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Dr. Matthias Rothensee from eye square states that observing people in their natural habitat—out in the wild—can be quite challenging

marktforschung.de: What forms of analog market research are conducted at eye square?

Dr. Matthias Rothensee: We use the classic methods of analog market research. This includes qualitative methods such as interviews and group discussions. But ethnography also plays an important role for us. We believe that using behavior-based and observational methods brings us closer to understanding how people experience their analog world than if we only relied on digital methods.

By the way, we don't just observe when we sit in a car with participants or visit them in their kitchen—observation also plays a key role in classic UX tests. This is particularly true when we let the participants "just do their thing" and watch how they interact with digital interfaces. Eye tracking helps us better understand important moments of interaction in retrospect, acting as a memory trigger through retrospective think-aloud methods.



Why are these the most exciting but also the most complex studies that you conduct?

Dr. Matthias Rothensee: Observing people in their natural environment—"in the wild"—can be challenging. There are practical obstacles, such as when a global pandemic gets in the way. For example, we developed a DIY solution in media ethnography, which is still widely and frequently used.

When we put people in observation situations, we have to be particularly sensitive to anonymity and confidentiality. Often, we make ourselves invisible to the participants.

"It is in our fundamental interest to be invisible yet trustworthy to the participants. This approach ensures compliance and allows us to assume that the data we collect is valid."

Matthias Rothensee

Let's talk about eye square's eye-tracking: How exactly does it work? How do you recruit participants? What insights do you gain? What are the advantages of this method? And are there any drawbacks?

Dr. Matthias Rothensee: Eye-tracking is measured using various methods. On the one hand, we can use apparatus-based methods that achieve particularly high accuracy and reliability in fieldwork. Additionally, there are webcam-based methods. These are less accurate but can be used in large online access panels, which brings unbeatable advantages in terms of logistics and budget. We can also analyze head positions using cameras and convert them into gaze probabilities using AI. As you can see, there is not just one eye-tracking method, but a whole range of approaches that are suitable depending on the research question.

Participants are recruited from panels and provide us with accurate and precise data on attention processes. We can analyze these in a variety of research questions to generate valuable insights.



The range of insights is so vast that I can't cover them all here, so just a few examples: We can trace viewing intensities on advertisements to the creative quality of the ad itself and the quality of the environment in which the ad runs. We can optimize shelf arrangements and product packaging based on the attention intensity that products receive initially at the physical point of sale or on eCommerce platforms. And we can use eye-tracking in product usage situations to understand which areas of websites and mobile apps are viewed or cause usage problems due to oversights and visual ambiguities.

“Consumers in the Asian cultural sphere often exhibit a visual preference for more densely packed information architectures compared to what is typical in Western cultures. The quality of eye-tracking analyses should not be affected by the color, shape, etc., of a person's eyes”.

Matthias Rothensee

You conduct your studies in different countries and even on different continents. What challenges do you face there?

Dr. Matthias Rothensee: We know from cross-cultural studies that different viewing patterns, for example, are related to reading directions but also to visual traditions in people's everyday experiences.

For example, consumers in the Asian cultural area often have a visual preference for more densely packed information architectures than we are accustomed to in the Western cultural sphere.

It is also important that the eye-tracking algorithms we use measure without cultural bias and do not discriminate against any user groups. This is related to culturally sensitive training datasets, which we help collect with our partner, Pupil Labs, for example.

The quality of eye-tracking analyses should not be affected by the color, shape, etc., of a person's eyes.



“I anticipate significant developments in the coming years, as artificial intelligence increases our interactions with intelligent systems. Since no one wants to spend all day typing, voice technology is becoming increasingly important, evident in our current exploration of brand voice with clients.”

Matthias Rothensee

You also conduct voice interaction automobile research. Can you tell us more about that?

Dr. Matthias Rothensee: At eye square, we are interested not only in visual perception but also in emotional processes. We know from previous research that voices in interaction can also evoke emotional responses. This can be used to make voice interaction between people and machines smoother and more natural. It is important to pay attention to clarity and precision in pronunciation. At the same time, interacting with overly human avatars can create an eerie feeling, known as the Uncanny Valley effect.

I assume that a lot will develop in this area in the coming years, as artificial intelligence leads to an increase in our interaction frequency with intelligent systems. And since no one wants to type all day, the topic of voice is becoming increasingly important, as we can see from the fact that we now also examine the topic of Brand Voice with clients.

Brand personalities nowadays reveal themselves not only in visual language but also in auditory communication with consumers.



“Only by considering pre-verbal and unconscious motivators, as well as perception, can one fully grasp the complexity of the human experience. Research conducted collaboratively with individuals cannot often be automated through chatbots and AI, and we believe this is a positive aspect”.

Matthias Rothensee

Why are all these forms of market research so important and still not replaceable by online surveys today?

Dr. Matthias Rothensee: When it comes to haptic interaction or the simultaneity of processing various information, it is important to rely on behavior-based approaches. We are often confronted with the situation that respondents cannot provide us with information: after all, many usage situations either happen very quickly or simultaneously and therefore do not always lend themselves to verbalization through simple questioning. Online surveys are unbeatable in terms of efficiency but often place too much focus on linearity and cognitive reflection.

It is also often important to be as close as possible to the processes being studied. Here, ethnographic research is clearly advantageous, as it provides us with insights that are not burdened by conscious reflection and its distortions in subjective interviews. We have made it our mission to fully understand consumers, and for that, you need System 1, System 2, and even System 0.

Only those who consider pre-linguistic and unconscious motivators and also look at perception will be able to understand the Human Experience in all its complexity.

Finally, behavior-based methods are also useful when dealing with very personal topics because respondents often open up more when we, as researchers, also personally engage.

Research conducted on an equal footing with people often cannot be automated with chatbots and AI, and we think that's a good thing.

The interview was conducted by Gessica Uerling.



**Matthias
Rothensee**

Chief Scientific Officer
& Partner, eye square

Dr. Matthias Rothensee is responsible for method and innovation development at eye square. His research focuses on the implicit effect of advertising, emotions and visual perception. He is an expert in media research and multivariate statistics and develops eye square's media benchmarks. He also focuses on the role of AI and is leading the development of automated test platforms (SPARK) and dashboards.

He designed the award-winning Screenforce study "Mapping the Impact" (Real Impact Award 2023), studied "Multiscreening worldwide" for Meta (2018) and quantified the "Performance of mobile search" for Google (2017). Matthias Rothensee optimizes communication for clients such as Deutsche Telekom, Stepstone and MediaMarktSaturn.

He speaks at conferences (e.g. dmexco, Horizont, IleX) and publishes in specialist journals (e.g. Journal of Consumer Marketing, European Business Review and Social Science Computer Review).

In addition to eye square, he teaches advertising psychology and research methods.