Measuring the impact of online shopping on high streets across England
Alex Singleton, Les Dolega, Dean Riddlesden and Paul Longley
University of Liverpool, University College London

Impacts

- Establishes the concept of e-resilience that examines retail centre exposure to the impact of Internet sales.
- Proposes a novel methodology about how such interactions can be measured.
- Provides better intelligence for retailers about their potential exposure to competition from online retailing.
- Provides a resource that can be used by a wide range of stakeholders including retailers, academics and town centre managers.

Project Background

Online shopping has been growing exponentially in recent years, accounting for approximately 15% of all retail sales in 2015. This is increasingly viewed as one of the most important forces currently reshaping the structure of traditional high streets in the UK. However, the changes in some retail centres have been more rapid than in others and the rise of multi-channel shopping has generated different requirements, not only in the terms of physical shopping space, but also in the expectations of an increasingly technology-driven consumer.

Whilst evidence does not suggest the death of the physical shopping experience, there has been limited research on how the structure of high streets are being impacted by online shopping, how such effects could be modelled, or what might be an appropriate adaptive response by stakeholders in retail. This research addresses these challenges by introducing the concept of 'e-resilience' - a framework that defines the vulnerability of retail centres, balancing both supply and demand influences, to determine to what extent they are resistant to these changes.

Working in partnership with the Local Data Company (LDC), which manages Britain's largest database of retail facilities, this research has classified every neighbourhood in England according to a variety of characteristics that might influence use of the Internet for consumer purposes. This Internet User Classification (IUC) estimates the likelihood that existing centre infrastructures can successfully adapt to online impacts in this fast-changing world.

Data and Methods

Constructing a novel measure of e-resilience for a retail centre requires in-depth knowledge about the characteristics of retail offerings alongside demographic and Internet engagement characteristics of potential consumers. Figure 1 summarises the range of influences on retail e-resilience including: connectivity, behaviour, demographics and the retail/service on offer. Key attributes included education, employment, engagement with new innovations in information/communications technology and locally available broadband infrastructure. In addition, the behaviours and attitudes of consumers vary spatially and are directly linked to the geography of demand for retail facilities. Therefore, equally as important was the integration of local geo-demographic characteristics to help anticipate changing demand.
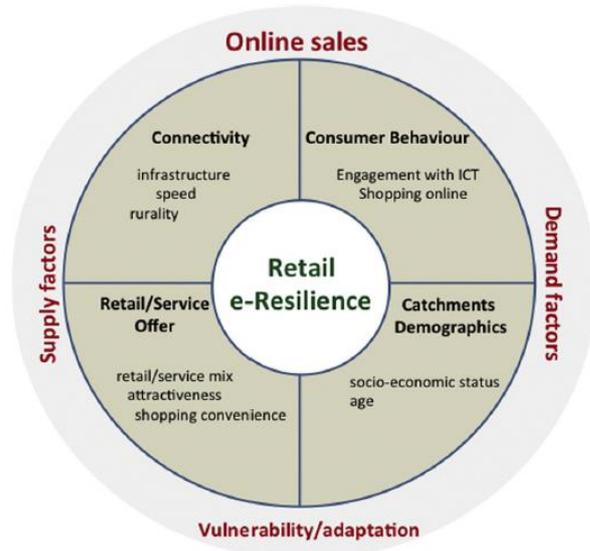
Figure 1. Conceptual framework of e-resilience

The methodology combined a range of data to develop two national indicators of retail centre exposure and vulnerability to online sales. In order to measure demand factors and capture influences on Internet engagement behaviour, the researchers combined Internet use data from the Oxford Internet Survey (OxIS), socio-demographic indicators from the UK 2011 Census and Internet speed data from http://www.broadbandspeedchecker.co.uk Centre profiles were created by intersecting these data with the retail supply vulnerability index derived from LDC retail data - a nationally expansive record of the location and occupancy

of UK retail stores. The composite e-resilience indicator was then created using a clustering algorithm and calculated for retail centres across England.

Key Findings

Findings, as shown in Figure 2, reveal a geography where attractive and large retail centres such as the inner cores of large metropolitan areas were highlighted as more resilient to online sales. Smaller or more specialised retail outlets also endured in some form. The researchers argue that large and attractive centres may function as hubs for shopping and leisure, whereas small, local centres may serve convenience shopping requirements.
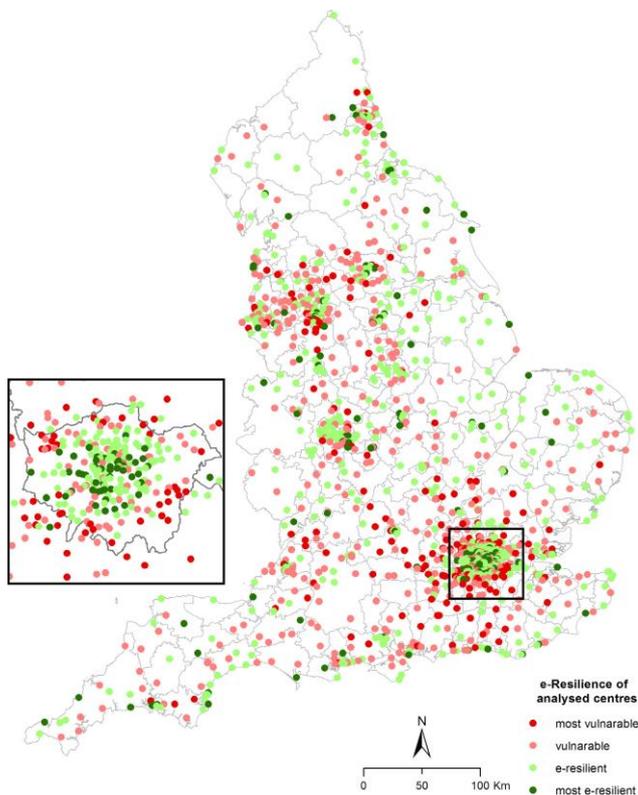

Figure 2. The e-resilience of town centres in England.

In contrast, the centres identified as most vulnerable included many secondary and medium sized centres - predominantly located in suburban and rural areas. It is suggested that this may be due to lack of diversity and space not being appropriately configured to a contemporary retail system. Customers of these centres may search for an alternative shopping experience.

Nationally, approximately 53% of us use online shopping, but this research suggests that there is a 7% difference between those living within the most and least engaged areas. Findings further indicate that the physical attributes of the retail centre and the part of the country in which it is located have a significant impact on whether or not a retailer may prosper. Therefore, the most significant impact of online shopping may not be the death of the high street, as has been suggested in the past, but, the emergence of a new geographical pattern of shopping behaviour that has led to two contrasting physical shopping experiences.

This comprehensive classification provides a resource that can be used by a wide range of stakeholders including retailers, academics and town centre managers. The study also adds value to and repositions the focus of current debates on the resilience of traditional high streets, which have predominantly concentrated on supply side measures such as vacancy rates.

Outcomes could be used as assessment tools when evaluating retail centre economic performance, providing better intelligence for retailers about their potential exposure to competition from online retailing. The findings suggest that it is crucial for retailers – in particular those that sit midway between the large centres and the locally convenient high street stores – to engage the consumer in a far more innovative manner than has so far been explored. This information may enable them to formulate a better market response, for example, adopting various forms of multichannel retailing such as 'Click and Collect'. However, the e-resilience classification may also benefit researchers looking at understanding the contemporary geography of use and engagement with the Internet.

Future Directions

The Internet User Classification is in the process of being updated, ready for release in the summer of 2017. The updated classification will make use of new data regarding Internet consumption that have recently been made available through the ESRC CDRC, acquired from both traditional and online retailers. This will enable users to better understand those patterns of contemporary Internet use and engagement, and update the popular index of retail centre exposure to online shopping.