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News in perspective

What is news to news users in the digital age?

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Chapter 1

Introduction

Introduction

In the soft dawn light, Jane's day begins with a few buzzes on the nightstand. As she groggily reaches for her phone, the screen lights up and a stream of notifications floods in. In the dimness of her bedroom, Jane squints against the brightness and quickly scans through the notifications: Between other chat messages from her friends and family, there are a few headlines from Google News, including updates on local elections, the recent inflation, and some showbiz gossip. While processing this morning briefing tailored to her interests, she slowly wakes up.

After freshening up and a quick breakfast, Jane sets off for work. Her commute is accompanied by the latest episode of an Apple Podcast, where an experienced journalist offers unique insights into the Middle Eastern conflicts. This 20-minute short documentary podcast fits perfectly into Jane's travel time, providing an informative backdrop to her mundane routine.

Today's work unfolds in its usual rhythm. During a brief coffee break in the afternoon, Jane quickly replies to some messages on her phone, one of which is from her high school friend, sharing an op-ed written by a political scientist about the election. She peruses the article over coffee and exchanges a few thoughts with her friend.

As the night settles in, Jane returns home, unwinds on the couch, and casually scrolls through her Instagram feed: friends going on vacations, funny cat videos, and wait, a post from one comedian she follows catches her eye. It features a protest on women's rights this weekend. Intrigued, she comments, asking for more details.

Later on, Jane turns to YouTube for some latest segments of her favorite late-night show. She always has a good laugh at the host's satirical comments on news events. The interview session is also fun, with guest celebrities promoting new movies. They share funny behind-the-scenes stories and that concludes Jane's evening entertainment. When the screen darkens, Jane drifts into sleep, feeling connected to this ever-changing world. Tomorrow is another day, she thinks, with news coming her way.

Jane's daily flow of information might sound all too familiar — she epitomizes

the modern news users. But do you still recall the not-so-distant past: mornings began with newspapers picked up from doorsteps, and evenings spent on tuning in to news broadcasts on television? We then realize how profoundly the digital environment has changed the way we interact with news. But how do we begin to study news consumption, or the implications of news consumption today? How do we extend our understanding beyond individuals like Jane to a broader population, when there is an enormous amount of information available (online) for everyone? In this dissertation, I argue that rethinking how we define “*what is news*” is a necessary first step. The answer to this question varies not only from one user to another but also between the audience, newsrooms, and academia. And the navigation of these different perspectives makes studying news today intriguing.

Historically, the “*what is news*” question has elicited fruitful discussion from the supply side of journalism, where news was typically considered the professional output of journalistic organizations. The discussion focused on how editors and journalists in the newsrooms decide what news is, evaluating news values and journalistic practices (Gans, 2004). While newsrooms and the academia have long been sharing agreements on what constitutes news, this dissertation highlights the subjective notions of news among the audience, tackling the challenge of incorporating users’ own perceptions into the analysis of their digital news consumption. Why would this be relevant? On the one hand, for researchers, studying the user perception changes the way we look at news consumption, and further how individuals today navigate through the (digital) media landscape. The broader relevance lies in the effects of news: Perceiving the content as news or not affects the different amounts of attention from users and more importantly their cognitive efforts invested into processing and learning new information; therefore, investigating user perceptions is a key step towards understanding news effects and its further democratic implications. On the other hand, for practitioners adapting to the shifting media context and struggling with eroding public trust and declining subscription rates, these user perceptions translate to user expectations for journalism. To newsrooms, these are invaluable insights into creating news products that better suit user interests and potentially improve news engagement. Moreover, in a society increasingly confronted with global crises such as the recent pandemic and geopolitical conflicts, understanding how users perceive news content sheds light on how to more effectively inform the public and combat the increasing challenges of misinformation and disinformation in this critical time.

Taken together, this dissertation poses the overarching question:

“What is news to news users in the digital age?”

The next section contextualizes this question within the framework of the current news landscape, which is characterized by blurry genres, news platformization, and the common use of algorithmic recommendation systems. Following this, there is a discussion on what constitutes news from different perspectives. After that, the general research question is unpacked, and three specific research questions are presented. Alongside each question, the research design involving various innovative approaches to data collection and analysis is introduced. Finally, this chapter concludes with an outline of the dissertation.

Navigating the *new* news landscape

In the digital age, the landscape of news has undergone profound changes with the rise of new technologies, such as social media platforms, mobile and smart devices, and artificial intelligence. Traditional news institutions have adapted to such new technologies, integrating them into their journalistic practices for gathering, producing, and publishing news while preserving their own journalistic values (Mitchelstein & Boczkowski, 2009). Meanwhile, these new technologies have enabled an increase in online content creation by non-professional and semi-professional practitioners (Mutsvairo & Salgado, 2022), who also contribute to keeping the public updated on current news events. Consequently, news users now enjoy unprecedented access to an abundance of news information. With new technologies, such an ever-expanding amount of news information is available online at any time through a variety of digital devices (Wolf & Schnauber, 2015). This shift underlies subtle changes in how news is perceived in today’s new media environment, which is shaped by three evolving elements that are closely related to each other, namely **content**, **platforms**, and **algorithms**. The following paragraphs elaborate on these three elements.

Content

Let’s get back to Jane from the beginning of this chapter. She keeps herself updated through quite some news related content throughout the day, including

headline notifications, documentary podcasts, opinion articles, social media posts, and satirical video clips. Here, two observations on the *content* element stand out. First, we see the sheer volume and diversity of choices for users today to obtain news information (Van Aelst et al., 2017). With the advancements of new technologies, an enormous amount of news content is presented to users in various media formats. While traditional items like newspaper pieces, television programs, and radio segments continue to hold a large share in news consumption, to more and more users, news items could also be social media posts with images or videos, live blogs, or podcasts (Thorsen & Jackson, 2018). Second, as new media develop, hybrid news genres have become increasingly prevalent (Colussi & Rocha, 2020), blurring the once clear boundaries of news being formal and factual. Today's news users are not limited to conventional news content that appears to be "boring and grey" (Costera Meijer, 2020, p. 2333). In fact, they could be informed with a news event by watching a YouTube video where an influencer blends subjectivity with an informal tone. In that case, would they consider this video as news, deviating from the traditional definition of news in which at least the content producer should be a professional journalist? Such questions move beyond the previous "hard news versus soft news" discussion and highlight the users' perspective — what kind of content would be considered informative by news users?

Platforms

Moving on to the digital *platforms* that Jane goes on during the day for retrieving new information, such as Google News and YouTube, we see that these platforms have fundamentally changed the online news ecosystem. Beyond the official websites of news organizations, common platforms for news consumption now include news aggregators and social media, both of which have shown particular appeal to the younger generations in contrast to traditional media. This dissertation focuses on these two types of platforms as they are both of political interest.

News aggregators, such as Apple News and Google News, are typically defined as online applications that redistribute content from established news outlets, gaining prominence in the news market (Athey, Mobius, & Pal, 2021). Research indicates that users of news aggregators are usually not seeking opinionated content but choosing to access information in an apolitical manner (Lee & Chyi, 2015).

Social media have reshaped both journalistic practices and users' news experience (Kümpel, 2022a), playing an increasingly dominant role in the news

landscape. To study news on social media, the concept of “news platformization” is receiving academic interest (Nieborg & Poell, 2018). Becoming “platform complementors” (Nieborg & Poell, 2018), news organizations are adapting their professional routines with the unique technological affordances of different social media platforms (Hase, Boczek, & Scharkow, 2022), such as Twitter/X and YouTube, and following certain platform logic concerning item selection, temporality considerations, expression style, etc. (Tenenboim, 2023). Furthermore, social media significantly influence users’ news consumption habits, particularly amongst the youth (Geers, 2020). For instance, while using these platforms for social connections and entertainment (Throuvala, Griffiths, Rennoldson, & Kuss, 2019), users often unintentionally encounter news content in a less traditional format. Such news experiences have also been studied under the term of “incidental exposure” (Boczkowski, Mitchelstein, & Matassi, 2018), describing how users accidentally stumble upon content that satisfies their need for information without intending to do so. On digital platforms, especially social media, which are not designed to be journalistic-oriented, when users incidentally come across the hybrid news content without active seeking, the questions remain whether they would count this as news experience, and the content itself as news.

Algorithms

As introduced above, there is now an abundance of news content with blurry genre boundaries available on various digital platforms, each with distinct technological affordances. But have you wondered how exactly Jane’s morning news briefing is curated? Acknowledging the prominent role of newsrooms plays in news making and delivery, news content today is increasingly curated through *algorithms* — the third element that is important to consider for understanding how news is perceived in today’s new media environment. This kind of personalized recommendation tailors news to individual users based on their online profiles, which are created from, amongst others, past clicking behaviors, self-identified interests, and demographic profiles (Raza & Ding, 2022). This pre-selection process benefits users surrounding with an overwhelming volume of information, helping them quickly identify relevant news content (Mitova et al., 2023). However, such convenience of highly personalized news comes with critical democratic implications (Helberger, 2019), especially concerning the consumption of diverse content and opinions crucial for developing politically informed and active citizens (Joris et al., 2022).

One prevalent concern is that, following the selective exposure theory, users naturally prefer news content that aligns with their interests and political attitudes (Stroud, 2010). Consequently, algorithms risk limiting their chances of encountering different opinions and reinforcing their existing attitudes (Dylko, 2016), resulting in “echo chambers” (Sunstein, 2009), “filter bubbles” (Pariser, 2011), and political polarization (Stroud, 2010). Eventually, it could pose a threat to democracy. That being said, empirical evidence regarding this theory is, at best, conflicting. Recent studies challenge this assumption (Bruns, 2021; Ross Arguedas, Robertson, Fletcher, & Nielsen, 2022), suggesting the need for a more comprehensive examination of the dynamic feedback loops involved in this process (Mitova et al., 2023). Meanwhile, little is known regarding news perception in such a setting. For example, if news content is algorithmically recommended, would that change how users perceive it?

What constitutes news?

Defining news is an abstract question, but it becomes more tangible when we look at how individual items would be classified as news. Academia traditionally approaches this task with a focus on the production side (e.g., Gans, 2004), considering both the source (i.e., the producer) and the content (i.e., the product itself). Would such one-size-fits-all definitions still hold in the users’ perception while they are navigating the new media environment characterized by news *content* with fuzzy genre boundaries, thriving *platforms*, and the increasingly common usage of *algorithms*?

In the most traditional sense, to study news is to examine items professionally produced by journalistic institutions. This includes content in newspapers, news broadcasts on television or radio, and news websites. Today, this extends to social media accounts of news organizations, legitimate sources on news aggregators, and professional news podcasts. However, expanding this definition to encompass digital producers reveals limitations. If you look back at our Jane’s news sources, semi-professional or non-professional news producers also inform her about news events. She learns about an upcoming local protest from a comedian and gains insight into the elections from a political scientist, both of whom are traditionally not associated with journalistic practice. This newsroom-centric definition focusing on sources thus appears increasingly inadequate for capturing the diverse content

online through which users, especially those distrusting traditional news organizations (Andersen, Shehata, & Andersson, 2023), inform themselves.

Alternatively, we can evaluate items based on content features, or to put it differently, along a set of news values, mirroring journalistic practice in defining news. Rather than articulating a concise definition, professionals in the newsroom assess potential news events using news values such as novelty, relevance, and negativity (Harcup & O'Neill, 2017). Using this approach, we are able to include various news related content during classification, such as the comedian's protest post or the political scientist's op-ed piece mentioned above. But what about the satirical content Jane enjoys so much? While more inclusive, this approach meets challenges when facing hybrid genres like infotainment (Savolainen, 2022), and it is further complicated by the prevalence of misinformation and disinformation disguised as news in recent years (Altay, Berriche, & Acerbi, 2023).

To adequately reflect the increasingly active role of news users today in news consumption, a central argument in this dissertation is that their own definitions of what constitutes news should as well be discussed in the literature. Over the past few decades, journalism has embraced an *audience turn*, evolving from seeing audiences as recipients to actively monitoring and catering to their preferences (Costera Meijer, 2020). This paradigm shift has taken place in both the industry and academia. While the role of news users has become more and more active in today's journalistic process, news organizations are adopting an open mindset and exploring how to serve their audiences in a meaningful way. In parallel, researchers are also encouraged to focus on user behaviors, specifically news engagement using either user metrics or self-reports as empirical evidence. Recently, scholars have advocated a *radical audience turn*, questioning the assumption that the use of news is equate to the use of journalism (Swart, Groot Kormelink, Costera Meijer, & Broersma, 2022). This perspective urges rethinking the study objects in the digital news context, from simply renaming the audience (e.g., consumers, users, etc.), to more generally redefining what constitutes news, arguing for a redefinition that includes a broader spectrum of content. Generally speaking, future academic work should be shifted from a predominantly supply-centric angle to the actual audience's perspective.

Following the (radical) audience turn, this dissertation focuses on news perception from the news users' perspective. As previously mentioned, the concept of news has

moved beyond its traditional definition. When researchers ask participants about their own news usage without giving them any definitions, there is no guarantee that researchers are measuring what they intend to measure. Hence, it is important to approach news experiences through the lens of the users, which is not only crucial for the validity of such investigations but also for capturing the dynamic nature of news in the digital era.

Qualitative research has been conducted to gain knowledge in how users define news, and they have reached a similar conclusion that users always found the defining task difficult (e.g., Swart, Peters, & Broersma, 2017a), especially in this rapidly shifting media landscape where the lines for distinguishing news are blurry (Vraga, Bode, Smithson, & Troller-Renfree, 2016). As a result, ambiguous terms like “whatever”, “anything”, and “all information” were used in their answers (Yadamsuren & Erdelez, 2011). In general, participants do not strictly adhere to the traditional definition but do stress journalistic professionalism. The majority of the users, though with certain professional standards in mind, have moved beyond the tradition: They put forward a broader definition, and more importantly, acknowledged their frequent alternative consumption for updating themselves (Andersen et al., 2023). The certain criteria adopted by users for definitions indeed include the content provider (e.g., professional outlets or not) and the content itself (e.g., factual or not, formal or not, etc.). Regardless of these attempts, there is little consensus among users as they relied on various criteria and even with the same criterion, they still might perceive the same content differently. This underscores the importance of examining specifically the content that users themselves categorize as news and actively engage with.

This dissertation proposes two main arguments related to news perception. First, it is increasingly challenging to use a universal definition of news to capture individual consumption patterns. And second, news could be anything, as long as the users consider that it provides them with updates on societal events, echoing with what news means as a word – “newly received information, especially about recent events” – in Google’s English dictionary sponsored by Oxford Languages. For instance, if our Jane finds those satirical clips on YouTube offering her news information regarding societal events, these should indeed be considered within the range of her news consumption, irrespective of their divergence from the traditional news definition. In contrast, if Jane distrusts the content from a certain news organization on Google News, deeming it as “fake news”, then it falls outside

her definition of consumed news. Given the fluid and often blurry nature of the current news environment, this dissertation argues that the concept of news exists on a continuum. Although articulating a precise definition may be challenging, it is evident that users recognize news, or the extent to which they consider it as news to them, when they see it. Therefore, their own classification is key to studying news consumption when, for instance, we want to know exactly from what content users get updated, instead of whether they consume traditional journalism.

In practice, this dissertation highlights two classic journalistic dimensions: *Factuality* and *Formality*. Traditionally, these two dimensions have guided professional practices, with expectations of news being factual and formal. However, when the definition of news becomes ever-expanding and the barriers to creating and sharing news information are increasingly lowered, a deviation from these norms is expected.

Presenting only facts without personal involvement is one of the golden rules in journalistic practice (Schudson, 2001). Yet, in this digital era, especially with the rise of social media where popularity and connectivity are highly valued (Van Dijck & Poell, 2013), the factuality of news information has been greatly negotiated, or even devalued by citizen journalists and influencers who promote subjectivity as their edge opposed to news institutions. On digital platforms, opinionated items have the advantage of being widely shared and actively engaged (Peer & Ksiazek, 2011), contributing to a more lively way of news communication (Singer, 2005). Similarly, the typical impression of news always associating with a formal style might not longer hold true. On the one hand, regardless of the professional level of the creators, news production today has witnessed the effort to present news in an appealing format (Costera Meijer, 2007). News users, on the other hand, are updated on public events discussed in a variety of formats from talk shows on podcasts to satirical clips on social media.

This departure from traditional factuality and formality plays an important role in studying news perception in the digital age. These two dimensions might not be as central as before in news users' understanding of news, and there is a clear divergence in how users interpret facts and formal tones compared to professional standards. Given the broader range of what is considered news today in the users' point of view, focusing on these two good old dimensions and how news has deviated from them is essential for understanding the modern news perception.

Today, to be able to study news consumption using users' own definitions, the difficulty lies in integrating users' individual insights into their sheer daily usage data (Loecherbach, 2023). Despite a few qualitative attempts, for instance, having users walk researchers through their Instagram feeds to discuss news experiences (Swart & Broersma, 2023), or keep a diary on WhatsApp documenting such experiences (Kümpel, 2022b), the challenge of scaling up remains. Addressing the methodological challenges inherent in this call for understanding news consumption in the broadened context is equally crucial. This involves, for example, distinguishing news content relevant to different users, or scaling observations on the individual level (Swart et al., 2022). This dissertation is a first step towards addressing these challenges. To maintain consistency and emphasize the active role of individuals in news consumption, individuals are referred to as "news users" throughout the dissertation. The aim of this dissertation is to shed light on news perception in the digital era from the perspectives of news users. It takes the evolving dynamics of news content, platforms, and algorithms into account and provides insights into the changing landscape of digital news.

Research questions and research design

The central question of this dissertation – “*What is news to news users in the digital age?*” – is unpacked and divided into three empirical research questions. Each one of them focuses on a different aspect: *content*, *platforms*, and *algorithms*. This section lays out these three research questions and the different research designs for answering them.

The investigation begins by discussing the challenge of organizing the vast and diverse amount of news *content* into a standardized framework. Traditional approaches usually compare items based on news values (e.g., Harcup & O'Neill, 2001, 2017). The genre approach, on the other hand, has received less attention, particularly from the users' perspective. Understanding news as a perceived genre helps in exploring how the concept of news has evolved, and serves as a precondition for studying news effects. Considering the gradually blurry boundaries of news, **Chapter 2** moves beyond discrete genres and argues that the classification of news content is not binary but should be measured by the extent to which it is perceived as news. Such classification is proposed to be based on the *genre cues* recognized by users. Thus, the first research question is posed:

RQ1: How can news, as an evolving genre with blurry boundaries, be measured along abstract dimensions, such as genre cues?

Computational methods, including data collection via APIs, RSS feeds, and web scraping, along with data analysis through supervised machine learning, have been used to tackle this challenge. These techniques have been proven efficient when dealing with a large amount of data, saving both time and money. *Supervised machine learning* is an especially helpful tool in this kind of classification, as it does not require explicit rules but learns from a set of human-annotated examples (Boumans & Trilling, 2018). It fits perfectly for this dissertation, whose study object, i.e., news, is blurry by definition. This approach is further advanced by fine-tuning large language models (e.g., BERT) capable of dealing with context and ambiguity. In this chapter, after creating a corpus consisting of annotated sentences, two BERTje models are fine-tuned using the said corpus to measure news content in terms of *Factuality* and *Formality*.

Chapter 3 moves on to the perception and consumption of news on digital platforms, revisiting the concept of *news repertoire* in the digital age. This concept refers to the subset of channels that users frequently used to access news (Heeter, 1985), and is borrowed in this chapter to highlight the importance of regular sources to news users when coping with online information overload. In the context of *news platformization*, this chapter argues that the multifaceted nature of digital platforms satisfies various user gratifications, and now it becomes relevant to study news repertoires within a single platform. In the scope of this investigation, the question on whether news is defined differently by users arises. More importantly, if that is the case, would such differences result in different news repertoires emerged from the same user data? Reflecting on the traditional practice where we assume one universal definition of news while studying news users, this brings us to the second research question:

RQ2: To what extent do different definitions of news lead to differences in users' news repertoires on digital platforms?

To answer this question, user data on YouTube are collected in **Chapter 3** through *data donations*, in which participants donate their own digital traces directly obtained from tech companies like Google (Boeschoten, Ausloos, Moeller, Araujo, & Oberski, 2020). This approach provides a more accurate and fine-grained

measure of user behaviours on digital platforms than self-reports, allows linking user data with personalized survey questions, and overcomes the limitation of browser plug-in by tracking the same accounts on different devices (Araujo, Wonneberger, Neijens, & De Vreese, 2017). Specifically, this chapter implements this innovative method to measure whether news users perceive their own YouTube usage as news consumption. From users' historical data, meta data and subtitles of YouTube videos are made available through APIs. Supervised machine learning with large language models are applied in data analysis for multiple tasks in both Dutch and English, including punctuation prediction (Dutch & English: online RoBERTa models) and sentence classification in *Factuality* and *Formality* (Dutch: BERTje models fine-tuned in **Chapter 2**; English: online RoBERTa models).

The third element of the digital news landscape delves into *algorithms*, which **Chapter 4** touches upon with a particular focus on news recommender systems. For users, using news recommendation becomes helpful when they face a sheer amount of online information. However, the downside of highly accurate yet homogeneous news recommendations is that they can become boring and lack of new information, potentially undermining the democratic values of news. *Serendipity*, defined as the user experience of stumbling upon something unexpectedly useful (Smets, Michiels, Bogers, & Björneborn, 2022), offers a remedy to the homogeneity of news recommendations. Although substantial research has explored achieving serendipity through algorithms, less is understood about promoting such experiences via the user interface on digital platforms. While designing a better interface affordance for serendipitous encounters, this chapter also evaluates news perception in this new setting. Echoing with the discussion of genre cues in **Chapter 2**, this chapter identifies the genre cues users rely on to determine the extent to which an item is more news-like than others, borrowing the *news-ness* concept (Edgerly & Vraga, 2020). Different kinds of genre cues are investigated, including both traditional textual genre cues, namely *Factuality* and *Formality*, as established in **Chapter 2** and contextual genre cues, such as whether the item is delivered via recommendations and/or certain interface design elements. Therefore, the third research question is:

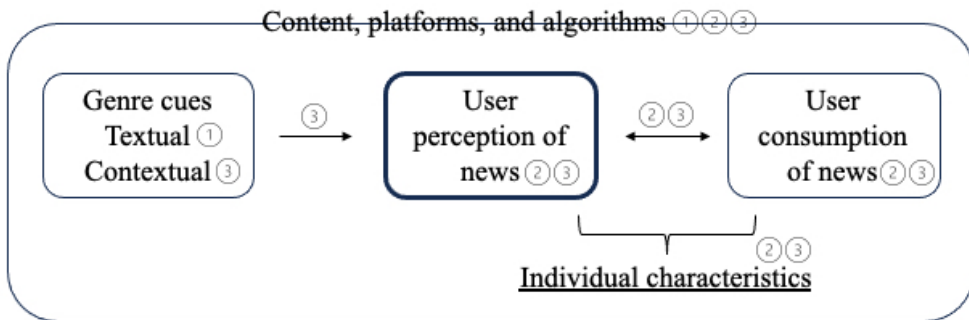
RQ3: How is perceived news-ness influenced by both textual and contextual genre cues?

For data collection, **Chapter 4** conducts a *field experiment* on a customized news

recommender application, which is built based on the previous work by Loecherbach and Trilling (2020), advanced with a new user interface. This setup allows the experiment to be performed in a real-life news environment with controlled conditions, examining how users interact with news recommendations and their news consumption patterns in general. In the experiment, participants are presented with nine items to choose from every time they refresh the page. The items are gathered through a live news feed with eleven news scrapers covering diverse sources. The central item among which contains a random news piece masked within a “surprise box”. More importantly, user insights into news perception are also collected. Except from pre- and post-measurements in a survey, participants are also asked about the specific news items that they have clicked on. For the analysis of the user data, this chapter uses the same supervised machine learning models developed in **Chapter 2** predicting textual genre cues (i.e., *Factuality* and *Formality*) and other two variables indicating contextual genre cues to map the news-ness of the content, comparing it with the users’ self-indicated news-ness values.

Outline of the dissertation

Figure 1: Outline of the dissertation, with circled numbers referring to each corresponding empirical study.



This dissertation comprises three empirical chapters that explore interrelated elements of how news perception has evolved in today’s digital media landscape, marked by diverse content, multifaceted platforms, and advanced algorithms. The

following paragraphs outline the structure of this dissertation (Figure 1), illustrating how these chapters are connected with each other and together add to the discussion on digital news.

To understand the complexities of news perception in the digital era, it is important to first establish an approach to systematically organizing the vast and diverse amount of news-related content available online. Addressing **RQ1**, **Chapter 2** lays the groundwork by conceptualizing and operationalizing a multidimensional framework for mapping news items in terms of genre cues, capturing the variety of user perception in a continuum. As a starting point, a preliminary set of dimensions consisting of *Factuality* and *Formality* is proposed, standing as the core attributes of traditional news perception. Fine-tuning two BERTje models for sentence classification, this chapter showcases how to automatically position news items, or news channels and news users represented by news items, within this two dimensional grid. The models are trained on a Dutch dataset of 18,703 news-related sentences, collected from different platforms and in various formats, and annotated by 17 native Dutch speakers (each sentence is annotated three times by different people). Through the multidimensional grid, fine-tuned models, and showcases, **Chapter 2** offers a novel approach to organizing news items on a standardized scale. This helps with our understanding of how news genres develop, setting a solid foundation for the next chapters.

Chapters 3 and **4** collect and analyze real-life user data concerning news perception and consumption, incorporating individual characteristics into the models. **Chapter 3** focuses on YouTube, presenting an innovative methodology for investigating news repertoires within digital platforms, under the context of news platformization. Participants donate their YouTube data via a custom web application (Welbers, Loecherbach, Lin, & Trilling, 2024), identifying what they deem news related channels among their consumption histories. In this chapter, two distinct recruitment strategies are employed, one through an online panel survey (344 participants and 3,267,244 donated items) and the other in our field lab at a music festival (288 participants and 3,103,615 donated items). This chapter aims to compare news repertoires covering both Dutch (models trained in **Chapter 2**) and English (models available online and validated) content in terms of *Factuality* and *Formality*, based on varying definitions of news, namely the professional definition, the individual user definition, and the aggregated audience definition, addressing **RQ2**. Using multi-level models, individual characteristics are added as

moderators. This chapter not only sheds light on platform-based news repertoires but also demonstrates an innovative method for collecting data on user perception and consumption.

Chapter 4 conducts a field experiment comparing news consumption between a recommendation group and a random content group over two weeks, using a custom news application designed for the study. A “surprise box” feature is implemented in the user interface, containing randomly selected items to facilitate serendipitous news discoveries. Specifically, users are asked to rate the news items in terms of news-ness (114 participants and 4,342 rated items), and mapped onto the two-dimensional grid developed in **Chapter 2** based on their news usage. This experiment with observational data investigates the effect of news recommendations on users’ serendipity seeking and overall news consumption, and examines how textual (i.e., *Factuality* and *Formality* using models in **Chapter 2**) and contextual genre cues influence users’ perceptions of news-ness, tackling **RQ3**. Furthermore, individual characteristics are included as moderators in the multi-level models. This chapter gains insights into the effects of algorithmic recommendation and interface designs on news consumption and disentangles what constitutes news in terms of genre cues from the users’ perspective.

To conclude, **Chapter 5** summarizes the findings throughout the dissertation, answering the research questions introduced above in this chapter. It discusses the theoretical, methodological, and societal implications of three empirical chapters altogether, and provides suggestions on future research related to news perception and consumption in the digital age.