www.rsm.nl/discovery

RSM DISCOVERY

Management Knowledge

28

4th Quarter 2016

ROTTERDAM SCHOOL OF MANAGEMENT, ERASMUS UNIVERSITY

The business school that thinks and lives in the future

RSM Erasmus University

Increasing shopping efficiency by optimising locomotion

By ***Bram Van den Bergh***

When 80 per cent of a typical shopper's time is spent merely wandering from aisle to aisle instead of making conscious purchases, retailers need to sit up and take notice. A recent study has delved deeper into the issue, identifying the ideal conditions to create the right walking speed while keeping customers alert to the offers within the shop.

Only 20 per cent of the shopper's time and attention in a store is spent on selecting merchandise for purchasing. Retailers send shoppers on a "treasure hunt" and force shoppers to spend their time walking around the store to find items. Retail managers think they are cleverly boosting sales by holding shoppers in the store as long as possible. For instance, they stimulate long walking paths by placing dairy products in the back in an attempt to encourage impulse purchases along the path.

While treasure hunts are fun for children's birthday parties, inefficient shopping trips lead to irritation for a time-pressed customer. Moreover, prolonging a shopping trip leads to congestion and might even harm sales. As a consequence, only a small portion of a shopping trip is devoted to actual shopping. Retail managers therefore need to maintain customer flow in order to avoid congestion while guiding shoppers through their doors and around their shop in the most effective way. Getting people through the door is the first challenge. Ensuring that they use their shopping time effectively is an entirely different ball game.

A question of timing

In an attempt to make shopping more efficient, a team of Belgian and Dutch marketing scientists investigated how they could increase the walking speed of shoppers in a supermarket and designed interventions to optimise the pace of locomotion of in-store traffic flow. To alter walking speed, they relied on an extensive body of work that suggests environmental features modulate human behaviour.

While prior research explored the impact of music, scent, lighting, colour schemes, width of aisles, and temperature, they examined the previously unexplored idea that flooring is capable of altering walking speed. The scientists attached lines on the floor of a shopping aisle in a supermarket, in an electronics store, in a DIY store and in hallways of European universities. While tracking the behaviour of thousands of people, the scientists found ▸

Increasing shopping efficiency by optimising locomotion *(continued)*

By ***Bram Van den Bergh***

that closely spaced, horizontal lines on the floor slow the pace at which shoppers walk down an aisle, encouraging them to browse and pay more attention to their immediate environment. When the gaps between the horizontal lines on the floor are widened, shoppers moved more quickly and paid less attention to their surroundings.

Nearing a goal

The explanation for the changes in walking speed resides in a phenomenon that was discovered more than 80 years ago. Clark Hull observed in 1923 that when rats traverse a runway for a food reward, they run faster at the end of the path relative to their speed at the beginning of the path. That is, rats run faster and faster when they are getting closer and closer to the reward. Similarly, when customers need to collect many more stamps to get a free espresso or fly many more miles to get an upgrade in their frequent flier status, their purchasing rate is relatively low – many days pass between every purchase they make.

But when customers feel they are getting closer to the goal, as their loyalty card is steadily filled with stamps or when air miles are added to their account, their purchasing rate increases sharply. Essentially, customers purchase faster when they get closer to their goal.

Moving with purpose

Since as far back as the times of Aristotle, locomotion has long been identified as a goal-oriented activity, made with a sense of purpose and progress. To return to modern times, people render themselves to a particular place with an objective. Purchasing is an especially pertinent case in point. With the obvious exception of idle window shoppers, one goes into a retail outlet with certain intentions. Like rats who move faster when they get closer to their food reward or customers who accelerate their purchasing when they are about to receive their free product, this research shows that customers walk faster if you trick them into believing they are closer to their goal than they actually are by widening the gaps between the lines presented on the floor.

> *"While treasure hunts are fun for children's birthday parties, inefficient shopping trips lead to irritation for a time-pressed customer"*

Widening gaps

The multi-study research was based upon real-life and simulated conditions across a range of types of stores and shopping conditions, comprising stopwatch tests in a Netherlands-based supermarket, mock tests in a Belgian university to test for walking speed and response to visual stimuli, video-taped exercises within a German retailer, and tracking of shoppers in a Dutch electronics shop towards a staircase. Across these various tests the objective was to analyse the effect of widening gaps between horizontal lines attached to the floor on walking speed, and the ability to recall

RSM Expertise

Marketing is an area of business with lots of impact in daily life, and its dynamic evolution depends upon daring new ideas and high quality research.

The Department of Marketing Management at RSM is renowned for its leading marketing research, the volume and quality of which places its faculty members among the most productive scholars in Europe.

WEB ***www.rsm.nl/research/marketing-management/***

visual stimuli along the walking path. Above all, the goal was to understand if speeding customers around a shop will affect awareness of products and product advertising, and if so, how?

While the researchers' goal was to increase the efficiency of shopping trips, their insights might help customers in other settings as well. For instance, in airports or railway stations, more people might reach their gate or platform in time if they are gently "nudged" to walk a bit faster. Conversely, in contexts where a slower walking speed leads to an increase in safety, such as slippery floors in swimming pools, insights related to slowing down the walking speed might help decrease the risk of an injury. While an increase in walking speed helps customers make more efficient use of their time, this faster pace has negative effects on customers' ability to recognise and recall products along the walking path.

Perception is everything

What emerges very clearly is that guiding shoppers around a store at a particular speed is a way of instilling in their minds that they are spending their time constructively, as well as their money. This can be achieved in all manner of ways. Above all, store managers need to find a compromise between avoiding congestion and ensuring the maximum number of bodies through their doors. When the world-famous Harrods store sought to double the number of customers the effect on sales was only 60 per cent, as opposed to the expected 100 per cent, underlining that sheer number of bodies does not have the necessary impact if traffic flow is not managed and guided correctly. From the precise moment that shoppers feel their time is being wasted, they will leave in droves. By expertly orienting them the chances that they will consume can only hope to rise, in the interests of all. ■

"…guiding shoppers around a store at a particular speed is a way of instilling in their minds that they are spending their time constructively, as well as their money."

This article draws its inspiration from the paper *Altering Speed of Locomotion*, written by Bram Van den Bergh, Nico Heuvinck, Gaby A. C. Schellekens and Iris Vermeir and published in *The Journal of Consumer Research*, vol.43 (2016). DOI: http://dx.doi.org/10.1093/jcr/ucw031

Bram Van den Bergh *is Associate Professor of Marketing Management, Department of Marketing Management, Rotterdam School of Management, Erasmus University.* EMAIL *bbergh@rsm.nl*