Neuromarketing and the perception of knowledge

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• The emerging field of neuromarketing reveals that knowledge has plasticity. In other words, different stakeholders, marketing researchers and practitioners, perceive the development and application of neuromarketing knowledge in different ways. Having different perceptions of knowledge is not a new issue, but finding new interconnections between those perceptions is beneficial to knowledge creation and diffusion. The research-practice gap in neuromarketing is briefly discussed and then resolved through the contribution of this commentary, the proposal of a novel Neuromarketing Research Model. The Model interconnects basic research reporting, applied research reporting, media reporting and power processes.

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Introduction

A man may be very sincere in good principles, without having good practice.

Dr. Samuel Johnson (1709-1784): Boswell, Tour of the Hebrides, 25 October 1773.¹

It may seem odd to connect neuromarketing and the perception of knowledge, but the emerging field of neuromarketing reveals a fundamental tension within organisation studies - the perennial concern about the interconnection between research and practice. It will be argued here that the research and practice audiences have different perceptions about the development and application of knowledge about neuromarketing and, as a consequence, it is incumbent on this community of practice, like other fields of knowledge, to find a way of reconciling these differences. To this end, a novel research model for neuromarketing is proposed.

This is only a short commentary and so a boundary will be put on the discussion by focusing on what is meant by the perception of knowledge, highlighting some key issues concerning neuromarketing and the research-practice interconnection and proposing a Neuromarketing Research Model.

Perception of knowledge

In 1967 Jacob Bronowski gave the forty-fourth Silliman Foundation Lectures at Yale University. In the first lecture he argued that:

'we need to review the whole of our natural philosophy in the light of scientific knowledge that has arisen the last fifty

years. It is really pointless to go on talking about what the world is like ... when the modes of perception of the world which are accessible to us have so changed in character.' (Bronowski, 1978, p. 4).

Three ideas emerge from this quote which are relevant to this Special Issue: the meaning of natural philosophy, changing scientific knowledge and the role of perception.

By natural philosophy Bronowski (1978, p. 4) meant 'that enterprise of the human mind which attempts to trace lawfulness in nature, dead and living, but which is not directed to specific inquiries into how this or that law works'. Similarly, neuromarketing is concerned with the general nature of natural laws because it has been defined as understanding human behaviour in the specific context of markets and marketing exchanges (Lee et al., 2007).

Bronowski (1978) also discusses how one system of scientific knowledge replaces another. Indeed, he anticipated the move to a focus on understanding human behaviour in biological terms by, in his first lecture, asking the question 'What kind of an animal is a man?' (Bronowski, 1978, p. 7). Following this line of questioning, neuromarketing is attempting to understand the biology of human behaviour, especially, in this context, of the thoughts and actions of the consumer.

By the role of perception Bronowski (1978, p. 5) took a Kantian view: 'He [Kant] wrote a number of books and papers whose basic message was this: our knowledge of the outside world depends on our modes of perception, and I am going to write philosophy as a description of the structure of the world as seen by man'. Bronowski (1978) uses the metaphor of the physiology of the eye to discuss perception, which he sees as the problem for anyone who seeks to understand all aspects of nature. The eye exercises fine discrimination using very coarse units because the system of interconnection is such that a great deal of overlap is created, and as a result not only the brain but the eye itself makes inferences about the world. The point for neuromarketing is the interconnection of frames of interpretation in order to achieve a fuller understanding of consumer behaviour.

Unfortunately, there is more of a research-practice gap than an interconnection in neuromarketing. There is, though, a biological turn and a focus on understanding underlying processes concerning markets and marketing exchanges. This commentary is concerned with resolving the research-practice gap, but first, the nature of the gap needs to be briefly discussed.

Research-practice gap in neuromarketing

In a succinct and balanced survey of the field of neuromarketing, Fugate (2007) concludes his article by arguing that in order for the field to become legitimised, it would be necessary to construct a behavioural model that would predict which stimuli (marketing inputs) provide the appropriate brain structure with the material it needs to accomplish its assigned task. He accepts that this is far in the future and requires more of a shift from basic to applied research in neuromarketing. Such a shift is likely to result in more complexity and ambiguity, as simplistic and causal explanations of arousal and market behaviour become even rarer.

Similarly, Lee et al. (2007) emphasise the importance of more scientific analysis to understanding marketing-relevant human behaviour. In particular, the self-assessment measures commonly used in marketing research rely totally on the ability and willingness of the respondent to accurately report their attitudes and/or prior behaviours. Instead, physiological responses can be collected when respondents are directly participating in the behaviour and are difficult for subjects to control.

In order to develop a new behavioural model of consumer behaviour, Fugate (2007) argues that marketing researchers and practitioners should adopt new roles. Researchers should use neuroimaging to confirm, reconfigure or improve conventional theories of consumer
behaviour. Such validation efforts might not be conclusive, but it is likely that some strengths and weaknesses in existing theories will be discovered. Practitioners, for their part, should be forthcoming with their experiments and results, which might have two effects. First, releasing such data might demonstrate that neuromarketing is not incompatible with consumer interests and, second, the data might help consumers know themselves better, so they can curb, e.g., overspending, which, in turn, informs policy making.

There are moves to achieve Fugate's (2007) vision. Marketing researchers are using neuroimaging in the context of consumer behaviour. Kenning et al. (2007) have shown that although in its infancy fMRI seems to be a useful and promising tool for market researchers because it reveals how emotions influence brand positioning, advertising strategies and pricing strategies.

Practitioners are mindful of the need for scientific rigour and ethical considerations in their work. Michael Brammer (2004), Chairman of Neurosense Limited, in correspondence with the Editor of Nature Neuroscience, pointed out commercial success depends on clients having confidence in the results they are presented with and confidence comes from rigour and ethical practice.

Clearly, the research and practice audiences still have different perceptions about the development and application of neuromarketing knowledge. In order to take advantage of the benefits of Bronowski's (1978) interconnection of frames of interpretation, it is important to find a way of reconciling these differences.

**Neuromarketing research model**

A novel Neuromarketing Research Model is proposed to interconnect the different perceptions of neuromarketing knowledge. It interconnects marketing researchers, practitioners and other stakeholders. It is developed from the work of Stokes (1997) and Tushman et al. (2007; Tushman and O'Reilly, 2007).

Stokes (1997) proposed that research be characterised by the joint goals of understanding and use (Figure 1). The Quadrant Model of Scientific Research shows how some research was driven by understanding but not use, e.g., Bohr's discovery of the structure of the atom. Other research developed applied uses, for instance, Edison's invention of the phonograph. More research proceeded with joint goals, e.g., Pasteur's development of microbiology.

Tushman et al. (2007; Tushman and O'Reilly, 2007) adapt Stokes' (1997) Model to inform the debate about the role of business school research (Figure 2). Tushman et al. (2007; Tushman and O'Reilly, 2007) argue that unlike conventional academic disciplines which focus on basic disciplinary research (economics, psychology and sociology) and consulting firms which focus on meeting clients' needs, business schools and professional schools more generally are about rigour and relevance.

Whilst agreeing with Tushman et al.'s (2007; Tushman and O'Reilly, 2007) argument, their model is problematic. Not all business school research neatly fits into their professional schools/business schools quadrant. Indeed, their quadrant compresses different research activities into one box.
By revisiting Stokes (1997) and combining his work with Tushman et al.’s (2007; Tushman and O’Reilly, 2007) work, a new Neuromarketing Research Model is proposed to interconnect basic research reporting, applied research reporting, media reporting and power processes (Figure 3). Power processes have been introduced because, as Stiles (2004) notes in his discussion of knowledge and academic organisation, knowledge becomes ideological and biased in favour of particular actors through a conflictual process. The emergence of neuromarketing emphasises the need to utilise for the first time, all four quadrants. The activities associated with each quadrant are being explored, as research findings from neuromarketing are being disseminated.

Basic research reporting satisfies the needs of academics and applied research reporting the needs of employers (Doherty, 1994). Media reporting is less definitive because it satisfies the needs of the target audience for the publication, which could be academic, employer or another social group. Again, power processes is less definitive because they satisfy the needs of dominant actors in the networks identified here: academia, work and the media (Clegg and Palmer, 1996).

To explore the interconnections, brief specific examples of the activities associated with each quadrant will be given. Currently, most attention is being given to basic research reporting because the research is being undertaken now (e.g. Kenning et al., 2007).

Nevertheless, media reporting is increasing. Recently, the International Herald Tribune (Elliott, 2008) reported on the neuroscientific presentations at the 54th Annual Convention and Exposition of the Advertising Research Foundation in New York. The article is extensive and balanced, explaining the views of marketing practitioners and researchers.

By engaging with basic research and media reporting, the researchers have become subject to power processes. The stakeholders from both groups interpret the value of rigour and relevance in their own particular ways. When reporting basic research, the papers and the ideas they contain become subject to peer review. Media reporting becomes subject to what interests the reader.

Because most attention is being given to basic research reporting, so far, less attention has been given to applied research reporting. To echo Fugate's (2007) comments, this requires more of a shift from basic to applied research in neuromarketing. Some progress is taking place here, as evidenced by the appointment of Robert Knight, the Director of the Helen Wills Neuroscience Institute at the University of California at Berkeley who is also the Chief Science Adviser at NeuroFocus, an organisation similar to Neurosense.

Concluding remarks

Any new field of study, like neuromarketing, needs research to be performed in order to establish their academic relevance. The danger of this stage in the lifecycle of a new field of study, is that the focus may be on addressing the specialist needs of academic peer review, insulated from the wider social environment. As a consequence, neuromarketing drives right at the heart of the research–practice gap in organisation studies.

Bronowski (1978) reminds us that this is not a new issue and that interconnecting frames of interpretation will lead to a fuller understanding of consumer behaviour. Indeed, in a previous publication by the author about research possibilities for organisational cognitive neuroscience, it was argued that there is a need for
'evidence-driven contributions [to academic journals] to engage more with the practice of organizing... This also raises the issue of turning current research findings into practical tools with which to develop business and management'. (Butler and Senior, 2007b, p. 208).

The contribution of this commentary is to follow the guidance and propose a novel Neuromarketing Research Model. This is to reveal that not all business school research neatly fits into Tushman et al.'s (2007; Tushman and O'Reilly, 2007) professional schools/business schools quadrant. The case of neuromarketing is used to emphasise the need to utilise all four quadrants. Further debate between all stakeholders involved in neuromarketing is needed to explore and improve conceptual models of business school research.

Biographical notes

Michael JR Butler is a Lecturer in Management in the Work and Organisational Psychology Group of Aston Business School, Aston University, UK; is Co-Director of the university's cross-disciplinary Organisational Cognitive Neuroscience Centre (OCNC) and works as a management consultant across the private and public sectors. He focuses on change management, Management learning and organisational psychology. He has two teaching awards.

References
