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Sources:
Millward Brown,
Bangor University

How brands can better engage consumers...

Using neuroscience to help demonstrate the unique impact of direct mail



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Why use neuroscience?

This study examines the subtle concepts that respondents **find hard to articulate verbally**, which may not be revealed by traditional research methods. The study of brain patterns presents us with unfiltered, base-level reactions, giving us an opportunity to explore the extent to which strong associations are created without relying on an individual's introspection.

Neuromarketing is still evolving as a tool in the marketer's armoury and there is ongoing debate about the interpretation of the meaning of certain brain patterns. But as our knowledge of the significance of different parts of the brain improves, it is becoming more useful as a means of interpreting the interaction consumers have with communications and with brands.



Different media reach out to and influence consumers in a variety of different ways

With companies and brand managers seeking to boost the cost-effectiveness and ROI of marketing communications, they need a way of measuring the effectiveness of the ever-increasing multitude of channels.

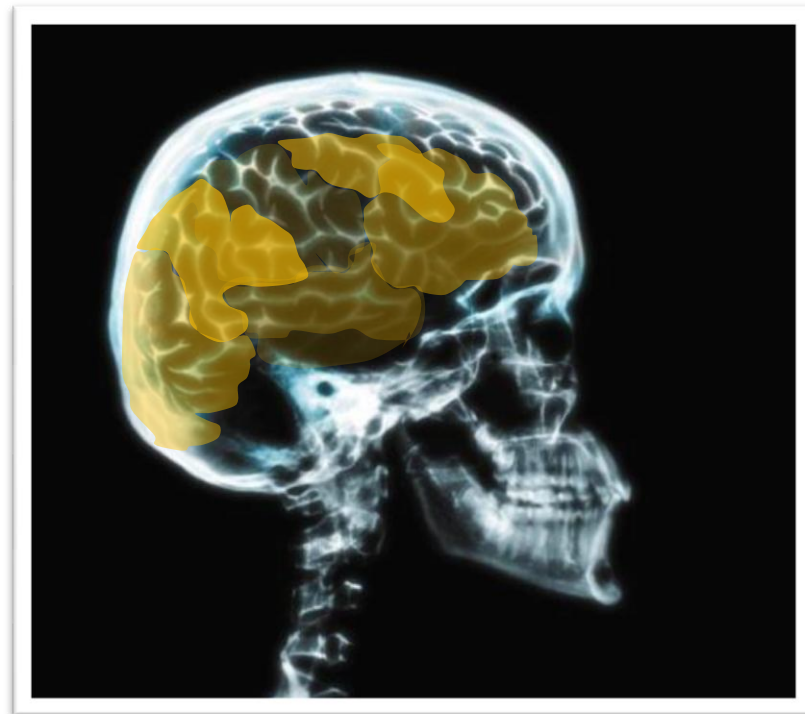


To successfully engage consumers, you need to enter their 'mental workspace'

The brain's 'mental workspace' is central to our ability to think, store information and make decisions. However, it has a highly limited capacity – the brain can only bring together a certain amount of information at once – so getting into it is a competitive process, not an automatic one.

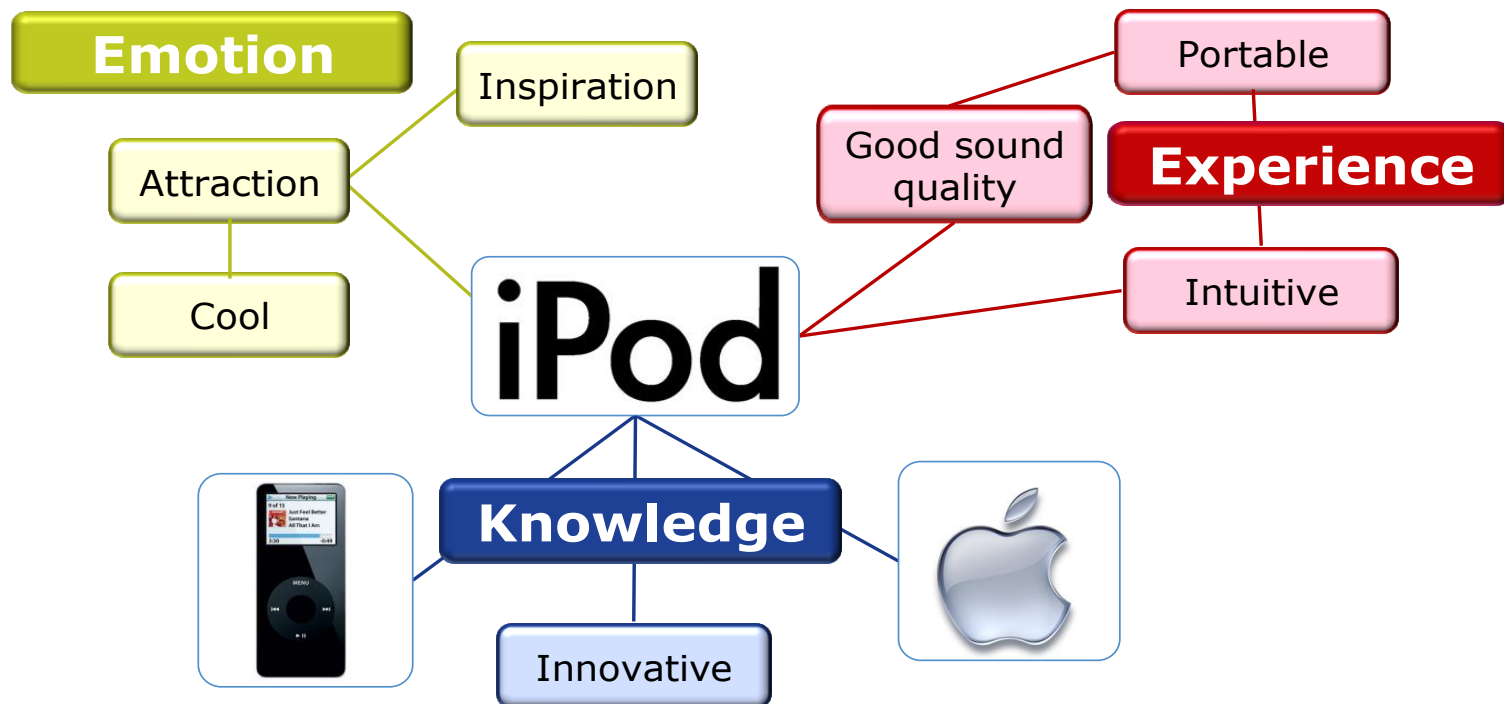
The mental workspace is central to:

- decision making
- long-term memory
- linking things together: learning, building associations
- control over voluntary actions – for example, buying behaviour



To enter this mental workspace we need to harness knowledge, experience and emotion

Balance is required across the three modules – **knowledge**, **experience** and **emotion** – to build a stronger representation. This diagram simplifies what these associations may look like, using the example of the iPod: a strong, successful and balanced brand.

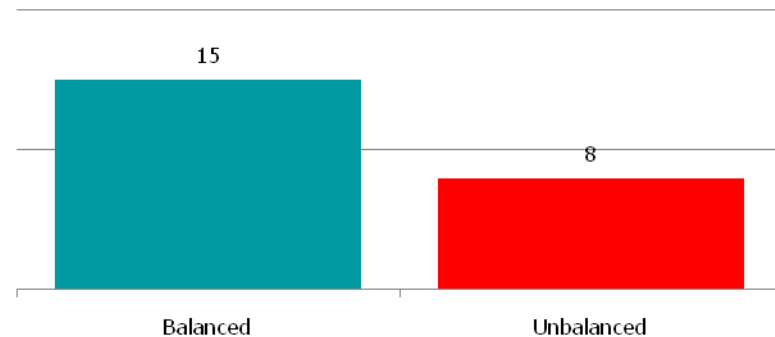




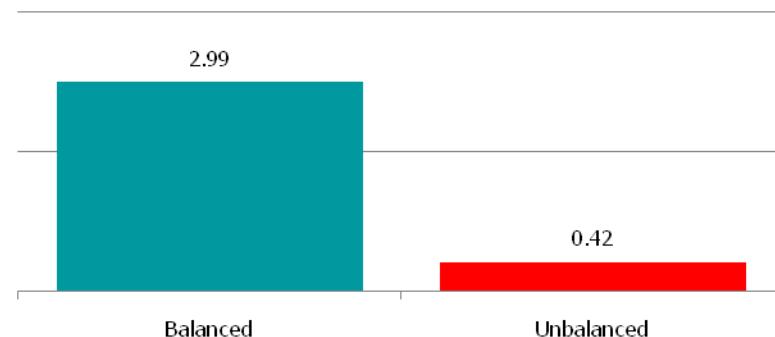
Balance is required across the three modules to build a stronger representation of the brand

- The ease with which the brain can build a representation of any concept is important. Research in experimental psychology shows that building representations takes less time when people are extremely familiar with something.
- For things that are very familiar to us the information stored around knowledge, experience and emotion are clear, instantly recognisable and recalled.
- Concepts are stronger when representations can be assembled easily because the brain can deal with them more effectively. This *doesn't* apply equally to individual communications and to brands.
- Millward Brown has been able to demonstrate this clearly with data from our own databases. The diagrams show that brands with a **balanced representation** across the knowledge, experience and emotion modules are far healthier in terms of brand strength and their future potential to grow than brands with unbalanced representation.
- Emotional engagement can only be explored by looking at **implicit as well as explicit factors**.

Brand strength



Growth potential

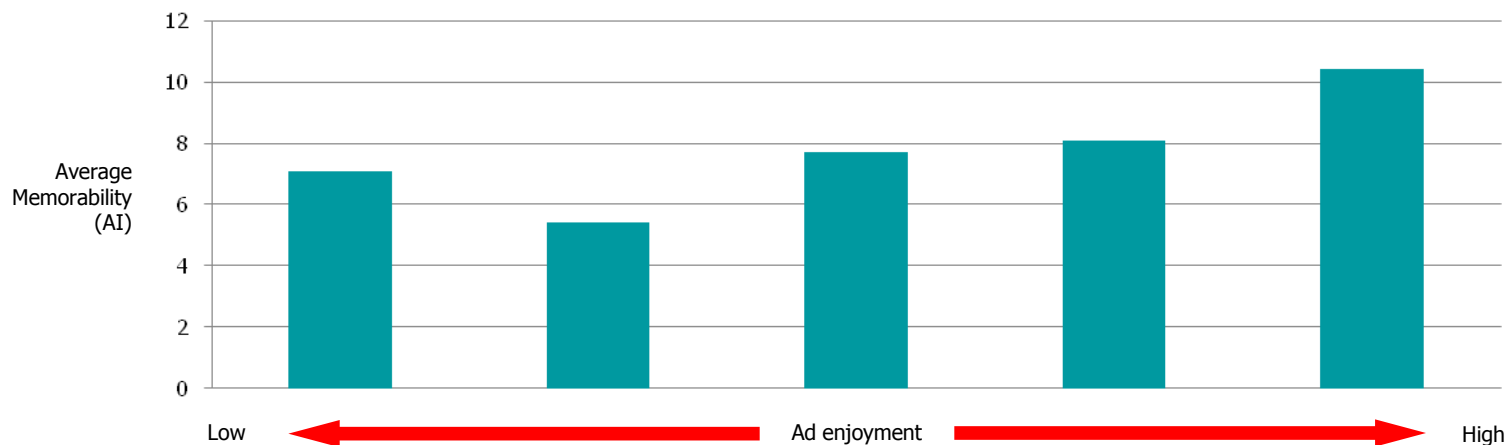




Established learnings show that marketing with a greater emotional uplift is ultimately likely to increase sales

- Emotionally powerful adverts are also more memorable. The chart below is based on a sample of 240 adverts from Millward Brown's tracking database. Respondents were asked to rate their enjoyment of each advert. The research also derived the Awareness Index (AI) for the adverts – a measure of their ability to cut through and be associated with the brand.
- The most enjoyable adverts had around twice the ability to cut through than those of lower enjoyment.
- The least enjoyed had a sample of disturbing adverts in them which also provoked emotions and helped the adverts become memorable.

Emotionally powerful adverts are also more memorable

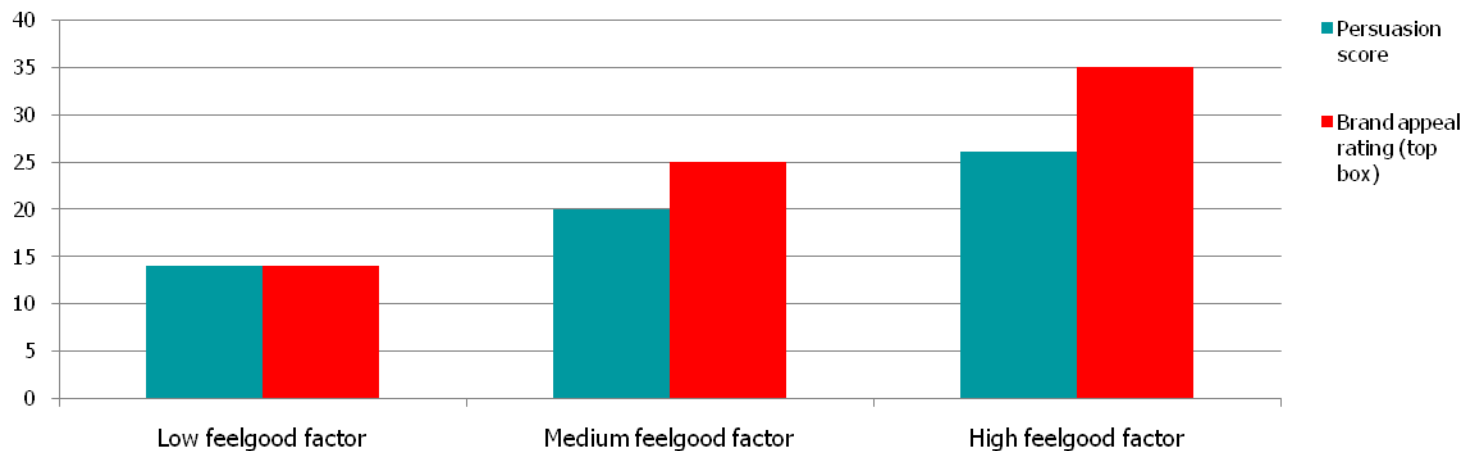




Adverts which evoke positive emotions have more power to motivate and persuade consumers

- The Millward Brown feelgood factor is a summary measure of the net positive emotions evoked by an advert. A high feelgood factor means respondents associate that advert with far more positive than negative emotions.
- Across a range of studies it was found that an increase in the feelgood factor increased the likelihood that a respondent would find a brand 'much more appealing' and the likelihood of them buying the brand (the Persuasion Score).

Adverts which evoke positive emotions have more motivational power

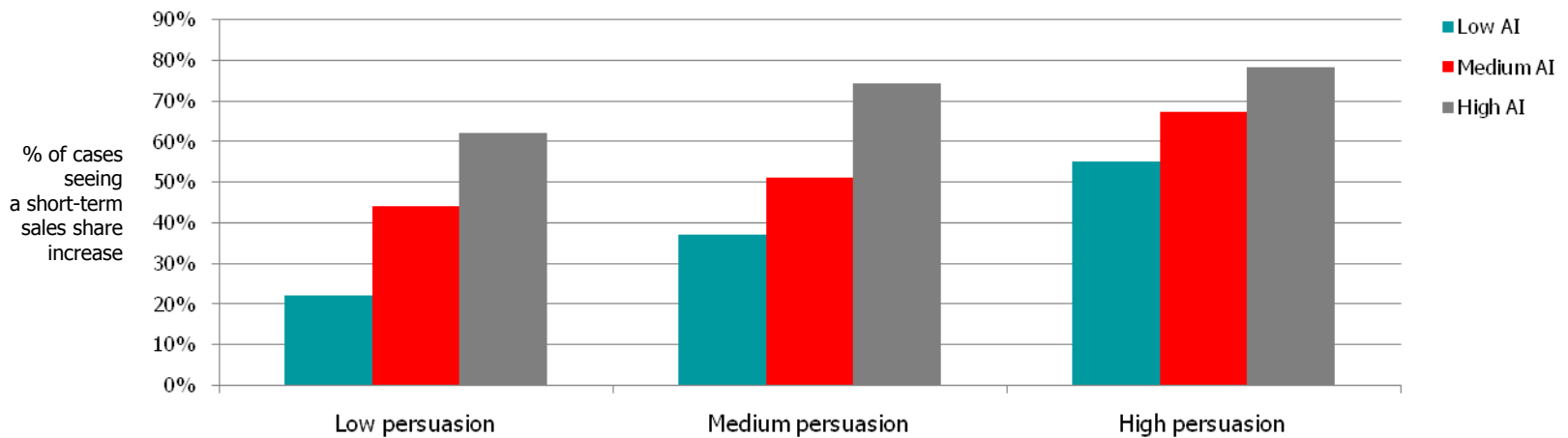




When adverts are memorable and persuasive there is a marked increase in the likelihood of a boost in sales

- Combining the dimensions of the Awareness Index (reflecting an advert's ability to cut through for the brand) and the Persuasion Score (the claimed increase in likelihood of going out to buy the brand as a result of seeing the advert), where there is high memorability and high persuasion there is a direct and strong relationship with an increase in sales.
- This completes the logic flow – **emotion in advertising helps to drive memorability and persuasion**, and consequently will be linked to the end purpose: driving sales.

More powerfully, when the advert is memorable and persuasive we see a marked increase in the likelihood of a sales uplift

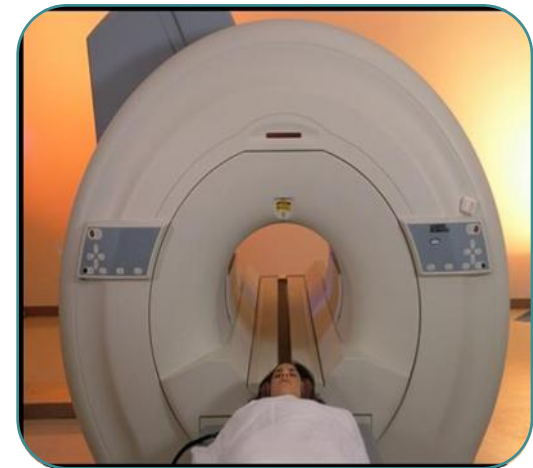


What is special about direct mail?

Does direct mail hold any intrinsic advantages over digital in harnessing emotional engagement?

The study approach

- Our research was set up to examine whether consumers' brains respond differently to material based on direct mail than to comparable information shown to them via a computer screen. The materials were stripped down to the basic elements of an image and text. Elements that might make direct mail special, such as personalisation or pure multi-sensory stimulation, were stripped away to allow us to see the core influence of the physical versus virtual format.
- However, all the prompt material used was taken from direct mail that was in the market prior to embarking on the research. It was simplified and handed to respondents on A5 cards. The same images were then shown on a screen to respondents to reproduce the online, digital experience. 'Scrambled' images were used as a control for the varying impact of colours and text and the fact that physical material stimulates more than one sense.
- By subtracting the results for the original images from the scrambled ones we have the brain patterns that relate to the content of the materials rather than purely the sensory qualities of the medium. By then subtracting one medium from the other we can see whether **different media fire up different parts of the brain.**
- The brain measurements were taken by placing people in an fMRI scanner, as shown here.





It seems there is something special about the inclusion of direct mail in the media mix

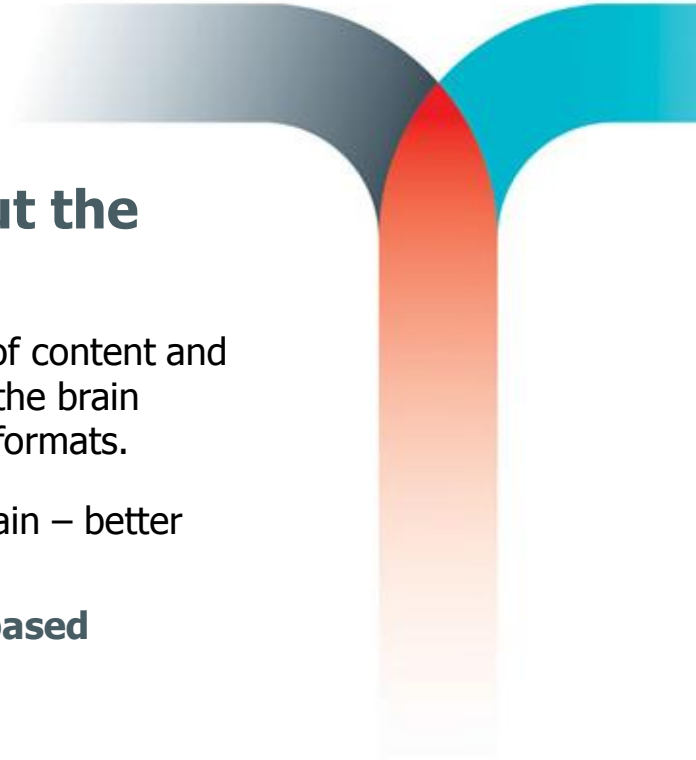
In a highly controlled experiment, which stripped out the effects of content and purely sensory stimulation, clear differences emerged in the way the brain processes marketing messages in physical compared with virtual formats.

Direct mail based-material makes the content more real to the brain – better connected to it.

It appears that all other effects being equal, direct mail-based materials:

- are more concrete and 'real' for the brain
- are internalised more
- facilitate emotional processing
- result in more fluent decision making

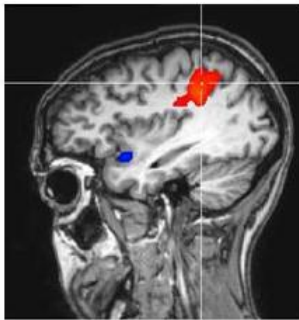
This means direct mail-based materials are more likely to be retained and acted upon.



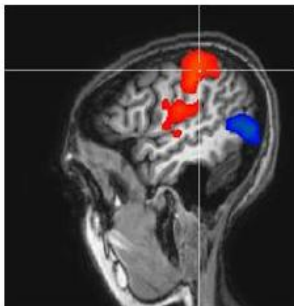
The tangibility of direct mail-based materials leaves a much deeper 'footprint' on the brain than digital

Direct mail-based material makes the content more real to the brain and better connected to memory by engaging with its spatial memory networks.

Right parietal



Left parietal



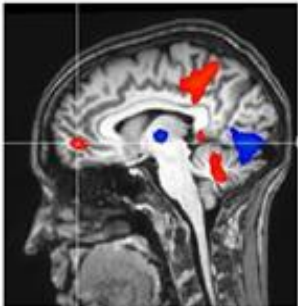
- Material shown on cards generated more activity in the area of the brain associated with the integration of visual and spatial information (the left and right parietals) and the processing of information in relation to the body.
- This suggests direct mail-based material is more 'concrete' for the brain – it not only has meaning but place. As 'place' is another cue for memory, this may mean that direct mail-based material has a better connected memory 'trace'.
- This is not simply due to direct mail-based material stimulating both sight and touch – the subtraction of signals from scrambled physical material controls for this. **The multi-sensory nature of the material results in the content being seen as more 'real'.**

NB The red trail in the images of the brain represents oxygenated blood flow (and hence the level of stimulation) triggered by consuming adverts in direct mail format; the blue trail is the footprint following advert consumption in digital format.

Direct mail-based material produced more brain responses associated with internal feelings

Direct mail is associated with responses which suggest greater 'internal' thinking – when people are relating information to their own feelings and memories – than video-based material.

Medial PFC



Posterior cingulate into para cingulate



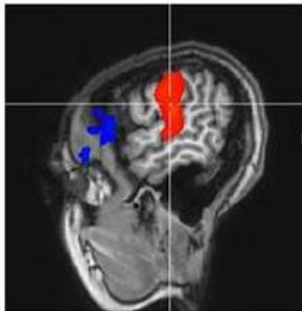
- The medial PFC and cingulates are parts of the brain associated with emotional engagement
- The brain's 'default network' appeared to remain more active – indicating more thinking of subjects' own feelings in response to the outside world.
- Activity in this area has been associated with greater focus on a person's internal emotional response to outside stimuli – so the lower level of deactivation in response to direct mail-based material suggests greater internal thinking about emotional responses.

NB The red trail in the images of the brain represents oxygenated blood flow (and hence the level of stimulation) triggered by consuming adverts in direct mail format; the blue trail is the footprint following advert consumption in digital format.

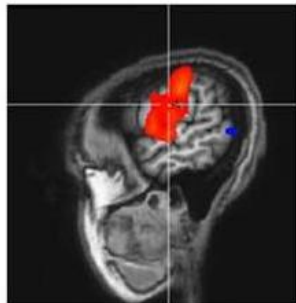
It is easier to focus attention on direct mail-based material than via a screen

Material presented on the screen evoked responses associated with greater difficulty in maintaining attention.

Right TJP



Left TJP

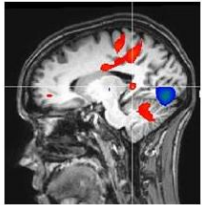


- Greater deactivation of the default network is also associated with increased focus during harder tasks and is the result of the extra effort needed to concentrate.
- In addition, it was observed in areas associated with filtering of irrelevant information in order to attend to the task at hand (the temporo-parietal junction or TJP). Note that deactivation here means more filtering.
- This fits with other bio-sensory studies – for example, Geske & Bellur, 2008 – showing greater cognitive effort is needed to concentrate on screen-based material.
- This would suggest that it is easier to form positive engagement with communications that are in a direct mail format rather than in a digital format.

NB The red trail in the images of the brain represents oxygenated blood flow (and hence the level of stimulation) triggered by consuming adverts in direct mail format; the blue trail is the footprint following advert consumption in digital format.

Where does this emotional processing take place?

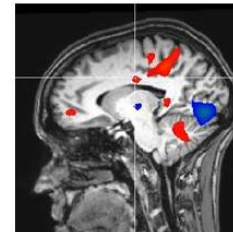
Right retrosplenial cortex



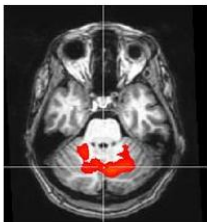
The right retrosplenial cortex, which is involved in both memory and the processing of emotionally powerful stimuli. This suggests that physical presentation may be **generating more emotionally vivid ad memories**.

The right-middle cingulate, which is active during decision making centred on emotional and social issues. It is also activated when participants decide whether they will 'save' rather than 'bin' the material, which again suggests it plays **a prominent role in emotional response and judgement**.

Right middle cingulate



Bilateral cerebellum



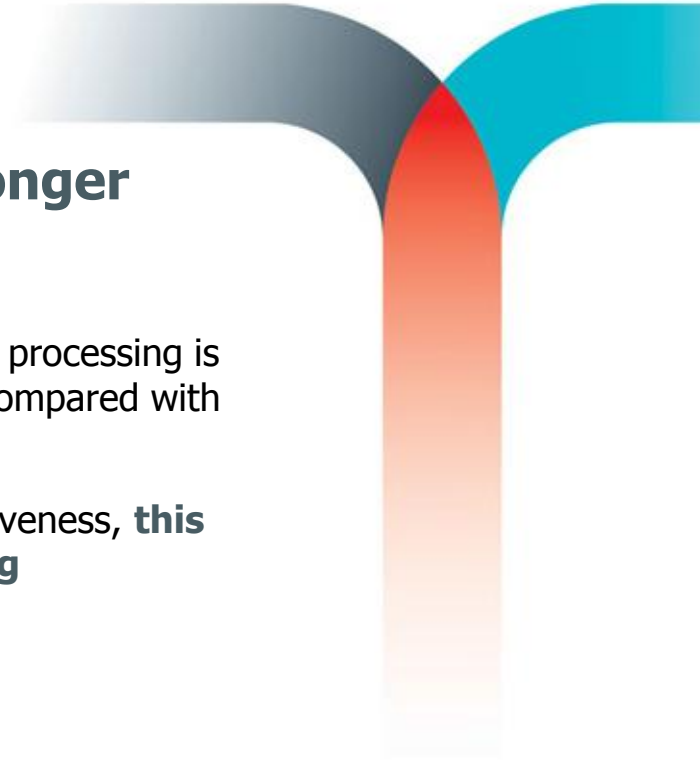
The cerebellum, which is mainly concerned with movement and motor control, but is also associated with both spatial and emotional processing. Given the allowances made in analysis for the motor actions involved in interacting with the stimuli, and the activity in the other emotion-related areas, it is likely that this result is further evidence of **enhanced emotional processing**.



Direct mail-based material provokes stronger emotional processing

Collectively this research strongly suggests that greater emotional processing is facilitated by physical material (as exemplified by the sea of red compared with blue in the previous slide).

Given the importance of emotion to brands and advertising effectiveness, **this is a key issue for marketers to bear in mind when selecting communication media.**



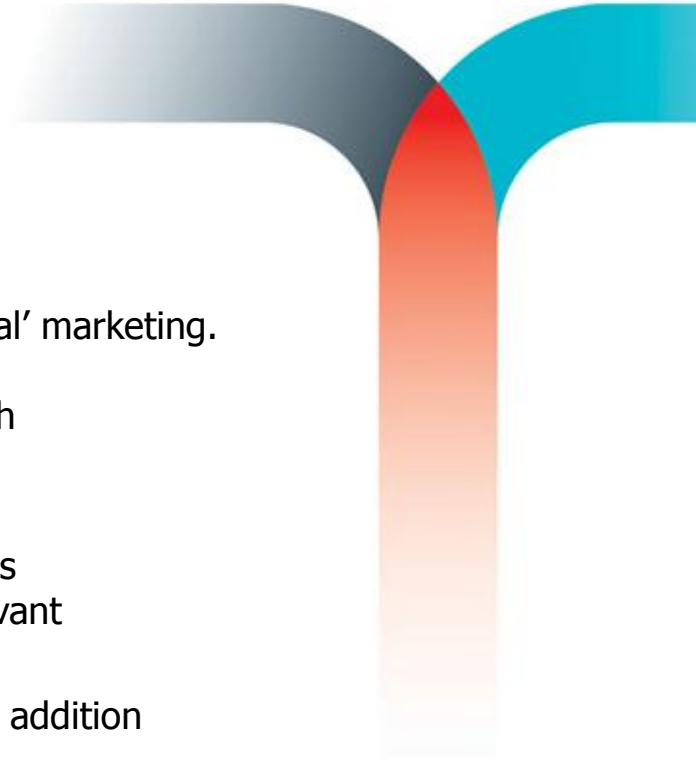
Emotional associations create stronger brands



Direct mail has a powerful role to play in a multimedia campaign

This study should not be seen as denigrating online or other 'virtual' marketing.

- Such media offer new and powerful opportunities to engage with consumers, not least through opportunities for interaction and enhanced targeting.
- However, the research does suggest that physical media, such as direct mail, also have a powerful role in creating an activity relevant to a consumer as part of a multimedia campaign.
- Physical media offer a 'real' experience which can be a powerful addition to consumers' emotional engagement with a marketing idea.
- This, in turn, takes them further along their journey to engage with brands, creating opportunities for interaction and enhanced targeting.



Appendices

Appendix I

The prompt material

- In addition to the modified direct mail there were 40 scrambled images, 20 foil adverts and six practice adverts.
- Scrambled images were created from a random mixture of images from the modified direct mail. Foil images were adverts that were not shown to the participants during the exposure phase of the experiment (but used only in the post-scanning behavioural tests). Practice images were extra adverts to allow participants to experience holding the paper adverts.
- Digital stimuli were saved as bitmaps and presented using E-Prime software in the centre of a screen against a white background. Paper stimuli were printed on pieces of glossy, 160gsm card. The cards were printed with a white border around each image, so the image could still be clearly seen when the card was held by the corner.
- Each participant saw half of the adverts in paper format and half in digital format, with one advert from each product category seen in paper and one in digital.
- Participants were paired so each pair saw the same sets of adverts but presentation in paper and digital formats was counterbalanced: that is, in each pair participant 1 saw one set of adverts in paper format and the other set in digital format, while participant 2 saw the reverse. This ensured that any effects observed between paper and digital conditions could not be due to specific adverts.
- The study approach is covered on page 12.

Appendix I (cont'd)

The prompt material

Stimuli consisted of 40 executions, **all of which were drawn from pieces of direct mail that were in market in the period immediately before the time of test.** Adverts were grouped by product category (two adverts in each category) and modified to include approximately equivalent quantities of text and photographs in each category. Categories for the 40 experimental adverts were:

- broadband (AOL; O2)
- energy (British Gas; EON)
- car (Mercedes; Citroen)
- DIY (B & Q; Homebase)
- clothing catalogue (Kays; Next)
- furniture (Ikea; Furniture Village)
- magazines (TV Guide; Radio Times)
- loyalty cards (Tesco; Sainsbury Nectar)
- home building (Bryant Homes; Redrow)
- credit cards (Abbey; American Express)
- overseas child charity (Plan; Save the Children)
- mobile phone offers (Vodafone; Carphone Warehouse)
- disability/illness charity (Action for Blind; British Heart Foundation)
- holiday cottages (Cottages 4 U; Dales Cottages)
- film rental (Blockbuster; Love Film.com)
- digital living (PC World; Sky Plus)
- family excursion (Butlins; Alton Towers)
- chocolate (Thorntons; Chocoholics)
- mobile phone companies (T-Mobile; Virgin)
- home insurance (Barclays; Churchill)

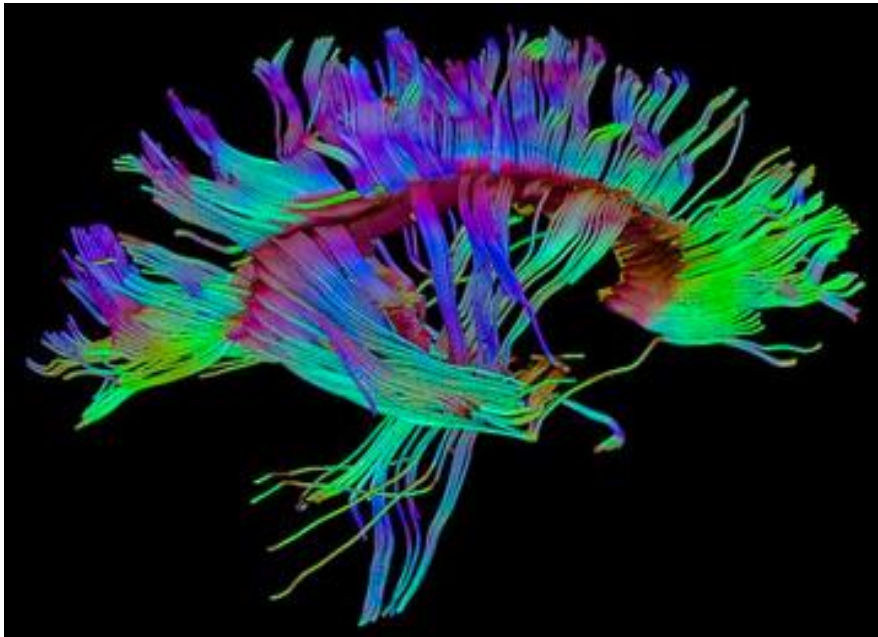
Appendix II

Research partners

Millward Brown and Bangor University

Millward Brown and Bangor University are leaders in the new science of neuroscience and have partnered to carry out this Royal Mail-sponsored investigation.

At Bangor University, research was led by Professor Jane Raymond and Dr Margaret Jackson. For Millward Brown, research was led by Graham Page and Neil Russell.





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