



Consumer
Data
Research
Centre

An ESRC Data
Investment

E-Resilience of UK town centres

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Content

- ❑ Research problem
- ❑ Forces impacting town centre performance
- ❑ E-resilience project
 - Concept
 - Methods
 - Outputs
 - Next steps



A Research problem

❑ The vulnerability of UK retail centres to online sales

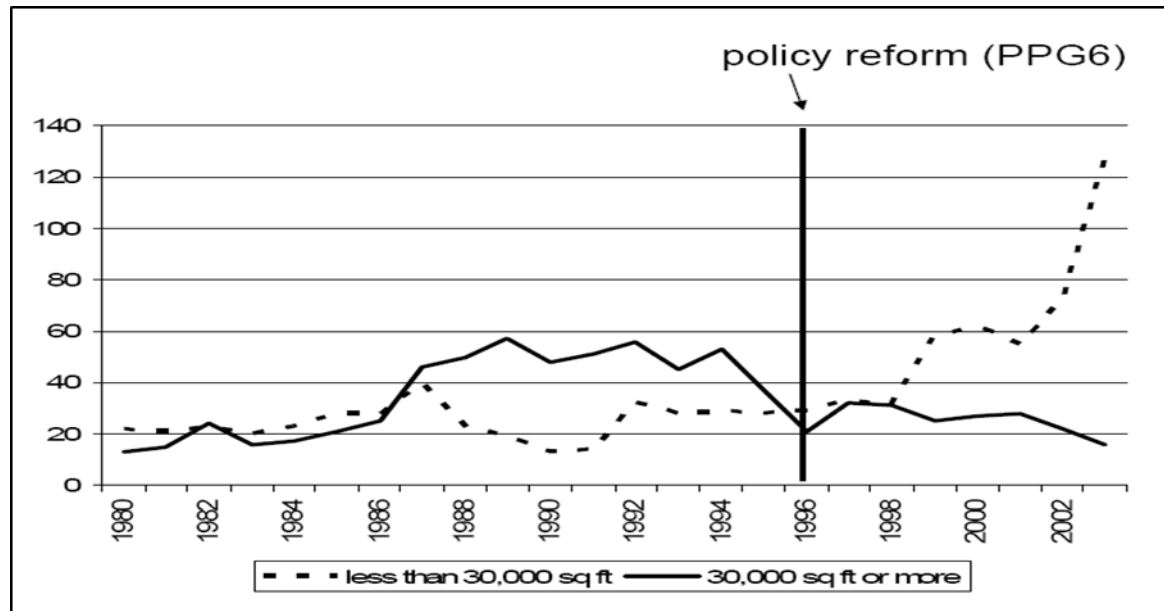
- Extent to which retail centres are exposed to populations with variable engagement in online retail
- Impact of online sales on town centres performance and their evolving function
- Other forces shaping town centres configuration



Forces impacting town centre performance

Competition from out-of-centre large retail developments

- ❑ 'Free for all' approach
- ❑ 'Town centre first' policies
- ❑ Adaptive response of major retailers



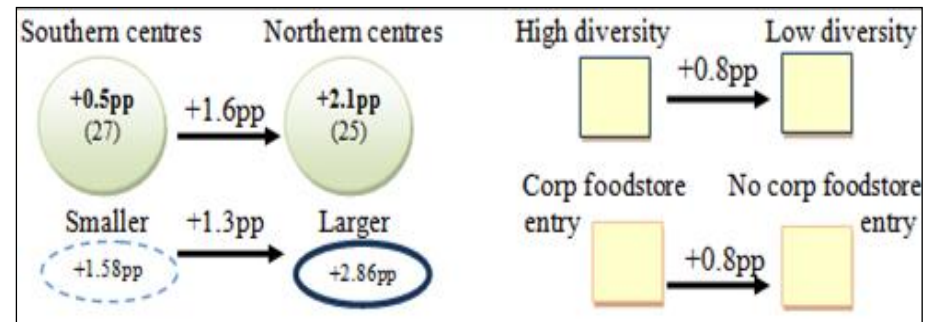
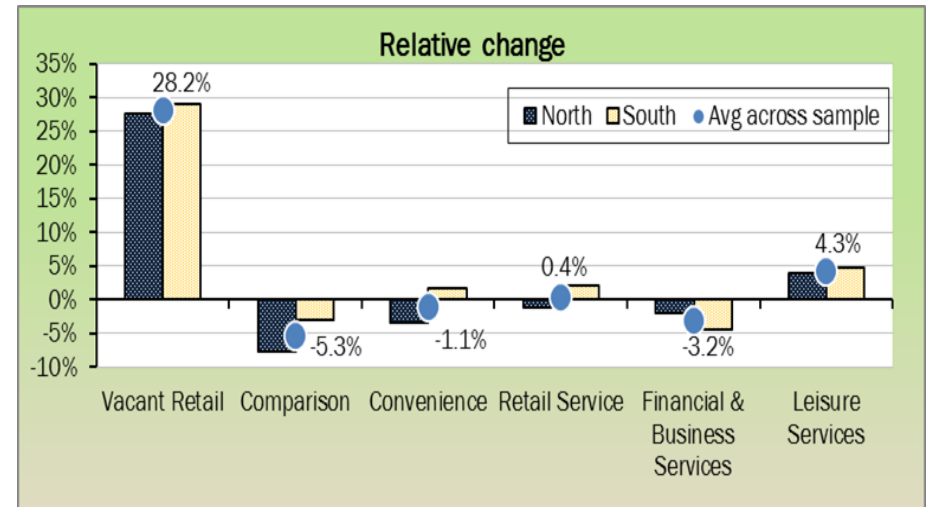
Shock of the economic crisis

❑ Impact on town centres structure

- Increase in vacant outlets
- Comparison retail impacted most
- Leisure services most resilient

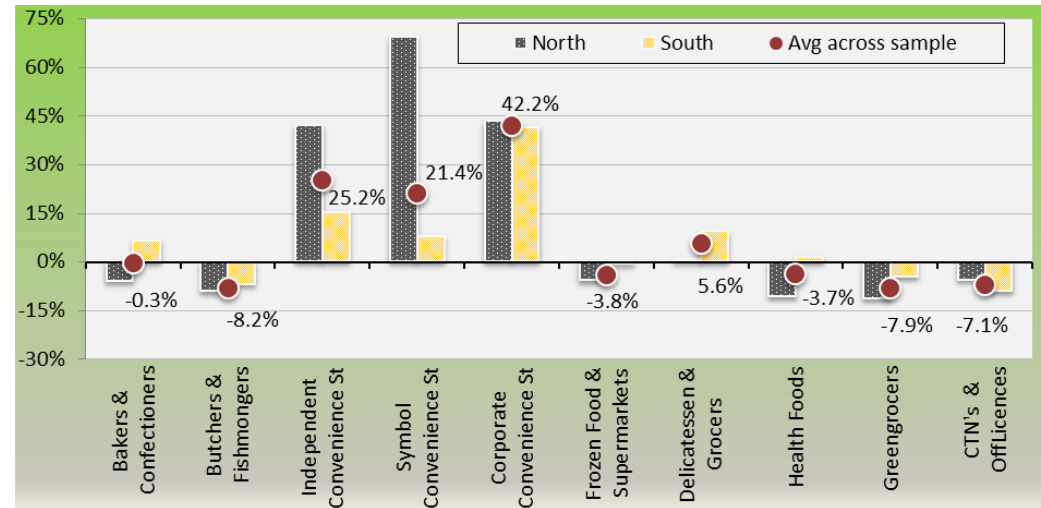
❑ Factors enhancing resilience of town centres

- North-south divide
- Centre size
- High proportion of services
- Retail diversity
- Corporate foodstore entry/presence



Changing demographics and consumer culture

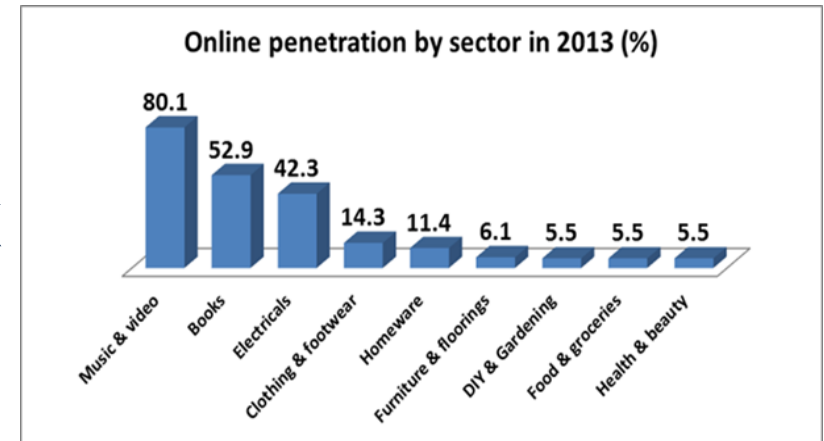
- ❑ Ageing society
- ❑ Decreasing household size
- ❑ Increased demand for 'value for money'
- ❑ Progressive rise of convenience culture



- ❑ **Impact of convenience culture on UK high streets**
 - Rapid growth of convenience stores (all types of retailers)
 - Potential adverse impact on small specialist retailers

Rapid growth of online sales

- ❑ Online sales reached 12% of total sales in the UK
- ❑ Amazon - 8th biggest retailer in the UK
- ❑ Transformation of major retailers into 'bricks & clicks'
- ❑ Impact on the traditional high street



substitution

- online shopping replacing trips to retail stores

complementarity

- online shopping enhancing physical shopping e.g. generation of additional trips via online advertisement

modification

- nature of physical shopping in high street stores is altered by online shopping e.g. click & collect points

The e-resilience project

A Business Need

- ❑ A better understanding of the drivers of retail centres performance and future challenges
 - Of which use of the Internet engagement is widely attributed
- ❑ Estimation of catchment areas for town centres
- ❑ Capturing multiple dimensions of town centre attractiveness



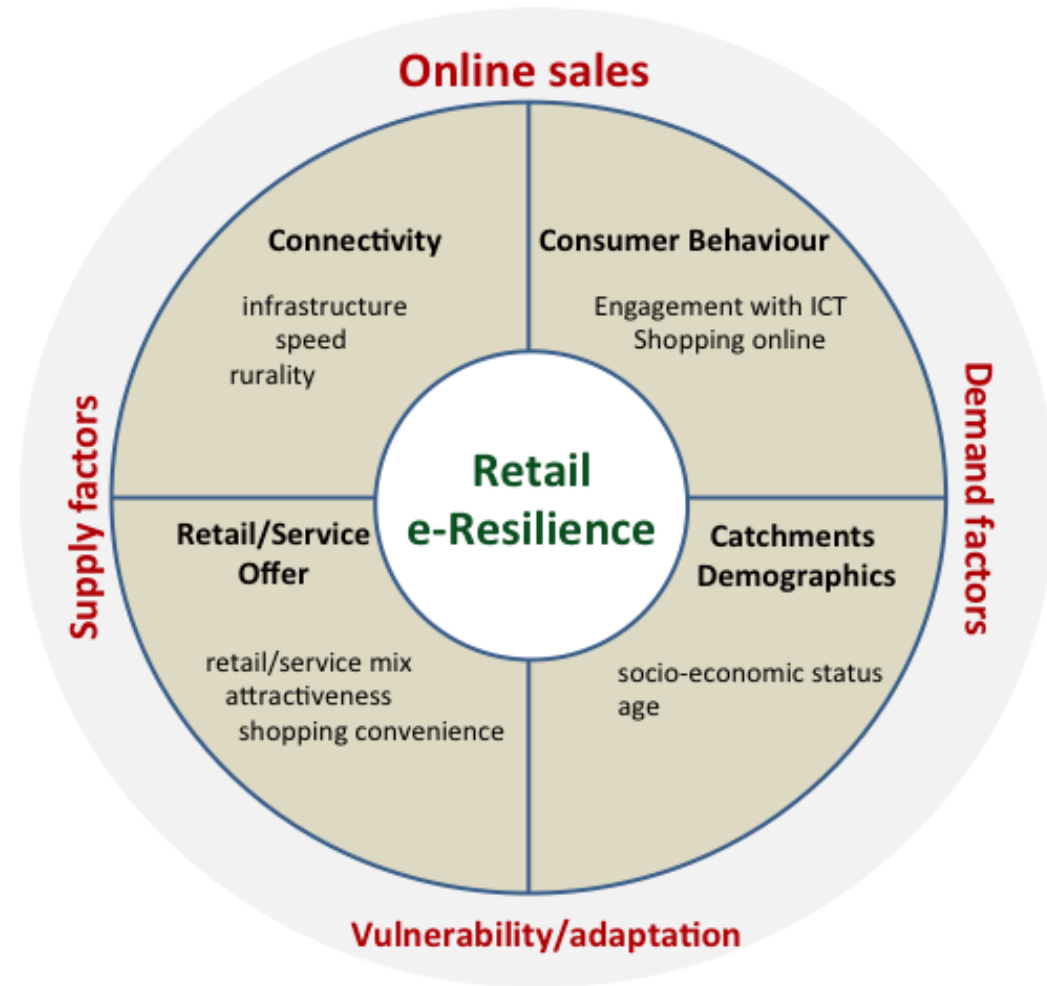
E-resilience concept

- ❑ E-resilience measures the vulnerability of British retail centres to the impacts of growing online sales**
- ❑ More specifically e-resilience is about the balance between retail supply at local level and the exposure of particular centres to online shopping**



Dimensions of e-resilience

- ❑ **Connectivity** - available infrastructure to get online
- ❑ **Behaviour** - propensity to use internet for shopping
- ❑ **Demographics** (ethnicity, age, gender, disability)
- ❑ **Retail supply** - attractiveness, accessibility & convenience



Research methodology

- ❑ Defining retail centres and delineating their primary/secondary catchment areas
- ❑ Estimating consumers engagement with information and communication technologies at small area level
- ❑ Creating a framework for measuring e-resilience
- ❑ Conducting sensitivity analyses on retail centre catchments and their e-resilience



Estimating town centre catchments

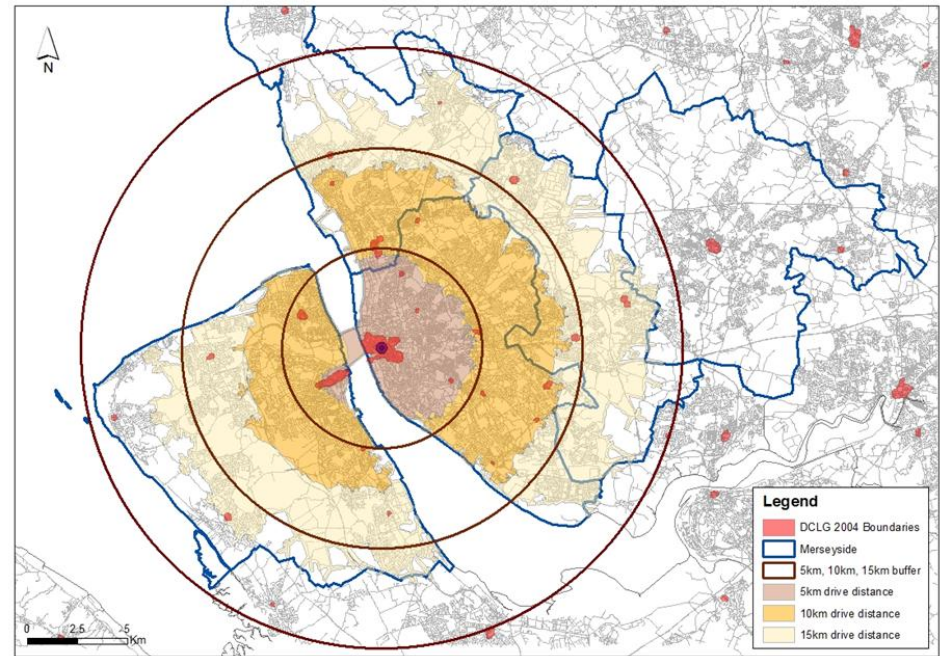
❑ Catchment area estimation techniques

- Simple methods – buffers, drive distance/time
- Spatial interaction approach – gravity and probabilistic models

❑ Major components of the model

- Attractiveness
- Distance/decay parameter
- Study area

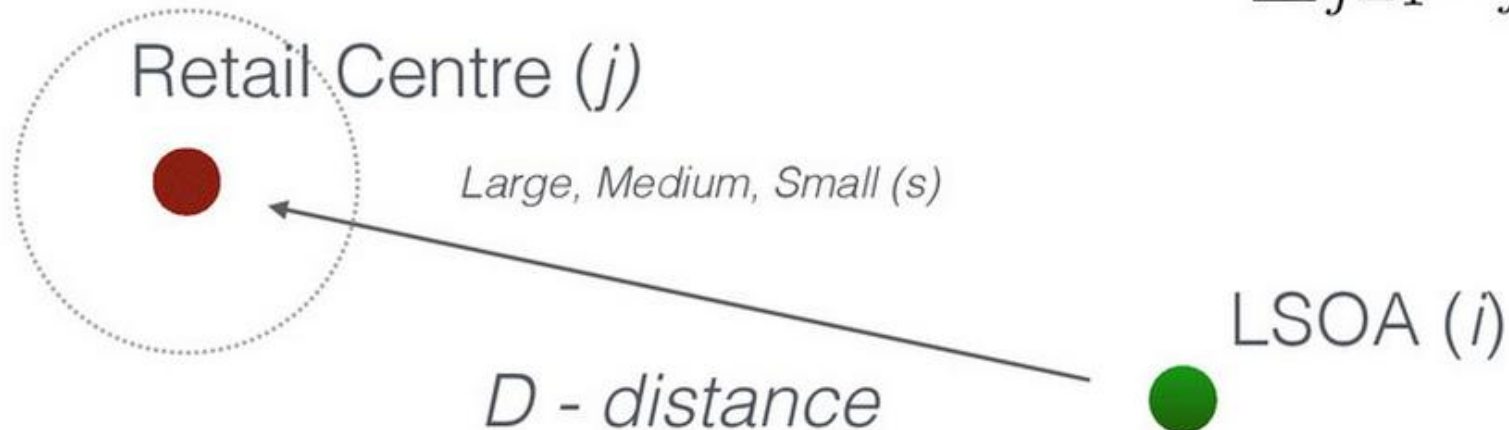
❑ Catchment models for regional/national scale



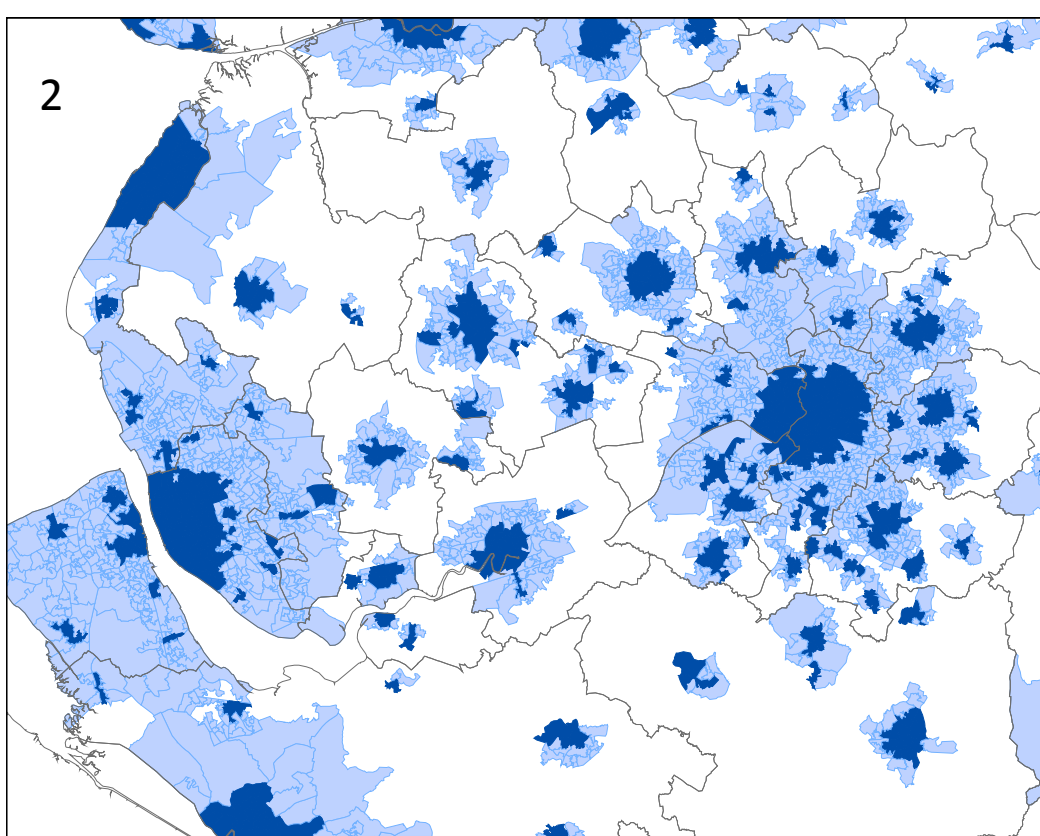
The Huff probability model

A - attractiveness

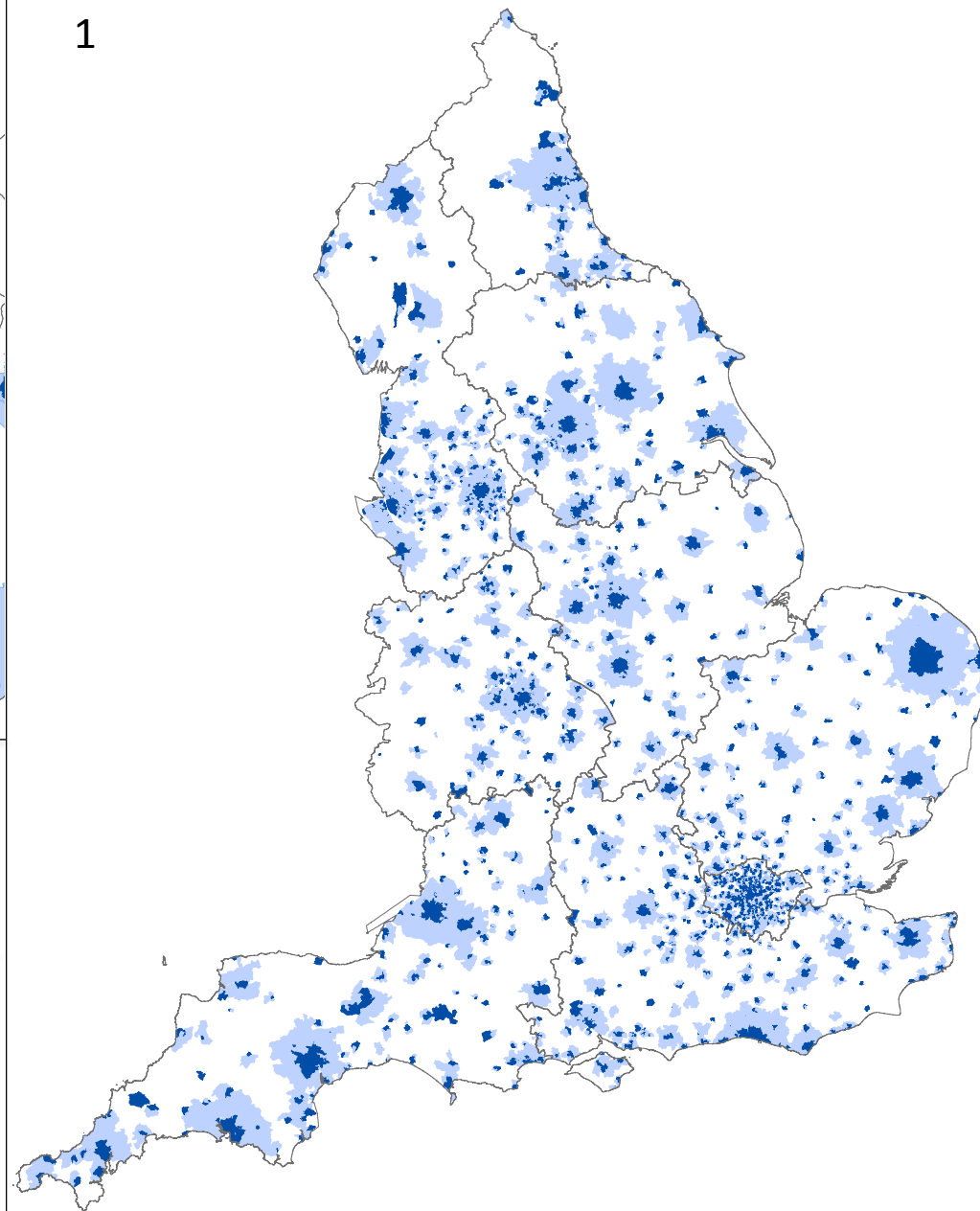
$$P_{ij} = \frac{A_j^\alpha D_{ij}^{-\beta_{s_j}}}{\sum_{j=1}^n A_j^\alpha D_{ij}^{-\beta_{s_j}}}$$



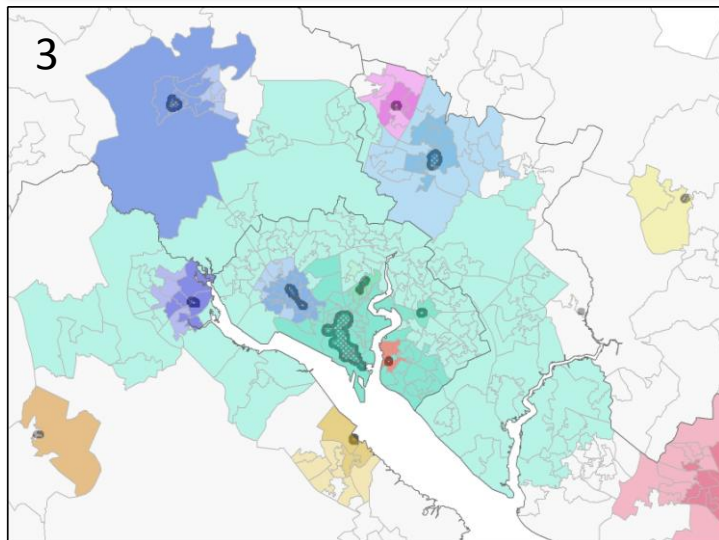
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1



3



Catchments for:

1. England

2. North West

3. Southampton



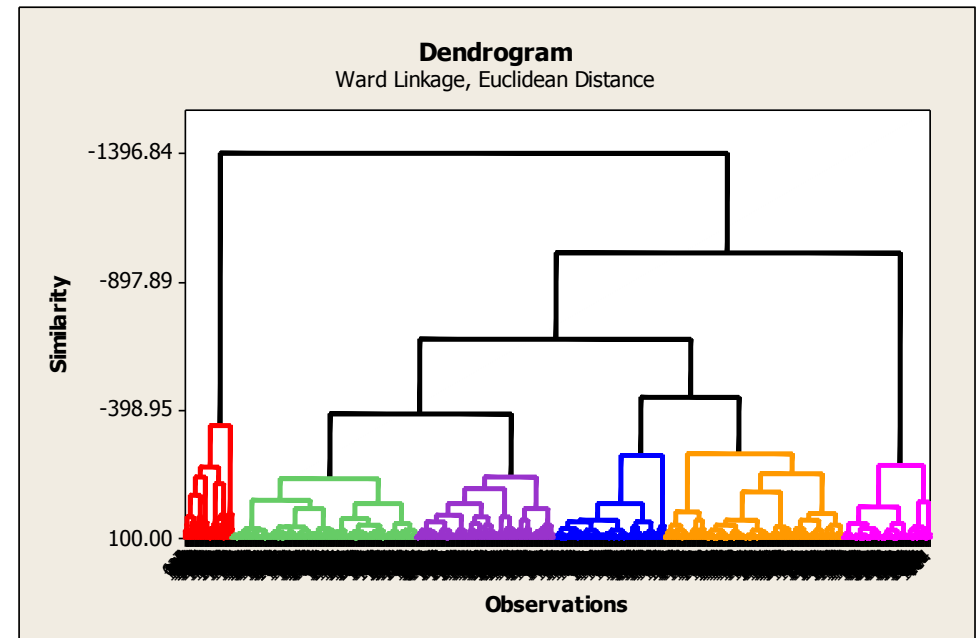
Town centres classification

❑ Multidimensional measure of town centres attractiveness

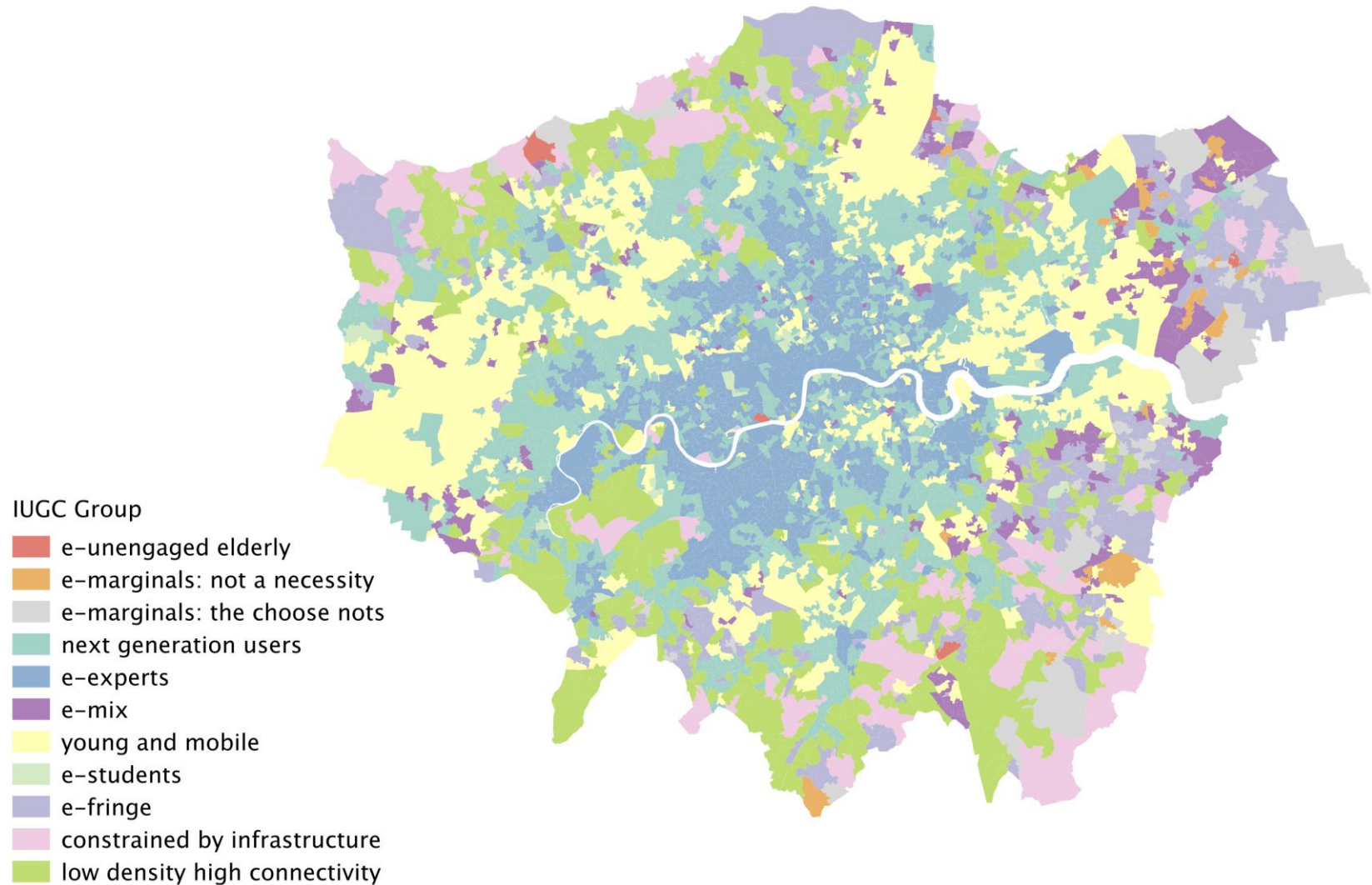
- 15 supply-related factors & 1300 observations

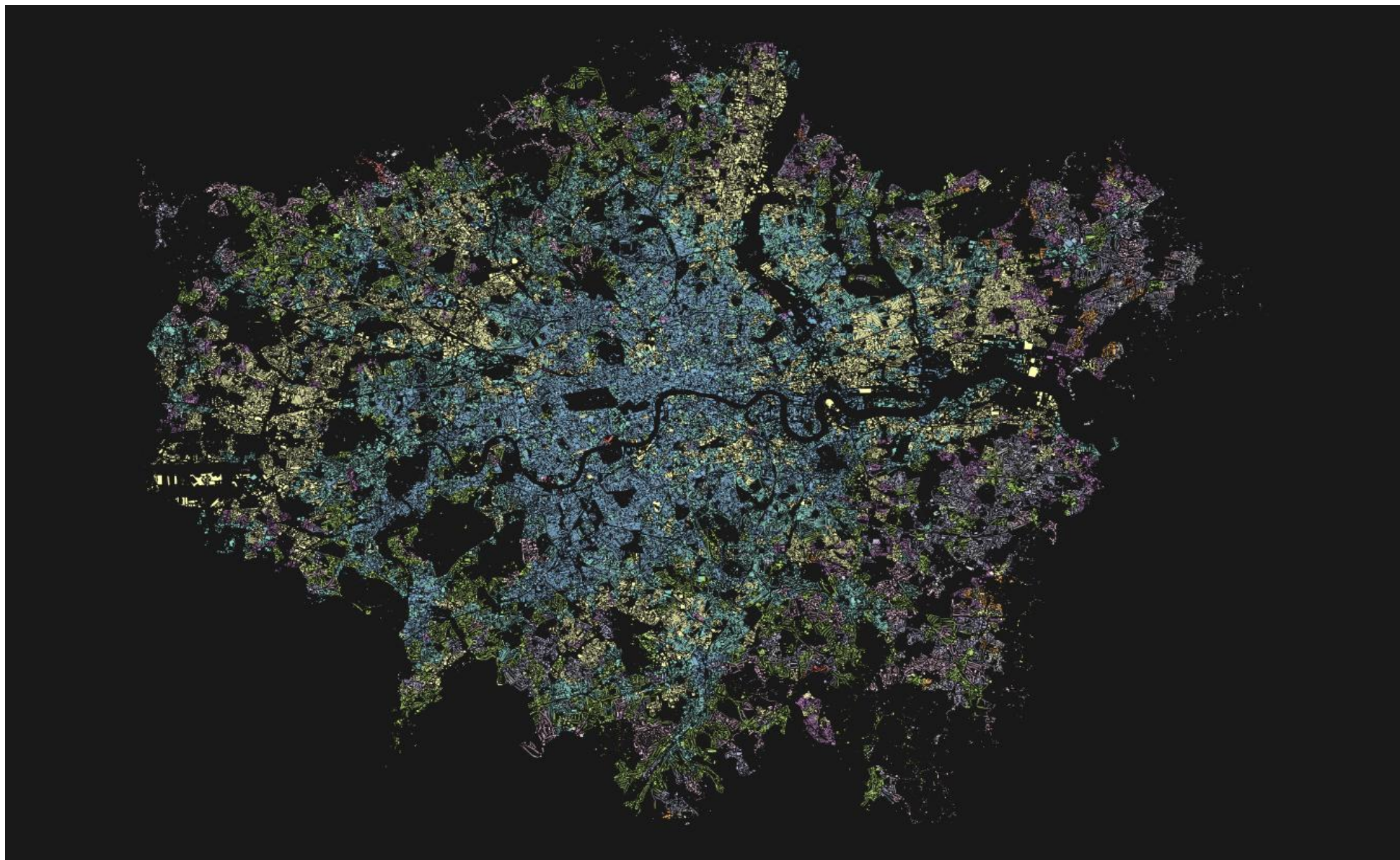
❑ Six distinctive clusters

- Major shopping and leisure hubs
- Second tier (clone) town centres
- Specialist market towns
- Neighbourhood centres
- Shopping parades



Internet Use & Engagement patterns





Next steps

- ❑ Validation of catchment models with customers' insight data
- ❑ Estimation of 'e-resilience' patterns for the UK
- ❑ Providing the characteristics of 'e-resilient catchments
- ❑ Updating town centres boundaries



Questions please