

Innovation in the Book Industry – E-Commerce vs. Brick-and-Mortar Stores

Georg Götz, Daniel Herold, Phil-Adrian Klotz and Jan Schäfer
Chair VWL I – Justus-Liebig-University Gießen

Research Question

- Innovation in the book industry
 - new authors
 - new trends or topics
 - Innovative writing style, etc.
- Pros and Cons of retail channels
 - e-Commerce
 - broad selection of books available (e.g., over 200,000 on Amazon.de)
 - convenient shopping opportunity: low travel and search costs
 - Websites typically recommend narrow range of titles
 - brick-and-Mortar stores
 - presentation and atmosphere
 - limited selection in the shop
 - potential gatekeeper function as mentioned by Waldfogel (2017 JEP)
 - Reputable dealers as a signal of quality (Marvel and McCafferty, 1984 RAND)
 - variety with quality uncertainty (Aguiar and Waldfogel 2018 JPE)
 - potential source of expert opinion
- **Which retail channel is more suited to promote diffusion of innovation in the book market?**
 - e-Commerce may have a disadvantage in promoting innovative titles
 - e-Commerce can “target” consumers with different advertisements (e.g., Huang, Chung and Chen, 2004 JASIST)
 - requires information on books and consumers
 - difficult in cases of innovative titles due to the lack of information (low past purchases, little information on potential success).
 - when browsing in the web, consumers predominantly click on the first few items of their queries (see e.g., <https://www.searchenginewatch.com/2012/10/10/53-of-organic-search-clicks-go-to-first-link-study/>).
 - first results of queries most likely more popular titles, which have already proven to be of good quality
 - makes it less likely that consumers find innovative titles online
 - brick-and-mortar retailers may have an advantage in promoting innovative titles
 - brick-and-mortar booksellers may serve as experts on certain topics, authors, genres, etc. so that they can specifically promote innovative titles.
 - due to limited selection of titles it can be more likely that consumers become aware of unknown, innovative titles in brick-and-mortar stores than in e-Commerce.
- Potential complementarities between channels: innovative titles may be discovered in one channel and, thereafter, discovery sales in the other channel may rise.
- The role of bestseller lists
 - marks the successful identification of a title and can be understood as a sign of a successful innovation
 - signal of quality to consumers
 - sign of economic relevance of a title

Exploratory Analysis

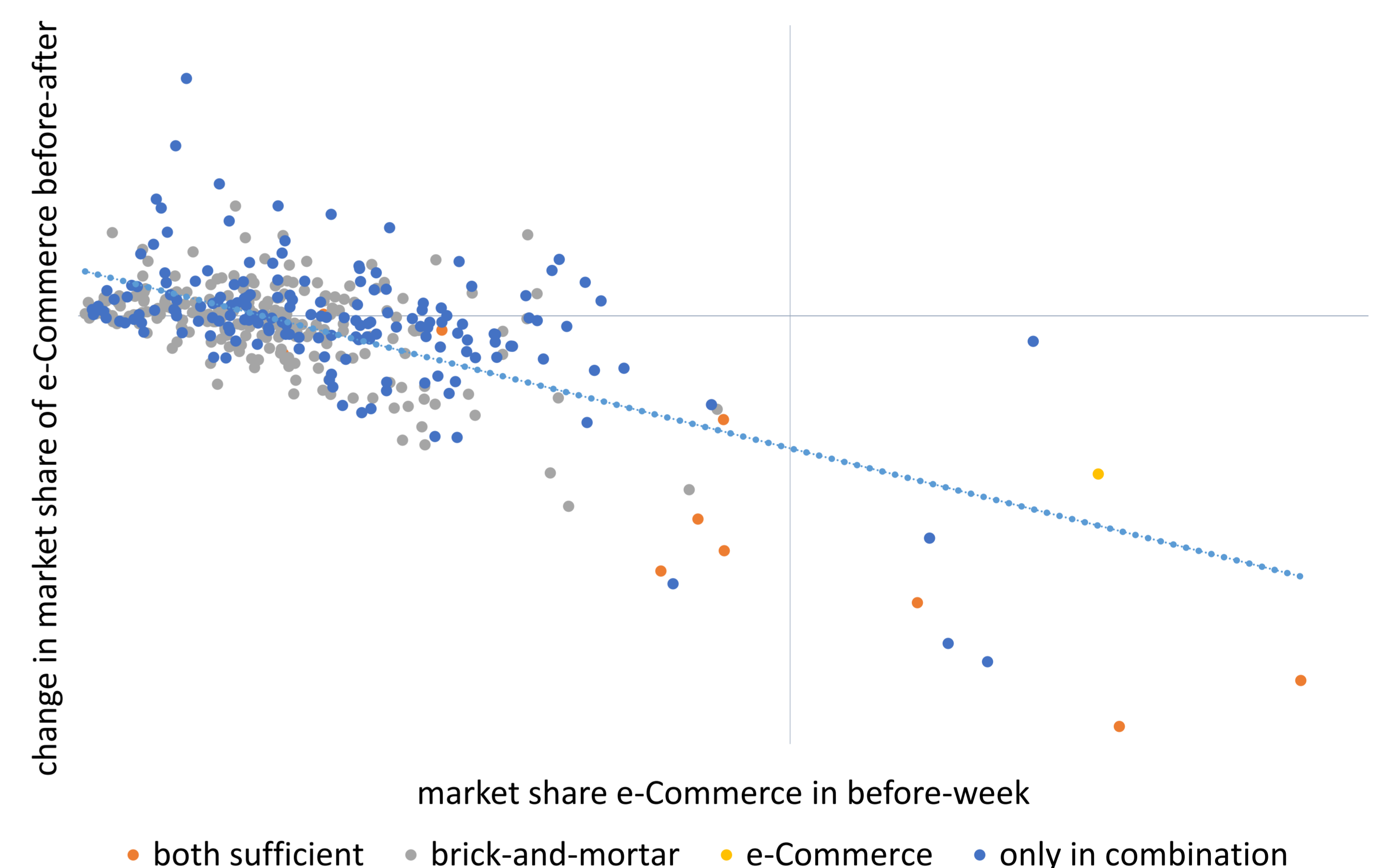
- Data
 - Top 50,000 titles in Germany from 2011-2018
 - Obtained from media control metis
 - Scanner data, weekly and on federal state level
- bestseller lists
 - SPIEGEL Top 20 as one of the most popular bestseller lists in Germany
 - lists occur weekly
 - focus on fiction titles
 - separate lists for hardcover, softcover and paperback
- Approach
 - we compare sales patterns of the two retail channels in the week
 - which determines whether a title first occurs in a bestseller list (**before-week**) and
 - the week after the title first occurred in a bestseller list (**after-week**).
 - Two groups of books
 - “blockbusters”: e.g., titles written by established authors, famous persons, etc.
 - “generated bestsellers”: e.g., titles written by unknown, talented authors or new trends
 - We analyze “generated bestsellers” because “blockbusters” are most likely written by famous authors, deal with established topics, etc. so that no diffusion of innovation is necessary.
 - In total, we have 2,064 Top-20-bestsellers in our sample
 - Roughly 80% (1,644) of them enter the bestseller lists after at most 2 weeks following the publication (“blockbusters”)
 - The remaining 20% (420) of the titles enter the bestseller lists after at least 2 weeks following the publication, hence we consider these “generated bestsellers”

Preliminary Results

- Question 1: Which channel determines whether revenues in the before-week are sufficient to ensure that a title first enters the Top-20 bestseller lists?

		Sales brick-and-mortar stores	
		Sales in channel alone are sufficient for Top-20	Sales in channel alone are not sufficient for Top-20
Sales e-Commerce	Sales in channel alone are sufficient for Top-20	each channel suffices (11 titles)	e-Commerce titles (1 title)
	Sales in channel alone are not sufficient for Top-20	brick-and-mortar titles (237 titles)	only in combination (171)

- Interpretation
 - a limited number titles (~2.6%, 11 titles) are so successful that the sales of only one channel alone would suffice to enter the Top-20 bestseller lists
 - sales at brick-and-mortar stores play a crucial role in the diffusion of innovative bestseller (~97.1%, 408 titles)
 - sales in the channel alone are sufficient in ~56.4% (237) of cases
 - complements e-Commerce in ~40.7% (171) of cases
 - e-Commerce as standalone channel only for 0.2% (1) of generated bestsellers
- Question 2: How do market shares differ? How do market shares change when a title enters the bestseller lists?



- Interpretation
 - only a limited number of titles with high market share in e-Commerce in the before-week
 - **negative correlation between market share in before-week and the change in market share of e-Commerce after a title enters the bestseller list**
 - on average, the higher the market share of brick-and-mortar stores (e-Commerce) in the before-week the higher the market shares of e-Commerce (brick-and-mortar stores) after a title enters the bestseller lists
 - suggests a **complementarity between the channels**, however, note that most innovative titles are discovered at brick-and-mortar stores!
 - for most titles, market share of e-Commerce is relatively low (both before and after)
 - for ~50% of books, e-Commerce market shares increase after a title enters the bestseller list
 - for the remaining ~50% of titles, market shares of e-Commerce decrease after a title is discovered
 - no indication of title discovery in e-Commerce with contagion to e-Commerce (positive change in market shares of e-Commerce)
 - titles discovered in e-Commerce have already reached their sales potential when entering the bestseller lists
 - e-Commerce channel is not (yet) able to act as a standalone retail channel
 - Different clusters: e-Commerce titles, brick-and-mortar titles,...
- Preliminary Conclusion and further steps
 - brick-and-mortar stores seem to play a crucial role in the diffusion of innovation in the book market
 - complementarity between the channels: titles discovered in one channel are sold in the other channel after discovery → both channels benefit from one another.
 - Next step, econometric analyses: isolate effect of a title entering bestseller list on sales and sales composition (comparable to Aguiar and Waldfogel 2018)