Danish Competition and Consumer Authority

COMPETITIVE MARKETS AND CONSUMER WELFARE

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NEW **OPPORTUNITIES AND CHALLENGES FOR CONSUMERS** IN DIGITAL MARKETS

A new analysis by the Danish Competition- and Consumer Authority highlights how digital markets are fundamentally different from traditional markets and how this difference affects consumer behavior.

Markets have changed substantially throughout the last decade. We now buy more online than ever before and firms have embraced the new digital reality through innovation and new digital tools that change how markets fundamentally operate. This article outlines central insights from a new analysis titled "Consumer behavior in digital markets", where the Danish Competition and Consumer Authority explores how the digital transformation of markets affects consumer behavior.

The analysis points to five key transformations that sets digital markets apart from traditional brick-and-mortar markets, namely that they are frictionless, far-reaching, social, data-driven and experimental.

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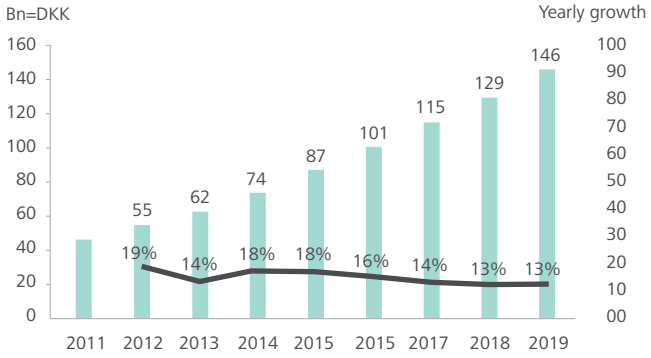
New analysis highlights what makes digital markets different

The difference between visiting a shop from your couch in the comfort of your own home and actually going to the shop is intuitively clear. It is all the more difficult to point out why this difference should matter in terms of how and why we buy goods and services. Digital consumers browse goods, get tempted and make impulsive purchases, just as consumers have always done in traditional markets, and we compare the quality and price of competing items just as fervently offline as we do on the web.

In this perspective the difference between offline and online shopping is a matter of degree, because the fundamental premises for consumers remain the same while some activities, such as comparing prices, are typically somewhat easier online.

Figure 1:
Growth in Danish e-commerce 2011-2019



Source: Dansk Erhverv: E-handelsanalyse 2019

However, as digital markets evolve, they do begin to stand apart from traditional markets in ways that are qualitatively different in several dimensions. These differences in turn enable new types of markets that are uniquely digital. While these differences and the markets they help create are immensely valuable for consumers, they also enable new problems and pitfalls, and in ways that traditional consumer protection regulation may not address.

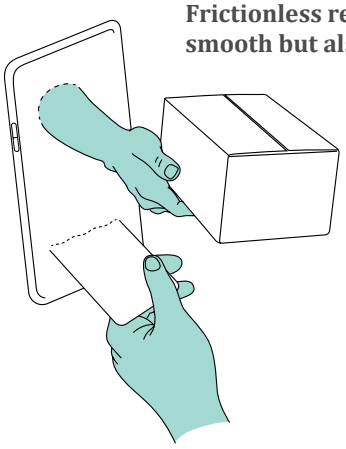
An analysis from the Danish Competition and Consumer Authority highlights five fundamental differences that sets digital markets apart from traditional markets. The analysis posits that digital markets are:

- Frictionless
- Far-reaching
- Social
- Data-driven
- Experimental

While markets have always strived to achieve these things in the past, the digital infrastructure that enables today's e-commerce has enabled exponential development in these particular domains.

The following sections explores each of these and point to how they enable new interactions between consumers and business in the form of uniquely digital markets.

Frictionless retail makes everything run smooth but also spurs impulsiveness



Consumers on digital markets can, within minutes, find a television; compare prices from relevant suppliers (internationally as well as nationally); read a couple of reviews; order and pay all without leaving their couch.

While this is trivial today, a similar search for products in the market would have taken days just 15 years ago, and perhaps more importantly, the search itself would have included several interruptions and pauses. The digitalization of markets has reduced these search frictions considerable and the trend seems to continue with the introduction of one-click purchases, recommendation algorithms and automatic transaction through subscription-based services. To be sure, no market is entirely free from friction, and even digital markets experience the consequences of frictions, e.g. when consumers neglect to scroll past the first number of search results.

Reductions in friction create benefits for consumers as they can get products and services more easily in terms of time and cognitive investment. In short, consumers can get what they want faster and with less effort, which has both enabled new businesses and led to growth in old ones such as gambling.

Box 1: **Interaction form: Online gambling**

A company providing a digital platform that enables consumers to play and the possibility of winning money in return characterizes online gambling. Gambling is an ancient form of entertainment, but the sector has undergone tremendous growth with the rise of frictionless digital markets where consumers can gamble around the clock without experiencing any friction

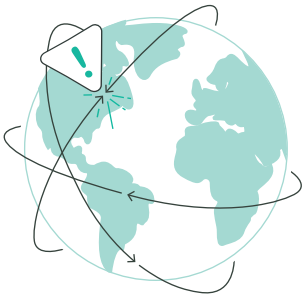
However, while reductions in friction fundamentally is a positive feature, behavioral research has demonstrated how friction also may have served as decision points that allow consumers to evaluate decisions and alter them if their use of the service has changed.

Fewer decision points is not problematic as such but may create concerns in markets where consumers are prone to act impulsively and where poor decision-making have long term and irreversible consequences, e.g. when we gamble or take up consumer credit.

Gambling may serve as an illustrative example of how digitalization have worked to make markets frictionless. In a traditional market a consumer who wishes to gamble must first pick a venue, e.g. a casino or the local bookmaker, decide on how to get there, pick out appropriate clothing, inform the family, decide on a time of return etc. All of these considerations serve as natural decision points that allow the consumer to reevaluate and possibly rescind the original intention to gamble. None of this is necessary in an online, digital market for gambling, where any consumer with a smartphone can go directly from wanting to bet to actually betting within minutes and from the comfort of his or her own couch.

In these years the markets for online gambling grows and in Denmark the gross revenues for online casinos alone have grown from 885 m. in 2012 to 2,3 bn. in 2019. Similarly, online gambling advertisement now play a major role in engaging consumers exemplified by the UK market, where firms in 2017 spent 80 pct. of their entire marketing budget on online advertisements[1].

Far-reaching markets expand consumers' access to products but risk infringing on non-commercial domains



One defining trait for digital markets is that they are less constrained by time and space. Consumers on digital markets can access any digital store at any time of the day just as firms can advertise to anyone, anywhere as long as they are on a digital platform that allows personalized advertising.

These features mean that markets expand in breadth and depth Markets have become broader due to digital marketing that allows firms to reach for broader, often global, audiences. This allows firms to reach consumers that would have been difficult to advertise for through traditional advertisement channels such as print- or television and allows for an increasing evolvement of niche products and services. It also allows new innovative firms to reach broader audiences with new and competing products, which increases competitive pressure on incumbent firms.

However, markets have also become deeper from the increased reach of digital marketing platforms. Advertising in traditional markets was bounded by a set of (often physical) restrictions that limited when and where consumers were exposed to marketing. In digital markets, access to advertisements and purchase opportunities are not constrained to the same extent. We can now buy almost anything from a connected smartphone and the increased use of social-media platforms means that commercial content mingle into our media usage and social lives in ways that may blur the distinction between content and advertisement unless consumers take decisive steps to filter it out.

Far reaching markets are very beneficial to consumers, But while deeper markets may create benefits they may also imply a more intense exposure to advertisements and purchase opportunities that are not universally positive. In these deep markets, ads can be designed to target us when we are less critical, and more at ease, and unlike traditional advertisement in flow-media they may be poorly demarcated from entertainment content [2]. This may have adverse effects on vulnerable consumer groups and more generally spur impulsive consumption. This is perhaps most markedly the case for children, who are exposed to advertisements through online social lives and when they play digital games[3].

Far-reaching markets are also changing the design and distribution of products, e.g. by enabling freemium products to substantially outcompete premium payment models (box 2).

Box 2: **Freemium products as new interaction forms**

A freemium model is defined as a digital service distributed for free, which contains a monetization strategy where users either switch to a paid premium version or, more often, pay for various upgrades through in-app purchases. Freemium models are possible due to broad markets that allow developers to reach a global audience and turn a profit even when only a fraction of their users pay for upgrades or virtual in-app commodities.

Already in 2012, 47 out of the 50 top earning apps in Apple's app-store used a freemium payment model with in-app purchases[4], a revenue model that is only possible because the digital infrastructure allowed firms to distribute their apps to a global consumer base.

1 https://www.theguardian.com/society/2018/nov/24/rise-in-gambling-ad-spend-fuels-fears-over-impact-on-children

2 DG JUST (2018): Behavioural study on advertising and marketing practices in online social media.

3 DG JUST (2016): "Study on the impact of marketing through social media, online games and mobile applications on children's behaviour.

4 https://www.wired.com/2012/09/life-after-disc-digital-coins/

Social markets offer valuable information but are hard for consumers to navigate

Another tendency for digital markets is the ever-present availability of social information. Consumers have always relied heavily on social information and advertisers and firms have traditionally been quick to use social channels to promote their products. However, with the rise of digital markets, social information has gone from something consumers were exposed to through advertisement or via family and friends to something that is fully and actively integrated into the marketplace itself (see box 3).

Box 3: **Comparison platforms as new interaction forms**

Comparison platforms such as Hotels.com, Amazon and Pricerunner are examples of digital services that have integrated social information such as ratings, reviews and user behavior directly into their core product. Sites such as these mainly use social information to stimulate purchases. On other sites, such as Trustpilot and Yelp, social information in the form of reviews and ratings is the main product, and the sites could not exist without it.

Thus, online trading platforms have integrated social information in the form of user ratings and display these prominently, and unavoidably, to consumers on the platform. Other platforms use real-time feedback on other users' behavior to nudge their customers towards finalizing their customers towards finalizing their purchases. Such "pressure" sales tactics often take the form of direct messages informing consumers that others are looking at the same (low-stocked) commodity as or that many consumers are buying that particular product right at this moment. While this is helpful in some instances, it can risk creating an outsized impression of scarcity in others.

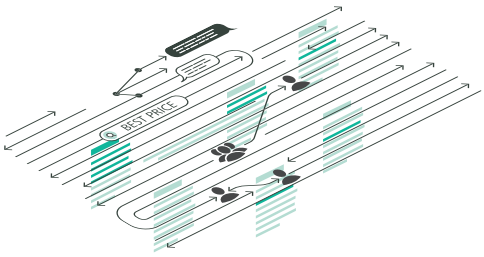
The movement towards social markets has also gone in the other direction, where social platforms such as Facebook, Instagram and Youtube have transitioned to include commercial activities as part of the social interaction among users. These social platforms expose users to their peers' purchases, and firms have incentivized peer-to-peer commercials on social networks by offering consumers to participate in lotteries if they broadcast the firm's ads to their own friends and followers.

The increased exposure to social information can be beneficial to consumers as it helps them assess complex products and find those that best fit their needs.

However, when firms use social information strategically, it may also in some cases end up pressuring consumers to purchase products without adequate search and comparison, especially when firms present social information to give only the impression that a product is scarce and popular.

Consumers may also get less value out of social information if they use it uncritically, since those who contribute reviews and ratings may not be representative of consumers as a whole[5]. Finally, the rising use of social information may lead to increased incidents of fraud, where reviews and ratings are fabricated to make products seem better than they are or, conversely, to make a competitor's product seem worse.

Data-driven markets provide a host of new products and services but also blur the boundaries for consumer privacy



Data is another important part of what makes digital markets different from the more traditional brick-and-mortar markets. While successful sellers have always attempted to understand their customers' needs, habits and preferences, and use this "data", e.g. in marketing, the rise of digital marketplaces have made it much easier to get relevant data and of a higher quality than ever before.

All consumers in digital markets leave data trails. This happens knowingly when consumers supply sellers with information during a purchasing process, e.g. by answering explicit queries on satisfaction or preferences from the firm they interact with. However, most data acquisition in digital markets happens passively, when online traders track and register consumers' online behavior through cookies and similar digital tools.

Digital third parties such as social media, search engines or comparison sites also collect data indirectly and can then sell the data back to firms. While such passive data collection often requires consent from the consumers, research has demonstrated that consumers rarely notice how extensively they are being tracked or what their data is used for[6].

5 https://www.nytimes.com/2018/06/13/smarter-living/trust-negative-product-reviews.html

6 Barth, Susanne, and Menno DT De Jong. "The privacy paradox–Investigating discrepancies between expressed privacy concerns and actual online behavior–A systematic literature review." Telematics and informatics 34.7 (2017): 1038-1058.

Data collection is profitable enough to have enabled new types of interaction forms in digital markets that offer their services to consumers free of charge through networked interactions (see box 4).

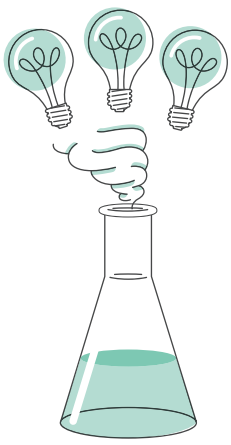
Box 4: **Network-based interactions forms**

Services such as LinkedIn and Facebook are examples of network-based services that make money out of collecting, curating and facilitating their customers' data. These services rely on both explicit data acquisition that is enabled by the nature of the service as a social network where people offer information to their peers such as age, civil status etc., but they also track and systematize users' behavior on the network (and beyond if they use tracking cookies).

The data firms collect, or buy from third parties, allow them to understand, segment and target consumers to a degree that is impossible in analogue markets. This is, generally, beneficial for consumers as it ensures more relevant ads and offers. However, the increased data collection also means that consumers have less privacy and is often quite difficult to interact with digital markets without leaving a data trail as part of the interaction. Increased data collection may also mean that consumers become more vulnerable, because firms know more about them and are better able to target customers who are impulsive and prone to compulsive spending, e.g. on betting, gambling or gaming markets.

The increased commodification of data is perhaps most evident in US markets, where firms spent 19.2 bn. dollars on data purchase and analysis in 2018, an increase of 17.5 pct. compared to 2017[7].

Experimenting markets increase innovation but also risk mass production of consumer bias



The final trait that sets digital markets apart from their analogue counterparts is experimentation. Digital infrastructure is more flexible than physical infrastructure and that has allowed firms to use commercial digital platforms to conduct experimentation and integrate this as a way of continuously optimizing sales.

Naturally, experimentation in commercial domains is not inherently new. Shops have always had the opportunity to experiment with price setting, product presentation, space-management and other important aspects of how the business presents itself to its customers.

However, digitalization has reduced the costs of such experimentation dramatically. Digitalization has also allowed businesses to run experiments that were impossible (or close to impossible) without the support of digital infrastructure. This includes experimentation on personalization, where data tracking allows firms to measure effects of changes on specific and very small segments, as well as experimentation with long-term effects, that require data trails to keep track of how customers react over time.

Experimentation is now often built into products from launch, e.g. in digital products that transmit data on user behavior back to developers. This has enabled some industries, such as the gaming industry, to develop their products at a much faster pace than before (see box 5), as well as allowed traditional industries such as health services and car designers to apply real-time user behavior to optimize products both faster and with much greater precision.

Box 5: **Game-based interaction forms**

The development of modern, typically app-based games, where developers constantly modifies the game to maximize sales, is to a high degree possible due to constant experimentation. Game developers can constantly test adjustments to games through A/B testing and tune the difficulty, rewards and other features to see which maximizes the chance of players paying for in-app commodities.

Experimentation is, just as the previously mentioned defining traits of digital markets, often beneficial to consumers. It allows firms to reduce friction, enables enhanced personalization and optimizes firm communication such as targeted ads. However, experiments done with the sole purpose of optimizing profits may also lead to what researchers have dubbed a mass production of bias[8]. This happens when experimentation single-mindedly focuses on sales. Thus, experimentation May also be used to hide important information (without violating consumer laws), from the consumer, to develop pressure sale tactics and so on.

Experimentation in digital stores is on the rise. It is estimated that large digital marketplaces such as Amazon, Google, Facebook and Booking.com run upwards to 10.000 experiments on their webpages per year in 2017[9].

7 https://www.iab.com/news/2018-state-of-data-report/

8 Calo, Ryan. "Digital market manipulation." Geo. Wash. L. Rev. 82 (2013): 995.

9 https://hbr.org/2017/09/the-surprising-power-of-online-experiments

Conclusion

In many ways, the goal of firms in 2020 remains the same as it was in 1920, and that is to develop products that consumers want to buy and to win market shares and earn high profits. However, the increasing transition to online sales have brought along changes to how markets operate. They are now increasingly frictionless, far-reaching, social, data-driven and experimenting. These changes have brought great benefits to consumers, who can get both their products, as well as information on these, much easier today than ever before. The use and commodification of data has likewise created many new services such as Google and Facebook that consumers can use free of charge.

While there are many benefits from the digitalization of markets, there are also many challenges. Firms know more about consumers than ever before and can use the flexibility of online stores to experiment to find just the right way to tempt their customers to finalize a sale or pick an add-on product right before check-out. Digitalization also means that vulnerable consumers may be less protected than they used to and that they are easier to segment and advertise to today.

All these changes underscore the need for a continuous development of consumer policies that allow the benefits of digital markets to flourish without being blinded by the risks that it carries with it.