

NEUROMARKETING STUDY

# Behind the Mind **2**

How the brain reacts to  
administrative communication.

# Can a bill help build a brand?

We unlocked the secret of how our subconscious mind reacts to physical and digital administrative communication. We invite you to benefit from the following 20 pages of neuroscientific insights into how to reach your target audiences at the deepest level.

**MANY BUSINESSES ASK** themselves: Should we have a social media presence? The answer is simple: That's not up to you.

And in fact, the answer is the same for every channel.

It's a simple question, and yet, at the same time, it's harder than it seems to really get to the bottom of how and where your target audiences want to receive information from you. That's because, depending on the purpose behind your communication, some methods will work better than others. What's more, some channels also work better than others, depending on the type of communication.

**THAT SAID, WHAT** all methods and channels have in common is that they work best when they are used on the recipient's terms.

It's this kind of personalization and customization—and its benefits—that this study focuses on.

"Many recipients have an immediate negative reaction if they're not given the option to influence how they receive information. Three out of ten will choose to take their business elsewhere, if they can," explains Karin Nilsson, Nordic Insight Manager at PostNord's Communication Services business area.

The above statistic comes from PostNord's report Mottagarmakt 2017. PostNord conducts an annual study of Swedes' attitudes to physical and digital information in connection with administrative communication, such as bills and



Karin Nilsson

## "Neuroscientific tools can measure unconscious reactions precisely."

community information. The Mottagarmakt report is compiled in cooperation with the market research company Kantar Sifo and reveals, among other things, that Swedes prefer either print, digital, or digital mailbox channels, depending on the type of administrative communication.

Survey questions aside, what do we find when we not only ask Swedes about their preferences, but also look inside their minds? When we observe how the recipients of a message actually react and take in information, regardless of whatever answer they might give orally?

This is where neuroscience enters the picture, since neuroscientific tools are capable of measuring unconscious reactions precisely.

**DR. THOMAS Z. RAMSØY** is CEO at Neurons Inc., a company with a focus on applied neuroscience. He explains:

"These tools not only let us identify what people notice/fail to notice, but also how they react to stimuli, almost down to the millisecond. It's impossible for the conscious mind to register these reactions, but they're

extremely telling nonetheless."

It was based on this premise that PostNord, in cooperation with Ipsos and Neurons Inc., conducted the Nordic region's first neuromarketing study—Behind the Mind—in the fall of 2016 (see box on page 4).

That makes this year's edition PostNord's second neuromarketing study. While the same companies are behind this latest report, the study now has a new focus—administrative communication. Its main aim is to generate a better understanding of how this type of communication affects the mind, depending on how sensitive the information is, its design, and which channel is used.

## What we saw below the surface

CEO of the House of Friends communications agency Magnus Widgren designed the study's stimulus material and planned the

retorical tests used. He made the following comments about the results:

"We're sensitive about how we take in administrative communication. In a nut shell, as the sender, you need to make sure you follow the channel's own rule book. Presumably, your business is undergoing some degree of

digital transformation, which makes it important to remember that your communication will be most effective if you digitalize it on the recipient's terms. Which, incidentally, might not match what works best with your IT system right now," he says.

Karin Nilsson, PostNord:



Magnus Widgren

The aim is to generate a better understanding of how administrative communication affects the mind, depending on how sensitive the information is, its design, and through what channel the message is conveyed.



“We’ve been aware of the physical channel’s benefits for some time, such as more focused and longer viewing. We’re also aware of the relatively high cognitive load caused by digital channels, which makes it difficult for the recipient to absorb large amounts of information. However, what’s interesting about this study is that it has identified a viable alternative in the digital mailbox, which, in a number of respects, is as effective as printed administrative communication. Especially among young people.”



Christer Sjökvist

**IN ADDITION TO TESTING** what kind of administrative communication people in Sweden want, and in which channels they want it, Behind the Mind 2 has also investigated how design affects recipients’ perception of this type of communication. As senders, can our administrative communication convert transactions into relationships, for example?

Can a bill build a brand, or even generate sales?

“This study tested what’s referred to in this report as ‘master material’ against a ‘challenger.’ Three types of traditional administrative communication were each matched against a challenger with a more optimized design,” explains Magnus Widgren.

“The result is interesting for companies and organizations that want to use their administrative communication to achieve more than just simple transactions. By adapting the content to include elements that help establish a relationship between recipient and sender, we can improve the recipient’s receptiveness.”

**YET ANOTHER** interesting discovery revealed by the study is the fact that, as recipients, we don’t always know why we prefer a particular method or channel. For

example, while we believe that speed and simplicity are most important when it comes to administrative communication, in reality, these are not always the critical factors.

Christer Sjökvist, Director, Business Developments at Ipsos, makes the following observation:

“While it’s true that we have less patience with communication sent via digital channels, it’s worth remembering that consumers value the option to save the material. The more sensitive the information is, the more important it is to them that they can save it. This stands in contrast to the way we usually think about advertising.” ■

**Download the report  
Mottagarmakt 2017  
in Swedish here:  
[postnord.se/mottagarmakt](https://postnord.se/mottagarmakt)**



**Behind the Mind 2016:**  
The study revealed that a combination of physical and digital advertising generates the best effect.

ANDREAS DAHL

## Behind the Mind 2016

### 1 + 1 = 3. A combination of physical and digital advertising generates the best effect.

In 2016, PostNord, Neurons Inc., and Ipsos joined forces to conduct the Nordic region's first-ever neuromarketing study, Behind the Mind. In total, 200 interviews were conducted in a home-like environment. Each participant was tested using eye tracking and brain scanning technology. In Sweden, major companies IKEA, Panduro Hobby, ICA, and Lindex took part in the study, using test material in the form of physical and digital advertisements.

The results revealed that a combination of physical and digital advertising generates the best effect. In fact, their combined effect is greater than the effect of the channels on their own. What's more, these results are general; that is to

say, they also apply to the youngest age groups. The best effect is achieved by choosing printed advertising first, and then following up via digital channels.

People can focus more easily on a printed advertisement. This means that communicating longer and more detailed messages works best in the print medium. Moreover, advertising in print allows you to emphasize certain sections of an advertisement and also arouses more positive feelings in the reader. This suggests that you can start your campaign with printed advertisements to generate positive attention, and then build on it via digital channels.

Doing the reverse—starting with digital channels—will not have the same effect.

Digital advertisements generate a higher cognitive load, resulting in the recipient becoming overwhelmed and, as a result, failing to notice relevant parts of the advertisement. This situation also causes a weaker emotional connection to the brand.

When it comes to improving brand positioning and creating positive emotional attachments to a brand, combining digital advertising with printed advertising is important. Digital advertising that follows physical advertising can reinforce the effects of brand communication.

**Read more and download the report in Swedish here:**

[dm.postnord.se/behind-the-mind](http://dm.postnord.se/behind-the-mind)



# A unique method with a unique result

The low-down on Behind the Mind 2—from method and aims to tools and stimuli.

## What is neuromarketing?

Just as the name suggests, neuromarketing involves using neuroscientific methods, such as brain scanning, in marketing research to measure how people respond to communication. Neuroscience is the study of the nervous system, which sends signals from the brain to different parts of the body. Its techniques are applied in a number of fields to better understand emotions (affective neuroscience), mental processes (cognitive neuroscience), and behaviors (behavioral neuroscience).

Neuroscience studies the deep-seated psychological motivators inside people that marketers want to influence and has many fields of application. For example, it is used to optimize physical stores, websites, products, restaurants, menus, and advertising in a large number of channels.

## How the study was conducted

All 63 interviews were conducted in a home-like environment. The test took around 70 minutes per person to complete. Each participant was tested using eye tracking and brain scanning technology. They also underwent a traditional interview.

## Who were the participants?

Sixty-three people aged 18-70 years participated in the study, which was conducted during September.

## The study's main aim

To gain a better understanding of how administrative communication affects the

brain depending on how sensitive the information is, its design, and which channel is used.

## STIMULI

The test included three different types of administrative communication. These were categorized based on how sensitive the information was in the recipient's eyes: sensitive, somewhat sensitive, and non-sensitive. The material was also presented in two different versions each—traditional (referred to in this report as the “master” version) and a version with a greater emphasis on visual design (referred to as the “challenger” version).

The communications agency House of Friends designed both the master and challenger versions. The test material was made both unique and personal using data sourced from each test subject's real-life behavior.

### Credit card invoice (sensitive)

Personalized based on the test subject's own preferred vendors and regular shopping habits. Personal address details.

### Telecom invoice (somewhat sensitive)

Personalized based on the regular amount paid by the test subject on their own cell phone bills. Personal address details and phone numbers.

**8,100,000**

data points were generated using brain scanning during the 63 interviews.

**540,000**

data points were generated using eye tracking.

## Community information (non-sensitive)

Personalized based on the test subject's home municipality and nearest local park (challenger version, only).

## CHANNELS

### Print

All test subjects were exposed to stimuli for the telecom invoice and credit card invoice in the form of a physical and personally addressed letter, while the community information was left unaddressed.

### E-mail

Fifty percent received the stimulus material via e-mail. Of these, half opened the e-mail on a cell phone and half on a laptop computer.

### Digital mailbox

Fifty percent received the stimulus material via a digital mailbox. They accessed this mailbox using a laptop computer.



Each participant was tested using eye tracking and brain scanning technology.

**Motivation** is the most important measurement. High motivation is linked to a more positive feeling and has proved to be a reliable indicator of the decision to purchase.

**EFFECTIVE** communication that successfully prompts a desired behavior is both convincing (high motivation) and easy to understand (low cognitive load). Communication with a motivation-to-cognitive-load ratio of 1 or higher is thought to have the best chance of getting the recipient to act on its message.

Cognitive load and motivation are measured via brain scanning. Visual attention/focus is measured via eye tracking.

## HOW THE RESULTS WERE GENERATED

### Cognitive load

Neuroscience researchers measure people's cognitive load to determine how easily we can take in information. In other words, how much mental effort is needed for us to understand something?

Cognitive load affects how well our working memory functions. This is important, because when a message is easy for our brain to take in and quickly understand, it increases the chance that we will commit it to memory. At the same time, cognitive load should be viewed in relation to the recipient's

motivation (see chart on next page). If a message is easy to understand but does not arouse motivation, then it is still ineffective. Measured using brain scanning.

### Motivation

In neuromarketing, motivation is a measure of how convincing a message is. That is to say, it is a measure of whether people feel attracted to a message, or want to avoid it, and whether or not the message motivates a person to act on it. In other words, what gut feeling does the recipient get before their brain makes a conscious decision?

Our motivation derives from a frontal asymmetry, particularly in the "collision"

between the activity that occurs in the left and right hemispheres of our brain. Since 1970, research has shown that more pronounced activity in the left half of the brain is associated with being attracted to something. Activity in the right half of the brain is associated with avoidance behavior.

Motivation is the only measurement linked to future behavior; that is, if you are attracted to something, it is much more likely that you will act on that attraction. Measured using brain scanning.



“Motivation is the only measurement linked to a future behavior.”

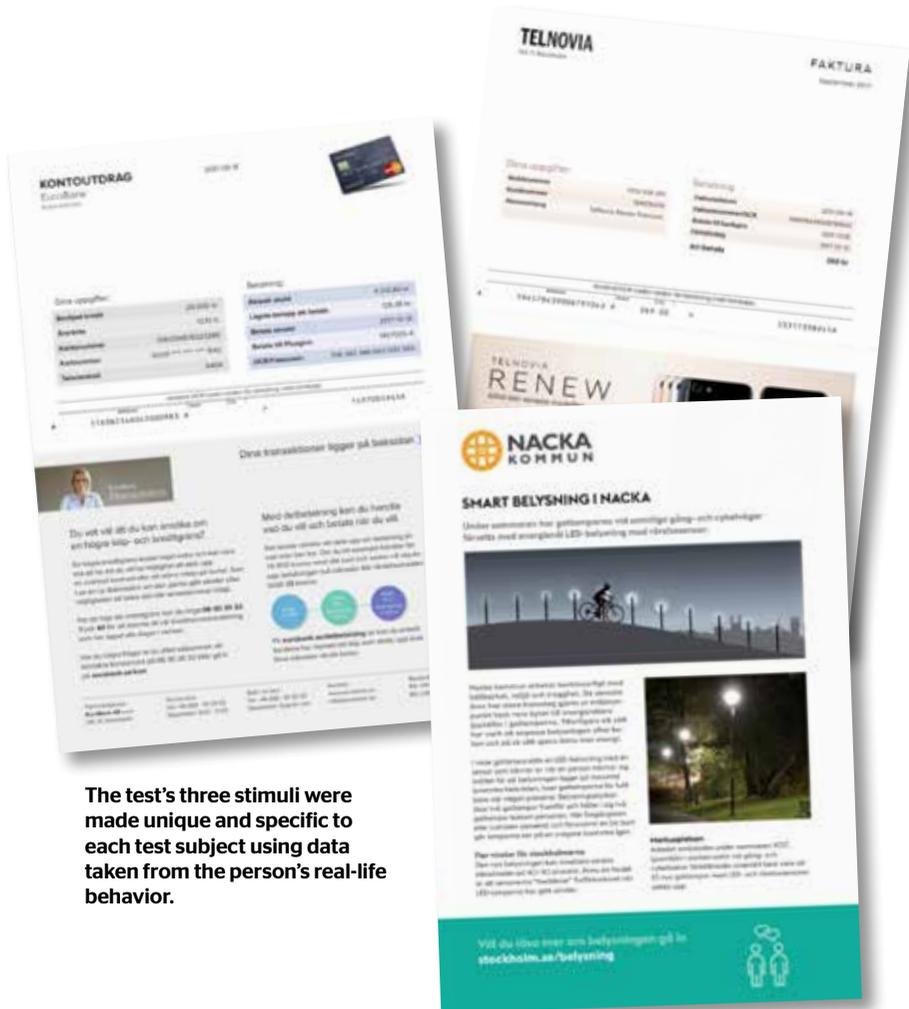
### Arousal

Arousal refers to the emotional engagement that a message creates, both as a whole and through its various parts. Measured using brain scanning.

### Visual attention/Focus

Visual attention/focus is a measurement of what the eye is drawn to. When visual attention/focus data are analyzed in combination with measurement data for motivation and cognitive load, the result may indicate how a person responds to certain stimuli and how quickly they absorb and understand them.

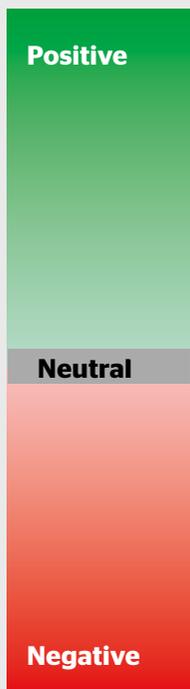
Measured via eye tracking. ■



The test's three stimuli were made unique and specific to each test subject using data taken from the person's real-life behavior.



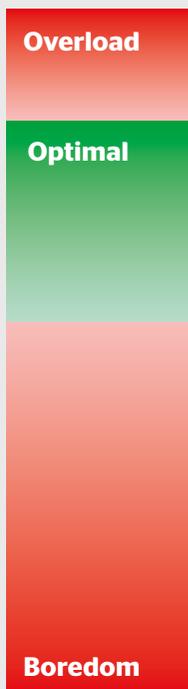
Focus



Motivation



Arousal



Cognitive load

### The “sweet spot”

The optimal levels for the four variables measured differ. Higher levels of **Focus** (visual attention) mean that the reader's eyes are more stationary and their gaze is concentrated. The opposite indicates that the reader is unfocused.

**Motivation** at a level of 0.5 or greater means that the reader is positive and wants to act. A lower score indicates that the reader is avoiding the message.

**Arousal** (emotional engagement) should be interpreted in combination with the reader's motivation, since emotional engagement can be either highly positive or highly negative. **Cognitive load** has a “sweet spot” between 0.55 and 0.75, within which information is best processed and absorbed. Lower cognitive load scores indicate that the reader is bored, while higher scores indicate that they are stressed.

### **COGNITIVE LOAD**

Cognitive load affects how easy it is for the brain to take in and quickly understand a message.

### **MOTIVATION**

Motivation is a measure of whether people feel attracted to a message or want to avoid it.

### **AROUSAL**

Arousal refers to the emotional engagement that a message creates, both as a whole and through its various parts.

### **VISUAL ATTENTION/FOCUS**

Visual attention/focus is a measurement of what the eye is drawn to.

## **THE TECHNOLOGY**

### **Eye tracking**

Tobii 2 Pro Glasses were used to measure what the participants looked at and their focus. This eye tracking aimed to quantify how long they looked at something and what they missed.

### **Neuroimaging**

An ABM X-10 EEG (electroencephalography system) was used to measure the test subject's neural responses.

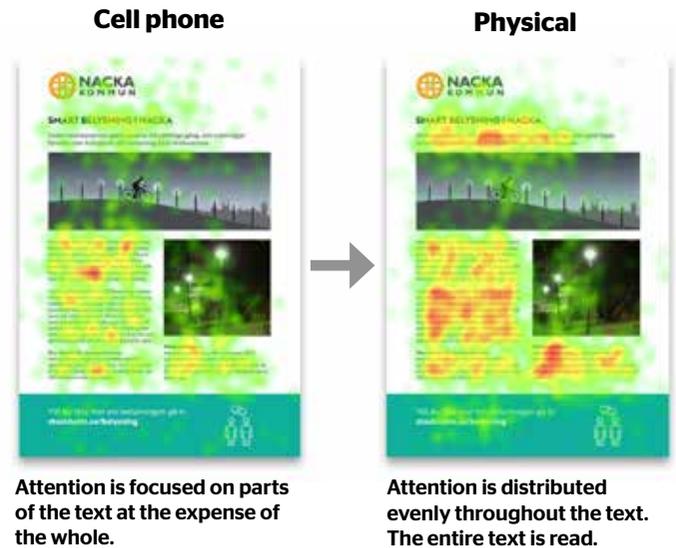
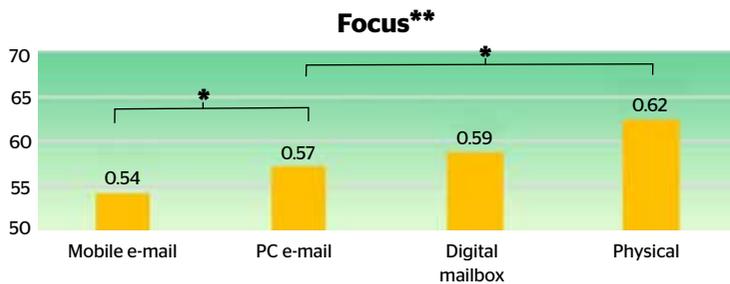


The differences between the results in all seven insights are statistically significant, with a 99.99 percent degree of certainty. The scale used is logarithmic, meaning that a very minor observed difference corresponds to a much greater disparity on a normal linear scale.

## Insight 1

### We read better on paper

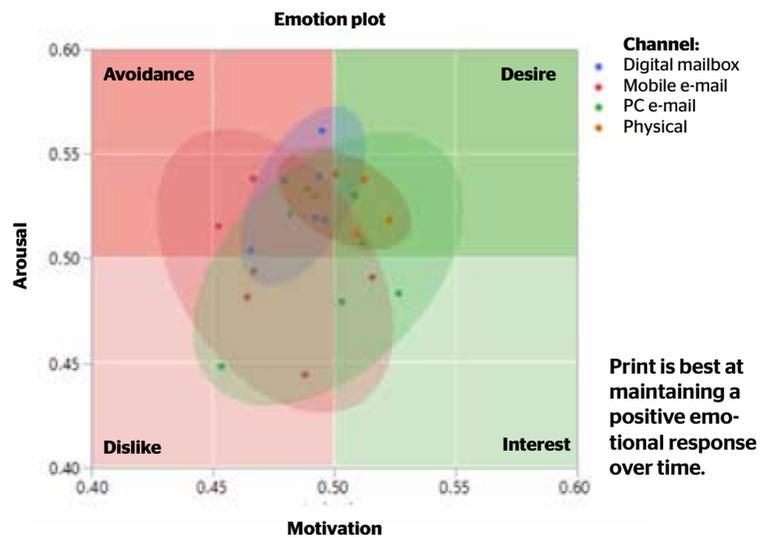
When it comes to print channels, our level of visual attention is high. We both absorb information more easily and more often read the entire text. This is in contrast with e-mail accessed via cell phones, for example, where we read in a fragmented way, focusing on only parts of the text.



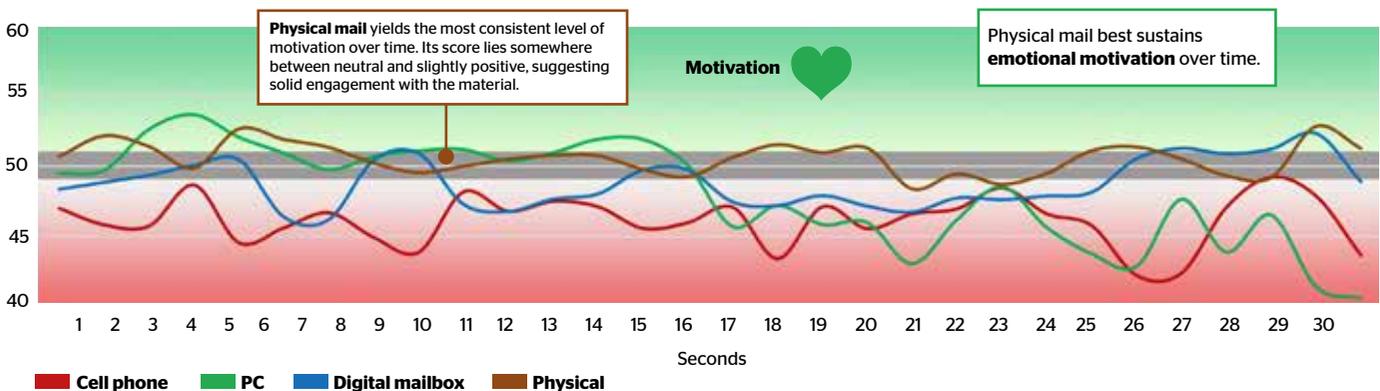
## Insight 2

### We react to print

For the most part, print generates a positive emotional response that suggests a strong interest or desire, especially over time. The combination of positive arousal and high motivation often leads us to act on the message.



Print generates the highest motivation over time. Its result varies between neutral and slightly positive, indicating good engagement with the message.

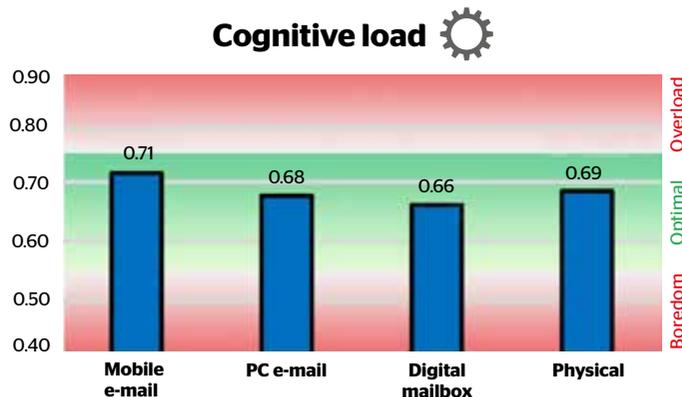
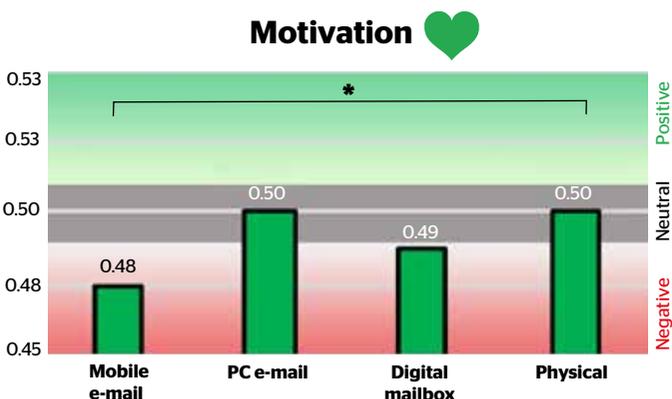
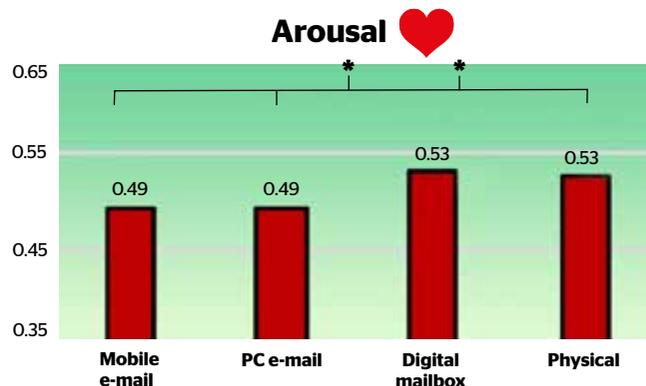


### Insight 3

## A strong new mailbox

A digital mailbox generates almost as high a level of motivation and arousal as the print channel. High motivation combined with positive arousal increases the chance that the recipient will act on the message.

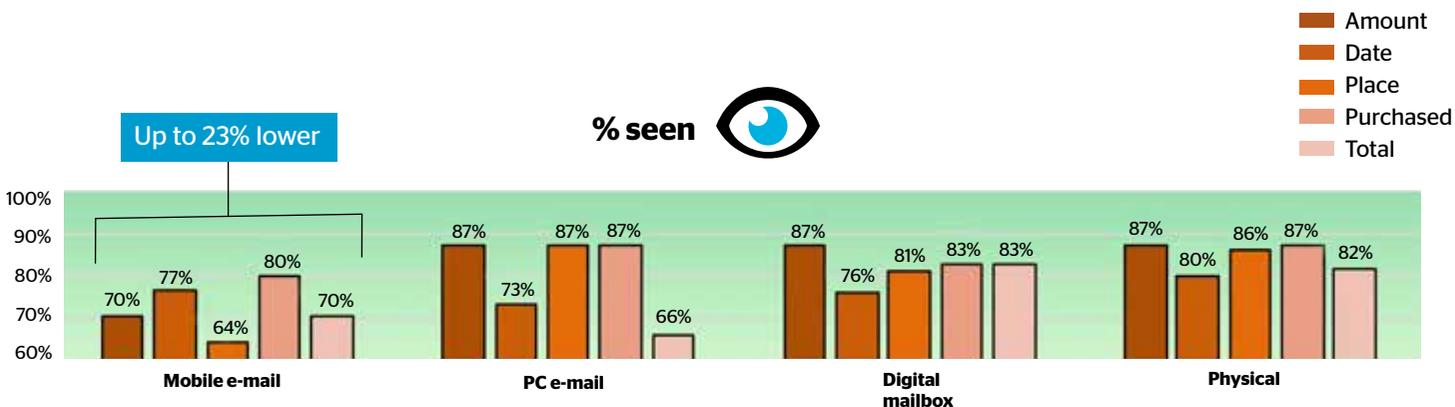
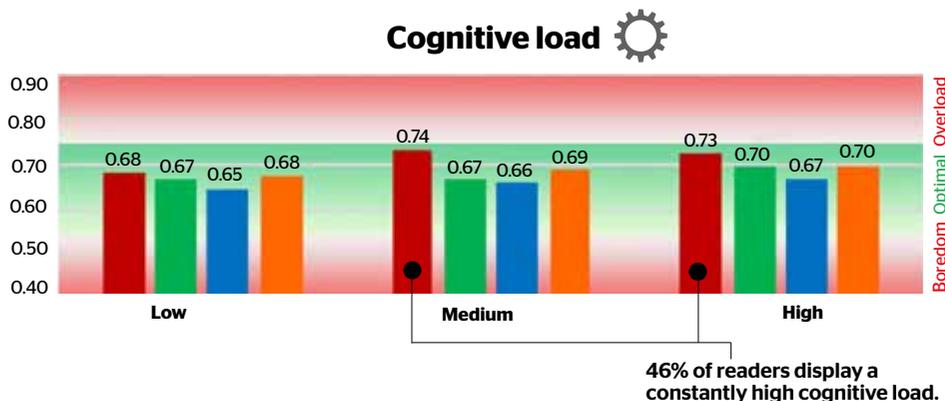
Despite being a digital channel, the digital mailbox causes less cognitive load than any other channel. What's more, it attracts as much visual attention as printed material.



### Insight 4

## Cell phone is stressing

Sensitive information received via e-mail on a cell phone imposes a high cognitive load on the recipient. This is a problem if your message includes a lot of information, since the stress caused makes it harder for the recipient to process and understand the text. This means that they risk missing parts of the information.





## Insight 5

### Major age-related differences

Arousal and cognitive response levels differ depending on the channel used and the age group. Print yields the most consistent level of arousal across all groups.

Older people show a

more positive emotional engagement with e-mail, while younger people are indifferent to it. The younger target group is more at home in the digital world and is more fussy about and critical

towards digital content.

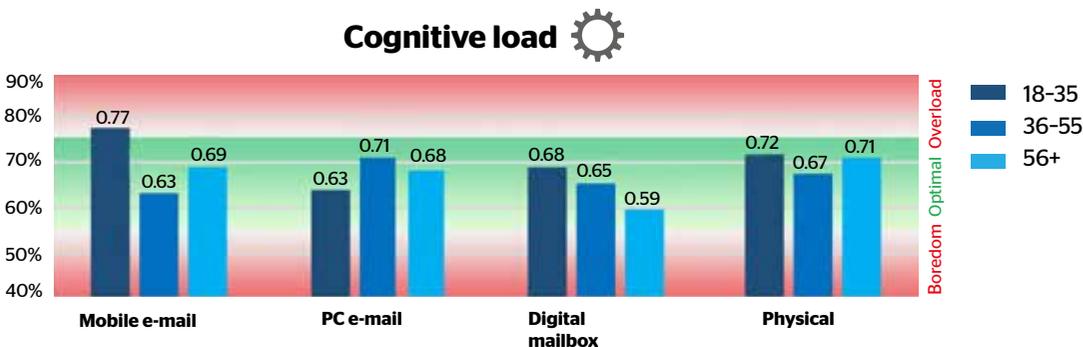
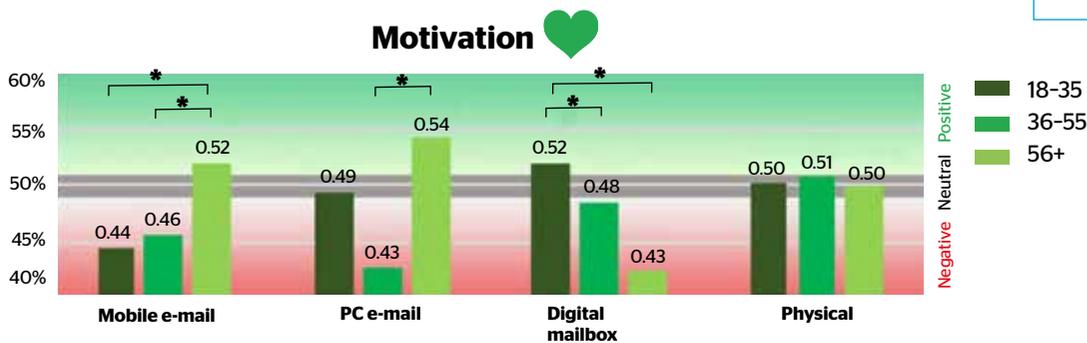
When a communicated message fails to create arousal, the recipient reads less of the information. As a result, their cognitive load also decreases.

**People aged 18-35 years** view the digital mailbox positively.

E-mail received via a cell phone causes high stress and low motivation. As a group, they are critical towards digital content.

**People aged 36-55 years** are indifferent to information received via e-mail. Print generates the positive interest needed to cause them to act on the message.

**The 56+ age group** views e-mail positively. It is harder for the digital mailbox to engage this group, both emotionally and cognitively.



**The effect on the recipient differs with regard to their motivation, cognitive load, and arousal, depending on which channel is used.**



# Age and gender make a difference

## Motivation

**Digital mailboxes attract millennials.**

What level of motivation your communication will generate in a recipient depends on their age and gender. Print consistently causes a stable positive emotional response that increases the likelihood that the recipient will act on your message.

The corresponding results for other channels vary:

- E-mail (both via cell phone and computer) can make men and the 56+ age group act on your message, but in most cases fails to trigger a response among women and other age groups.
- Digital mailboxes can cause people aged 24-35 years to act on your message, but most often fail to engage the 56+ age group.

## Cognitive load

**E-mail risks causing overload**

The cognitive load generated lies within the optimal range for most recipients, regardless of age and gender. This means that it is easy for them to absorb information and get a good overview of the message. The ideal result is a high cognitive load that ensures that the recipient reads the information thoroughly, while still keeping clear of the cognitive overload zone.

- E-mail received via a cell phone risks causing cognitive overload, especially among millennials (aged 24-35 years).
- E-mail received via a desktop computer risks causing cognitive overload in men, first and foremost.

## Arousal

**Women love print and digital mailboxes.**

In general, women show higher levels of arousal than men.

- Both print and digital mailboxes generate extra-high levels of arousal in women.
- Digital mailboxes cause extra-high levels of arousal among people aged 18-35. Combined with positive motivation, this suggests that this channel is especially effective for this age group.



**Insight 6**

## Creativity arouses feelings

**A message's design affects how it is received. How challenger messages differ from master messages.**

### A. Challengers boost interest and emotional response

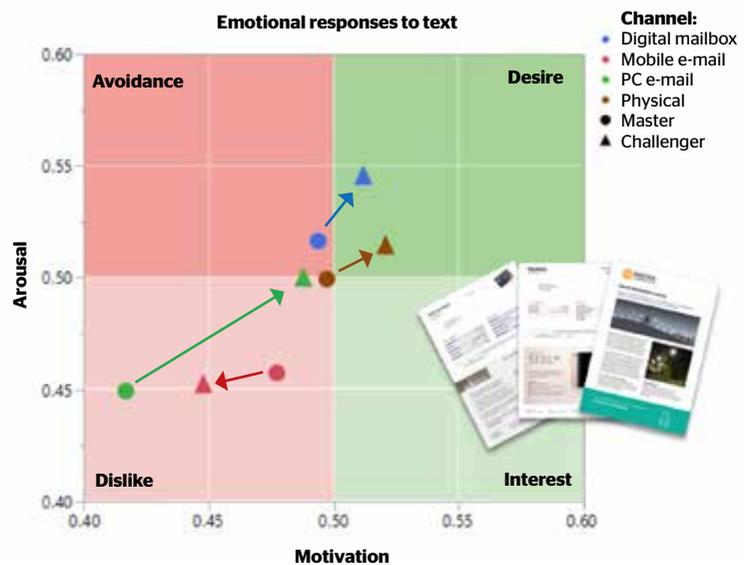
In general, recipients of the more design-conscious messages (which we refer to here as "challengers") are more motivated by the text. This is especially true for the print channel and e-mail received via a computer.

Challengers also generate higher levels of arousal in their recipients.

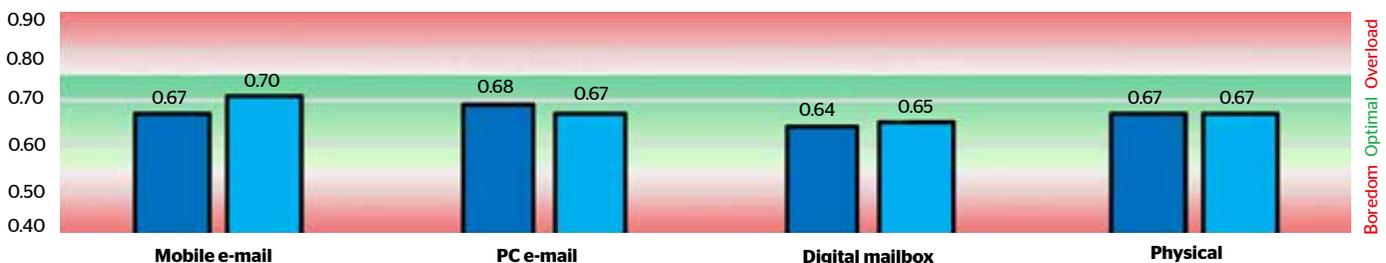
They do not reduce the cognitive load generated when the recipient reads the message, however. In fact, in the case of e-mail read on a cell phone, they actually increase cognitive load. This may be connected to the fact that motivation levels are lower overall when a cell phone is used.

- Master
- Challenger

## Emotional plot



## Cognitive load



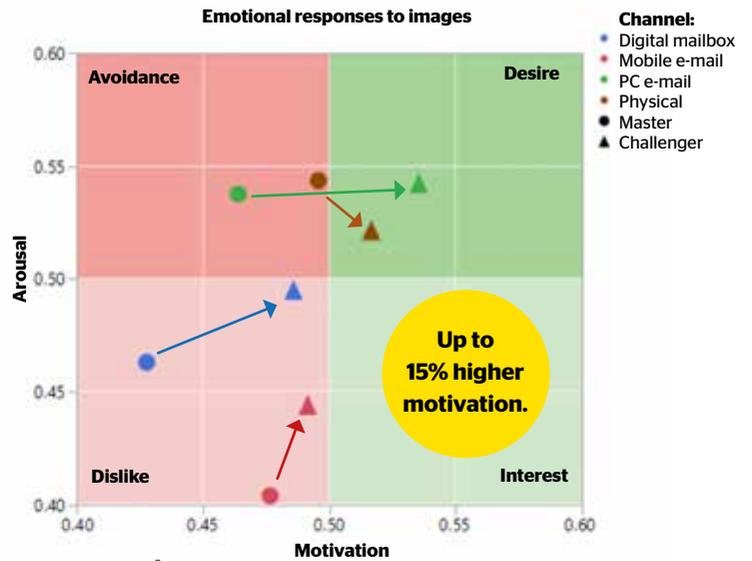


## B. Images used in challengers create arousal

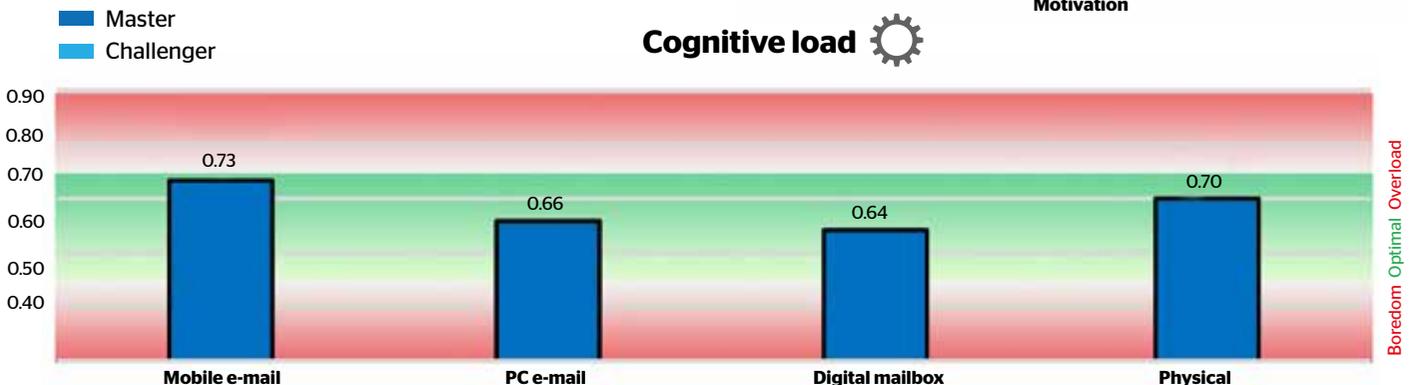
Challengers rely more heavily on creative design to add a personal touch to communication. The images used in challenger materials increase arousal in recipients. In this case, the response is significantly more positive than for the graphic elements used in the standard formats, which we call “masters” in this report.

Images and graphic elements cause cognitive load in the case of e-mail received via cell phone, regardless of whether master or challenger material is used.

## Emotional plot



## Cognitive load



## Sensitivity determines which channel is best

**Words and actions can differ.** Below are some clear differences between what recipients say they prefer, and how they react in real life.

### Print

#### Option to save important

Recipients say that they prefer the print channel because it makes it easy to take in the information presented, regardless of how sensitive it is. On the other hand, when we look at how they act, in reality, this is not as important as they say. The opposite is true when it comes to the ability to save the information. In fact, this factor is both more important and motivates recipients' channel preferences more strongly than what the recipients say.

### E-mail

#### Speed less important

Recipients say that speed is important, regardless of how sensitive the information is. Nevertheless, the results show that, in reality, speed is not as important as they claim.

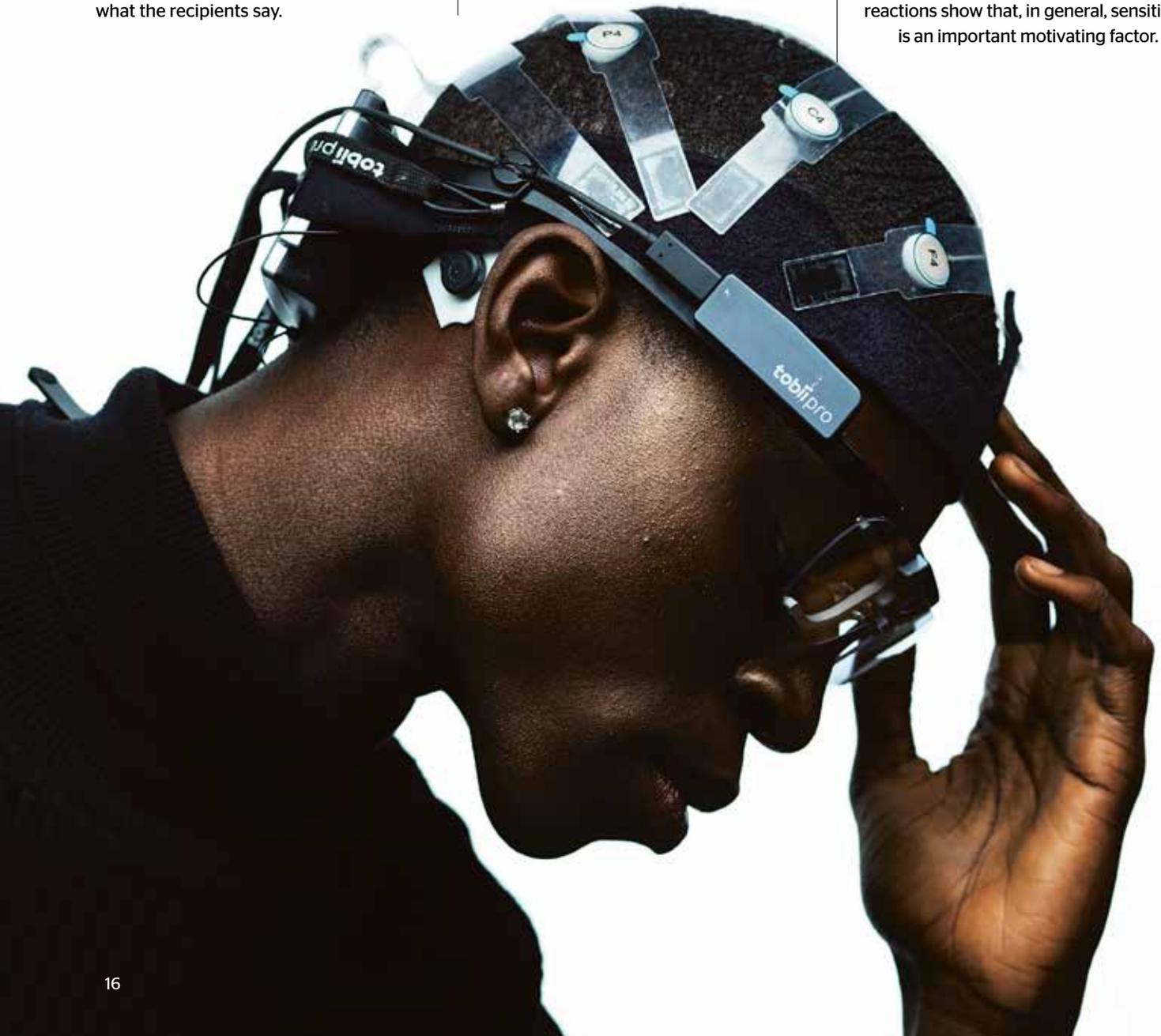
The opposite applies when it comes to the information's ease of understanding. In fact, this factor is both more important and motivates recipients' channel preferences more strongly than what the recipients say.

### Digital mailbox

#### Sensitivity the critical factor

Digital mailboxes follow a different pattern. When it comes to sensitive information, recipients say that speed is important. On the other hand, when we look at how they act, in reality, this is not as important as they say. Speed is only important when it comes to less sensitive information (phone bill).

While recipients say that the sensitivity of the information is not so important, their reactions show that, in general, sensitivity is an important motivating factor.



# The channels: strengths and weaknesses

## E-mail via cell phone



- Men and the 56+ age group show positive motivation, increasing the likelihood that they will act on the message.



- Low levels of visual attention can cause recipients to miss information. The cognitive load is high, especially in connection with detailed or sensitive information. Women and young people are particularly hard to reach via this channel.
- Low level of motivation in general. Text and transaction-related information also causes a negative emotional response, with the result that the recipient rarely acts on the message.

## E-mail via computer



- The first impression is positive and arouses interest. Men and the 56+ age group show positive motivation to act on the message.
- The higher level of visual attention in this channel more often results in the recipient reading the message as compared with a cell phone. Personalizing a message can also greatly increase its effectiveness.



- The recipient both misses some information and their motivation decreases over time, reducing the likelihood that they will act on the message.
- Women and people aged 35–55 years are more negative towards this channel. Men quickly experience cognitive overload and have difficulty taking in the information.

## Digital mailbox



- Cognitive load is at just the right level, making it easy for the recipient to take in the information. Motivation and visual attention are high enough to cause recipients to read the text to the same degree as in the print channel. People in the age group 25–35 years show extra-high levels of positive motivation.
- The first and last impressions are positive, which is important in remembering the message.



- A lower cognitive load may mean that the recipient fails to take in the full message. Arousal drops slightly during the middle phase of the message.
- The 56+ age group has a more negative view of this channel.

## Print



- The high level of visual attention leads the recipient to read the text and transaction-related information. Print also maintains a reader's interest over time and consistently causes a positive emotional response, which is the key to motivating a recipient to act on a message.

- All age groups recorded a consistently stable response.



- Due to the high level of arousal involved, negative responses may be amplified when they occur.

## CONCLUSION

# Communicate on the recipient's terms

**WE ARE SENSITIVE** about how we take in administrative communication. You can help your administrative communication achieve its full potential by digitalizing it on the recipient's terms.

We have been aware of the benefits of the physical channel for some time now, such as more focused and longer viewing. We are also aware of the relatively high cognitive load caused by digital channels, which makes it difficult for recipients to absorb large amounts of information.

However, what is interesting about this study is that it has identified a viable alternative in the digital mailbox, which, in a number of respects, is as effective as printed administrative communication. Especially among young people.

The results are also interesting for companies and organizations that want to use their administrative communication to achieve more than just simple transactions. By designing content to include elements that help build a relationship between the recipient and sender, we can improve the receptiveness of the recipient. In this report, we have called this re-designed version of a message a "challenger."

Yet another interesting aspect revealed by the study is the fact that, as recipients, we don't always know why we prefer a particular method or channel.

For example, while we believe that speed and simplicity are most important when it comes to administrative communication, in reality, these are not always the critical factors.

Also, while it is true that we have less patience with communication sent via digital channels, it is worth remembering that consumers value the option to save information. The more sensitive the information, the more important it is to them that they can save it.

We also prefer to receive more sensitive information in print, or possibly via a digital mailbox.

### Print grabs the most attention

Information communicated via the print channel is easy to read and makes it easy for readers to take in details about payments. The exact opposite channel in this respect is e-mail via cell phone, which is made less effective by the high cognitive load it creates.

### We react to print

The print channel generates high levels of motivation and arousal. Combined, these are the key to causing a recipient to act based on your communication.

### Digital mailbox shows potential

Digital mailboxes are a channel that makes it easy to take in information without suffering from cognitive overload. This channel also returns positive results in connection with arousal.

### E-mail via cell phone = stress

Sensitive information received via e-mail on a cell phone imposes a relatively high cognitive load on the recipient. This is a problem if your message contains a lot of information, since this higher load makes it more difficult for the recipient to process and understand the text. This means that they risk missing parts of the information.

### Differences among groups

Print consistently yields the best results, regardless of age or gender. As for the other channels, recipients' preferences differ somewhat depending on their gender and age.

### Creativity arouses feelings

Including relationship-building elements in your communication makes your recipients more highly motivated and increases their arousal.

### Sensitivity guides choice of channel

There is also a major difference between what recipients say is important to them and what actually motivates them to prefer a certain channel.

# Three quick tips

The study's results summarized in three brief recommendations.

## Use print to reach your audience

**1** Print is the channel that generates the most consistently positive emotional response to administrative communication. It is also effective when the recipient needs to get an overview of the information as well as take in the text and message.

Print's high levels of visual attention also lead recipients to read the information, both as a whole and in connection with specific details in the message. This trend holds true regardless of age group or gender.

## Relationships, not just transactions

**2** When communication includes relationship-building messages, and not just transaction details, the recipient's emotional response increases. The challenger format also helped the recipient take in the transaction-related information, meaning that they do not need to read for as long.

Print, in particular, also increases in effectiveness when the message is personalized, which also allows the recipient to more easily take in the transaction-related information.

## Customize your digital communication

**3** Each digital channel has its own particular impact. Digital mailboxes are especially promising in connection with administrative communication. As a channel, cell phones require content to be extensively modified to suit the platform, with a focus on speed, freedom of choice, and relevance.



