

# The current status of methods for advertising effectiveness measurement

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According to the progress in media technology, we can distinguish three systems of human experience whose emergence corresponds primarily with certain means of communication. These are as follows: System 2: the explicit-rational system, with analogue print media; System 1: the implicit-emotional system with analogue television; System 0: the system of purely sensual perception with the digital revolution. Advertising effectiveness research must develop and use new methods under the conditions of total digital presence, information explosion, and the actual consumers' freedom of choice, which includes multi-screen use. The latter includes combinations of explicit, implicit, and perceptive indicators of human experience.

By using a holistic approach e.g., the neuro semiotic model, it is possible to gain insights about the impact of advertising even in a complex communication situation. These digital approach possibilities even allow concrete tests of actions in authentic media environments, such as user actions along the whole marketing funnel.

**Keywords:** *\_ market research \_ advertising effectiveness research  
\_ research methods \_ neurosemiotics \_ human experience  
\_ InContext*

## 1 Introduction

The basic question of any form of communication is: How can people be reached and touched as individuals and as an audience? What triggers communication – which impressions, reactions, and actions?

Examining this from the perspective of psychology, the question can be reframed into something like this: which specific mental and spiritual processes take place in and through communication? More precisely, the question is about the change of mental experiences and states such as attention, recognition or loyalty is the central subject of research into the effects of advertising.

Despite the technical and analytical progress in the neurosciences, inner mental qualities remain externally unrecognizable. For this reason, research into the effects of advertising scientific methods is used to generate data that can be used to draw theory-based conclusions about inner processes and hypothetical constructs. This way, transparent and reliable insights into the consequences and effects of communication can be gained.

These are essential for strategy, implementation, and follow-up of commercial, societal and political (i.e., impact-oriented) communication of specific actors ("sellers" of goods/services). Its commercial importance has grown strongly, e.g., in market- and opinion research and beyond. Advertising research is now a major part of the market research providers, advertising important position among all major market research providers. In the meantime, it has even far beyond the scope of classic market research institutes and is itself an integral part of the offerings of major digital platforms. Google and Facebook in particular have numerous instruments for tracking and evaluating the use and impact of their digital offerings.

Other media providers are also increasing their efforts in giving themselves and their customers insights into the effectiveness of their own channels: for example, the print genre is increasingly bundling their activities in the "Best for Planning" initiative. Additionally, associations such as the

ZMG (Zeitungsmarktforschung Gesellschaft e.V.), the VDZ (Association of German Magazine Magazine Publishers) or media impact, marketers such as Axel Springer, regularly publish articles on the effectiveness of newspapers and magazines. The TV camp gathers under the banner of "Screenforce" and regularly publishes major market studies on the impact of moving image advertising which are intensively discussed by all players (advertisers, marketers, agencies) and are providing a leading guideline for the evaluation of media performance of various players. Last but not least, digital marketers are also active in this area with their own studies, e.g. the OVK (Online-Vermarkterkreis im Bundesverband Digital Economy).

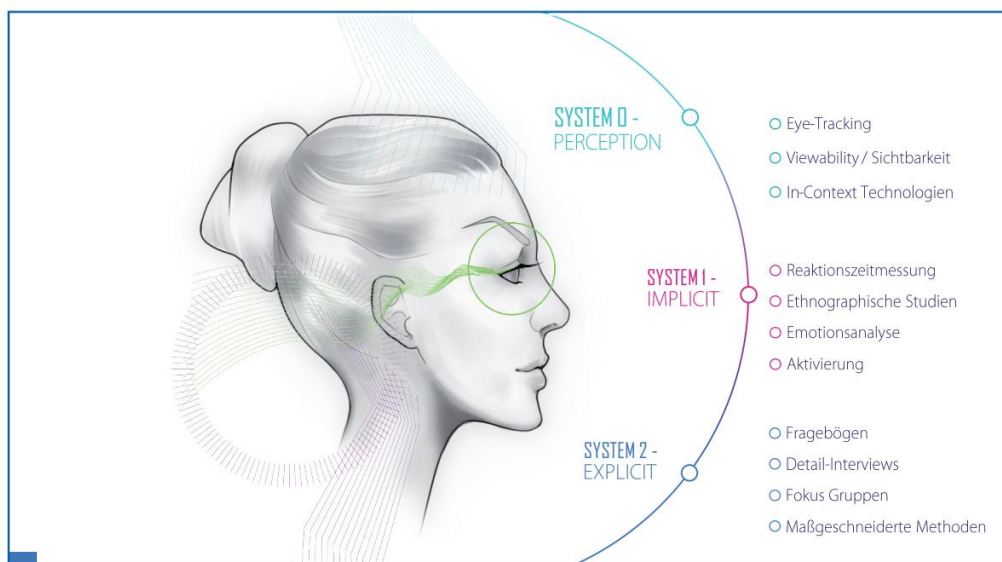
## 2 Methods of advertising effectiveness research: the three systems of the Neurosemiotic Model.

A good overview of the underlying methods and indicators is provided by the differentiation of the basic psychological levels (types of representation) in neurosemiotics. We refer to them as systems to indicate their independent and interdependent character. Depending on the specific media channel and how the human image is presented, while one of three systems is primarily in use in the moment of processing information, all three have interconnected impact on each other. (>Figure1). These systems are subdivided according to the most important psychological levels, which means that mental levels, which also roughly corresponds to classification according to the "speed of function" [citation? is this is a book?]. System 2, the explicit-rational level, is the "slowest"; system 0, the perceptive-sensory level is the "fastest" level; System 1, the implicit-emotional, is in between.

## 3 Research design

The experiment has established itself as the strongest research design. In the experiment, independent variables, such as impulses in the sense of existing versus other-present types of communication, are varied, allowing for causal interpretation. Their disadvantage in the context of past media environments was the artificial nature of the laboratory. The respective arrangement of the experiment limits the "authenticity" or naturalness of the results. Through digitization, which itself represents its own laboratory environment, experiments that utilize as close as possible, context or as "quasi-experiments", are available on a large scale. Accordingly, the results on this type of research are extensive.

Figure 1: The three systems



### **3.1 System 2 - The explicit-rational "slow thinking"**

Let us start with system 2, the primary representation of type of cognition. Here, we understand through cognition, the general knowledge of the human being about his world are permanent. Cognitions are and have been the most important object of communication. For example, the concept of the brand is geared towards specific inner cognitions or attitudes: what we mean by brand is what people think about a company, a product or an object. Attitudes, in turn, are ultimately nothing more than essentially conscious evaluations of a stimulus and its weight. The standard method of "attitude measurement" is, for instance, the closed scale, e.g. the Likert scale (Likert, 1932) with its tickable options or sliders in analogous pattern. The basic idea is always the same: a person in a study expresses on a scale his or her inner attitude towards an object or a brand. This type of research can be described as the "Gutenberg universe". Originating from print medium, it was a highly structured world. Consumers were relatively flexible in their perception of the content. Müller and Schulz (2014) describe the underlying image of man as the "sovereign consumer." System 2 indicators are, in themselves, sufficient in measuring combinations of media in their effect on rational consequences (attitudes).

### **3.2 System 1 - The implicit-emotional "quick thinking"**

With the introduction of television, a 'hot media', a need began to emerge to better understand the emotions involved.

For this reason, methods such as the skin conductance (Schandry, 1998) were developed to understand the experience of TV commercials and the presumed deeper effects of TV commercials. Emotions play a key role in the advertising.

Later, methods such as measuring the movements of the facial musculature (Ekman & Friesen, 1974), were forming the technological bridge to the even more fundamental System 0 approach. Here, technological progress was, due to the availability of cameras in end terminal devices, of great help. The facial recognition and basic studies on the expression of universal basic emotions (such as joy, anger, aversion, arousal, etc.) together formed the technical and scientific foundation. It enabled the development of algorithms to model emotion from facial images. These in turn, allowed conclusions to be drawn about the emotions of viewers, such as those mentioned above.

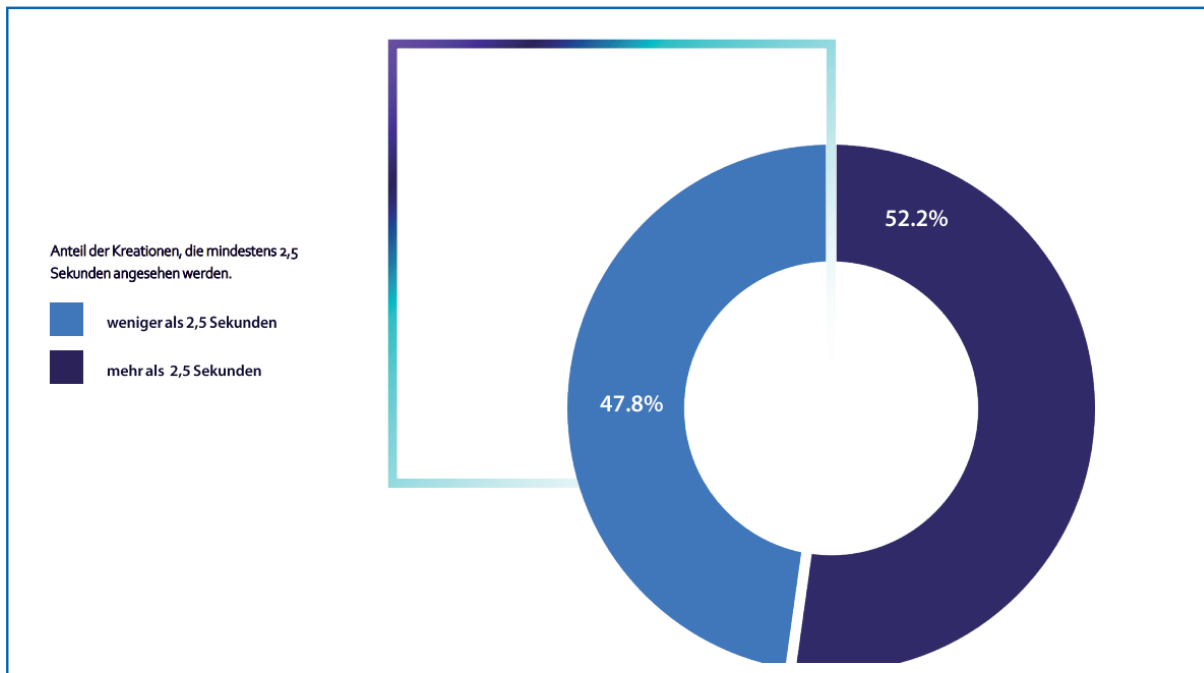
These indicators are used to create and process analyses, which provide precise information about real-time emotional reception by viewers. This type of research can also be called implicit or system 1 (according to Kahneman, 2011). It was the basis of the renewal of advertising effectiveness research in the age of pop culture, especially as emotional moments in TV and advertising became more and more important.

A leading figure in this field was the German consumer behavior researcher Werner Kroeber-Riel (1934 - 1995). The dominant type of communication consumer in this phase is what Müller and Schulz call the "consumer monkey," i.e., an emotionally controlled, rather dependent consumer (Müller & Schulz, 2014).

### 3.3 System 0 - The perceptual-sensory Experience

With the digital flood of stimuli through new media, channels and devices have also changed the possibilities and habits of communication. Given the variety of available stimuli, the average viewing time of advertising moments today is 2.5 seconds (>Figure 2). More than half of stimuli are viewed for only a short time and therefore, it is precious moment.

Figure 2: Media Attention Benchmark



n= 233.566, 2.311 getestete Stimuli, davon 1.096 Online, 700 TV, 401 Print und 114 Out of Home.

Quelle: eye Square (2020).

Digital contact tends to take place in shorter time windows: the desire for more precise knowledge of what is perceived and how it is perceived is also important in the context of the explosion of digital moments where contact was made, has risen sharply. The old metric of ad impression, which was an initial technical indicator of online advertising market, has been replaced for some time by viewability, a psychologically more valid indicator of visibility. The pure mapping of viewability in times of multi-screen usage by consumers has become less of a guarantee for perception than ever before. In view of these developments - with the variety of formats and the merging of media types as well as the corresponding availability of data and measurement – another discipline has now come to the forefront: perception research on perception. The complex possibilities lead paradoxically to the fact that real use is more difficult to depict in purely digital form, and the quality of communication must, therefore, be to be caught up.

This idea can therefore be applied to the perceptual indicators through the digital, both in terms of possibility and necessity. These perceptive indicators describe system 0 (the basic, fastest system of "sensory Perception"). However, these indicators place new demands on the technology, as do the models of experience. For example, the short perception does not mean that the effect, as assumed by strict stage models, remains linearly small. In fact, we see we see higher correlations of perception and effect in the first seconds; these seconds can be a highly sensitive precious zone of creative power.

### **3.4 Advertising effectiveness research and System 0**

Advertising effectiveness research is further challenged to renew itself; if it wants to deliver truly effective results, it must be deeper and more precise. This requires new approaches, such as the combination of eye-tracking technology with databases that measure the correlation between looks and actions, such as conversions. Additionally, it is now possible to make experiments much more digitally authentic. In-context tests make it possible to compare the real behavior of the test subjects during the experiment among other possibilities. Therefore, the digital shopping behavior of users along with the entire marketing funnel, from advertising contact to product search, detailed pages and purchase, can be analyzed, varied and linked to correlated with the advertising creations.

### **4 Comparable measurements of digital impact through InContext solutions**

InContext analyses involvement, for example, social- media creations that are played out digitally. On the psychological level via perception measurement (System 0) to actual actions. Here three factors can be measured from system 0:

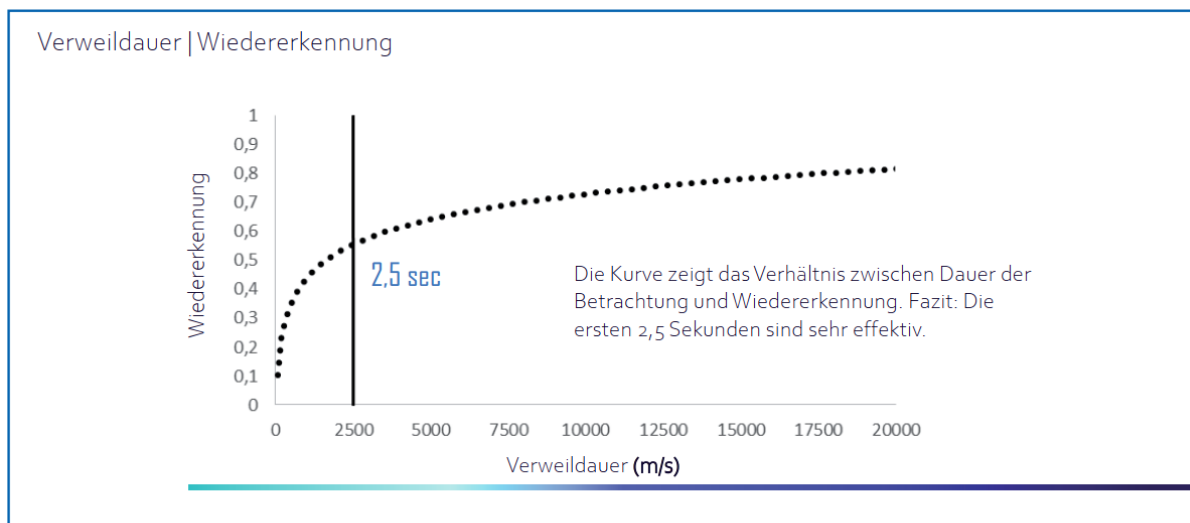
- (1) Contexts and performance of "the machine", e.g. viewability, impression.
- (2) Human (re)action - eye movement, scrolling, zapping.
- (3) Relative strength of the perceptual stimulus in the stimulus in the respective media context.

The basis therefore continues to be metrics such as Impressions, viewability or dwell time. Their definitions and standards enable comparability and extensibility, e.g. between technical viewability and actual eye tracking. From differences in the prediction accuracy theoretically enriched indicators develop. Based on viewability data and eye-tracking benchmark data we can use the quality of a stimulus/creation in context. Ultimately an integration of System 0 into the analysis enables a better understanding of the human experience in digital - with better tools, faster, more agile and less resource-intensive testing and consulting. A better understanding of those precious first seconds helps media producers and advertisers to better assess and appreciate them, not take them for granted and instead treat them as a valuable resource. Users can, in turn recognize perception as sensitive touches with genuine attention.

### **5 How advertising works today**

Our studies have shown strong correlations between the length of stay (i.e., the "quantitative performance" of the user), the information density (so to speak "the qualitative performance" of the stimulus) and recognition (> Figure 3). This shows that if the dwell time per stimulus and creation - i.e., the "information performance" of the user decreases, the information performance of the stimulus itself must be constantly intensified. Creations with higher speed and information density are more successful in the new era. Creation is the key here: iconic, dense creations can actually get a message through the narrow gate of perception into the decision-making process. Comparative performance tests are a significant key to success.

Figure 3: Relationship between dwell time and recognition



n= 233.566, 2.311 getestete Stimuli, davon 1.096 Online, 700 TV, 401 Print und 114 Out of Home.

Quelle: eye Square (2020).

## 6 Conclusion

Advertising impact is complex. The more complex the media landscape becomes, the more obvious this impact is. Today's advertising effectiveness research responds to this with a diversification of the levels of human experience. In addition to the well-known systems 2 (explicit and from the world) and 1 (implicit and originating with TV), it is joined by sensual perception as an independent system 0, which is gaining in importance in the digital online world.

The assignment of the three systems to three media types is not meant to imply that this assignment is exclusive. In the meantime, the three indicators are not only in connection with online media, but also in other areas, where cross-media are used.

Modern communication, with the combination of the "slow" written word, the continuous stream of images on television and the rapid succession of images online, corresponds to the nature of the human being as a symbiosis of mind, soul and body better than the individual channels on their own. The person reached by this is not a reduced rationally acting "homo oeconomicus", aka, a consumer monkey, but he is fully actually free. New technologies and channels do not contradict this but rather, are more in line - with all the risks. Advertising effectiveness research has methods and technologies that can be used in the reality of this mix of thoughts and feelings of consumers and users. Technical and statistical knowledge are important. Likewise, advertising research that is oriented on the human being requires effectiveness. This should consist of disciplines such as economics, sociology, cultural and media theory and, above all, anthropology.

Artificial intelligence finally offers considerable possibilities of aggregation and automation, which will facilitate research. However, many questions remain to be asked and answered: from the development of the theoretical models in gathering data and analysis to ethical questions. This discussion is the next frontier of Advertising effectiveness research.

## Management Takeaway

In the digital age with the flooding of senses by stimuli, a holistic approach to advertising effectiveness research is needed. Neurosemiotics, a combination of the three mental systems, explicit system2 (ratio); implicit system, system1 (emotion); and perceptual system0 (senses), allows the measurement and understanding of the digital human experience, but also other forms of communication. New digital advertising tools now allow detailed analysis of user behavior from an advertising contact to a concrete (purchase) decision.

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