a reminder of the outstanding bill these customers received a text message. The energy company holds two different labels. Each label has its own communication style. Customers were randomly assigned to one of the two conditions in our between subject design (personalized vs. non-personalized text message reminder). The label was a quasi-experimental factor.

3.2.2. Manipulations

Customers in the personalized conditions received a text message reminder in which they were personally addressed by including their name at the beginning of the message. In the non-personalized conditions we used the standard text message reminder messages that the customers normally receive. The standard message of label B included a greeting ("dear customer") and the amount that customers need to pay. The different text messages that were used in this study are as follows:

Label A:

Non-Personalized (original):

Avoid unnecessary costs and pay your outstanding bill today at [Label A]. Check www.xxxxxx.nl/myxxxx for your payment overview.

Personalized:

Dear <Name>, Avoid unnecessary costs and pay your outstanding bill today at [Label A]. Check www.xxxxxx.nl/myxxxxx for your payment overview.

Label B:

Non-Personalized (original):

Dear customer, you have a payment delay of <Amount> euro. Avoid additional costs and pay directly with iDeal via my.xxxxxx.nl.

Personalized:

Dear <Name>, you have a payment delay of <Amount> euro. Avoid additional costs and pay directly with iDeal via my.xxxxxx.nl.

3.2.3. Measures

As dependent variable we measured customer's response after receiving the text message reminder. Customers had three options after receiving the text message. They could pay, not pay or make a payment arrangement (our focal dependent variable). Exactly 7 days after they received the message the customer's response was assessed.

3.2.4. Results

A total of 51.839 text message reminders were send from mid-December 2018 through February 2019. One customer can have several outstanding bills and therefore received more than one text message reminders. Due to a technical error some customers

were randomly assigned to both conditions; these customers have been excluded for further analyses[2]. After this correction, the sample consisted of 38.497 outstanding bills (label A: 28.639, label B: 9.858).

To test our hypothesis that a personalized text message reminder will elicit more payment arrangements than a non-personalized text message reminder, we conducted Chi-squared tests of independence on payment arrangements separately for each label. For label A no significant effect was found ($\chi^2(1) = 0.88$, p = .347); see Figure 1.

For label B, however, we did find a significant effect ($\chi^2(1) = 4.53$, $p = .033$). The pattern of results shows that a personalised text message elicits more payment arrangements than a non-personalized text message; see Figure 2.

Figure 1: Energy Label A percentages within each group (Paid, Not Paid, Arrangement)
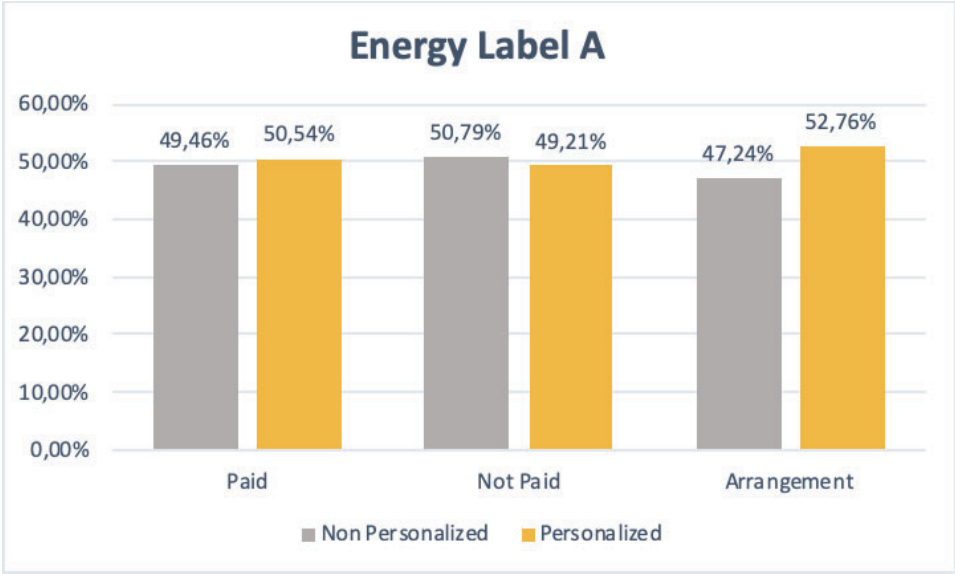
Figure 2: Energy Label B percentages within each group (Paid, Not Paid, Arrangement)

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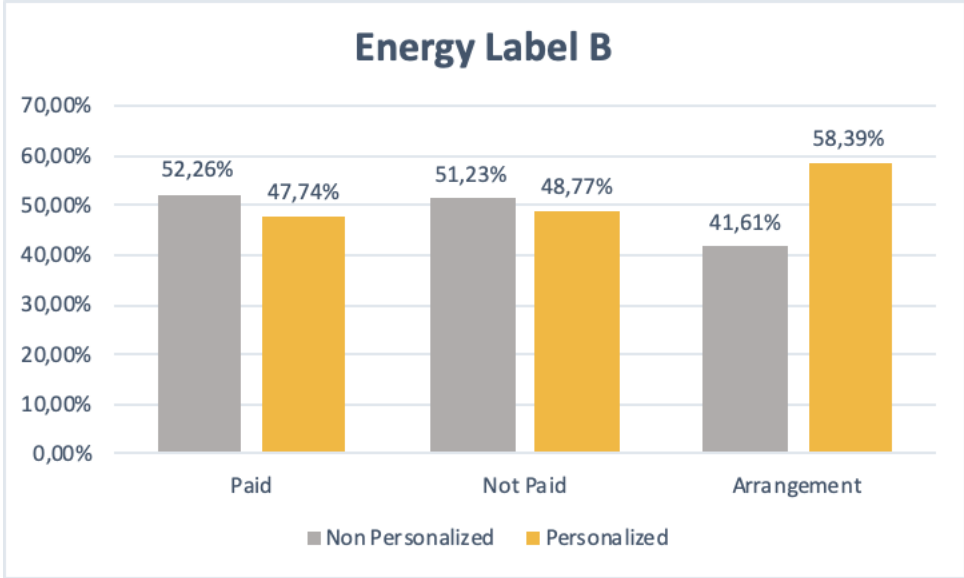
[2] Removing these customers does not lead to different results.

3.2.5. Conclusion

The first study demonstrated that label B customers of a large energy supplier are more likely to set up a payment arrangement when they receive a personal text message reminder than when they receive a standard non-personalized text message reminder. Although there is an increase at label A this difference is not significant. Therefore, our hypothesis can only be confirmed for label B consumers. The difference between the results of label A and label B is unexpected. An explanation for this could be that there is a difference in the type of customer between the labels. Label A is a premium brand that has been on the market for a long time. They focus on long-term customer relationships, innovation, and sustainability. Label B, on the other hand, is young and a real price fighter. Perhaps more customers at Label B are in a financially difficult situation compared to the customers at label A and these customers might have a greater need for payment arrangements. Another explanation for the difference between the labels could be the fact that the content of the text message reminders differ on a few small points. Text message reminders from label B specifically mention the amount that is outstanding. By mentioning the specific amount the text message reminders from label B are more tailored than the text message reminders of label A. Tailoring refers to adapting message content towards the specific situation of the individual. Studies within the domain of health communication convincingly demonstrate that when you send an individually tailored text message this can positively influence health behaviour (Kaptein, 2012, Head, Noar, Lannarino, & Grant Harrington, 2013, Skov-Ettrup et. al., 2014). The personalization combined with the tailoring could be an explanation for the differences between the two labels. Further research could focus on establishing which type of consumers are more susceptible to personalized messages and what the effects are of a combination between personalization and tailoring.

3.3   Study 2: Targeting

In this study we examined the effects of targeting on payment arrangements. We tested whether targeted text message reminders result in more payment arrangements than non-targeted text message reminders. In doing so, we created 4 different text message reminders, 2 versions in which there is no targeting (original and shorter version) and 2 versions in which we used 2 different targeting versions for exploratory reasons.

3.3.1. Participants, procedure and research design

The second study included customers (N = 13.346) from a Telecom provider who did not pay their bill on time. They received a reminder by text message to inform them of their outstanding debt. Within this company, customers are divided into various risk groups. These are based on the number of previous debts and debt level. An example of a client in a high-risk group is a new customer who does not pay his or her first invoice. There are also customers with a low risk profile. They have never had serious payment arrears before. When customers in this group suddenly do not pay their bill in time this might be an indication that a certain life event, such as a divorce or job loss, has taken place. In our study, which started on May 6th 2019 and ended on May 31th 2019, we sent text message reminders to customers in this particular low risk profile. Customers were randomly assigned to one of the four conditions in our single between subjects design (original vs. simplified vs. targeted vs. targeted 2.0 text message reminder).

3.3.2. Manipulations

There were four conditions. A) The original text message reminder in which customers are notified that their payment has not been received and are requested to pay. B) A simplified version of the original text message reminder. We included this text message for exploratory reasons since research demonstrates that messages in simple and understandable language increase the effectiveness of communication (Hoeken et al., 2011). To measure

the effects of targeting on this specific group of customers we designed two targeted text message reminders. The first one (C) is a combination of the simplified text message reminder including an explicit opportunity to make a payment arrangement. In the targeted 2.0 version (D), we have reversed the order of the message, starting the message with the payment arrangement instead of asking the customer to pay their bill first. The final two can be perceived as targeted text message reminders since the content of the message (i.e., set a payment arrangement) is targeted at a specific group of people (i.e., people who are, based on their payment history, willing but probably unable to pay their bill). Below the different text messages that were used in this study.

A: Original text message

Dear customer, the automatic collection failed. For customer number ref you have a payment delay for your mobile invoice of [amount euro]. Pay within 5 days via iDEAL or go to: xxxxxx.com/paynow and log in with login code hash. Regards, XXXXX

B: Simplified text message

Your payment of [amount] euro has failed. Pay within 5 days via iDEAL. Regards, XXXXX

C: Targeted text message

Your payment of [amount] euro has failed. Go to xxxxxx.com/paylater to make a payment arrangement or pay within 5 days via iDEAL. Regards, XXXXX

D: Targeted 2.0 version

Arrange a payment arrangement via xxxxx.com/paylater or pay within 5 days via iDEAL. Your payment of [amount] euro failed. Regards, XXXXX

3.3.3. Measures

As dependent variable we measured customer's response after receiving one of the four text messages. Customers had three choices after receiving the text message reminder. They could pay or not pay the outstanding amount or make a payment arrangement.

3.3.4. Results

To test our second hypothesis that a targeted text message reminder will elicit more payment arrangements than a non-targeted text message reminder, we conducted Chi-squared tests of independence with Yates' continuity correction. When comparing the original text message (A) versus the targeted text message (C) a marginal significant effect was found ($\chi^2(1) = 3.17$, $p = .075$). Figure 3 reveals that the targeted text message resulted in more payment arrangements than the original non-targeted text message. A significant effect was found when comparing the original (A) versus the targeted 2.0 (D) version ($\chi^2(1) = 5.50$, $p = .019$. Receiving a targeted text-message with an option for a payment arrangement elicits more arrangements than receiving the original text message. We also compared the simplified text message (B) versus the two targeted text message reminders (C, D). Results show only a marginally significant effect for the simplified versus the targeted 2.0 conditions ($\chi^2(1) = 3.65$, $p = .056$). No effect was found when comparing the simplified versus the targeted one ($p = .181$). Our final analysis examined the effect of the simplified versus the traditional text message reminder on the amount of payments. Here we did not find an effect ($p = .12$).

Figure 3: Text message reminders Telecom provider
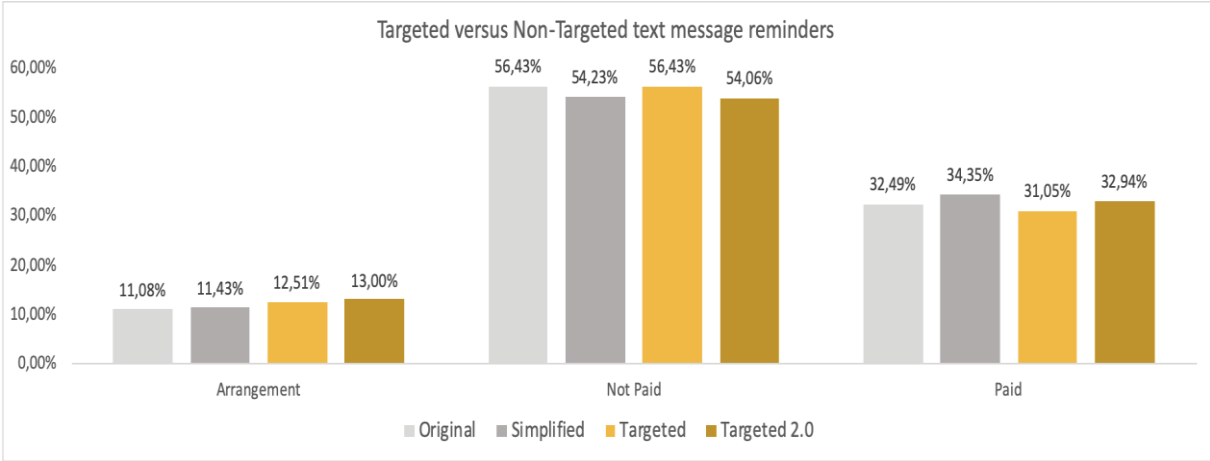
3.3.5. Conclusion

In this study we examined the effects of two versions of a targeted text message reminder, i.e., reminders that specifically point out to customers that they can make a payment arrangement and compared them with the effects of non-targeted text message reminders. By sending these targeted messages to a group of customers who previously always paid well and on time, the assumption was that within this group there are people who want but may not be able to pay. These customers, who might face a life-event affecting their financial situation, seem more motivated to contact their creditors to make a payment arrangement when explicitly asked to do so in a text message compared to when these customers receive a standard message asking them to pay the outstanding bill. Both versions of the targeted text messages show an increase around 1.5% - 2.0% in the number of payment arrangements compared to the original text message reminder. The effect of the 2.0 version compared to the original was significant and for the normal targeted version marginally significant. Although there is no difference between the two targeted conditions, the effects of the 2.0 version as compared to the non-targeted conditions seem more substantial. Therefore, it would be interesting for future research to investigate how targeted messages should be composed to be most effective. Moreover, it would be interesting to further explore targeting strategies for different groups of customers (e.g., how can customers who often pay their bills too late be activated to take action?).

4. General Conclusion

Personalization and targeting can stimulate customers to contact their creditor to arrange a payment arrangement. The first study showed that, among label B customers of a large energy supplier, more customers in the personalized condition agreed on a payment arrangement compared to the non-personalized condition. In the second study, we found that targeting a message on a specific group of customers can result in more payment agreements. Although the differences in percentages may seem rather small, in absolute numbers the effects are quite large and therefore may positively affect many individual customers and the company alike. It is, however, unclear what the long-term effects of these arrangements are. Do these types of arrangements actually help to prevent serious financial problems or are they just a short-term solution? Future research should focus on this question to establish the role of payment agreements in debt problems. It could be argued that the results might be different for different groups. People who face a life-event might be helped more with a payment agreement since it can be expected that in most cases their situation is temporary and that they will be able to meet their financial requirements in the near future. Therefore, payment arrangements make sure that their debts will not accumulate unnecessary. However, people who have more permanent financial problems might not be helped with payment arrangements since they are probably also unable to meet the requirements of the arrangement. Moreover, it might be perceived as a risk to offer payment agreements so explicitly since people who are actually able to pay their bills might misuse this opportunity. Our results, however, do indicate that this is not the case since targeting does not reduce payments and seems to actually decrease the number of people who do not pay. This might, however, be different in other groups of customers and is worthy of testing in future research.

Another suggestion for future research would be to test the effects of personalization and targeting in one study. It could be argued that a combination of these two strategies results in stronger effects since the right message is than send to the right group of people and at the same time personally addressing them. However, it might be the case that including too much "personal" info might lead to reverse effects since people often experience a sense of creepiness when they have the idea that a company has all this information on them, which may raise privacy concerns (Brinson & Eastin, 2016). Especially in the case of debt in which consumers often feel ashamed (Plantinga & Zijlstra 2018; Sen 1993) this should be considered.

The results of the current studies provide practical tools for companies. It seems that relatively small changes in text message reminders may result in desired effects. Not only helping the customer to prevent additional cost but also the company and the society at large can benefit from preventing people to accumulate debts. For now it can be concluded that personalizing text message reminders and sending the right text message to the right group of customers might assist in helping people with their financial problems by setting payment arrangements.

5. References

Boerman, S. C., Kruikemeier, S., & Zuiderveen Borgesius, F. J. (2017). Online behavioral advertising: A literature review and research agenda. *Journal of Advertising*, *46*(3), 363-376.

Brinson, N. H., & Eastin, M. S. (2016). Juxtaposing the persuasion knowledge model and privacy paradox: An experimental look at advertising personalization, public policy and public understanding. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *10*(1).

Dijkstra, A. (2014). The persuasive effects of personalization through: name mentioning in a smoking cessation message. *User Modeling and User-Adapted Interaction*, *24*(5), 393-411.

Dutch Government (2018). Kabinet pakt problematische schulden van mensen aan. Retrieved from https://www.rijksoverheid.nl/actueel/nieuws/2018/05/23/kabinet-pakt-problematische-schulden-van-mensen-aan

Fjeldsoe, B. S., Miller, Y. D., & Marshall, A. L. (2010). MobileMums: a randomized controlled trial of an SMS-based physical activity intervention. *Annals of Behavioral Medicine*, *39*(2), 101-111.

Haynes, L. C., Green, D. P., Gallagher, R., John, P., & Torgerson, D. J. (2013). Collection of delinquent fines: An adaptive randomized trial to assess the effectiveness of alternative text messages. *Journal of Policy Analysis and Management*, *32*(4), 718-730.

Head, K. J., Noar, S. M., Iannarino, N. T., & Harrington, N. G. (2013). Efficacy of text messaging-based interventions for health promotion: a meta-analysis. *Social Science & Medicine*, *97*, 41-48

Hoeken, H., van der Geest, T., van der Goot, M., Hornikx, J., Jongenelen, M., & Kruikemeier, S. (2011). De rol van begrijpelijke taal in een digitale context-Ontwikkelingen op de domeinen Leven Lang Leren, complexe financiële producten, bestuur en politiek, en gezondheid. *Tijdschrift voor Taalbeheersing*, *33*(3), 266-286.

Kaptein, M., De Ruyter, B., Markopoulos, P., & Aarts, E. (2012). Adaptive persuasive systems: A study of tailored persuasive text messages to reduce snacking. *ACM Transactions on Interactive Intelligent Systems (TiiS)*, *2*(2), 10.

Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive function. *Science*, *341*(6149), 976-980.

Maslowska, E., van den Putte, B.., & Smit, E. G. (2011). The effectiveness of personalized e-mail newsletters and the role of personal characteristics. *Cyberpsychology, Behavior, and Social Networking*, *14*(12), 765-770.

NVVK (2018). Jaarverslag 2018. Retrieved from http://jaarverslag.nvvk.eu/2018/toelichting-cijfers/index.html

Plantinga, A., Zijlstra, W. G. (2018). Schulden en schaamte: De rol van schaamte bij consumentenkrediet. *Tijdschrift voor Schuldsanering*,1(3), Retrieved from https://www.arnoudplantinga.nl/publication/schulden-en-schaamte/

Schonewille, G., Crijnen, C. (2018). Financiële problemen 2018 Geldzaken in de praktijk 2018-2019 deel 1. Retrieved from https://www.nibud.nl/beroepsmatig/financieel-problemen-rapport-2018/

Sen, A. (1993). Capability and well-being. *The quality of life*, *30*.

Shapiro, K. L., Caldwell, J., & Sorensen, R. E. (1997). Personal names and the attentional blink: A visual" cocktail party" effect. *Journal of Experimental Psychology: Human Perception and Performance*, *23*(2), 504.

Schuldeiserscoalitie. Ethisch Manifest. Retrieved from https://www.schuldeiserscoalitie.nl/manifest/

Skov-Ettrup, L. S., Ringgaard, L. W., Dalum, P., Flensborg-Madsen, T., Thygesen, L. C., & Tolstrup, J. S. (2014). Comparing tailored and untailored text messages for smoking cessation: a randomized controlled trial among adolescent and young adult smokers. *Health Education Research*, *29*(2), 195-205.

Van der Werf, M. & Schonewille, G. (2017). Opkomst verhogen met een SMS. Retrieved from https://www.nibud.nl/beroepsmatig/opkomst-verhogen-met-een-sms-2017/

Westhof, F., De Ruig, L., & Kerckhaert, A. (2015). Huishoudens in de rode cijfers 2015. *Over schulden van Nederlandse huishoudens en preventiemogelijkheden*.

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