OPTICAL SHOP CUSTOMERS' SHOPPING BEHAVIOURS: Insights From An Eye Tracking Study

BACKGROUND

We investigated optical shop customers' eye movements to understand if their shopping behaviours were influenced by ***in-store*** or ***out-of-store*** visual attention factors (VAF), or both. The VAF which relates to buying decision explored in this study were the ***spectacles' brand, price*** and ***spectacle design*** and the ***promotional banner***. There is limited research on actual browsing and purchasing behaviour and the elements that may influence behaviour in optical stores from first-person observational input. Thus, this research integrates the use of eye tracker to assess VAF in a retail environment.

METHODS

Thirty customers (age range: 20-59 years) of an optical shop participated in this study. All participants had intentions in buying spectacles and were naïve to the eye tracking procedures.

A set of stimuli consisted of ***in-store*** and ***out-of-store*** photos of an optical shop was displayed on an eye tracker screen (Tobii TX300). Participants were asked to choose the most preferred spectacles to buy from the stimuli displayed. The eye tracker captured the eye movements during the selection process.

The relationship between **time-to-first-fixation (TTFF)** and **fixation duration (FD)** recorded from VAF were analysed using the eye tracker (quantitative data) and were correlated with the **heat maps** data (qualitative data).

RESULTS AND DISCUSSION

Understanding the eye tracking parameters:

- **TTFF** indicates that the stimuli has better attention-grabbing properties. The **shorter** the TTFF, **the better**. This can help show **what stands out** and **drives attention.**
- **FD** indicates the length of time the participants spend to look at the area of interest (AOI) on the displayed stimuli. The **longer** the FD, **the better.** This shows **motivation** and **conscious attention**.
- **Heat maps** reveals where participants really look, i.e. their **visual** attention.
  - Areas in 🔴 = most look at; Areas in 🟢 🟡 = least look at.

- Results showed that participants tend to fixate on ***in-store*** VAF significantly more ($p<0.001$) compared to ***out-of-store*** VAF (Table 1).

Parameters	Mean		t-value	Sig.
	Out-of-store (n=30)	In-store (n=30)		
TTFF	3.67 ± 2.51 sec	25.33 ± 9.93 sec	-11.39	<0.001
FD	0.49 ± 0.09 sec	1.13 ± 0.18 sec	-23.25	<0.001

TABLE 1

- Findings also showed that participants looked at spectacle designs significantly more ($p<0.001$) than other factors (brand, price and promotional banner).
- **Visual attention** concentrated on the primary gaze of cumulative heat maps. This can be use as strategy in promotion and marketing.

CONCLUSION

Our finding showed that participants spent **longer processing time** on **in-store visual attention factors**, in particular, the **price and spectacle designs** as compared to the out-of-store visual attention factors. Moreover, the **spectacle design** was the most important factor in participants' selection behaviour while shopping for their preferred spectacles. Other factors have minimal influence in the shopping behaviour.

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