Balancing different kinds of knowledge in store forecasting

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The background to today's presentation....

- ...has its roots in the practitioner - academic contrast

- Academic focus
  - "modelling, modelling, modelling"

- Working for a retailer – practical *application*
  - "what was the access like?"
  - "what was the competition like?"
  - "would the consumer cross the motorway there?"
  - "isn't it like St Ives?"
  - "what's the *right* forecast?"
  - **"do you think the model understands the catchment?"**

A range of tools to use

Technique	Details	Technological and data input
Experience/experimental	'Rule of thumb' procedures often employed 'on site' where the benefits of experience, observation and intuition drive decision-making.	Low
Checklist	Procedure to systematically evaluate the value of (and between) site(s) on the basis of a number of established variables.	
Ratio	Assumes that if a retailer has a given share of competing floorspace in an area it will achieve a proportionate share of total available sales.	
Analogues	Existing store (or stores) similar to the site are compared to it to tailor turnover expectations.	
Multiple regression	Attempts to define a correlation between store sales and variables within the catchment that influence performance.	
Geographical information systems (GIS)	Spatial representation of geodemographic and retail data that is based on digitalised cartography and draws on relational databases.	
Spatial interaction modeling	Derived from Newtonian laws of physics based on the relationship between store attractiveness and distance from consumers. May operate 'within' a GIS.	
Neural networks	Computer-based models explicitly represent the neural and synaptic activity of the biological brain.	High

Source: Wood & Tasker, 2008

Don’t rely on the technology exclusively….

- ‘Technology cannot replace thorough field analysis and good retail intuition … While being a great ‘assist’, location research technology is only as accurate as the data employed, and the judgments and care used to manage the process of application’ (p 64)

- Rogers, D. (2006) ‘Location Research Planning: The need for less hype’, *European Retail Digest*, 49, p63-64

Forecasting is not just modelling – it is decision-making!

- Forecasting is more than simply pressing buttons!
- The forecast is located at the intersection of *modelled knowledge* and *observed knowledge*.
- Resulted in work with Andrew Tasker (former Head of Location Planning at Sainsbury's) to investigate some practical examples of:
  - Understanding the nature and benefit of the site visit.
  - How that knowledge feeds into the decision-making process.

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The site visit – analysis at different spatial scales

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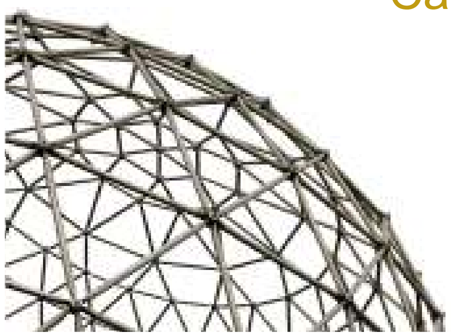
- Catchment
  - Inventory of competition
  - Study consumers through spotting surveys
  - Check residential areas
- Site Location
  - Accessibility & roads
  - Visibility
  - Traffic/pedestrian flows
  - Role of adjacent retail
  - Crime check
- Development Scheme
  - Ease of access & exit
  - Car park



Source: Wood & Tasker, 2008

Case study context: Hayes

- Sainsbury's Local site was first identified in 1999.
- Located on a local shopping parade in Hayes, Kent, South-East England

<u>What did the visit show?</u>

- Nearest large stores: two Sainsbury's superstores at a distance of 1.5/2.5 miles.
- 150 metres away was Hayes Railway Station, a southern terminus for a suburban line that runs to Charing Cross in Central London.
- Defendable: apart from an Iceland and the site being reviewed, no other opportunities to establish a store of this size in the immediate area.
- On-street pay and display parking.
- The footfall was typical compared to other shops within the Sainsbury portfolio.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Site


TO LET
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Sainsbury's Local
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£1.50

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Rail station

JS Local Site

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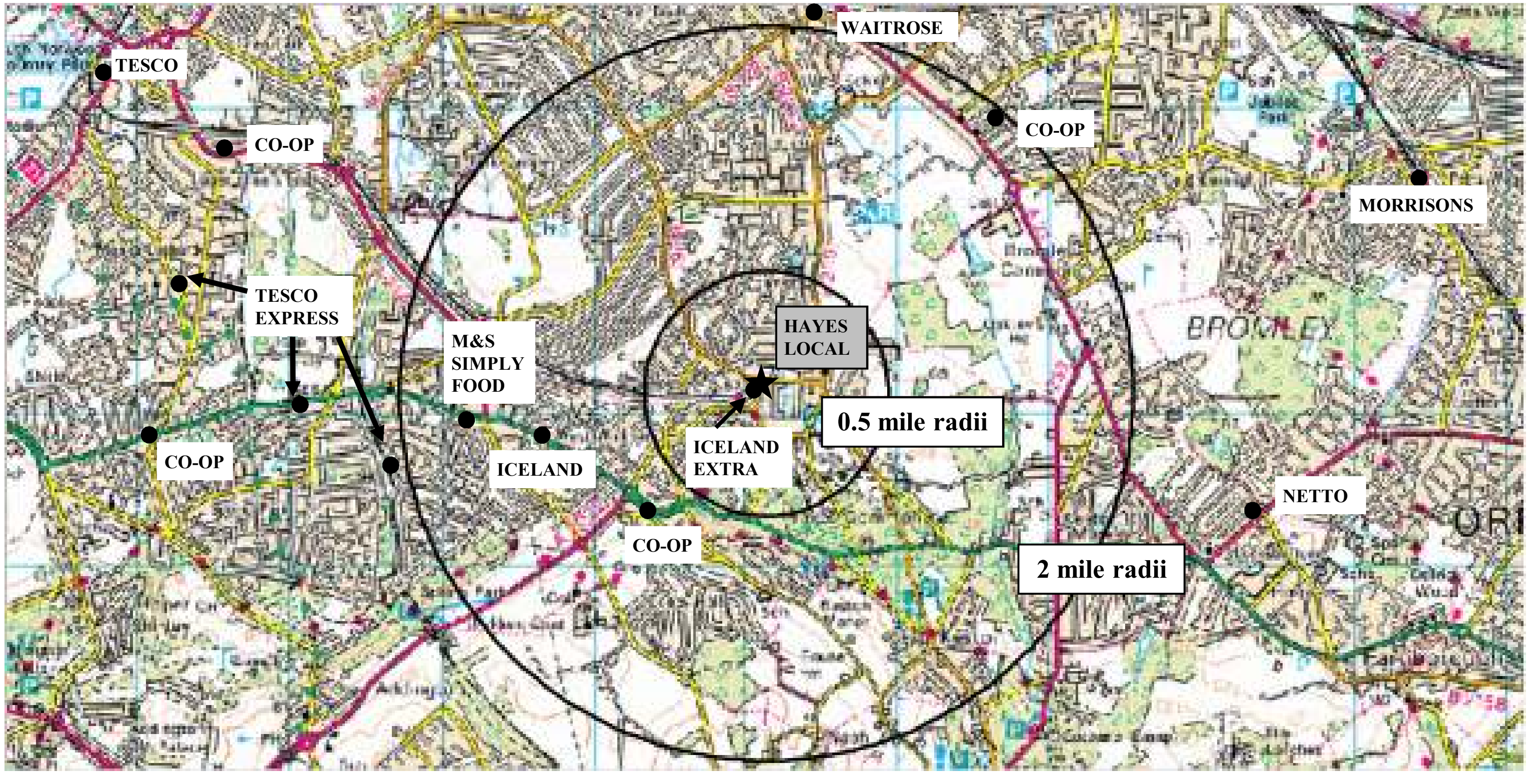
Hayes Local catchment with 0.5 and 2 mile radii



Case study context: Hayes

<u>Conclusions from the site visit and forecasting implications</u>

- A simple regression model was used
- Most of the inputs were score based, which had a degree of subjectivity – e.g. population, competition, footfall, “stopability” etc.
- “Transport nodes” - it was felt that the store would cause some consumers to divert to visit the store on their way home.

<u>Implications</u>

- Opened June 2000: traded at less than three quarters of its estimate.
- Acted as a “top-up shop” rather than a “grab & go” store for commuters.
- Provided a lesson regarding the penalty of locating slightly “off pitch” when attempting to capture commuter trade.
- Re-merchandised to target the top-up shopper and sales gradually increased over the following year.
- With an adjustment to the model to lower the transport node score, the store ultimately traded on forecast.

Case study context - Selsdon

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- In 2002, an available site for a 25,000 sq ft Sainsbury's supermarket in Selsdon, Croydon, South London

<u>What did the visit show?</u>

- Traffic congestion but visibility from main roads
- High Street lively and low vacancy
- Car parking a problem in immediate catchment
- Main competition: a Somerfield at 8,000 sq ft, small car park. Stronger competition in surrounding towns.
- Surrounding towns were very distinct communities. Suggested that the store should attract trade strongly within Selsdon itself and where Selsdon stretched down to South Croydon and Purley.

Selsdon catchment with 10 minute drivetime

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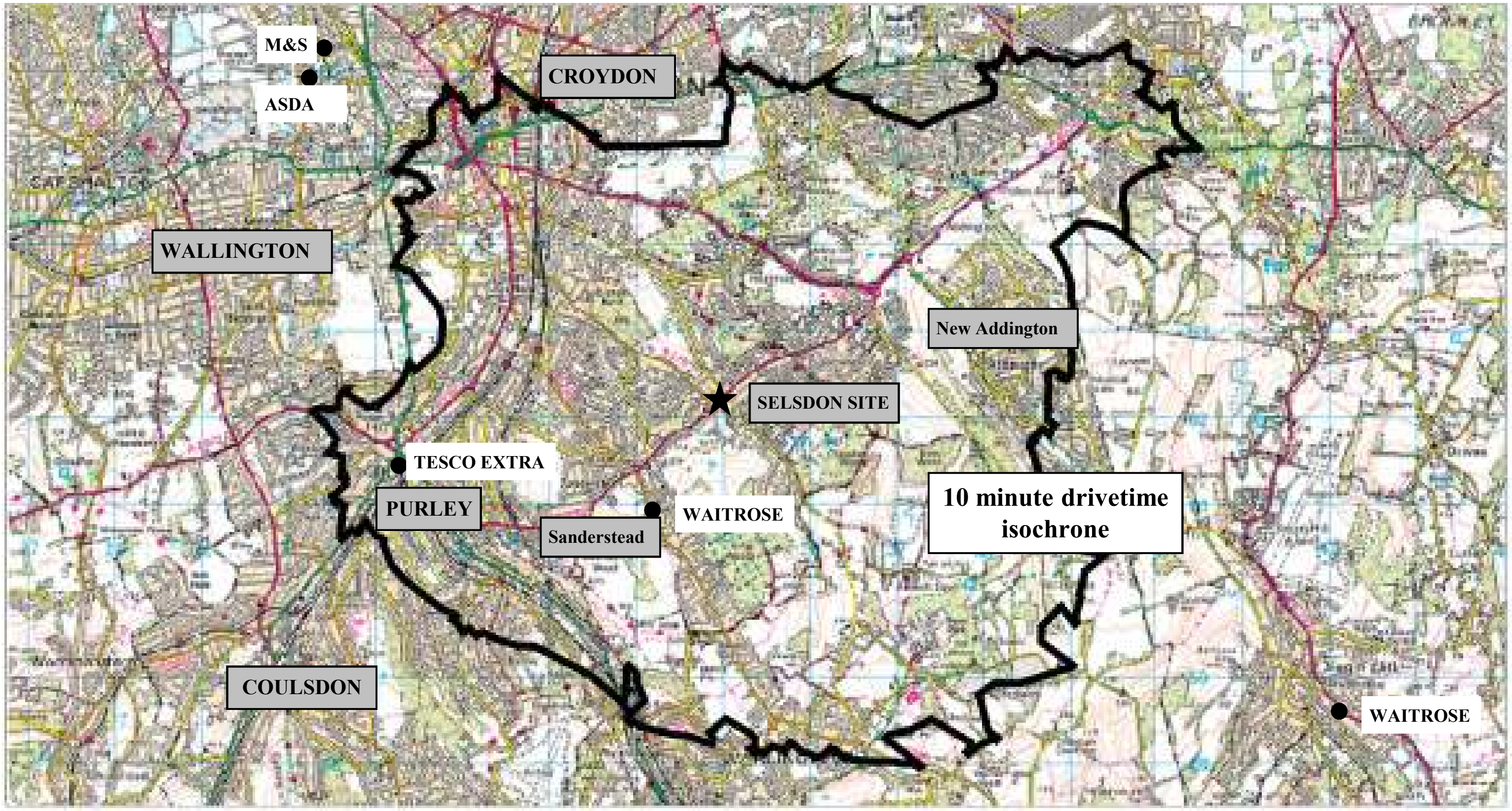

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Case study context - Selsdon

Conclusions from the site visit and implications for forecasting

- Site prominent, visible and well placed to serve the identified catchment.
- Constrained nature of the car parking less of a factor given the limited parking also offered by the competition.
- Should exploit linked shopping trips.
- Concerns regarding about traffic congestion and access. Recommendations for traffic light junction with the right phasing.
- Amended gravity model output - the analyst considered the store would be unlikely to trade strongly from Forestdale and New Addington which benefited from being served by the new Croydon Tramlink.

The outcome

- Opened in June 2004 and traded just above expectation.


Sainsbury's


Sainsbury's


SLOW

Knowledge conversion from the site visit into decision making

Action	Reducing observations to data and incorporating into modelling systems	Considering knowledge outside of the model
Site visit	Observe, interpret and analyse the site	
Knowledge generation	Viewpoint formed from observation and experience	
Codification	Reduce 'knowledge' to data to incorporate into model (eg gravity or regression model)	Do not incorporate into formal modelling process and take action to amend forecast outside of the modelling
Model	Computational procedure	
Output	Output from model. Interpretation and analysis	
Forecast	Determine numerical forecast	
Determine cash return on investment	Determine profitability	
Make decision	Based on profitability but also broader strategic perspectives	

Source: Wood & Tasker, 2008

Takeaways…

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- Until models become “perfect”, forecasting is an art as well as a science
- Analyst experience critical - when to depart from model outputs
- Underlines the importance of learning and dissemination within team
- Implications for training new starters
  - The balance between modelling and fieldcraft is critical
  - Thoroughness on the visit
  - Need to understand how the models work so that they can amend distribution of trade if necessary