UK store forecasting and location planning:

The state of the art

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Aims and Context

- To discuss the main findings of our 18 month research project funded by the Nuffield Foundation:
  - An online questionnaire survey of location planning activities at retailers
  - We will also refer to the data obtained from interviews with over 30 location planning managers and consultants
- To discuss what the implications of these findings are for the location planning profession
The survey

- An exploration of the extent and contemporary usage of store forecasting and site assessment techniques across UK retailing.

- Survey of named location planning/property managers from 102 individual retailers produced 43% usable responses.

- Comparison with a similar survey from 1998 (Hernández & Bennison, 2000).
Extent of location decision-making activity, 2010

- Making the financial business case
- Setting of outlet staffing levels
- Determining number of outlet facilities
- Extensions
- Re-fascias
- Relocations
- Refurbishment
- Operating divisions
- Groups of stores
- Individual stores
- New formats
- Established formats
- Operating divisions
- Store groups
- Individual stores

To a large extent □ To some extent □ Rarely □ Not at all
### Extent of location decision-making activity, 1998, 2010

<table>
<thead>
<tr>
<th>Activity</th>
<th>% undertaking 1998</th>
<th>% undertaking 2010(*)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acquisition of</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups of stores</td>
<td>38</td>
<td>60</td>
</tr>
<tr>
<td>Operating divisions</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td><strong>New store development of</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Established formats</td>
<td>78</td>
<td>90</td>
</tr>
<tr>
<td>New formats</td>
<td>62</td>
<td>79</td>
</tr>
<tr>
<td><strong>Disposal of</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual stores</td>
<td>76</td>
<td>63</td>
</tr>
<tr>
<td>Groups of stores</td>
<td>18</td>
<td>28</td>
</tr>
<tr>
<td>Operating divisions</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td><strong>Management of existing portfolio through</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refurbishments</td>
<td>82</td>
<td>79</td>
</tr>
<tr>
<td>Relocations</td>
<td>67</td>
<td>91</td>
</tr>
<tr>
<td>Re-fascias</td>
<td>53</td>
<td>54</td>
</tr>
<tr>
<td>Extensions</td>
<td>44</td>
<td>79</td>
</tr>
</tbody>
</table>

*Source: School of Management [www.som.surrey.ac.uk](http://www.som.surrey.ac.uk)*
But to what extent do established processes exist for location analysis tasks?
Including yourself, how many location planning decision-makers are there in your organisation? Please include all those people who make key location decisions or contribute to the decision-making process in a significant way.

- 1: 17%
- 2-4: 47%
- 5-10: 26%
- 11+: 10%
Location applications conducted by firms
Location techniques by usage (% respondents) 1998, 2010

The bar chart shows the percentage of respondents using different location techniques in 1998 and 2010. The techniques include Experience, Checklist, Analogue, Cluster, Gravity modelling, Multiple regression, Ratio, Discriminant analysis, Expert systems, and Neural networks.

- **Experience** was the most commonly used technique in both years, with a peak usage of nearly 100% in 2010.
- **Checklist**, **Analogue**, **Cluster**, and **Gravity modelling** showed significant usage, with percentages above 40% in 2010.
- **Multiple regression**, **Ratio**, **Discriminant analysis**, **Expert systems**, and **Neural networks** were less commonly used, with percentages below 40% in 2010.

The chart indicates a trend towards increased usage of some techniques, such as **Experience** and **Analogue**, and decreased usage of others, such as **Discriminant analysis** and **Expert systems**, over the years.
The limits to modelling...?

- Neural networks rejected for inability to explain output to senior management

- “I can’t remember technically how many models were actually in it, but ... you don’t know what combination of models it’s choosing to use for a particular scenario, and even if you did know that, it would then still be very difficult to unpick why it had kicked out a particular sales number. So ... we were never that uncomfortable with the forecast accuracy... we just couldn’t explain the number, and that, as I say, was becoming more and more of a problem to me.”

- Non food retailer
Which departments share your data and findings?

- Property: 100.0%
- Operations: 80.0%
- Marketing: 70.0%
- Sales: 30.0%
- Buying: 20.0%
- Finance: 10.0%
- Busdevpt: 0.0%
## The practice of forecasting....

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree/agree</th>
<th>Neither</th>
<th>Strongly disagree/Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>We have adequate tools to produce accurate forecasts</td>
<td>63</td>
<td>21</td>
<td>16</td>
</tr>
<tr>
<td>Models employed “in the office” are accurate and truthful</td>
<td>68</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>Model accuracy is let down by inaccurate source data</td>
<td>49</td>
<td>16</td>
<td>35</td>
</tr>
<tr>
<td>Quantitative models are adjusted by analysts if they feel it is necessary</td>
<td>76</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>Site forecasting is too much focused on pressing buttons on models</td>
<td>21</td>
<td>11</td>
<td>68</td>
</tr>
<tr>
<td>Multiple techniques are employed for any single forecast</td>
<td>79</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>We often do not have the time to undertake in-depth analysis</td>
<td>42</td>
<td>18</td>
<td>39</td>
</tr>
<tr>
<td>The site visit is important to forecast accuracy</td>
<td>97</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Experience is the most important factor when making decisions in the retail industry</td>
<td>55</td>
<td>34</td>
<td>11</td>
</tr>
<tr>
<td>Site research and forecasting is more an “art” than a “science”</td>
<td>37</td>
<td>34</td>
<td>29</td>
</tr>
</tbody>
</table>
So what does this mean?

- Site research is more than pressing buttons:
  - No single technique is the panacea – multiple methods
  - Data within models not always trusted
  - Forecasting is seen as a mixture of art and science
  - Models are adjusted by analysts
  - Experience is important
  - The role of the site visit is critical

- This places an emphasis on:
  - Excellent analyst training – when to adjust...and how?
  - Discussion and dissemination within analyst teams concerning new knowledge and findings
## Benefits of the site visit

<table>
<thead>
<tr>
<th>Techniques to employ ‘on site’</th>
<th>Calibration of spatial interaction models</th>
<th>Collect data difficult to express in spatial interaction models</th>
<th>Other benefits of the site visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checklists</td>
<td>Road speeds</td>
<td>Visibility of site</td>
<td>Aid in selection of suitable analogue stores</td>
</tr>
<tr>
<td>Experience/gut feel/ experimental</td>
<td>Competitor sizes</td>
<td>Benefit/drawbacks of adjacent retailing</td>
<td></td>
</tr>
<tr>
<td>Competitor car park (no of spaces)</td>
<td>Competitor sizes</td>
<td>Role of ‘trade barriers’ (e.g. rivers, motorways) in customer decision-making</td>
<td></td>
</tr>
<tr>
<td>Pedestrian flows</td>
<td>Pedestrian flows</td>
<td>‘Quality’ of the competition</td>
<td></td>
</tr>
<tr>
<td>Traffic flows</td>
<td>Traffic flows</td>
<td>The ‘feel’ of the site</td>
<td></td>
</tr>
<tr>
<td>Population affluence versus database</td>
<td>Population affluence versus database</td>
<td>Ease of access of store</td>
<td></td>
</tr>
<tr>
<td>Exact location of competitors</td>
<td>Exact location of competitors</td>
<td>Type and structure of residential catchment</td>
<td></td>
</tr>
</tbody>
</table>

Source: Wood & Tasker, 2008

School of Management
www.som.surrey.ac.uk
Benefits of the site visit

- To validate data in the office

- “We can’t trust the GIS. It’s theoretical and that’s it. You know, in practice, on a certain road, the traffic may move at a different speed. So I will physically go out and do a drive time myself.”
  - Sports retailer

- “the micro-location is so much more important than for a superstore [in terms of] really understanding how that…tiny bit of that catchment is really working, and the flows that are happening, is that much more important, but it’s harder to get just from parachuting in and out for a day.”
  - Food retailer
Benefits of the site visit

• To determine elements lost in purchased data

- “I don’t think I’ve sent any sites to the Board here with my name on a report when I haven’t seen the site. Also, just, you know, access, visibility, what’s the state of the competition as well, because it varies so much…there’s only two main… chains but then there’s a lot of smaller chains and there’s a lot of independents…[which] can vary from being just a little corner shop that’s not going to have any impact to…a full-on supermarket that’s actually doing a really good job. Because our independent and smaller chain data is patchy, you wouldn’t know unless you’d been to visit that store…”

- Food retailer
Softer elements of forecasting at risk for time efficiency?

- A lack of understanding the site research job by other departments?

  - “The Property team: we have this issue and ongoing battle with them. They’re not convinced of the need for us to go out on site. They think that should be their job and that we sit in the office and do the numbers, and give them maps and things like that.”

  - Food retailer.
Blending the techniques to a decision

- Assessing the evidence – the art of site research?

- “the analogy I use now is, rather than an all-singing, all-dancing model, I much prefer to use a series of heuristics, series of rules of thumb, and it’s almost like a fistful of darts. … you throw it at the dartboard, then you get a shape, and you sort of know from that shape the solution is probably somewhere inside there, so there’s a lot more smart interrogation by the analysts to say, okay, well, for this particular type of store, I don’t believe that little model quite as much as I believe that one… so it’s that mixture, which I think will always continue, of art and science in the process.”

- Non food retailer
Art versus science

• Separate out the modelled and the observed

- “Our view tends to be that you should keep those two things [modelled data and analyst judgements] parallel and separate, that there should be a process which is mechanistic, deliberately mechanistic, which should be going on in isolation of the other more gut-feel, more experience-based approach to looking at a location, and that the two should come together at the end of the process and one should be used to challenge the other.”

- Director, Location Planning Consultancy
## Mixed degrees of knowledge retention & spreading of “best practice”

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree strongly agree</th>
<th>Neither</th>
<th>Disagree/strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our department is good at ensuring that the knowledge of employees who leave is not lost to the organization</td>
<td>75</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>Analyst experience is the fundamental resource within our department</td>
<td>69</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>We could spread best practice more effectively</td>
<td>67</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>Analysts have regular meetings to discuss new findings and learnings</td>
<td>58</td>
<td>31</td>
<td>11</td>
</tr>
<tr>
<td>Analysts are encouraged to attend location planning related events</td>
<td>57</td>
<td>29</td>
<td>14</td>
</tr>
<tr>
<td>Senior analysts act as mentors to new starters in the department</td>
<td>56</td>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>I benefit from externally sourced knowledge concerning location planning</td>
<td>46</td>
<td>31</td>
<td>23</td>
</tr>
<tr>
<td>The procedure for store location decision-making is codified in a training manual</td>
<td>46</td>
<td>11</td>
<td>43</td>
</tr>
</tbody>
</table>
Post-opening reviews and leveraging knowledge

• The challenge of retaining tacit knowledge

  “it’s mostly in our heads, which is not great, but it’s kind of a function of there not being many of us. I mean, there are bits and pieces… The bits…we do keep a record of all our output, and …we have got training manuals and kind of “how to” guides on the technical bits of how you run a forecast and how the model works …

  - The bit we’re bad at kind of systematically capturing… is some of the more conversational stuff that comes out of meetings”

- Non food retailer
Post-opening reviews and leveraging knowledge

• The goal of a virtuous circle of learning

- “a better approach is a constant learning cycle, where, every time you open a new store, you surely must be able to learn something new. There must be some element that informs, you know, you, the business, the model, and even if it’s only informing on a positive affirmation point”

- Food retail consultant
Post-opening reviews and leveraging knowledge

• The **reality** of a virtuous circle of learning?

  - “We’re very affected by anyone up in [the] corporate culture. So...it doesn’t always happen, but it...in terms of formalised processes, it should be...my experience is, if it’s working well, you have documentation, post-investment documentation, where these factors are highlighted. However, in terms of how that information is then used, it’s probably not used formally. It’s probably used informally by those who’ve experienced the post-investment process, so in actual fact, although that data exists, it might be lost in the sea change, interestingly.”

- Non food retailer
The challenge of gaining legitimacy

• Lack of independence of location planning
  - “I don’t know if it’s a typical Property mindset, but they’ve already got their own answer anyway. They know what they want, and if they’re trying to push a site forward, they’re going to push the site forward” Non food retailer

• Excluded from the process
  - “[Our head of team is] trying to get them to agree to let him be present at the [decision-making] meeting, because currently he’s not, and we don’t get a copy of the minutes, so we don’t know whether it’s been approved, whether they agreed our sales number, or whether they approved it on their own number. We don’t know whether our reports get edited” Food retailer
The challenge of gaining legitimacy

• Needs to shed disconnected image

- “Location Planning is…can be seen as a sort of back-room, boffin type thing that doesn’t really understand the real world of retail and isn’t out there on the coalface, so it can have pejorative associations because …it appears to be a long way from the customer and the product, whilst, in actual fact, in reality, Location Planning should be the closest thing to the customer and understanding product performance”.

- Location planning consultant
The challenge of gaining legitimacy

• Avoiding isolation led to positive developments

- “I think...historically, they kept themselves in a little bit of a silo, and I've pushed them out of that silo, so they’re speaking to the Area Managers from day one, and the Regional Managers will come over and talk to us about a site. So I think...probably, for me, the question is how long it took for that to happen”

- General Merchandiser
The challenge of gaining legitimacy

• Need to sell the concept of location planning

  “they need to fundamentally understand how you arrived at an answer. So yeah, I think some are happy with that, but I think those who... take an approach where... you build up a network and you make it a bit more of a touchy-feely function, a bit more tactile, as part of that kind of PR exercise, you go out there and ...you don’t necessarily show people the model itself, you don’t necessarily show them an algorithm, but ...enough for people to know that there is some science involved, but you can present your analysis in layman’s terms quite easily actually”

  - Non food retailer
Conclusions – topics for discussion

• How is the art and science of location planning played out?

• How are decisions made within your analyst team?

• How could you better share and retain “location planning memory”?

• How should you build legitimacy with senior management for location planning?