

## **ECR Academic Student Award 2020**

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University of Vienna – Department of Marketing / PhD Management Dissertation

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## Consumer Perceptions of Supermarket Shelves: Using Mobile and Stationary Eye Trackers

## Research Objectives

### Aims of the dissertation:

- to investigate the effects of shelf facings and positions on visual attention, perceptions, search behaviour and purchase intention
  - i. applying both stationary and mobile eye tracking devices
  - ii. taking walking direction into account
  - iii. in different (laboratory vs field) settings
- to reassess and partially replicate the effects of shelf facings and positions (Chandon et al., 2009)
- to achieve general conclusions concerning visual perceptions of supermarket shelves
  - Pilot study using disguised observation and interviews in a supermarket shows a result that contradicts the rule of thumb "eye level is buy level"

# Research Questions and Hypotheses

Shelf facings	RQ1	Does the number of shelf facings influence visual perception of shelves (attention) and, in turn, purchase intention?
	H1a	Products with a large number of facings are more likely to be perceived better (paid attention to) than products with a low number of facings and, in turn, intended to be purchased.
	H1b	Products with a large number of facings are more likely to be gazed at (paid attention to) longer than products with a low number of facings and, in turn, intended to be purchased.
	H1c	Products with a low number of facings are more likely to be ignored than products with a large number of facings.
Shelf positions	RQ2	Do the shelf positions (horizontal and vertical) influence visual perception of shelves (attention) and, in turn, purchase intention?
	H2a	Consumers are more likely to perceive (pay attention to) the horizontal center of the supermarket shelves than the left and right shelf positions and, in turn, intend to purchase products from this area.
	H2b	Consumers are more likely to perceive (pay attention to) products at the eye level of the supermarket shelves than other vertical shelf positions and, in turn, intend to purchase products from this area.
	H3	Consumers are more likely to perceive (pay attention to) products vertically rather than horizontally at the supermarket shelves.
Search behaviour	H4	Consumers are more likely to need less time to find products located on the top-left position than products on the bottom- right position.
Walking direction	RQ3	Does walking direction moderate effect (H4)?
	RQ4	Does walking direction influence visual perception and attention to supermarket shelves?

# EFFICIENT CONSUMER RESPONSE Methodology

Mixed experimental design



- Lab study I: stationary eye tracking (ET), shopping task (n = 47)
- Lab study II: mobile ET, walking direction (WD) manipulated, same aisles, shopping & searching tasks (n = 123)
- Field study I: Supermarket

   mobile ET, WD, same
   aisles, shopping task
   (n = 19)
- Field study II: Supermarket 2, mobile ET, WD, different aisles, somewhat identical product assortment, shopping & searching tasks (n = 108)



Operational

framework

- Product categories:
  - Crisps
  - Tea

В

- Cereals
- Determination of planograms & AOIs



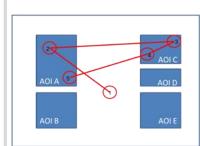
 Identification of DVs/IVs

#### Questionnaire



Measurement

- Eye tracking technology measures visual eye movements
- Recording the duration of eye fixations and saccades



### Procedure & manual coding

#### Cooperations

- products, price labels, shelves, basket in lab
- allowance of retailers
  - to conduct the study in supermarkets
  - to rearrange the shelves as in the lab

Procurement of both eye trackers

#### **Time-consuming manual coding** for studies using a mobile eye tracker

- ▶ 1 fixation = about 80 ms
- approx. 45 min to manually code 1 trial (respondent), altogether 250 participants



Data quality check

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- The more **shelf facings**, the more attention and perception
- The impact of **horizontal positioning is stronger** than that of vertical positioning
- Products at **touch level** of supermarket shelves also represent the intensity of visual perceptions and attention across all studies
- Bottom level is the worst position
- Consumers need less time to find a product located in the top-left position walking direction does not influence the search duration

## Relevance for ECR / ECR-Members

- ... to provide more conclusive findings of visual perceptions, attention, search behaviour, and purchase intention of supermarket shelves by considering dynamic walking behaviour
- Comparing lab with field studies and stationary with mobile ETs contributes to general knowledge and understanding of shelf perceptions, attention, & search behaviour
- ... to a deeper insight into research on consumers' visual perceptions of supermarket shelves in the real world
- Increased consumer shopping satisfaction
- ... to consider walking direction and consumers' search behaviour in front of shelves when designing a new store and/or planograms
- ... to a better understanding of consumer behaviour in the supermarket, specifically along the aisle



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