

Kirjallisuus ja lähteitä

Asiakaskokemuksen optimoinnin opas

Asiakas- ja käyttäjäkokemuksesta yleisesti, termistön määrittelyä ja teoriapohjaa

Becker, Larissa & Jaakkola, Elina. (2020). Customer experience: fundamental premises and implications for research. Journal of the Academy of Marketing Science. 48. 630-648

https://www.researchgate.net/publication/338555044_Customer_experience_fundamental_premises_and_implications_for_research

As Table 4 shows, there are considerable differences between the literature fields with regard to the scope and nature of customer experience as a research phenomenon. The literature on experiential marketing tends to view experience as the offering itself. However, the most prevalent view within other fields sees customer experience as a customer's reactions and responses to particular stimuli (s. 634)

"The metatheoretical analysis conducted revealed a myriad of definitions for customer experience that ultimately suggest different phenomena (see Table 4). The current literature on customer experience does not agree on the definition of customer experience nor on its nomological network. Confusion prevails as to whether experience is response to an offering (e.g., Meyer and Schwager 2007) or assessment of the quality of the offering (e.g., Kumar et al. 2014). This means that in some studies, customer experience overlaps with outcome variables such as satisfaction or value, while in others it is an independent variable leading to satisfaction, for example. Furthermore, some studies view experience as a characteristic of the product rather than as the customer's response to it (e.g., Pine and Gilmore 1998), which is in deep conflict with the interpretive tradition that always views experience as a subjective perception by an individual and even as synonymous with value-in-use (Addis and Holbrook 2001). To resolve this confusion, we suggest customer experience should be defined as non-deliberate, spontaneous responses and reactions to particular stimuli. This view builds on the most prevalent definition across the two research traditions, but separates customer experience from the stimuli that customers react to as well as from conscious evaluation that follows from it. This view rejects suggestions that evaluative concepts such as satisfaction or perceived service quality could be a component of customer experience (Lemon and Verhoef 2016)" (s. 637)

"Customer experience research is often preoccupied with the question of how to provide "good experiences," simply assuming that higher scores on a customer experience scale are always better (e.g., Ding and Tseng 2015). As Premise 3 suggests, it is more relevant to ask for whom a particular experience is good. Future studies should aim to identify

relevant key contingencies that drive particular customer responses to stimuli and influence a customer's evaluation of their responses. This insight will aid managers in developing a more individualized set of offering-related stimuli for their different target groups and user personas, which is deemed important in current markets (Edelman and Singer 2015)" (s. 641)

When mapping the consumer journey, firms should be aware that customer responses to stimuli also depend on customer, situational, and sociocultural contingencies (Premise 3). Therefore, customers in different situations and positions, with different resources, will likely react to particular stimuli in varied ways. Moreover, contextual factors may influence the evaluative outcomes of particular stimuli, such as the degree to which a particular reaction leads to satisfaction and loyalty. We urge firms to conduct customer research to learn about the connections among customer personas, usage situations, and responses to stimuli. These insights can be used as a basis for segmentation and to design different types of journeys for distinct customer types and situations" (s. 644)

Lemon, Katherine N. and Peter C. Verhoef. (2016) "Understanding Customer Experience Throughout the Customer Journey." Journal of Marketing 80: 69 - 96

Overall, we thus conclude that customer experience is a multidimensional construct focusing on a customer's cognitive, emotional, behavioral, sensorial, and social responses to a firm's offerings during the customer's entire purchase journey (s. 71)

We conceptualize customer experience as a customer's "journey" with a firm over time during the purchase cycle across multiple touch points. We also conceptualize the total customer experience as a dynamic process. The customer experience process flows from prepurchase (including search) to purchase to postpurchase; it is iterative and dynamic. This process incorporates past experiences (including previous purchases) as well as external factors. In each stage, customers experience touch points, only some of which are under the firm's control (s. 74- 76)

Kranzbühler, A.-M., Kleijnen, M.H., Morgan, R.E. and Teerling, M. (2018) "The Multilevel Nature of Customer Experience Research: An Integrative Review and Research Agenda." International Journal of Management Reviews, 20: 433-456

The organizational perspective is based on the key assumption that firms can design and thus determine consumers' experiences. In other words, stimuli created by firms are generally perceived similarly by recipients. Thus, the concept of CE is analyzed mainly at a meso-level focusing on the optimal design of processes and systems within firm boundaries that create static CEs. [...] The consumer perspective, in contrast, focuses on understanding consumer behavior and explaining underlying psychological processes. Key theories are experienced utility (Kahneman et al. 1997) and service-dominant logic (Vargo and Lusch 2004, 2008), both emphasizing the subjectivity and context-specificity of experiences and the resulting perceived utility. [...] The main premise underlying the consumer perspective is the alleged irrationality of consumers. Additionally, value is deemed to be highly idiosyncratic, experiential and contextual in nature. Thus, the consumer perspective acknowledges that

firms cannot deliver value by themselves or determine how consumers perceive their own experiences. Consequently, analyses tend to be distilled to the micro-level to understand individuals' cognitive, affective and sensory reactions towards stimuli (s. 440)

Saarijärvi, H. & Puustinen, P. (2020). *Strategiana asiakaskokemus. Docendo 2020*

Gerdt, Belinda & Korkiakoski, Kari. (2016). *Ylivoimainen asiakaskokemus - Työkalupakki. Helsinki: Talentum Pro*

- Toiminnan muuttaminen asiakaskeskeisemmäksi: Kehittämisen osa-alueet (kuvio)
 - Määritä asiakkaat
 - Opi, miten asiakkaat kokevat yrityksen
 - Kartoita ja kehitä ostopolut
 - Linjaa teknologiat ja prosessit keskenään
 - Sitouta johto ja henkilökunta
 - Uudista kulttuuri ja palkitsemisjärjestelmä
 - Mittaa toimintaa asiakaskokemusmittareilla
 - Yhdistä palaute ja kokemuksen kehittäminen (s. 148)

Löytänä, Janne & Korkiakoski, Kari. (2014). *Asiakkaan aikakausi – Rohkeus + rakkaus = raha. Talentum*

- asiakkaalle luotava arvo voidaan jakaa 4 tyyppiin:
 - taloudellinen arvo
 - keskiössä edullinen hinta
 - toiminnallinen arvo
 - tuotteen / palvelun toiminnallinen suoritus, esim. säästöt ajassa tai vaivassa
 - symboliset arvot
 - mielikuvat, brändit, heimoutuminen
 - emotionaaliset arvot
 - liittyvät tunnekokemuksiin, tuotteiden ja palveluiden personointi, uniikkisuus (ss. 19-20)

Mahajan, G. (2020). *What Is Customer Value and How Can You Create It? Journal of Creating Value*, 6(1), 119–121.

<https://doi.org/10.1177/2394964320903557>

“Customer value is the perception of what a product or service is worth to a customer versus the possible alternatives. Worth means whether the customer feels s/he got benefits and services over what s/he paid. In a simplistic equation form, customer value is benefits – cost (CV = B – C). What the customer pays is not only price (cash, cheque, interest, payment during use such as fuel and servicing for a car) but also non-price terms such as time, effort, energy and inconvenience). The benefits include the advantages or quality of the product, service, image and brand of the company or the brand of the product, values, experience and success one gets in using the product and so on. Values are distinct from value (the

plural of value as defined above is value). Values are what someone or a firm stands for: honesty, morals, ethics, sustainability, integrity and trust” (s. 119)

Zolkiewski, Judy & Story, Victoria & Burton, Jamie... (2017). *Strategic B2B customer experience management: the importance of outcomes-based measures*. *Journal of Services Marketing*. 31. 172-184

https://www.researchgate.net/publication/316359043_Strategic_B2B_customer_experience_management_the_importance_of_outcomes-based_measures

Reason, B., Lovlie, L. & Flu, M. (2016). *Service Design for Business: a practical guide to optimizing the customer experience*. Hoboken, New Jersey: John Wiley & Sons

Meyer C, Schwager A. (2007). *Understanding customer experience*. *Harv Bus Rev*. 2007 Feb;85(2):116-26, 157. PMID: 17345685.

https://idcexed.com/wp-content/uploads/2021/01/Understanding_Customer_Experience.pdf

“Whether it is a business or a consumer being studied, data about its experiences are collected at “touch points”: instances of direct contact either with the product or service itself or with representations of it by the company or some third party. We use the term “customer corridor” to portray the series of touch points that a customer experiences. What constitutes a meaningful touch point changes over the course of a customer’s life. For a young family with limited time and resources, a brief encounter with an insurance broker or financial planner may be adequate. The same sort of experience wouldn’t satisfy a senior with lots of time and a substantial asset base. Not all touch points are of equivalent value. Service interactions matter more when the core offering is a service. Touch points that advance the customer to a subsequent and more valuable interaction, such as Amazon’s straight-forward 1-Click ordering, matter even more. Companies need to map the corridor of touch points and watch for snarls. At each touch point, the gap between customer expectations and experience spells the difference between customer delight and something less” (s. 3)

Once persuaded of the importance of [customer] experience, every function has a role to play. Marketing has to capture the tastes and standards of every one of its targeted market segments, circulate that knowledge within the company, and then tailor all consumer communications accordingly. Service operations must ensure that processes, skills, and practices are attuned to every touch point. (Present-patterns surveys are good for tracking high-volume touch points such as call centers.) Product development should do more than specify needed features. It should also design experiences after observing how customers use products and services, learning why they use offerings as they do, and figuring out how existing products might be frustrating them. Ideally, product developers will identify customer behavior that runs counter to a company’s expectations and uncover needs that haven’t been identified (s. 10-11)

Palvelumuotoilu

Koivisto, M., Säynäjäkangas, J. & Forsberg, S. (2019). *Palvelumuotoilun bisneskirja*. Helsinki: Alma Talent

“Palvelumuotoilu laajentaa muotoilun toiminta-alueen tuotekeskeisyydestä kokonaisvaltaisten systeemien sekä ajassa tapahtuvien kokemusten ja prosessien kehittämiseen. Palvelumuotoilu on muotoiluajatteluun perustuva muotoilun osaamisala, joka on erikoistunut palvelujen, asiakas- ja työntekijäkokemusten sekä palveluliiketoiminnan ihmislähtöiseen kehittämiseen. ... Palvelumuotoilun keskeisenä tavoitteena on palvelun käyttäjälähtöinen kehittäminen siten, että palvelu vastaa sekä asiakkaan tarpeita että palveluntarjoajan liiketoiminnallisia tavoitteita. Päämääränä on kehittää käyttäjälle hyödyllisiä, haluttavia, käytettäviä ja johdonmukaisia palveluja, jotka ovat myös palveluntarjoajalle taloudellisesti kannattavia, kilpailuetua rakentavia tai muutoin palveluntarjoajan vaikuttavuutta lisääviä. Palvelumuotoilulla halutaan edistää palvelujen käytön ja kuluttamisen sujuvuutta, helppoutta ja vaivattomuutta, mutta myös elämyksellisyyttä sekä tunteisiin ja arvoihin vetoavuutta.

Palvelumuotoilu voidaan nähdä uusien palvelutarjoomien innovoinnin mahdollistajana, positiivisten asiakas-, asiointi- ja käyttökokemusten varmistajana sekä laajemmin palveluliiketoiminnan kehittämisen välineenä. Sen avulla voidaan innovoida markkinoille täysin uusia palveluja tai kehittää olemassa olevia palveluja vastaamaan paremmin asiakkaiden tarpeisiin” (s. 34)

“Palvelumuotoilun kasvaneeseen kysyntään on vaikuttanut merkittävästi asiakaslähtöisyyden ja asiakaskokemuksen merkityksen lisääntyminen yritysten strategisena kilpailukeinona. Forrester Researchin mukaan elämme nykyään *asiakkaan aikakaudella*, jossa pärjäävät parhaiten ne yritykset, jotka syvällisesti ymmärtävät asiakkaiden tarpeita, ja jotka osaavat tuottaa asiakkaille mieleisiä asiakaskokemuksia” (s. 20-21)

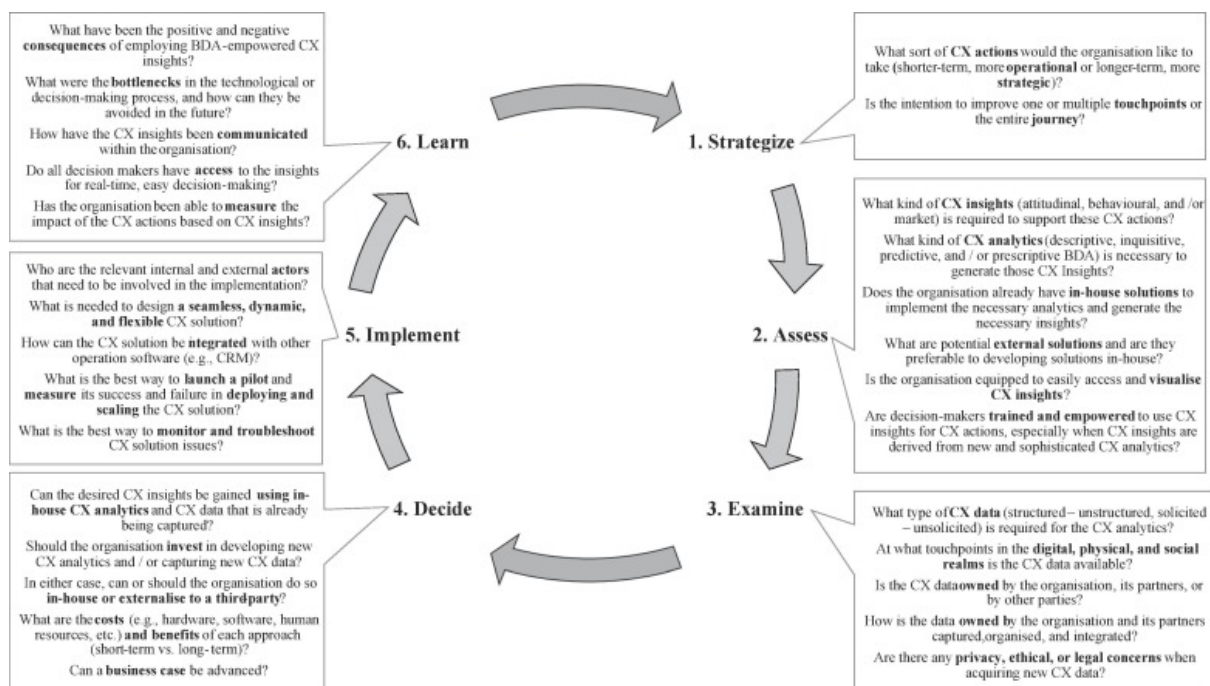
Digitalisaatiosta asiakaskokemuksessa ja sen johtamisessa, datan hyödyntäminen asiakaskokemuksessa

Hämäläinen, V., Maula, H. & Suominen, K. (2016). *Digiajan strategia*. Helsinki: Alma Talent

Digimurros, digiajan strategiatyö, digi asiakasarvon luomisessa

Holmlund, Maria, Vaerenbergh, Yves Van, Ciuchita, Robert, Ravald, Annika, Sarantopoulos, Panagiotis, Villarroel Ordenes, F. & Zaki, Mohamed. (2020). *Customer experience management in the age of big data analytics: A strategic framework*. *Journal of Business Research*. 116

<https://www.sciencedirect.com/science/article/pii/S0148296320300345>



Doligalski, T. (2015). *Internet-Based Customer Value Management: Developing Customer Relationships Online*. Cham: Springer International Publishing

Gupta, S., Leszkiewicz, A., Kumar, V., Bijmolt, T.H., & Potapov, D.B. (2020). *Digital Analytics: Modeling for Insights and New Methods*. *Journal of Interactive Marketing*, 51, 26 - 43

A key aspect of the changing nature of firm–customer interaction across all stages is observed in the personalization of content and offerings. A recent Harvard Business Review survey of 600 + business executives emphasizes that personalization has become a critical factor to improve business performance. More than half of the respondents mentioned that personalization significantly contributes to the revenue growth and 81% of them expect this trend to continue. Moreover, providing a personalized customer experience has been reported as a top application of machine learning in the current business environment. Further, recent research in new-age technologies aim to support and automate most of the marketing decisions to fulfill specific customers' needs and expectations in addition to allowing firms to provide personalized experiences to consumers (e.g., Kopalle, Kumar, & Subramaniam, 2020; Kumar, Rajan, Gupta, & Pozza, 2019; Gupta, Kumar, & Karam, 2019; Kumar, Ramachandran, & Kumar, 2020) (s. 29)

McAuley, Julian: Personalized Machine Learning (2022, Cambridge UP)

<https://www.cambridge.org/core/books/personalized-machine-learning/B34D2C0C49AFB730EE4E17AD0BE060DA>

Along with the increasing ubiquity of personalized machine learning systems, there is a growing awareness of the risks associated with personalization. Some of these issues have reached mainstream awareness, such as the idea that personalized recommendations can trap users in 'filter bubbles,' while other issues are considerably more subtle. For instance, considering the specific case of recommender systems, a naively implemented model can introduce issues including:

Filter Bubbles: Roughly speaking, recommendation algorithms rely on identifying specific item characteristics that are preferred by each user, and recommending items that most closely represent those characteristics. Without care, even a user with broad interests may be recommended only a narrow set of items that closely mimic their prior interactions.

Extremification: Likewise, a system that identifies features that a user is interested in may identify items that are most representative of those features, for example, a user who likes action movies may be recommended movies with a lot of action; in contexts such as social media and news recommendation this can lead to users being exposed to increasingly extreme content

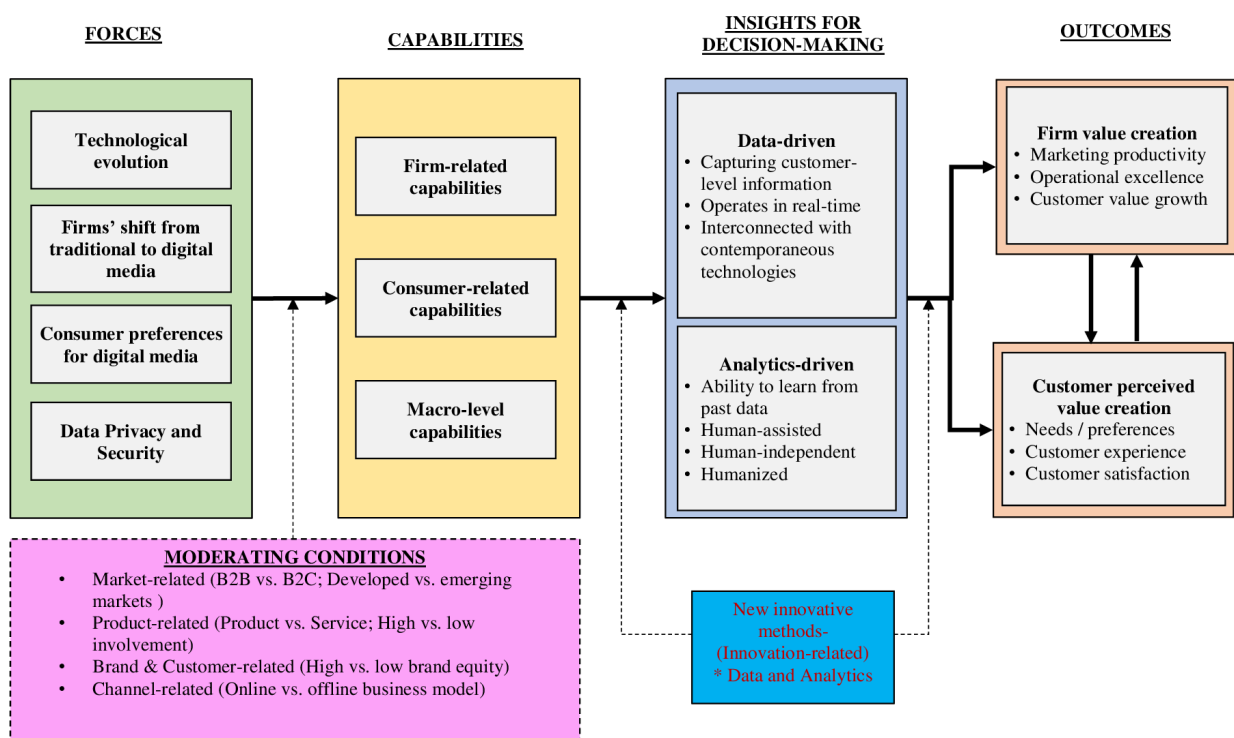
Concentration: Similar to the previous phenomenon, a user who has diverse interests may receive recommendations that only follow their most predominant interest (sec. 10.2). In aggregate, this may lead to a small set of items being over-represented among all users' recommendations.

Bias: Given that recommenders (and many other personalized models) ultimately work by identifying common patterns of user behavior, users in the 'long-tail' whose preferences do not follow the predominant trends may receive sub-par recommendations.

Along with a rising awareness of these issues has come a set of techniques designed to mitigate them. These techniques borrow ideas from the broader field of fair and unbiased machine learning, whereby learning algorithms are adapted so as not to propagate (or not to exacerbate) biases in training data, though the fairness goals are often quite different.

Diversification techniques can be used to ensure that predictions or recommendations balance relevance with novelty, diversity, or serendipity; related techniques seek to better ‘calibrate’ personalized machine learning systems by ensuring that predicted outputs are balanced in terms of categories, features, or the distribution over recommended items (sec. 10.3). Such techniques can mitigate filter bubbles by ensuring that model outputs are not highly concentrated around a few items, and more qualitatively can increase the overall novelty or ‘interestingness’ of model outputs. Other techniques follow more directly from fair and unbiased machine learning, ensuring that the performance of personalized models is not degraded for users belonging to underrepresented groups, or who have niche preferences.

Datan ja analytiikan hyödyntäminen organisaation asiakaskokemuksen, -arvon ja -tyytyväisyyden kehittämisessä (s. Gupta & Leszkiewicz et al. 29):



Filenius, M. (2015). Digitaalinen asiakaskokemus. Menesty monikanavaisessa liiketoiminnassa. Jyväskylä: Docendo

Tuulaniemi, J. & Söderberg, E. (2011). Palvelumuotoilu. Helsinki: Talentum Media

Digitalisaatio palvelumuotoilussa, asiakasodotukset ja käyttäjäkeskeisyys

Muita aiheeseen liittyviä linkkejä ja lähteitä

<https://hbr.org/2015/11/what-a-great-digital-customer-experience-actually-looks-like>

<https://www.valve.fi/blogi/asiakaskokemuksen-johtaminen-digitaalisessa-ajassa>

<https://www.superoffice.com/blog/digital-transformation/>

<https://contentsquare.com/blog/digital-customer-journeys/>

<https://www.toptal.com/designers/user-research/ux-data>

Media-alan nyky- ja tulevaisuudennäkymät (median konvergenssi, digitalisaatio, AI ja datan hyödyntäminen)

Dataiku: The AI Disruption in Media & Entertainment (2019)

■ Dataiku_report.pdf

Malmelin, N. & Villi, M. 2015 (toim.) Mediajohtaminen. Näkökulmia uudistuvaan media-alaan. Helsinki: Gaudeamus
Median murros + digitalisoituminen

Jenkins, Henry. (2006). Convergence Culture: Where Old and New Media Collide. NYU Press

Trattner, C., Jannach, D., Motta, E. et al. (2021). Responsible media technology and AI: challenges and research directions. AI and Ethics

<https://doi.org/10.1007/s43681-021-00126-4>

<https://link.springer.com/article/10.1007/s43681-021-00126-4>

“Beyond distribution, new technological developments have opened up opportunities to enhance the media production process, such as through the use of machine learning (ML) to sift through large numbers of documents, the application of analytic tools for audience understanding, the deployment of automated media analysis capabilities, the development of sociotechnical processes to support fact-checking, and so on. At the same time, a number of new challenges also arise with these developments. Some of these challenges affect the industry, where media organizations have to keep up both with rapid technological developments and with new players that enter the market. However, other challenges are more societally oriented, such as the ways in which new technologies increasingly automate media personalization. One of the most pressing problems in this context is often seen in the increasing opportunities for spreading misinformation and disinformation. Whereas the former is false and misleading information not necessarily meant to deceive, the latter is intentionally created and communicated to deceive people. While misinformation and disinformation have always been a feature of human society, modern technology has made it much easier for malicious actors anywhere in the world to reach the largest possible audience very quickly, something that would have been impossible in the past

Research directions

Next, we introduce and discuss five main research areas in responsible media technology, areas we consider as priorities for research and development efforts: 1. Understanding media experiences; 2. User modeling, personalization and engagement; 3. Media content

analysis and production; 4. Media content interaction and accessibility; 5. Natural language technologies

Understanding media experiences

New developments and technological innovations are changing how news are being distributed, consumed, and experienced by users. However, we still lack knowledge on how users will interact with the media of the future, including highly personalized content, bots or other conversational agents, AI-mediated communication, augmented reality (AR) and virtual reality (VR), and so on. Research needs to understand to what extent the behavior and experiences of audiences can be meaningfully monitored, measured, and studied. The problem remains to develop a more substantial picture and understanding of consumers' media use across all available media and platforms, both online and offline, in high-choice media environments, and via new modalities and interfaces. ...

Research on changing media use has recognized the need to trace and analyze users across media. This is methodologically challenging and must be carefully weighed against privacy concerns, but is key to understanding how people engage with media in their daily lives. With the datafication of everyday life, increasingly powerful platforms and intensified competition for attention, media users face a media environment which is increasingly perceived as intrusive and exploitative of their data traces. This situation causes ambivalence and resignation as well as immersive and joyful media experiences. A comprehensive foresight analysis of the future of media use emphasizes the need to understand fragmented, hyper-connected and individualized experiences, but also to consider the agency and capabilities of users in the context of potentially intrusive media technologies, and to develop critical and trans-media research that speaks for the interests of users in datafied communicative conditions. This challenge is crucial to democracy, as media use continues to be central for public connection and to enable citizens to access information and engage fully in the societal discourse. Rather than predominantly making sense of media usage through quantitative metrics, such as clicks, time spent, shares or comments, critical attention to problematic representations of datafication should be bridged with broader and deeper understandings of media as experience using a range of mixed methods approaches. In this context, responsible media innovation must build on knowledge that is attentive to diverse users' cross-media experiences and to the democratic role of media use

User modeling, personalization and engagement

Many modern media sites nowadays provide content personalization for their online consumers, e.g., additional news stories to read or related videos to watch. Such recommender systems, which typically rely both on individual user interests and collective preference patterns in a community, are commonly designed to make it easier for consumers to discover relevant content. However, the use of recommendation technology may also lead to certain undesired effects, some of which only manifest themselves over time. Probably the best known example is the idea of filter bubbles, which may emerge when a system learns about user interests and opinions over time, and then starts to preferentially present content

that matches these assumed interests and opinions. In conjunction with user-driven selective exposure, this can lead to self-reinforcing feedback loops which may then result in undesired societal effects, such as opinion polarization. While stark filter bubbles are not typically observed in empirical studies, some more subtle self-reinforcing tendencies have been observed in real systems such as Facebook and Twitter, raising questions about the long-term implications of more slight shifts in user exposure.

Other than the frequently discussed filter bubbles, echo chambers, as mentioned above, are another potential effect of recommendations that may lead to a polarized environment, where only certain viewpoints, information, and beliefs are shared and where misinformation diffuses easily. Such echo chambers are often seen as a phenomenon that is inherent to social media networks, where homogeneous and segregated communities are common. Recommender systems can reinforce such effects, e.g., by mainly providing content to users that supports the already existing beliefs in a community.

Looking beyond individual communities, recommender systems may also reinforce the promotion of content that is already generally popular, a phenomenon referred to as popularity bias. This phenomenon is well-studied in the e-commerce domain, where it was found that automated recommendations often focus more on already popular items than on promoting items from the “long tail”. In the media domain, popularity biases may support the dominance of mainstream content in recommendations, thereby making it more difficult for consumers to discover niche or local content, and may, furthermore, have implications for the quality of content surfaced.

Media content analysis and production

Media content analysis and production is becoming increasingly enabled by advanced AI techniques which are used intensively for a variety of journalistic tasks, including data mining, comment moderation, news writing, story discovery, fact checking and content verification, and more. At the same time, the deployment of AI responsibly in the domain of news media requires close consideration of things such as how to avoid bias, how to design hybrid human-AI workflows that reflect domain values, how journalists and technologists can collaborate in interdisciplinary ways, and how future generations of practitioners should be educated to design, develop, and use AI-driven media tools responsibly.

A crucial task that can be supported by AI technology is that of news writing. Reasonably straightforward techniques (e.g. the use of text templates filled in with data from rich databases) are already used routinely to produce highly automated stories about topics, such as sports, finance, and elections. Opportunities also exist for automated generation of highly personalized content, such as articles that adapt to appeal to a user’s location or demographic background. A challenge is to avoid bias in the resulting AI-automated or AI-augmented workflows, which can result both from the selection of informants and other data sources, from the analysis techniques and training materials used, and from the language models that generate the final news text.

There is still quite a large gap between the domain- and story-specific news generation programs currently in use and the more ambitious technologies that can be found in the field of interactive computational creativity, where users collaborate with advanced AI software for text generation. Newer approaches to controlled text synthesis using large language models in conjunction with knowledge bases are on the horizon, but have not yet been deployed by media organizations. **End-user control and the ability to “edit at scale” will be essential to ensure the accuracy, credibility, and feasibility of deploying text synthesized using such techniques in the domain of news.**

Another area of news production, referred to as computational news discovery, leverages AI techniques to help orient journalists towards new potential stories in vast datasets. Such approaches can help journalists surveil the web, identify interesting patterns or documents, and alert them when additional digging may be warranted. A concern is to detect and defuse biases in what the algorithms consider newsworthy. Related techniques for representing news angles used by journalists to identify and frame newsworthy content are also under development. The goal of this work is to provide computational support to generate interesting new stories that match the news values and angles of interest to a particular media organization. Similar techniques can also be explored to foster news diversity by generating stories that report alternative viewpoints on the same underlying event.

An area of content analysis that has received substantial attention is in helping media detect and fight misinformation online. Multimedia forensic techniques are for example being used to uncover manipulated images and videos. Moreover, automated fact checking uses machine learning and information retrieval to identify check-worthy claims, retrieve relevant evidence, classify claims, and explain decisions. Research has also examined deep learning approaches to “fake news” detection, semi-supervised machine learning techniques that analyze message streams from social media, such as Twitter, and the analysis of propagation patterns that can assist in differentiating fake from genuine news items.

Overall, the problem of computational support for responsible media production is a complex one, requiring an interdisciplinary approach and the integration of different types of technologies.

Media content interaction and accessibility

Tomorrow’s media experiences will combine smart sensors with AI and personal devices to increase engagement and collaboration. Enablers such as haptics, Augmented and Virtual Reality (AR/VR), conversational AI, tangible user interfaces, wearable sensors, and eye-free interactions have made clear progress. Recent work has for example studied the use of drones for various types of media production such as photography, cinematography, and film-making. By employing a range of device-categories, tomorrow’s media experiences will become further specialized and individualized, better targeting individuals’ needs and preferences. Research into adaptation includes responsive user interfaces (UIs), adaptive streaming, content adaptation and multi-device adaptation. Adaptation is also needed for collaborative and social use.

Another aspect of responsible media production is ensuring that users are able to understand the content. With the development of vastly more complex services and automated systems, ensuring that no user is left behind represents a major challenge. In a country like Norway, for example, 1 million people (19% of the population) have hearing disabilities, 180,000 (3%) are blind or have severely limited eyesight, 200,000 (4%) have reading disabilities, 870,000 (16%) are over 67 years, and there are about 790,000 foreign workers. While there is some overlap on these categories, it is clear that content and services designed for highly able young users will under-deliver to a substantial number of users.

Natural language technologies

The automated analysis, generation and transformation of textual content in different languages nowadays rely on Natural Language Processing (NLP) technologies. Current NLP methods are based almost exclusively on neural machine learning. Hence it is data-driven at its core, relying on large, unlabeled samples of raw text, as well as on manually annotated datasets for training of supervised ML models. NLP models are increasingly being applied to content within the news domain as well as to user-generated media content. Newsroom analysis of textual content can assist in text classification, extraction of keywords, summarization, event extraction and other types of automated text processing. Sentiment analysis on user-generated content can be applied to monitor user attitudes, as input to recommender systems, etc. Text generation models can assist journalists through the automatic or semi-automatic production of news stories. With the widespread use of NLP-based technology in the media sector, there are a number of open challenges that must be addressed to enable responsible media technology in the years to come.

The rapid developments in the field of NLP come with important ethical considerations. Large-scale language models that are built on an extensive corpus of news texts will inherit many of the same biases as its sources. An example is gender bias in language models trained on large quantities of text, where biases have been shown to negatively affect downstream tasks. In NLP, biases can be found both in the data, the data annotation and the model (pre-trained input representations, fine-tuned models). Proper data documentation and curation is key to studying bias and raising awareness of it. Furthermore, research on how to mitigate bias in NLP constitutes a crucial direction to enable responsible media technology

Lippell, H. (2016). Big Data in the Media and Entertainment Sectors. In: Cavanillas, J., Curry, E., Wahlster, W. (eds) New Horizons for a Data-Driven Economy. Springer, Cham.
https://doi.org/10.1007/978-3-319-21569-3_14

Media and entertainment companies need to analyse data not only at the customer and product levels, but also at network and infrastructure levels (e.g. streaming video suppliers, Internet businesses, television broadcasters, and so on). Key technologies in the coming years will be descriptive analytics, more sophisticated customer relationship management solutions, and lastly data visualization solutions that are accessible to a wide

range of users in the enterprise. It is only by “humanizing” these tools that big data will be able to deliver the benefits that data-driven businesses increasingly demand (s. 258)

The media and entertainment industries have frequently been at the forefront of adopting new technologies. The key business problems that are driving media companies to look at big data capabilities are the need to reduce the costs of operating in an increasingly competitive landscape and, at the same time, the need to generate revenue from delivering content and data through diverse platforms and products. It is no longer sufficient merely to publish a daily newspaper or broadcast a television programme. Contemporary operators must drive value from their assets at every stage of the data lifecycle. The most nimble media operators nowadays may not even create original content themselves. Two of the biggest international video streaming services, Netflix and Amazon, are largely aggregators of others’ content, though also offering originally commissioned content to entice new and existing subscribers.

Media industry players are more connected with their customers and competitors than ever before. Thanks to the impact of disintermediation, content can be generated, shared, curated, and republished by literally anyone with an Internet-enabled device. Global revenues from such devices, including smartphones, tablets, desktop PCs, TVs, games consoles, e-readers, wearable gadgets, and even drones were expected to be around \$750 billion in 2014 (Deloitte 2014). This means that the ability of big data technology to ingest, store, and process many different data sources, and in real-time, is a valuable asset to the companies who are prepared to invest in it.

The Media Sector is in many respects an early adopter of big data technologies, but much more evolution has to happen for the full potential to be realized. Better integration between solutions along the data value chain will be essential in order to convince decision-makers to invest in innovation, especially in times of economic uncertainty. Also, the solutions market is dominated by US, and, increasingly, Asian firms. Therefore, there is an economic imperative for Europe to both develop and use big data technologies more extensively.

... Case studies of successful big data projects in media have tended to come from the left-hand end of the data value chain (i.e. data acquisition and analysis). However, there is a need to identify both exemplars and gaps in the curation and usage of big data, as these are significant areas of competitive advantage for media organizations. Big data contributes to the bottom line by enabling organizations to pursue digital transformation. According to PWC (2014), this forges the trust of consumers, creates the confidence to innovate with speed and agility, and empowers innovation.

Unlike some other sectors, the vast majority of actionable data in the media sector is already in digital form (and analogue products such as newspapers have been created through digital technologies for some years now). However, this does not mean that organizations are deriving the fullest possible financial benefit or cost efficiencies from both their existing data and new sources of data. There is a growing body of evidence that there is much work to do at research and policy levels to support the burgeoning ecosystem of diverse businesses engaged in analysing, enhancing, and delivering content and data.

There are three main areas where big data has the potential to disrupt the status quo and stimulate economic growth within the media and entertainment sectors:

1. Products and Services: Big data-driven media businesses have the ability to publish content in more sophisticated ways. Human expertise in, e.g., curation, editorial nous, and psychology can be complemented with quantitative insights derived from analysing large and heterogeneous datasets. But this is predicated on big data analysis tools being easy to use for data scientists and business users alike.

2. Customers and Suppliers: Ambitious media companies will use big data to find out more about their customers—their preferences, profile, attitudes—and they will use that information to build more engaged relationships. With the tools of social media and data capture now widely available to more or less anyone, individuals are also suppliers of content back to media companies. Many organizations now back social media analysis into their orthodox journalism processes, so that consumers have a richer, more interactive relationship with news stories. Without big data applications, there will be a wasteful and random approach to finding the most interesting content.

3. Infrastructure and Process: While start-ups and SMEs can operate efficiently with open source and cloud infrastructure, for larger, older players, updating legacy IT infrastructure is a challenge. Legacy products and standards still need to be supported in the transition to big data ways of thinking and working. Process and organizational culture may also need to keep pace with the expectations of what big data offers. Failure to transform the culture and skillset of staff could impact companies who are profitable today but cannot adapt to data-driven business models (s. 245-247)

Newman, N. (2023). *Journalism, Media, and Technology Trends and Predictions 2023*. Digital News Project. Reuters Institute

<https://reutersinstitute.politics.ox.ac.uk/journalism-media-and-technology-trends-and-predictions-2023>

Kivioja, P. (2018). *Iltapäivälehtien evoluutio median murroksessa – Hiipuva printti, nouseva digitaalinen mahti ja ansaintamallin uusi asento*. *Acta Universitatis Tamperensis* 2439. Akateeminen väitöskirja. Tampere: Tampereen yliopisto

<https://trepo.tuni.fi/handle/10024/104618>

”Herkmanin (2003) mukaan median konvergenssin käsitteellä kuvataan monimutkaisia ja moninaisia mutta toisiinsa kietoutuvia muutoksia, joita mediakentällä on tapahtunut 1990-luvun puolivälistä alkaen. Teknologinen konvergenssi ymmärretään ennen kaikkea mahdollisuutena yhdistää digitaalisesti radion, television, telekommunikaation ja tietoverkkojen toimintoja, mutta konvergenssilla voi olla muitakin ulottuvuuksia, kuten muodon ja sisällön sekä omistuksen ja talouden konvergenssi” (Herkman 2003, 151). Lehtisaaren ym. (2012) mukaan konvergenssia edistävät erityisesti internet ja kaiken mediasisällön digitalisoituminen, mutta konvergenssin seurauksia voidaan nähdä useilla tasoilla – esimerkiksi teknologioissa, teollisuudenaloilla, mediasisällöissä ja journalistisissa käytännöissä (Lehtisaari ym. 2012, 5). Konvergenssi on mahdollistanut mediasisällön jakamisen binäärimuodossa uusissa jakelukanavissa: ensin internet-tietoverkossa, sitten

kehittyneen laajakaistaverkon varaan rakentuneissa teknologisissa ratkaisuihin, kuten älypuhelimissa, tableteissa, Kindlen kaltaisissa lukulaitteissa ja iPod-soittimissa. Juuri laajakaistan nopeutumisen ja sen levinneisyyden kasvu on ollut avainasemassa verkkopalveluiden kehittämisessä” (s. 72)

”Yksi konvergenssia kiihdyttävistä kulutustottumusten muutoksista on kiireen vaikutus” (s. 72)

”Median murroksen selittäminen pelkällä internetin vaikutuksella olisi liian suuri yksinkertaistus. Murroksessa on kyse useista vääntövoimista, joista osa on käynnistynyt jo ennen ilmaisen internetin aikaa. Syynä iltapäivälehtien muutokseen ovat monin paikoin samat voimat kuin yleisessä median murroksessa: muun muassa teknologinen konvergenssi ja ilmaisen verkon kannibalisoiva vaikutus, mediakilpailu, yleisön kulutustottumusten ja ajankäytön muutokset sekä muut yhteiskunnalliset tekijät” (s. 257)

Jenkins, J. & Nielsen, R. (2018). The Digital Transition of Local News. Digital News Project. Reuters

<https://www.digitalnewsreport.org/publications/2018/digital-transition-local-news/>

Harvard Business Review'n white paper (2021) asiakaskokemuksen kasvavasta roolista media-alalla + datan hyödyntämisen mahdollisuuksista:

<https://hbr.org/resources/pdfs/comm/salesforce/TurningUptheVolumeonCustomerExperienceIsKey.pdf>

To compete in the cutthroat market for consumer attention and loyalty, media organizations are working to develop direct, “sticky” relationships with consumers by delivering the right combination of appealing content, an effortless omnichannel experience, and a value proposition their target market finds palatable, whether that relies on a subscription, well-targeted ads those consumers actually want to see, or a hybrid of both. At the core of those efforts is elevating their ability to wield customer data to inform CX, content decisions, and the development of new products and services such as subscription plans, advertising offerings, digital commerce, and audience engagement vehicles to serve both consumers and advertisers (s. 2)

To support this quest for more personalized, one-to-one relationships, media organizations are not just experimenting with new approaches to connect directly with consumers, but also forging new partnerships, diversifying revenue streams, and investing in the technology infrastructure they need to make the most of their data. ...

Traditional media bring to this new marketplace a legacy of strong storytelling—whether that’s entertainment, news, a sporting event, online gaming, and so on—but suffer from an historically arms-length relationship with the consumer. They are coming up against technology and organizations that have fine-tuned sophisticated mechanisms for customer engagement through data, but lack the legacy of rich content development. They are also confronted by distribution organizations that have some of the mechanisms but not the content.

The past few years have seen an uptick in mergers, acquisitions, and partnerships among traditional players in this value chain, such as the AT&T acquisition of Time Warner and Disney's acquisition of 21st Century Fox, with the aim of amassing the scale, tech capabilities, and customer insights needed to compete with digital-first organizations like Amazon and Apple entering the media space. Despite the rollups, however, the market capitalization of these newly merged entities is still dwarfed by the tech giants, and the mergers have left the surviving media titans with a disparate array of technology infrastructure, cultural misalignment, and gaps in process integration.

Still, mergers and acquisitions can increase access to financial resources, content sources, tech and data capabilities, audience insights, and enhanced advertising portfolios. Media organizations are also forging new partnerships, such as Amazon's partnership with IMDb TV, to gain additional audience insights to guide decision making, and creating partnerships that ensure their content is available across platforms—not just broadcast, for example, but streaming platforms, connected TVs, social media, and so on.

“While our own acquisitions and reorganizations have helped us gather more data and react faster, it's been our partnerships that have given us more consumer touchpoints, helped streamline our processes, and democratized data across the organization,” says Yaccarino. For example, NBCU's 2013 partnership with Twitter helped create a social viewing experience for audiences while providing marketers with easier transaction, targeting, and campaign measurement impact. Total campaign growth has expanded from 10 campaigns in 2014 to 201 in 2020, Yaccarino says, while global video views for all NBCU Twitter handles grew an average of 26% in 2020. The company recently announced global expansion of the Twitter relationship.

Another priority is to diversify revenue streams, such as by offering tiered pricing models—free, discounted, and ad-supported—as well as digital commerce and branded merchandise sales, aggregating others' content, or partnering with next-generation streaming content aggregators such as Struum that enable consumers to purchase credits to use across content providers while exposing smaller providers to potential subscribers (s. 4)

Elevating the Role of Data

Algorithms, of course, rely on data. What has changed for media organizations is the need to move from a one-to-many to a one-to-one model when it comes to their audience, and to do so much faster. That model shift takes much more data—and the talent, reskilling, and infrastructure to get the insights data can produce into the hands of those who influence that more personal, curated CX.

“With advances of technology, these direct insights are so much deeper,” says Margarita Lam, client partner, head of media and entertainment, at Point B, a management consulting company. “I think media organizations have an incredible opportunity, but there's such a wealth of data that I think they've just hit the tip of the iceberg.”

As media becomes increasingly digital, that data includes not just basic demographics, but also behaviors and preferences: go-to genres, frequency and duration of content consumption, favored celebrities or bylines, one-off versus serialized content, and on and on. That data will only grow richer. A patent granted to Spotify in January 2021, for example,

describes a technology that categorizes a user's emotional state based on their voice interactions with the app, and that information can be used to recommend content.

This newly enriched trove of data must serve a variety of roles. One function is the time-honored tradition of referencing data to guide content development. Media organizations must continue to strike a careful balance between art and science, finding new ways to uncover insights into what makes content resonate with their audiences, while leaving plenty of room for the creative spark and gut feeling that has long inspired quality content.

Another key role for data is to design and enhance the customer media experience. This role can include attracting and onboarding a new consumer; developing a seamless omnichannel user interface; delivering a personalized discovery and engagement process; creating feedback loops to drive ongoing engagement and loyalty; and ensuring satisfactory customer care.

For many media organizations, effective, targeted advertising is a part of that satisfactory experience. The same data that helps shape a more personalized experience with content helps ensure that the consumer sees relevant advertising while engaged. ...

Data is also essential to drive development of products and services that resonate well with media consumers and advertisers. Audience insights can reveal new revenue opportunities for media organizations based on what audiences value; fuel upselling, cross-selling, and bundling; and uncover new ways to extract maximum value from content and advertising inventory.

On the advertising front, media organizations are also working to improve the transparency of advertising pricing and packaging, while reducing churn and increasing their own profitability. Traditional media organizations are trying to do what digitally native platform organizations do—make it easy for customers to access self-service tools to procure ad products, access granular audience segments, execute campaigns, and get real-time visibility into campaign performance via easy-to-use interfaces and dashboards (s. 5)

Investing in Data Agility

To achieve all these capabilities, many traditional media organizations are making considerable investments in infrastructure to capture, analyze, and disseminate data. One task is to free data from the silos where it currently resides and get it to the right people across the organization, in the right formats to be of most use for each specific role. The goal is to work from a unified, shared, easy-to-understand, always-accessible 360-degree view of their customers. This effort is as much cultural and process-oriented as it is technical, requiring leadership to foster an atmosphere of agility and collaboration so that staff will begin to see data as a key enabler of achieving the organization's goals.

"There are certain people and certain parts of an organization that are very data-centric and data-focused. And then there are some that are very creative, coming up with what their gut says is a good thing," says Egon Zehnder's Kilpatrick. Those sides must be brought together to drive collaboration. "There are certain leaders who can make that kind of translation and smooth the way," she adds. "And those are the people who we see as being very much in demand."

To support that mission, media organizations are establishing consumer insights teams and centers of excellence to ensure the right data gets to the right places at the right time—and that users are well-prepared to maximize its value in their day-to-day work.

NBCUniversal, for example, has spent the past few years working to democratize information across its entire advertising organization to ensure every employee has both specialized and general knowledge of the platform. Its so-called insights and measurement team focuses on gleaning the best insights, best analytics, and best practices across its portfolio, and getting them into the hands of the right people internally and externally, as quickly as possible. A center of excellence enables the entire ad sales division to access a single, centralized platform for training, mentorship, and innovation.

“It’s meant revamping our organizational structure to become more transparent, more fluid, and more reflective of the way our clients build solutions and transact in the marketplace,” says Yaccarino. “We’ve also implemented enterprise-wide technologies to give employees better ways to collaborate across the organization. The ultimate goal is to have our sales team not just transact, [but to also] build solutions with our partners.”

Artificial intelligence (AI) and predictive modeling already have become critical differentiators for CX leaders such as streaming services to power personalized content recommendations, and other organizations such as news media are scrambling to catch up. As they continue to evolve, these technologies will play an increasing role in enhancing CX, content development, and product and services development. “AI modeling will absolutely be extremely helpful as the pieces of data continue to grow exponentially,” says Lam. The ability to deepen insights into consumers will also elevate media organizations’ ability to help advertisers better identify and target their messaging. NBCU, for example, uses AI as part of its Olympics ad engine to analyze the past performance of Olympics-related creative, to give advertisers better suggestions and guidance for the Summer Games in Tokyo in 2021. “It epitomizes what’s possible when art meets the science of marketing,” says Yaccarino (s. 7-8)

Amato, G. & Bimbot, F. (2019). AI in the media and creative industries

https://www.researchgate.net/publication/333041972_AI_in_the_media_and_creative_industries

EY: How are media and entertainment businesses reinventing in an age of transformation? (2020)

https://www.ey.com/en_gl/tmt/how-the-media-and-entertainment-enterprise-is-evolving

For several years, the utilization of data has also been a hot topic in many media enterprises both for improving operations and driving growth. Almost two-thirds of media executives see the increasing availability of data as an opportunity (62%). In some subsectors, such as information services — where data underpins the entire business model — the development of data products and service offerings logically is the top priority (44%). Yet for many enterprises, the ability to effectively utilize data remains elusive.

Major efforts by media companies on the data agenda include:

- Consolidating existing customer data (44%), thereby better understanding what they have today
- Enhancing the analytics and data skills of the organization (42%), thereby doing more with what they have
- Developing proprietary sources of data (40%) to better leverage what is available but untapped, to stimulate incremental commercial opportunities

The modern media enterprise is far more digital, data-driven, process-heavy and complex than ever before. As these trends intensify, media executives are looking for ways to free up resources and unburden the enterprise, allowing it to focus on what is important and strategic.

Muita aiheeseen liittyviä linkkejä ja lähteitä

<https://yle.fi/uutiset/3-12229190> ja <https://lahjoitapuhetta.fi/>

<https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2022>

<https://journals.sagepub.com/doi/full/10.1177/1077699018815891>

https://www.researchgate.net/publication/323263969_Algorithms_in_the_newsroom_News_readers%27_perceived_credibility_and_selection_of_automated_journalism_)

<https://qvik.com/fi/uutiset/koneoppiminen-valtaa-media-alaa-laadukas-data-avaa-mahdollisuudet/>

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Rekisteröityneen asiakkaan arvosta

<https://www.inma.org/blogs/value-content/post.cfm/what-is-the-value-of-knowing-a-reader>

<https://pressgazette.co.uk/reach-to-accelerate-digital-revenue-with-reader-registrations-as-profits-climb/>

<https://digiday.com/media/economist-tightens-paywall/>

Tunnistautumisesta ja yksityisyyskysymyksistä datan käytössä

Pepper, D. & Rogers, M. (2017). Managing Customer Experience and Relationships. Hoboken, New Jersey: John Wiley & Sons

RELATIONSHIPS REQUIRE INFORMATION, BUT INFORMATION COMES ONLY WITH TRUST

Customers will ultimately have to decide how much information they are willing to share about themselves with an enterprise. Those who are freer with their information will receive more customized and personal service, but will sacrifice a level of privacy. The future of a customer-strategy business world depends on gaining the customer's trust; relationships don't exist without it. Without trust, customers will not give an enterprise the information it needs in order to serve that customer better. Lose customer trust and everything is lost. If a customer wasn't sure that his insurance company was not sharing his vital information with other companies, would he even think about filling out all those forms? ...

Fred Newell wrote that as marketers develop more and more information about the lives and lifestyles of customers, the privacy issue heats up around the world. "Privacy issues will have to be examined from fresh perspectives if we are to continue the delicate balance between the marketer's need for information and the consumer's desire to control that information. The marketing community, so anxious for a continuing flow of customer information, must work to keep the balance by sharing more positive stories of customer benefits, to balance the media focus on Big-Brotherism, and the legislators' zeal to 'protect us' from ourselves".

Once customers feel assured that their data are safe with the company, the next logical step is to make it comfortable for them to share more and more information. It is better to build a customer relationship gradually, one piece at a time, than to flood the relationship with massive doses of data. (Think of this kind of information exchange as drip irrigation). At every step of the collaboration, enterprises need to concentrate on gathering the information useful to them. To build the necessary trust for customers to do that, enterprises often need to offer their customers something of value in return for the information. Many offer direct, cash-oriented benefits such as discounts, coupons, or promotions. Not surprisingly, some of the most successful companies working on this kind of "information exchange" take steps to individualize the offer so that it has greater value to a particular customer.

Customers are also becoming comfortable using automatic personalization tools on the Web. While these tools are fine for customizing Websites, they often fall short for nurturing enterprise/customer relationships. The enterprise must work harder to truly get to know the customer. A customer is more likely to stay loyal if he has taken the time to personalize a Website himself, and the enterprise acts on the information given. One of the primary goals of the enterprise focused on building customer value is to use the information it gathers about a customer to customize some aspect of its product or service to suit the customer's needs. The enterprise should begin to offer the customer things relevant to him, things that

the customer could never find anywhere else, not from any generic offering that doesn't have information to use about him to meet his needs better. As a result, the customer will trust the company more.

Once the flow of information begins between the customer and the enterprise, it is imperative for the enterprise to enable the customer to feel he controls his information. The enterprise should enable the customer to use the information to save him time and money and deliver value. All of this will fulfill the customer's expectations of trust and earn his lifetime loyalty. Using a customer's information to his advantage might involve reminding him when he is going to run out of a product he uses regularly or developing a related product or service he could use (s. 81-83)

WHY IS IDENTIFICATION IMPORTANT?

Ultimately, of course, the central purpose of collecting customer information is to enable the development of closer, more profitable relationships with individual customers. In many cases, these relationships will be facilitated by the availability to the enterprise of information that will make the customer's next transaction simpler, faster, or cheaper. Remembering a customer's logistical information, for instance, will make reordering easier for her, and therefore more likely. Remembering this type of information will also lead the customer to believe she is important to the company, that her patronage is valued. In order to make any of this work, however, it is essential for the enterprise to establish a trusting relationship with the customer, so she feels free to share information. There is a vocal privacy-protection movement—perhaps more active in Europe than in North America—that has been energized by the increasing role that individual information plays in ordinary commerce, and the perceived threat to individual privacy that this poses. However, both practical experience as well as a number of academic studies have shown that the vast majority of consumers are not at all reluctant to share their individual information whenever there is a clear value proposition for doing so. Therefore, if a company can demonstrate to the customer that individual information will be used to deliver tangible benefits (and provided the customer trusts the enterprise to hold the information reasonably confidential beyond that), then the customer is usually more than willing to allow the use of the information. Trusting relationships or not, protecting customer privacy and ensuring the safety and security of customer-specific information are critical issues in the implementation of customer strategies (s. 100-101)

It is customer information that gives an enterprise the capability to differentiate its customers one from another. Customer information is an economic asset, just like a piece of equipment, a factory, or a patent. It has the capability to improve an enterprise's productivity and reduce its unit costs. Individual customer information, if used properly, can yield a return for many years. And because customer information is based on an individual, not a group, it is more useful for its scope, rather than its scale. When two enterprises are competing for the same individual customer's business, the company with the greatest scope of information about that customer will probably be the more effective competitor. And, because technology now makes it possible for businesses of nearly any size to keep track of individual relationships with individual customers, the scale of a company's operations may become less important as a competitive advantage. Cultivating a profitable customer

relationship will depend primarily on having information about a specific customer and using it wisely. It will not matter as much who has the most customers (s. 67)

Lippell, H. (2016). *Big Data in the Media and Entertainment Sectors*. In: Cavanillas, J., Curry, E., Wahlster, W. (eds) *New Horizons for a Data-Driven Economy*. Springer, Cham.

https://doi.org/10.1007/978-3-319-21569-3_14

The constraints for big data in the media and entertainment sectors can be summarized as follows:

- Increased consumer awareness and concern about how personal data is being used. There is regulatory uncertainty for European businesses that handle personal data, which potentially puts them at a disadvantage compared to, say, US companies who operate within a much more relaxed legal landscape.
- Insufficient access to finance for media start-ups and SMEs. While it is relatively easy to start a new company producing apps, games, or social networks, it is much harder to scale up without committed investors.
- The labour market across Europe is not providing enough data professionals able to manipulate big data applications, e.g. for data journalism and product management.
- Fear of piracy and consumer disregard for copyright may disincentive creative people and companies from taking risks to launch new media and cultural products and services.
- Large US players dominate the content and data industry. Companies such as Apple, Amazon, and Google between them have huge dominance in many sub-sectors including music, advertising, publishing, and consumer media electronics.
- Differences in penetration of high-speed broadband provision across member countries, in cities, and in rural areas. This is a disincentive for companies looking to deliver content that requires high bandwidth, e.g. streaming movies, as it reduces the potential customer base (s. 249)

Gupta, S., Leszkiewicz, A., Kumar, V., Bijmolt, T.H., & Potapov, D.B. (2020). *Digital Analytics: Modeling for Insights and New Methods*. *Journal of Interactive Marketing*, 51, 26 - 43

Data Privacy and Security

Customer-level personal information has become a valuable currency for firms as it provides an opportunity to personalize their marketing offerings and bring better one-to-one relationships with customers, thus increasing their satisfaction and loyalty (Huang & Rust, 2017). But this positive effect is highly intertwined with customers' concern for the security of their personal information (Malhotra, Kim, & Agarwal, 2004). Customers' negative perception about data collection, storage, and the high probability of misuse of their data may adversely affect their privacy concerns (Beke, Eggers, & Verhoef, 2018; Smith, Milberg, & Burke, 1996) (s. 30)

New-age technologies introduce three “new” problems for consumer privacy: (a) firms are increasingly informed about future customer buying patterns using their focal transaction data; (b) firms may not fully internalize the potential harms to the customers due to the

inability to trace the source of data; and (c) firms may promise a consumer-friendly data policy at the time of data collection but renege afterwards because it is difficult to detect and penalize it after the fact (Jin, 2019). In this situation, customers may choose to manipulate their personal information by using careful privacy calculus (weighing the costs and benefits from private information disclosure) to prevent identity theft threats or inappropriate data usage (Dinev & Hart, 2006; Mothersbaugh, Foxx, Beatty, & Wang, 2012). Beke et al. (2018) summarize that firm, consumer, and environmental characteristics influence the balance of consumer privacy calculus and should be considered when firms elaborate their privacy practices (s. 31)