



ARC Retail

Analysis, Recommendation, Change...

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Opinion Piece

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Space Elasticity of Demand

Price elasticity of demand is a widely understood economics principle, describing a direct causal relationship between the observed level of demand of an item at varying prices.

Space elasticity could be defined as the more complex relationship between retail space allocation and observed demand. The complexity stems from the fact that it is not only the quantity of the space but the quality (store location, shelf height, adjacency to other products etc) that influences the demand observed.

Space elasticity can be measured, mapped and utilised to enable retailers to influence their key KPIs of sales / profit return on space.

It is only in recent years, due to the availability of data mining technologies and responsive relational databases that such complexity, with apparently so many influencing factors, can be broken down. Retailers now have the opportunity to deploy technologies that enable the patterns of performance to be analysed and identified across the millions of sku-store-demand combinations, and for the common causal factors be determined.

However, at that point the only knowledge derived is the statement of which stores and skus/product groups demonstrate similar demand behaviours and what attributes they have in common (adjacency, planogram position, demographic factors etc). It is probably impossible to ever really prove, in a scientifically, controlled environment, what the impact of so many external influencers (in particular the demographic factors) really is. What we do still know about is each of the internal factors, and have the ability within the business to influence those.

The opportunity can therefore be more deeply understood, and ultimately exploited, through performing trials. In a trial the specific factor to be analysed further would be varied and changes in demand observed. The outcome would demonstrate the relative elasticity impact of each of the internal factors. The trial would serve to indicate the likely result of pulling the levers that influence the performance when extrapolated across the whole chain and the associated space elasticity curve in terms of performance across a cluster for each of the impacting factors.

This "intelligent retailing" results in each retailer having the ability to drive out optimal store / cluster assortments that serve to improve observed demand, basket size, conversion and retention – driving up the all important return on space metrics.

Retailers can realise benefits from the use of data mining and pattern recognition capabilities inherent in the more sophisticated space management solutions. They can identify clusters of like performing stores and like groups of products. Space trials can be performed, enabling retailers to map demand data against key space variants and generate the associated space elasticity of demand curves for those clusters. This enables the retailer to ensure that their in-store offer is appropriate for localised

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markets, optimises return on space, and enables a finely tuned assortment to be presented to shoppers with differing requirements depending on their observed buying behaviour.

The problem is that for most of us, in the day job, this is mind-blowingly complex stuff! What retailers need is the key resource who can probe and delve into all the data and generate simple findings from the complexity. For the rest of us mere mortals what is critical is for that specialist to apply their science into simple to follow processes that in turn become easy to interpret instructions for in-store execution. Only when a total process is implemented, that considers all the data and derives learnings, that can be applied and made real in store, will benefits be realised. The key to success is to enable a high level of in-store compliance, without that the data, and the assumptions resting on it, will be distorted. Finally, if stores are to have a varied layout and assortment based on their cluster and demand performance, avoiding the one-size-fits-all approach to the local offer, retailers still need to retain some level of representation of their brand across the estate. Often that is achieved by taking decisions that fundamentally move away from the pure performance driven return on space metric, however, at least in a world where space elasticity can be understood those decisions are taken in an informed way, and trade-offs can be made, with full awareness of the impact on the results.

In summary, space elasticity can be applied at various levels to retailers in defining clusters of stores performing at various levels, across categories. Trials can demonstrate where subtle shifts in space allocation, layout, adjacency and assortment can make significant changes to performance, so, optimal sales and productivity can be achieved.

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