

## EYE TRACKING IN MARKETING RESEARCH: A REVIEW OF RECENT AVAILABLE LITERATURE

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### **Abstract:**

Eye tracking is increasingly used as a research tool in different area to examine the visual attraction of subject. This paper introduces the basics of eye-movements technology and shows on-going trends and technical challenges of employing eye tracking method into research. It presents the state of the art from the available literature on eye tracking in marketing research. The analysis of literature was performed by means of a systematic review, a way of assessing and interpreting all recently available research in given area. The analysis shows the most popular approaches of eye tracking employment especially in areas such as digital marketing, online advertising or shopper marketing. It pointed out the most relevant metrics and illustrated their advantages and disadvantages with references to other works. The presented work consolidates recent findings in the field and serves as a resourceful guide for online and traditional marketers for future research planning and development.

*Keywords: marketing, eye tracking, eye tracking metrics*

## 1. INTRODUCTION

An eye-tracker is a device used to determine point-of-regard and to measure eye movements. The earliest eye-trackers were built in the late 1800s. But at the beginning of the twentieth century the much less invasive technique for recording eye movements using the principle of photographing the reflection of an external light source from the fovea was introduced, and since then individual researchers have developed a number of different techniques to build eye-tracking systems.

Nowadays the most popular are a video-based eye-tracker that has an infrared illumination and an eye video camera. Although the manufactures use the same video-based pupil-to-corneal reflection measurement technology, the diversity of customer groups has led them to produce very different kind of eye-trackers. There are three types of video-based eye-trackers: most common static eye-tracker, head-mounted eye-tracker and head-tracker.

Head-mounted systems have cameras and illuminations mounted on top of a helmet, cap, head-band or a pair of glasses, thus allow the participants of eye-tracking experiment maximum mobility and as a result the participants can take part in many different real life activities such as driving, shopping, playing sports, learning or observing the art in non-laboratory environments. Moreover, head-mounted eye-trackers are usually equipped with additional scene camera. The set up allows to combine the scene video with the gaze coordinates and results with a gaze-overlaid video that can be used for further analysis such as a scanpaths, attention maps or Areas of Interest (AOI).

Eye-trackers have been increasingly used in research concerning marketing to determine consumer behaviour and decision-making patterns. All research based on “eye-mind” hypothesis. This “eye-mind” hypothesis assumed that what a person is looking at indicates the thought “on top of the stack” of cognitive processes. It means that eye-movement recordings can provide a dynamic trace of where a person’s attention is being directed in relation to a visual display. Measuring other aspects of eye movements can also reveal the amount of processing being applied to objects at the point-of-regard.

## 2. EYE MOVEMENT METRICS

The main measurements used in eye-tracking research are fixations and saccades. There are also a multitude of derived metrics that stem from these basic measures, including “gaze” and “scanpaths” measurements. Pupil size and blink rate are also studied.

The chapter will present all common eye movement metrics and its derivatives used in marketing. Each metric will be accompanied by references to recent study with short description of used research method.

## 3. FUTURE TRENDS IN EYE TRACKING

There are new trends in marketing research using the eye-trackers. Those trends includes EEG usage into the research to get insights not only in visual attention of customer, but also brain activity such as influence of visual or sound stimuli on customer mood, cognitive process.

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