Music, Brands, & Advertising: Testing What Works

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Music, Brands, & Advertising: Testing What Works

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Abstract

This paper summarises the material from a workshop presented as part of the Audio Branding Academy's Academy Day on 27 May 2015. At the workshop we presented empirical findings and insights from research in psychology, statistics, as well as marketing in order to contribute to a better understanding of how music works within branding and advertising environments. In addition we present three practical tools (the Q methodology, the Brand Music Matrix, and the Semantic Differential) that can be employed to assess music choices in practical music branding tasks. Data that was collected with these tools at the workshop is presented and discussed. In a final section we briefly describe various ways in which industry professionals can pre-test the effects of music on advertising and brand perception using implicit measurement techniques.

1. Background

The broader context for understanding how music works in advertising and branding are the areas of human cognition and decision-making. The scientific models and empirical understanding of how we decide in everyday life, such a buying decisions or consumer choices, has greatly advanced over the past decades. In particular, the work of psychologists

Daniel Kahneman and Amos Tversky on rational and irrational decision making, as well as the work of neuroscientist Antonio Damasio on the importance of emotions and "gut feelings' for explaining our behaviour has changed the understanding of how advertising works and how it affects sales and brand perception. A shift has occurred from a predominant focus on the importance of effectively conveying the "message' towards using heuristic and contextual cues (including music and audio) as part of the marketing and communications. Prominent advertising researchers such as Robert Heath and Les Binet have advocated this shift and their thoughts are currently being put into practice by leading brands and practitioners in the industry. Therefore, the subsequent brief discussion of this new theoretical framework for how advertising works follows the argument that Les Binet has developed at adam&eveDDB over recent years and that he laid out in several publications (Binet, 2012).

1.1 Thinking and Decision-Making

As humans, we like to think of ourselves as rational creatures capable of divorcing our decision-making abilities from our emotions. This idea has been a centrepiece of critical discourse since the days of Plato and classical Greek philosophy. But this notion of the primacy reason in decision-making is slowly being eroded by research in the cognitive sciences. Over the past few decades, researchers such as neuroscientist Antonio Damasio and psychologist Daniel Kahneman have suggested that our brains do not function as we think the do.

In his 1994 book *Descartes' Error,* Damasio puts forward evidence from various neuroscientific studies to suggest that an individual's ability to make decisions is not grounded in pure reason. He famously describes the case of Elliot, a patient of his who had brain damage in his frontal lobe (a part of the brain responsible for executive decision making) after the removal of a tumour. Elliot showed no signs of mental deficiency in any tasks requiring his ability to think, reason, and speak. He was of normal intelligence, yet when pressed to make simple decisions

about his everyday life Elliot became unnecessarily detailed in the process and could not commit himself to one option over another. He was impaired in his ability to make decisions (Damasio, 1994).

Damasio argues that the case of Elliot suggests that an individual's ability to make decisions is a more complicated process than just cognitively appraising all possible options then acting according to the rationally optimal option. He suggests that our emotions actually play a bigger role in this process than most people would acknowledge. This claim is not only supported by the case of Elliot. Evidence in favour of our emotions playing an integral part in decision processes can be found throughout the psychology literature.

A study by Bechara et al. (1997) provided evidence for the role that emotions play in monetary decisions. Participants in this study played a gambling task in which they were to draw from four decks of cards in hopes of winning money whilst wearing a device that measured their physiological arousal. While the task at first appeared to be due to chance, participants learned over time that some decks were much more advantageous to choose from than others. The experimenters found that participants, although consciously unaware of the odds, would show signs of unconscious arousal indicating they knew which decks were the riskier choices far before they could explain the inner workings of the game. This indicated that their bodies knew what to do before their brains could understand. Interestingly enough, participants with brain damage in their prefrontal lobe similar to Elliot's lesion did not show the same anticipatory physiological responses as their neurotypical matches.

There is plenty of similar evidence in the psychology literature (e.g. Wagar & Dixon, 2006), which strongly suggests that the human ability to make decisions is often quite different from rationally weighing the pros and cons of each choice and then acting in accordance with logical reasoning. Daniel Kahneman and Amos Tversky have laid out a framework to investigate and explain human decision-making. The duo's work is captivatingly summarized in the book *Thinking, Fast and Slow* (Kahneman, 2011). Kahneman proposes that our brains function using two sep-

arate, yet intertwined systems. What Kahneman calls System 1 is a fast, unconscious, experience-driven, resource-efficient mechanism that is always switched on. It unconsciously processes all inputs, as well as filters and focuses one's attention. It also leads thoughts via feelings and intuitions. However, it is open to biases: a slow learner and its operations are difficult to change. System 2 on the other hand is a slow, rational, linear, resource-consuming system that is dependent on conscious processes. It can envisage possible futures, assess detailed information it is presented and override and feed new input back into System 1 (e.g. to correct for mistaken biases). Both systems work in tandem and should be thought of as complimentary to each other. But for quick and largely unconscious judgements humans rely almost exclusively on System 1.

Neither systems produces answers that are optimal under all conditions, the validity of System 1 responses was demonstrated in a famous experiment conducted on college students regarding their preferences for different brands of strawberry jam. In this experiment, two groups of students were asked to perform a quality taste test on jam and either make intuitive ratings and quick decisions or to rationalize their choices via a questionnaire. The experimenters found that the group that did not have to reason through their choices provided ratings much closer to expert opinions than those who filled out questionnaires and used their System 2 to rationalize their choices (Wilson & Schooler, 1991). This result suggests that when individuals involve System 2 processes in tasks of cognitive appraisal, they can actually get in the way of better decisions made by System 1.

While beyond the scope of this paper, Kahneman provides a wide range of support for this two-systems approach with evidence illuminating the different biases and heuristics that people use in their daily lives. However, with a general understanding that most of our judgements and preference decisions do not follow rational and conscious processes, we now look at how this view can be applied to the understanding of how advertising at a psychological level.

1.2 How Advertising Works

The psychological processes involved in the perception of advertising is a complex topic and a number of theories have been developed over the last 100 years to explain the effects of advertising (for a comprehensive overview see Fennis & Stroebe, 2010). Currently dual process models of ad perception are receiving a lot of attention in the scientific community (see e.g. the Elaboration Likelihood Model by Petty & Cacioppo, 1986, and the Heuristic-Systematic Model by Chen & Chaiken, 1999). A dual process model also serves as the foundation for Robert Heath's model of advertising effectiveness (Heath, 2012). A typical dual process is depicted in Figure 1. The model posits that there are two types of pathways by which a person is able to process information presented in advertising: a low processing route that processes inputs heuristic cues and a high processing route capable of understanding and evaluating coherent arguments and the advertising message. The low route corresponds to Kahneman's System 1 and the high route is roughly equivalent to System 2.
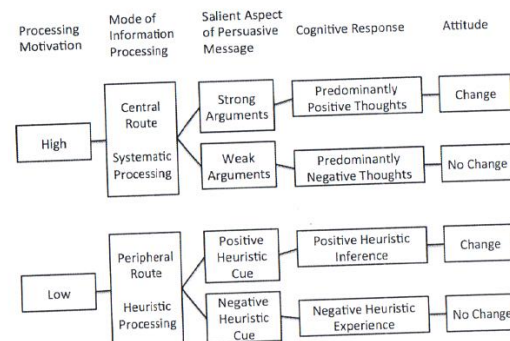

Figure 1. Dual Process Model

The high-attention processing route inputs information though a channel that is able to abstract the salient aspects of a persuasive message such as "Half off all inventory! This weekend only!" or "Only a real man/woman would purchase our product!" If engaging in high route processing, the person perceiving the ad would then form a cognitive response, which could result in a possible attitude change towards the product and eventually lead to a change in buying behaviour. On the other hand, the low-attention processing route does not deal with a conscious appraisal of the message. As Robert Heath points out (2012), not engaging the high route of processing is actually a big advantage for emotional advertising because advertising effects that are received via the low route bypass any rational or cognitive defences or counterarguments that a person might produce when receiving the ad message via the high route. Instead, the low route of ad processing depends on unconscious processes such as evaluative conditioning, mere exposure, emotional processing, and most importantly for advertising: priming.

Priming is a well-studied phenomenon that allows for a faster, more accurate recognition of a stimulus due to prior exposure of similar or related stimuli. Priming has close links to implicit memory, where prior exposure is not necessarily remembered or was even presented at the unconscious level. The findings from lab studies on priming can then be extended to music and advertising. In an advertising context music would act as the priming stimulus with its ability to convey affect without needing to resort to rational or conscious processing. When the brand and the music are then presented simultaneously, the congruency of the positive effects of the music and the brand personality will result in an enhanced perception of the brand as a whole. Using music in a priming paradigm has been found to be quite reliable and has been demonstrated various times in laboratory processes (Bharucha & Stoeckig, 1987; Tillman & McAdams, 2004) and works effectively due to its reliance on unconscious processes. Additionally the use of music in these situations facilitates stimulus recognition, memory, as well as brand empathy. Research has also been conducted specifically relating to

the effects of music in television ads, and various researchers have found that music is most effective when it corresponds to consumers' subjective perceptions of products and brands (MacInnis & Park, 1991; North & Hargreaves, 2008). Given these findings, the important question for anyone looking to effectively use music then becomes: How do I select the best music for a given brand or ad campaign?

2. Practical Applications for Music in Advertising

2.1 How to Match Music to Brand Profile

Selecting the optimal piece of music to best align (or purposefully *not* align) with a brand profile is not a simple procedure and in this section we present two techniques to assess the fit between pieces of music and a given brand: the Brand Music Matrix and the Semantic Differential. Each of these will be discussed in turn, but first we introduce the concept of the sonic signature as a frame for aligning characteristics of a brand, of the music and of a target audience.

The goal of an effective sonic signature (See **Figure 2**) is to create or select an audio object or a piece of music, which is distinctly recognizable and is congruent with both a brand's emotional core values as well as its target audience. This can be done by systematically considering all three components of the sonic signature: the positive values of the brand, the properties of the music, and the target audience.
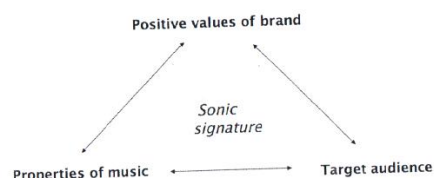

Figure 2. Sonic Signature

Most marketing departments will have an accurate idea of exactly who they are tailoring their brand or advertising campaign to. The better they understand their target demographic, the more they will be able to align their musical selections to some of the most important indicators of musical preference: age, gender, personality, and cultural environment (Hargreaves et. al. 2006). Additionally they may also be able to choose music that their demographic will recognize, thus leading to a more positive response consistent with the mere exposure effect (Zajonc, 1968). By understanding the demographics and the musical taste of their target audience, brands will be able to hone in on pieces of music that best resonate with their target audience.

Secondly, marketing and brand managers would normally take care to have a precise understanding of their brand profile, brand personality, or brand characteristics. These could include surface value judgements about the brand; is the brand perceived to be adventurous? Brave? Sophisticated? Youthful? Mainstream? Niche? Serious? Family Oriented? Or these characteristics could be described in higher-level ideas such as those laid out by Aaker (1997). Brand managers would do their best to understand the perception of their brand by their target audience. Additionally, brand managers should also consider how they imagine their brand, how it is perceived by actual customers, and strive to bridge any gaps between the two in order to achieve ideal public perception.

Lastly comes the selection of the music content. Open disagreements and a flawed communication are fairly common when it comes to selecting and evaluating music, especially because communicating about musical features often requires specialist background knowledge. Hence, music briefs – if they are written at all – are often utterly imprecise and full of high-level metaphors, such as the ones that Charlie Inskipp reports from his research (Inskipp, 2010): "I'll know it when I hear it," "It should be not too modern, but not too old," or "Can we get Coldplay to play a demo?" While sincere in sentiment, musical briefs like these often fail to provide a solid ground to discuss musical features.

2.2 A Qualitative Approach to Music Brand Fit: The Brand Music Matrix

In order to provide a framework for an effective discussion about music choices to take place, we have developed a checklist based on common musical attributes or sonic variables that have been used frequently as descriptors in the analysis of popular music and music in commercial settings (Bruner, 1990; Tagg 1999; Inskipp, 2010). The list we demonstrated includes the attributes Mood, Genre, Date/Period, Lyrics, Recognisability of the Artist/Song, Instrumentation, Tempo and Sound Effects. Once the list of relevant sonic variables (musical attributes) has been generated, the attributes of the brand profile (provided by the brand or marketing managers) and the sonic variables can be mapped against each other using the Brand Music Matrix. An example using the attributes from the brand profile of a pet food brand can be found in **Figure 3**.

SONIC VARIABLE	Cheeky	Playful: Puts a smile on your face	Light-hearted	Populist	Informal
Mood					
Genre					
Structure					
Instrumentation					
Well-known tune					
Tempo					
Lyrics					
Voice					
Relative volume				.	

Figure 3. The Brand Music Matrix

Using the Brand Music Matrix requires a music or audio professional to put a tick mark in each cell where a particular sonic variable conveys a particular attribute from the brand profile. One sonic variable can convey several brand attributes at the same time and each brand attribute can be conveyed by several sonic variables. The audio professional should always keep the target audience in mind when filling in the matrix because it is their presumed perception of the music that is to be

rated. The Brand Music Matrix is a qualitative technique and the audio professional should be able to justify each tick mark they make to a colleague with a similar musical background. An ideal music track would convey all brand attributes and each by several musical attributes. However, this is unlikely to achieve in practice but comparing several music tracks against the same brand on the Brand Music Matrix will provide qualitative evidence how and to what degree the different tracks match the brand profile. Hence, the data generated through Brand Music Matrix can then be used as a stepping off point for detailed discussions between audio designers/music producers, the creative agency and the clients (brand managers).

If several professionals are available to fill out the Brand Music Matrix for the same brand and the same music tracks, then it becomes possible to analyse the results quantitatively by either taking the average of their ratings or investigating how similar individual perceptions of the brand-music fit for an individual track are. At the workshop, we asked the attendees to assess four different songs against the same brand profile. Subsequently, we measured the similarity between attendees' ratings using the simple matching coefficient (aka Sokall/Michener coefficient) for binary ratings. The overall agreement (measured on a 0 to 1 similarity scale) between the attendees was fairly high (median similarity = 0.78) and did not differ much across the four songs (median similarity from 0.73 to 0.87). But as **Figure 4** shows, the agreement between ratings was even greater among attendees from a creative or music agency (median similarity = 0.8) than among attendees representing a brand (median similarity = 0.74) and also greater than the agreement between pairs of creative agency vs. brand professionals (median similarity = 0.77).

These results suggest that the Music Brand Matrix is a reliable tool for assessing brand-music fit, but that it is advisable to be used by music and audio professionals to ensure a high consistency of the data.
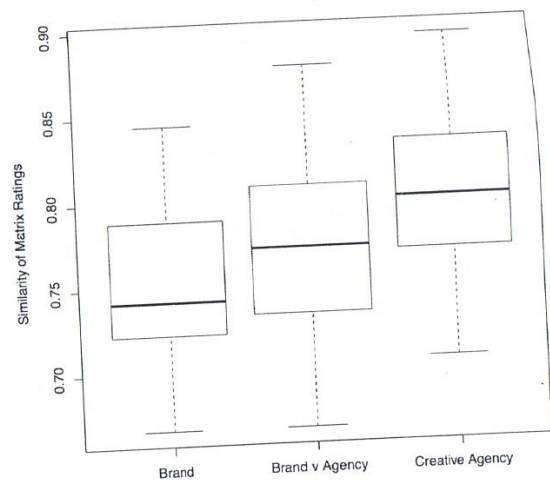

Figure 4. Agreement Between Industries

2.3 A Quantitative Approach to Brand Music Fit: The Semantic Differential

For a quantitative approach, the Semantic Differential tool can provide empirical data to quantify emotional congruency between music tracks and a given brand. The Semantic Differential tool we use here is based on a profile for emotional perception of music (Asmus, 1985) and our use of the tool for determining the distance between music tracks and a brand has been described in detail in Müllensiefen et al. (2013).

The tool works by having participants from the brand's target audience rate different music on a large set of adjectives relating to musical affect. Participants are prompted to imagine the music portraying a character in a movie and then to provide ratings on a seven-point scale

indicating how well the track in question would represent each quality of the imagined character. Ratings from these adjectives are then aggregated and computed into three larger factors that indicate how vibrant, morose, and serene a piece of music is. The factor scores of each track can then be compared against the factor scores of the brand that is rated on the same set of adjectives. The rating of the brand needs to be carried out by (a small number of) individuals with a very good knowledge of the brand (i.e. brand or marketing managers or planners in a creative agency). Using the quantitative data generated by the Semantic Differential it is possible to identify the track with the closest distance to the brand profile by calculating the Euclidean distance across the three different factors. The numerical distance values for the individual tracks can then inform whether there are large differences between their brand fits or whether several tracks fit the brand profile almost equally well. This information can then be used in choosing between tracks while also taking other information into account (e.g. licensing fees and conditions). In sum, the Semantic Differential is a simple, yet powerful tool that creates an objective measure of distance between a brand profile and a particular soundtrack. The tool has been shown to be unaffected by a rater's musicality or gender, demonstrating its robustness (Müllensiefen et al., 2013). As an empirical measure it also helps determine what a brand *is* and what it is *not*. This allows for making informed music choices ensuring consistency and reliability in matching brand profiles to music.

2.4 Investigating Attitudes to Music Pre-Testing with the Q-Method

Both the Brand Music Matrix and the Semantic Differential help to identify music that fits a particular brand and they also provide empirical evidence to discuss and justify music and audio choices. However, from practical experience in the industry it is well known that issues often arise with the idea of systematically assessing music's effect on brand or ad perception. Long-held opinions and attitudes on testing can be a serious issue in audio branding and one way to deal with these attitudes is to make them explicit and demonstrate the breadth and variety of subjec-

tive opinions. A suitable tool that can be used to demonstrate this is the Q Method (Watts & Stenner, 2012). The Q Method is both quantitative and qualitative and was demoed in our workshop to assess the range of attitudes towards pre-testing the effects of music in advertising. The Q Methodology, (or just Q for short) is a research technique that has been developed to better understand how individuals differ relatively to each other in opinions of an issue. Q is largely exploratory and it is important to understand that it can be used to look at individual's attitudes in relation to one another, but not to make any claims about the objective correctness of attitudes or judgements.

Q Methodology research is normally done with a large group of people with varying opinions on a topic such as the effectiveness of pretesting music for advertising. The research group will first start by generating a concourse of ideas that ideally encompass most of the opinions on a topic. For our workshop, we used statements contributed by members of the planning department at adam&eveDDB. Statements ranged from "There is a high correlation between results of a pre-test and the performance of a campaign in the market" to "Pre-testing produces good, but never great work to "Pre-testing music is just and arse-covering exercise."

This concourse of ideas is then reduced to a smaller sample, with the group agreeing on statements that essentially convey the same sentiment. Once this sample is created, participants then order their statements in accordance to how much they agree with each statement, thus giving each statement a numerical score. These scores can then be computed using freely available software (Zabala, 2014) and can yield results ranging from the most agreed/disagreed upon statement to an opinion space where each individual's opinions can be seen in relation to one another in two dimensional space (**Figure 5**).

Amongst our concourse of statements, statement 14 which was "An intuitive choice by a creative is always better than results from any test" emerged as the most disagreed upon and statement 6 which was "There is a high correlation between results of a pre-test and the performance of

a campaign in the market" emerged as the most agreed upon statement. **Figure 5** displays the opinion space generated from the Q methodology, showing that our sample agreed more on the predictive validity of pre-testing, and showed more disagreement relying on human expertise versus the results of test scores. This is particularly true for the academics in the sample with everyone scoring in the positive range on the Predictive Validity of Testing factor.
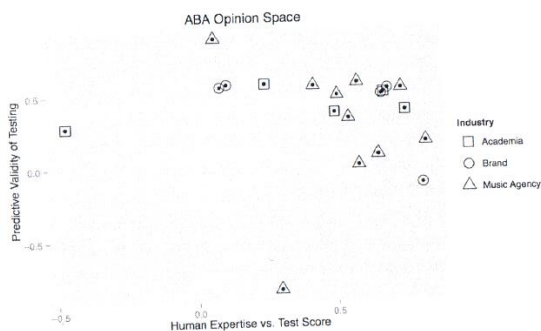

Figure 5. ABA Opinon Space

3. The Effects of Music in Advertising

3.1 Why and Where Music Works in Advertising

According to the dual process model, advertising functions via two pathways. Similar to Kahneman's two-system model, the dual process model of advertising proposes a high and low attention pathway for information to be passed on. Both of these pathways process information from advertisements, though they differ both in type of information as well as the effect that the information has on the consumer.

The high attention pathway understands rational product and pricing messages and yield short-term behavioural responses, such as responses to a message about temporary sales offers. This type of advertising can typically drive short-term sales, but its effect will also decay rapidly. This means that rational ad messages usually do not contribute to long-term brand building.

Alternately, the low attention pathway creates and remembers emotional brand associations, which can translate to long-term changes in brand attitude and preference. In this type of advertising, the focus is not on any "useful' information, but they speak directly to the low attention pathway of the dual process model by using music among other heuristic cues to appeal directly to a consumer's emotions. While these advertisements are not designed to create short bursts in sales, they create long-term effects on sales e.g. by reducing consumers' sensitivity to price (Binet & Field, 2013).

Considering these two opposing types of advertising campaigns and the dual process model of advertising, we suggest that music works most effectively through the low attention peripheral processing pathway by appealing directly to a consumer's emotions and creating long-term feelings of positivity towards a brand. While music can sometimes be used to convey rationale messages, it is most effective when used for long-term brand building.

3.2 Testing the Effectiveness of Music

Given that music works most effectively by flying under a consumer's attentional radar, attempting to measure its effectiveness in this setting can be problematic. The father of modern advertising, David Ogilvy, best summarized this problem when he stated that "The trouble with research is that people don't do what they say, they don't say what they think, and they don't think how the feel." If music works best via an implicit process, then how would one be able to effectively measure these unconscious effects using traditional pre-testing methods that require attention and high cognitive involvement, such as questionnaires, sur-

veys, and focus groups? In order to properly quantify these implicit effects, measurement techniques beyond explicitly asking consumers what they think is needed.

Fortunately, many tools that are currently in use in the psychological sciences are becoming available and accessible to the advertising and marketing industry in need of implicit testing. A variety of techniques such as Emotional Tracing, Reaction Time Measurements, Affective Misattribution Procedure, Eye Tracking, Facial Expression Recognition, Electroencephalography (EEG), Functional Magnetic Resonance Imaging (fMRI), and measures of Electrodermal Activity (EDA) can be used. In the following section we will discuss very briefly the benefits and drawbacks of each measurement technique, merely to convey a sense of the wide variety of methods that can be used to assess the effects of music in advertising and branding and that can all serve as implicit alternatives to the traditional explicit testing methods.

Reaction time measurements have been an established method in psychology for a long time and can be used to measure implicit attitudes towards questions of interest such as in the Implicit Association Test (Greenwald et al., 1998). This method works by pairing positive and negative terms with attributes of a brand and asking participants for speeded responses to these word pairs in an online test. The underlying assumption is that the closer two terms are located within the associative network of memory, the quicker participants will be able to respond. For an application of the association test to advertising see Binet, Müllensiefen & Edwards (2013).

The Affect Misattribution Procedure is a recently established psychological technique of measuring implicit attitudes towards ideas (Payne et al., 2005). This method works by randomly assigning groups of people to conditions in which they are subconsciously primed with images flashing on a screen for e.g. 75ms (below conscious recognition threshold) and then shown another unrelated and neutral image (like a Chinese character). Participants are then asked to make an affective judgement about the neutral image while being unaware of the fact that their judgements

will be biased by the image they have been primed with subconsciously. Judgements made of the unrelated symbol can be indicative of implicit attitudes and emotions towards the priming stimulus presented first. The priming stimuli can contain brand image, visual logos or core images from a TV ad.

An increasingly popular method of understanding consumer behaviour that does not require participants to actively engage with a task is eye tracking. Eye tracking data offers researchers the possibility of taking many implicit measures of a participant from direction and duration of gaze to measures of cognitive load. Eye tracking can be combined with Facial Expression Recognition to measure a participant's emotional response below a threshold of conscious awareness. In an empirical study, a camera tracks the various muscle movements of a person's face while they are exposed to various stimuli such as TV ads or print or online ads. Using machine learning techniques it is possible to detect subtle movements of facial muscles and relate them to emotions felt during the presentation of the ads.

Much more complex in their implementation and analyses neuroscience techniques exist that monitor brain activity in real time, such as Electroencephalography (EEG) and Functional Magnetic Resonance Imaging (fMRI). EEG is a suitable tool to answer questions that require a high temporal resolution, e.g. sudden events in a TV ad or an auditory stream. Not as quick in its temporal response, though able to show more direct brain mappings is fMRI. The use of fMRI is appealing in that it affords the option of indicating brain areas that are involved in the processing of advertising stimuli, such as the emotional system or the "pleasure centres' of the brain. Though in order to effectively employ this technology an extremely high degree of expertise and access to expensive brain scanning facilities is required.

Psycho-physiological measures represent a cheaper and more accessible alternative in this respect. In particular, a well-established measure of emotional arousal and emotional brand associations is Electrodermal Activity (EDA). EDA measures also known as galvanic skin response

(GSR) or skin conductance response (SCR) – have been made most famous in their history as polygraph machines or lie detectors. While there is a certain amount of doubt regarding their suitability as lie detectors, EDA does provide a reliable measure of physiological arousal (Boucsein, 2012). Devices to measure EDA are also often equipped to take other physiological measures such as heart rate and small-scale body movement. Given the assumption that branding and advertising, especially music in branding and advertising, have their greatest impact when they are able to effect the emotions in their target audience, psycho-physiological measures appear to be a highly efficient tool for assessing the effects of advertising and the impact of music. In a recent study (Binet, Müllensiefen, Morrison, 2015) we have been able to show that emotional arousal in response to TV adverts is significantly associated with the commercial performance of the advertising campaigns in the market. In addition, we were also able to show that music is a strong predictor to the emotionality of TV ads and hence contributes to advertising effectiveness.

In sum, there is a range of alternative ways to measure advertising and branding effects using implicit techniques. In order to test the effects that music has on branding and advertising, we believe that it is necessary to consider very carefully which techniques are sensitive to the effects of music, which work primarily via low attention states and subconscious processing.

4. Summary

Almost ubiquitous in its use in advertising, music can be used in a variety of ways for brands to best convey information about their products and services. Despite the ease of its application, we argue consideration beyond a what "feels right' needs to be implemented when pairing any music with a brand or advertising campaign, especially when the goal is to establish a long-term sonic branding strategy. As we have shown, by making best use of research findings from psychology as well as formal tools (the Brand Music Matrix and the Semantic Differential), it is possi-

ble to select music that not only "feels right' but also aligns closely to a brand's core profile. Using these tools allows advertisers to use music most effectively in order to have it contribute to long-term brand building. By using these tools to assess music selection, audio branders and creative agencies can considerably narrow down the possibilities of music to match a brand or an advert. Having chosen a few candidate music tracks or sonic objects for a specific brand, a subsequent step is to subject them to rigorous testing for their psychological effects. Here, we have demonstrated various methods to implicitly measure the emotional and largely unconscious responses to music when paired with marketing or advertising contents. We hope that by combining these tools, industry practitioners will find it easier to produce and select candidate music to fit brands and campaigns, but also to reflect and explain their choices to creative agencies and clients. We hope that applying intelligent tools for selecting music and assessing its effects systematically will eventually help to recognise music and audio as a highly important component in branding which is of equal importance as the long-established visual and verbal components.

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