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Article - Version of Record

List Forum für Wirtschafts- und Finanzpolitik (2024) 50:183–203
https://doi.org/10.1007/s41025-024-00268-3

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Accepted: 24 September 2024 / Published online: 21 October 2024

Abstract The Digital Age has revolutionized the media landscape, reshaping how consumers access and interact with content. Consumers now have access to a wide range of media content, from physical copies to digital downloads and streaming. This has led to content creators detaching from traditional publishing and self-publishing their content on platforms like Wattpad, SoundCloud, and YouTube. The Digital Age has also added more remedies to signal quality to consumers, such as online reviews and personalized recommendations. This paper aims to analyze the impact of the Digital Age on the quality of media content in three different media fields (books, music, and films and series) by conducting an online survey among 245 German-speaking internet users in May 2022. Findings reveal a significant increase in access to content creators and content availability for consumers in the Digital Age. Moreover, the Digital Age introduces mechanisms that assist consumers in evaluating content quality, mitigating the adverse selection problem. The study concludes that media content quality in the Digital Age surpasses that of the Pre-Digital Age. For an enhanced consumer experience in the field of books, media providers should reconsider their algorithms, prioritizing content over purchasing patterns. Caution is advised in reinforcing intellectual property rights, emphasizing the need for judicious application to preserve content creation incentives.

Keywords Content consumption · Content creation · Survey · Online platforms · Self-publishing · Recommendation algorithms

This article is based on my unpublished bachelor thesis of the same name that was awarded by Goldmedia.

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Die Entwicklung der Medienqualität im digitalen Zeitalter

Zusammenfassung Das digitale Zeitalter hat die Medienlandschaft revolutioniert und verändert, wie Verbraucher auf Inhalte zugreifen und mit ihnen interagieren. Verbraucher haben nun Zugang zu einer breiten Palette von Medieninhalten, von physischen Kopien bis hin zu digitalen Downloads und Streaming. Dies hat dazu geführt, dass Inhalte-Ersteller sich von traditionellen Veröffentlichungsmethoden distanzieren und ihre Inhalte selbst auf Plattformen wie Wattpad, SoundCloud und YouTube veröffentlichen. Das digitale Zeitalter hat außerdem weitere Maßnahmen zur Signalisierung von Qualität für Verbraucher hinzugefügt, wie zum Beispiel Online-Bewertungen und personalisierte Empfehlungen. Dieser Artikel zielt darauf ab, die Auswirkungen des digitalen Zeitalters auf die Qualität von Medieninhalten in drei verschiedenen Medienbereichen (Bücher, Musik und Filme sowie Serien) anhand einer Online-Befragung unter 245 deutschsprachigen Internetnutzern im Mai 2022 zu analysieren. Die Ergebnisse zeigen eine signifikante Zunahme des Zugangs zu Inhalte-Erstellern und der Verfügbarkeit von Inhalten für Verbraucher im digitalen Zeitalter. Darüber hinaus führt das digitale Zeitalter Mechanismen ein, die Verbrauchern bei der Bewertung von Inhaltsqualität helfen und das Problem der adversen Selektion mildern. Die Studie kommt zu dem Schluss, dass die Qualität von Medieninhalten im digitalen Zeitalter die des prä-digitalen Zeitalters übertrifft. Für eine verbesserte Verbrauchererfahrung im Bereich der Bücher sollten Medienanbieter ihre Algorithmen überdenken und Inhalte höher gewichten als reine Kaufmuster. Es wird zur Vorsicht beim Verstärken von Urheberrechten geraten und betont, dass diese mit Bedacht angewendet werden sollten, um Anreize für die Erstellung von Inhalten zu erhalten.

Schlüsselwörter Inhaltskonsum · Inhaltserstellung · Umfrage · Onlineplattformen · Selbstveröffentlichung · Empfehlungsalgorithmen

1 Introduction

After two decades of considerable technological change, the media sector is barely recognisable. The spread of the internet in 1994 and especially the web 2.0 in 2005 even started a new age, the Digital Age (cf. Sect. 2.1). As of April 2022, 63% of the worldwide population and hence the majority use the internet, grown by 4.1% compared to the year before (Kemp 2022, p. 8 f.). Every month, 71.1% of worldwide internet users aged 16 to 64 pay to download or stream any media content on the internet. 50.3% even mainly use the internet to watch videos, television (TV) series or films, and 44.8% to access and listen to music (GWI, cited after Kemp 2022, pp. 44 and 258).

Before the Digital Age, consumers only had a limited selection of media content at stationary retailers depending on their storage space. Consumers may now order physical copies of media content online or download or stream digital copies of media content at any time and place. With this easier reach to consumers, content creators may be more able to detach from traditional media content publishing via

a media company (cf. Sect. 2.2). Known examples are the authors E. L. James and Anna Todd of the books Fifty Shades of Grey and After (Deahl 2012; Reid 2014), the musician Billie Eilish with the song Ocean Eyes (Aswad 2019) and the respective creators of the web series Awkward Black Girl and The Lizzie Bennet Diaries (Moreau 2020). They all initially self-published their media content on the internet on platforms like Wattpad, SoundCloud and YouTube and achieved great success and critical acclaim. Consumers may not have been able to access them without the internet as media companies cannot sign every content creator (cf. Sect. 2.2).

Not only the media content provision changes for the consumers but also the information provision. As media are experience and credence goods, consumers cannot know the quality before consumption. Because of the larger content selection, the Digital Age may make it even more difficult for consumers to search for fitting content. However, the Digital Age also added more remedies to signal quality to consumers. Online reviews on websites like Goodreads, Metacritic, Rotten Tomatoes and IMDb may help to achieve more transparency. Search engines and personalised recommendations by algorithms of the media providers may make consumers aware of new and available media content (cf. Sect. 2.1).

The aim and idea of this paper is to work out and analyse the key aspects of the previous literature and research on the impact of the Digital Age on media quality compared to the Pre-Digital Age as well as to undertake an own empirical study based on an online survey to verify the hypotheses reached. A convenience sample of 245 German-speaking internet users was used to conduct the study. The main question pursued here is whether the Digital Age improves or harms the media quality in terms of content provision. As most of the literature deals with the media fields of books, music and films and TV series and more fields would go beyond this paper, I will only cover them. However, my findings are likely to apply to other media content subject to copyright as well.

This paper will comprise five chapters. The second chapter will explain how the technological and institutional change from the Pre-Digital to the Digital Age occurred. I will end the chapter with a review of the literature on the impact of this transition on media quality in terms of content creation. In the third chapter, I will go through my empirical study's research question and hypotheses and the procedure of my empirical survey. In the fourth chapter, I will show and illustrate the results of the survey with the help of diagrams and analyse them by considering the hypotheses. The conclusion in the fifth chapter will summarise the most significant findings and give recommendations for enhancing the consumer experience of media on the internet to media providers and institutions.

2 Theoretical background

2.1 Technological and institutional change in the media sector

Before the start of the Digital Age around the early 21st century, media distribution predominantly operated with media companies like book publishers, record labels, film studios, or TV networks entering contracts with content creators, such as au-

thors, musicians, or filmmakers (Wirtz 2019, p. 18). Book publishers select works by authors, then certify, produce, and promote them (Beck 2011, p. 268). In return, they gain exclusive rights to the works' copyrights and a share of the earnings. Subsequently, books get sold as printed text, protected by covers, in bookshops and other stationary retailers (Wirtz 2019, pp. 297 and 308). In the music market, the equivalent of book publishers are record labels. Music gets distributed to stationary retailers in the physical form of, for example, Compact Discs (CDs) and records and through radio airplay (Wirtz 2019, p. 610). Similarly, in the realm of film and television, there are studios and networks that commission the production of films and series. The productions get published in the form of, for example, Digital Versatile Discs (DVDs) at stationary retailers, cinemas, and through TV airings (Wirtz 2019, p. 340).

The term "Digital Age" or "Information Age" refers to a transition from the traditional industrial economy and society to one centred on information and communication technologies (Castells 2000, p. 5 f.). Following the spread of the internet in 1994 and particularly web 2.0 in 2005, consumers can now access media content online through their computers, smartphones and other devices capable of an internet connection and exchange information and opinions with each other, for example, by giving online reviews. The huge reduction in distribution and also production costs (Waldfogel 2017b, p. 198 f.) has increasingly enabled media content creators to self-publish user-generated content on platforms and easily reach interested consumers without having to sign a contract with a media company (Stanoevska-Slabeva 2008, p. 14; Vickery and Wunsch-Vincent 2007, p. 18).

Currently, books can also get distributed via online retailers like Amazon either as a physical book order or as a download of an electronic book (e-book) on a device like computers, e-book readers etc. (Wirtz 2019, p. 284 f.). While online orders and downloads are still the typical forms of permanent ownership, on-demand streaming only allows for consumption for a limited period (Schumann et al. 2014, p. 25). In the book market, e-book streaming services like Skoobe and Kindle Unlimited by Amazon exist since 2012 and 2014, where consumers pay a monthly fee to get unlimited access to a catalogue of e-books for the duration of their subscription (Skoobe 2021; Amazon 2014). Moreover, there are platforms like Wattpad, founded in 2006, where consumers can share, download and consume e-books as user-generated content (Wattpad 2022). The biggest self-publishing platforms are Smashwords, Amazon Kindle Direct Publishing and Lulu. Self-published books have become increasingly popular in recent years, accounting for one-tenth of all bestsellers in 2013. Between 2006 and 2014, the number of self-published books surpassed those published traditionally by a factor of nearly three (Waldfogel and Reimers 2015, p. 47 f.).

Online retailers like iTunes and Amazon sell music as mp3 downloads and physical orders (Ivaldi et al. 2021, p. 6). User-generated content platforms for music like SoundCloud and Bandcamp and music streaming services like Spotify, which have traditionally published as well as via distributors self-published music in their catalogues, exist since 2008 (SoundCloud 2022; Bandcamp 2022). Since 2017, the number of self-publishing musicians on Spotify has nearly doubled, accounting for

roughly a third of musicians with an income of at least $ 10,000 in 2021 (Spotify 2022).

For the sale of films and series, there are online retailers like Amazon, with physical orders and video downloads (Amazon 2022). User-generated content platforms for web films and series, such as Vimeo and YouTube, were created in 2004 and 2005. On Vimeo alone, 350,000 new videos per day get uploaded (Vimeo 2022; Wojcicki 2020). Video-on-demand streaming services like Netflix and Amazon Prime Video also offer in-house productions without film studios or TV networks being involved (Wirtz 2019, p. 355). Since 2005, the costs of production equipment such as digital cameras have dropped dramatically, by roughly a hundredfold to a few thousand dollars (Waldfogel 2017b, p. 200).

Since it is so easy to copy and share media content via the internet, illegal online piracy, i.e. unauthorised distribution without the consent of the original content creators, has evolved alongside the legal distribution channels. Peer-to-peer file-sharing platforms like Napster, founded in 1999 for music files, or platforms operating on the BitTorrent technology, starting after 2002 for all kinds and sizes of media content files, caused several copyright infringements in the past years. Because of the huge size of those user communities, litigations by media companies and content creators are not worth much. However, the media industry has tried to mitigate the issue by introducing legal alternatives like streaming services (Choi and Perez 2007, pp. 168, 171 and 174 f.).

Search engines and platforms usually use algorithms to give masses of consumers personalised content recommendations based on their own and others' past consumption patterns without needing human input (Just and Latzer 2017, p. 247 f.). Additional metamedia like online platforms compiling user-generated and/or critic reviews like, for example, Goodreads and Amazon for books, Metacritic for music, films and series and Rotten Tomatoes and IMDb for films and series also provide consumers with more information on media content (Waldfogel 2017b, pp. 199 and 204).

2.2 Digitisation and media content quality

Although there is no common quality measurement procedure, at least for entertainment media content, because it could harm creativity, there are attempts to set some assessment criteria (von Rimscha and Siegert 2015, p. 196). Apart from relevance, diversity is one of the most essential quality indicators. Diversity describes the frequency of different types or genres, display styles, external sources of information, covered subjects, people's and institutions' values and preferences, and event and communication spaces (Bonfadelli 2002, p. 119 f.).

According to Waldfogel (2017b, p. 208 f.), the Digital Age has created a long-tail economy where online retailers can store and provide an unlimited number of media content in contrast to stationary retailers. Thus, they supply media content that would otherwise be completely unavailable to consumers. From a production perspective, the rising emergence of independent self-employed content creators on the internet and hence disintermediation also results in a random long tail of media content. Consumers get access to more media content that otherwise probably would not

have been published because of the media companies' disapproval. With no external interventions and lower risk because of a usually limited budget, creators also have full creative freedom and can test ideas freely and edit them in case of success (Mühl-Benninghaus and Friedrichsen 2012, p. 338). Since they cannot assess the quality in advance, they cannot plan to only create content with the bare minimum of quality needed to attract consumer attention. Thus, consumers end up with a random mix ranging from low-quality to high-quality media content instead of solely low-quality content in the case of the adverse selection problem.

Despite inexpensive and easy access to professional equipment like microphones and cameras, content creators still often are amateurs without the required professional education and experience in content creation (Waldfogel 2017b, pp. 199 f. and 203). The second-level digital divide also can contribute to that. Some content creators then may not have the digital literacy to realise the full potential of the media devices and the internet (Hargittai 2002, p. 16).

Access to a vast amount of content also still carries the risk of consumers making bad buys. Consumers have to invest more time to search and find fitting content. However, with the help of streaming and piracy, consumers can test them for free or inexpensively (Waldfogel 2017b, pp. 197 ff. and 209) and hence are more at risk of losing time than money. Search engines, personalised recommendations by algorithms and online reviews are further options to reduce search costs. They help not only consumers but also the content creators to better evaluate what expectations consumers have for content to be of high quality. Thus, content creators can gradually improve and evolve their work. Nevertheless, search engines, algorithms and even reviews can be inaccurate, for example, when there is no data on certain content because of no previous consumers or reviewers (Peukert 2019, p. 200 f.) as online reviews for popular media content happen more likely than for niche media content (Dellarocas and Narayan 2007, p. 27).

Another concern is the superstar effect that causes winner-takes-it-all markets. Algorithms not only suggest unpopular niche content but also often popular mainstream content (Hosanagar et al. 2014, p. 821). The sheer presence of established media content creators may demotivate and cause unestablished independent content creators to perform worse because of the low chance of success (Brown 2011, p. 1011). Despite the availability of more unpopular niche media content by independent content creators, consumers are then still likely to only consume mainstream content. That is due to high switching costs to unfamiliar content as consumers must acquire new knowledge about characters, plots, past discography, other consumers with whom they can exchange about it etc. (von Rimscha and Siegert 2015, p. 54).

Content investment considerations by the traditional media companies also get affected by the Digital Age. On the one hand, they have lower production, distribution and promotion costs on the internet and can hence possibly invest more. On the other hand, they have lower revenues because of more competition through piracy, streaming and independent content creators. Profits and hence content investment may remain unchanged because the reduction in costs and revenues balance each other out (Waldfogel 2017b, p. 211 f.). Either way, the content investments do not necessarily increase because, even with higher profits, media companies may just decide to keep the additional earnings (von Rimscha and Siegert 2015, p. 118).

Content investments may even decline as more competitors lead to cost competition rather than content competition. This, while uncommon (van Cuilenburg 2007, pp. 33 and 40), is especially true when consumers are politically and culturally homogenous and share similar interests (Knoche 1997, p. 145 f.).

3 Survey design

3.1 Research question and hypotheses

The empirical work looks at the effects of the Digital Age on the quality of media content in three different media fields (books, music, and films and series), as well as why these effects exist. Based on the theoretical reasoning outlined in the previous sections, this paper focuses on three hypotheses on today's consumption of internet-acquired media content among over 16-year-olds. A prerequisite of testing these hypotheses is that all participants in the study should have Internet access to be more able to understand the advantages and disadvantages the internet brought in practice.

Because the internet can distribute more media content and facilitate the publishing of media content by independent artists, I hold the following hypothesis:

1. The media content selection in the Digital Age is larger than the media content selection in the Pre-Digital Age in all three media fields (books, music and films and series).

Because the internet improved signalling and search costs hence lessened, it leads me to formulate the following hypothesis:

2. Consumers in the Digital Age are more informed about media content in all three media fields (books, music, and films and series) than they were in the Pre-Digital Age.

As consumers value large diversity in media content and better signalling can mitigate the adverse selection problem so that the high-quality media content remains on the market, the previous hypotheses result in the formulation of the following hypothesis:

3. The quality of media content in the Digital Age improved compared to the Pre-Digital Age in all three media fields (books, music and films and series).

3.2 Procedure of the empirical survey

The study examines a sample of 245 people in eight different age groups, representing a partial census. Due to technical reasons and time constraints, a random sample collection was unfeasible. Therefore, a convenience sampling approach was

employed, targeting the population of German-speaking internet users aged 16 years and above. The online survey occurred over a 14-day period spanning from May 9th to May 23rd, 2022. I primarily distributed it across diverse public groups on prominent social media platforms, including Facebook, Twitter, WhatsApp, Xing, and Reddit. As older adults have reduced internet engagement (Büchi et al. 2016, p. 2714), the number of survey participants decreases in the older age groups. 33 participants were in the age group of the 16 to 20-year-olds, 80 in the age group of the 21 to 24-year-olds. The age group of the 25 to 34-year-olds comprised 67 participants. 18 and 15 participants were in the age groups of the 35 to 44- and 45 to 54-year-olds. Finally, the age groups of the 55 to 64-, 65 to 74- and over 75-year-olds comprised 16, 13 and 3 participants. 167 participants identified as female, 71 as male, and 7 as outside of the binary gender system. Hence, females are overrepresented. 117 participants are academics and 128 are non-academics. Hence, both groups are almost equally represented.

4 Results and discussion

In the following chapter, I am going to show and discuss the results of the survey by putting them in context with the hypotheses I formulated in Sect. 3.1. I will not present the survey questions and results in the order given, but in the order in which they match the hypotheses. The first hypothesis is represented by questions 8, 13, and 14, the second by questions 7, 10, 11 and 12, and the third by questions 5, 4, 6 and 9. The questions are based on a bipolar four-level rating scale so that the response category on each end of the scale is the exact opposite of each other (Bortz

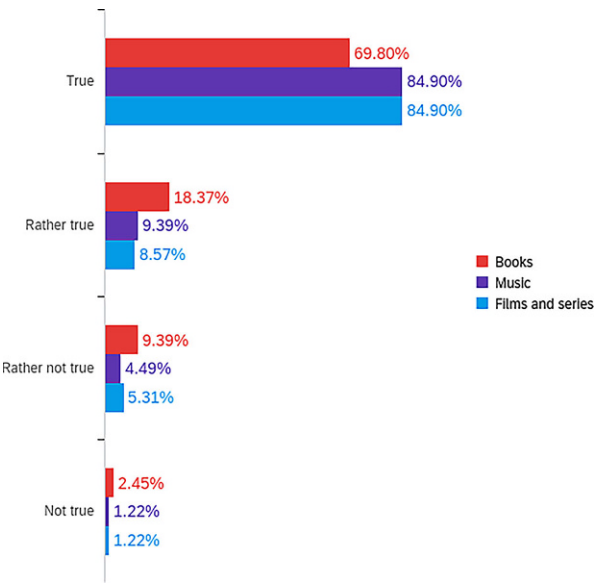

Fig. 1 Question 8: Do you think you have a larger media content selection today on the internet than in the past? The figure shows the percentage distribution of survey responses to question 8 about the impact of the internet on the breadth of the media content selection in the three media fields (books, music, films and series). Source: own creation

et al. 2006, p. 245). Participants cannot refuse to decide and thoroughly reflect on the question since there is no neutral response option (Brosius et al. 2012, p. 85 f.).

I designed question 8 of the survey to see if, in the participants' opinion, the selection of media content in the three media fields has increased in the Digital Age compared to the Pre-Digital Age. Figure 1 depicts the percentage distribution of the different degrees of agreement between "True" and "Not true" in a sample of 245 participants. 88.17% in the field of books, 94.29% in the field of music and 93.47% in the field of films and series and hence the clear majority support the opinion that the selection of content has increased in the Digital Age compared to the Pre-Digital Age. However, they have a propensity to believe that the music selection has risen slightly more than the film and series selections and that both selections have increased significantly more than the book selection.

I created question 13 of the survey to determine if, the access to independent artists like authors without a publisher, musicians without a record label or similar in the three media fields has increased in the Digital Age compared to the Pre-Digital Age. Figure 2 shows that 71.43% in the field of books and 75.51% in the field of music and hence the majority support the opinion that the access to independent artists has increased in the Digital Age compared to the Pre-Digital Age. However, they have a propensity to believe that the access to musicians without a record label has risen slightly more than access to authors without a publisher. The participants in the field of films and series are almost equally divided, with 53.47% supporters and 46.53% opponents, if access to independent artists has increased, albeit there is a slight inclination toward support. In the field of books, the findings of a survey by order of the German self-publishing platform Books on Demand (2016, p. 19) match my results: In 2016, 88% of the asked German-speaking self-publishing authors in

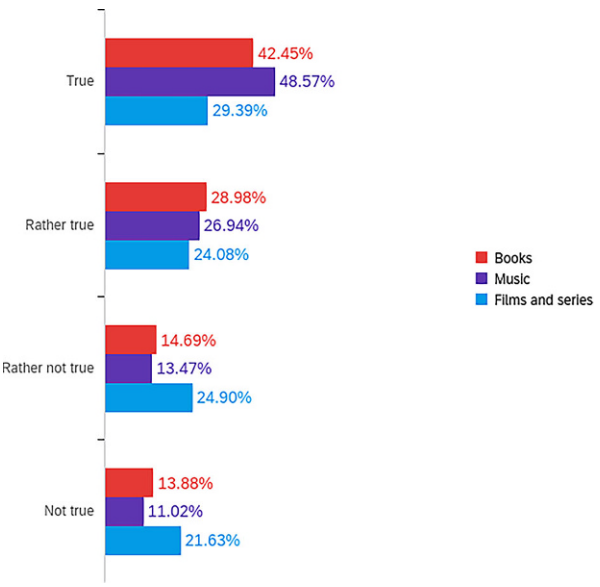

Fig. 2 Question 13: Do you have access to more independent artists (authors without a publisher, musicians without a record label or similar) through the internet? The figure shows the percentage distribution of survey responses to question 13 about the impact of the internet on the number of independent artists (authors without a publisher, musicians without a record label or similar) in the three media fields (books, music, films and series). Source: own creation

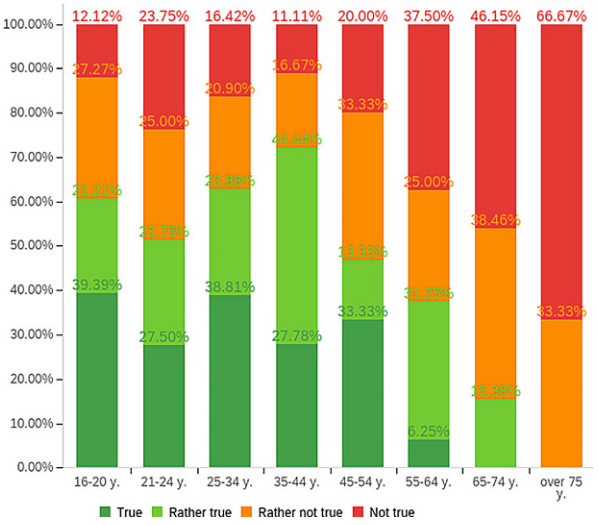

Fig. 3 Results of question 13 in the different age groups about the impact of the internet on the number of independent artists in the field of films and series. The figure shows the percentage distribution of survey responses in the different age groups to question 13 about the impact of the internet on the number of independent artists in the field of films and series. Source: own creation

Germany, Austria and Switzerland sell their books through online commerce, while only 53% sell them through stationary retailers.

To explain the discrepancy of the participants in the field of films and series, I look at the age distribution of the responses. Figure 3 shows that older participants seem to be less of the opinion that they have more access to more independent filmmakers with 0% of supporters of over 75-year-olds and only 15.38% of 65 to 74-year-olds who rather agree that they have more access. Their lack of engagement with platforms like YouTube, where independent filmmakers upload web films and

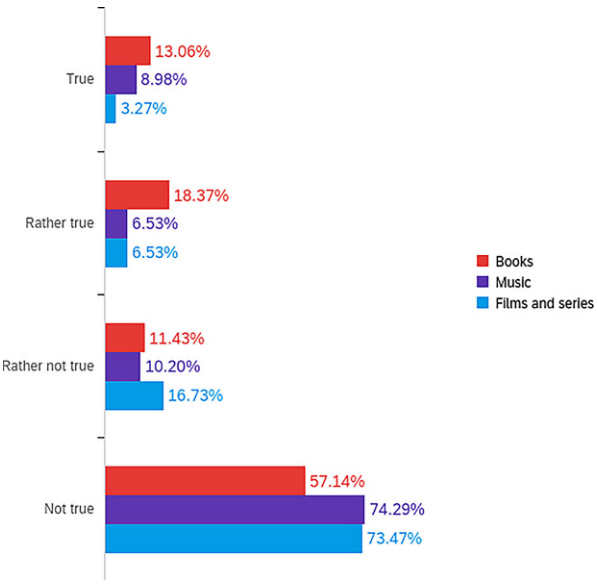

Fig. 4 Question 14: Has the internet increased the likelihood of you publishing self-produced media content? The figure shows the percentage distribution of survey responses to question 14 about the impact of the internet on the likelihood of self-publishing media content in the three media fields (books, music, films and series). Source: own creation

series most of the time, could explain this. According to the study conducted in 2021 in Germany by Initiative D21 (2022, p. 24), only 8% of the over 76-year-olds and 24% of the 66 to 75-year-olds use YouTube while in the younger age groups close to more than the majority uses it.

I composed question 14 of the survey to see if the likelihood of self-publishing of media content by the regular participants has increased in the Digital Age compared to the Pre-Digital Age. Figure 4 shows that 68.57% in the field of books, 84.49% in the field of music and 90.2% in the field of films and series and hence the majority disagree with the opinion that the likelihood of their self-publishing has increased in the Digital Age compared to the Pre-Digital Age. However, they have a higher propensity to disagree within the field of films and series than in the field of music and a much higher propensity to disagree within the other media fields than in the field of books. The results go in line with the results of a survey conducted in Germany in 2019 by Eurostat (2020) that only 38% of the participants who used the internet in the three months before the survey published self-created content on internet websites.

Based on the results of questions 8, 13 and 14, I can thus confirm the first hypothesis that the media content selection in the Digital Age is larger than the media content selection in the Pre-Digital Age in all three media fields (books, music and films and series). Even though the majority agreed that the internet had improved access to independent artists, the majority did not believe that it would make them more inclined to become independent artists. This may be explained by the second-level digital divide (cf. Sect. 2.2) and just a general lack of motivation or ability to create media content. My conclusion goes in line with the findings of Waldfogel (2017b, p. 202 f.) that since the beginning of the Digital Age, more new books, music, films and series have come onto the market. At least in the United

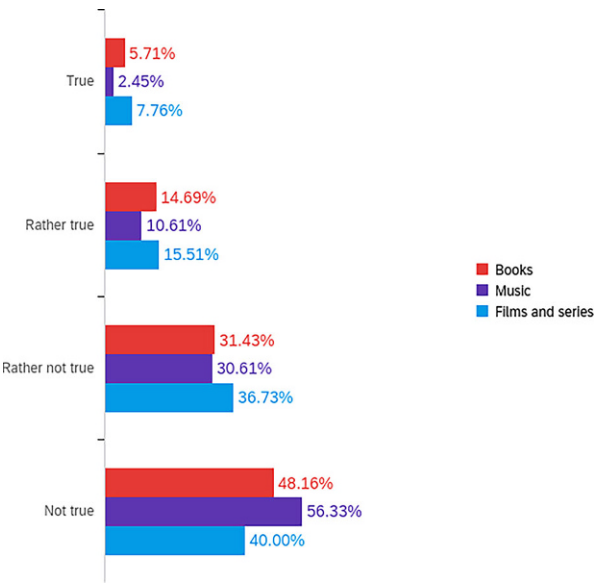

Fig. 5 Question 7: Do you have difficulties finding the media content you are looking specifically for on the internet? The figure shows the percentage distribution of survey responses to question 7 about the difficulty finding certain media content on the internet in the three media fields (books, music, films and series). Source: own creation

States, the number of new self-published books grew from 85,000 in the year 2008 to around 400,000 in the year 2012. The number of song releases increased from only 50,000 in the year 1988 to around 350,000 in the year 2007. The number of film releases grew from only 500 in the year 1990 to 1200 in the year 2000 and 3000 in 2010. Between the years 1960 and 1980, the number of new series increased from roughly 25 to 50, then to 100 by the year 2000, and to over 250 since then.

I created question 7 of the survey to examine if the regular participants have difficulties finding the media content they are looking specifically for on the internet. Figure 5 shows that 79.59% in the field of books, 86.9% in the field of music and 76.73% in the field of films and series and hence the clear majority disagrees with the opinion that it is difficult to find the media content they are looking specifically for on the internet. However, they have a propensity to believe that they have significantly fewer difficulties finding music than books and films and series and that they have slightly fewer difficulties finding books than films and series.

I posed question 10 of the survey to see if personalised recommendations by the media providers on the internet are a useful metamedium of the Digital Age to discover media content of quality. Figure 6 shows that 60% in the field of books and hence the slight majority disagree that the personalised recommendations of media providers on the internet assist in discovering qualitative media content, while within the field of music 56.33% and within the field of films and series 58.77% and hence the slight majority agree. However, they have a slight propensity to agree that the recommendations assist more in the field of films and series than in the field of music. That book recommendation algorithms, such as those used by Amazon, are often based on the purchase behaviour and thus mainly suggest bestsellers (Linden et al. 2003, p. 79) rather than being tailored to the individual consumer's taste (Ng and Jung 2020, p. 163) may explain the disagreement in the field of books.

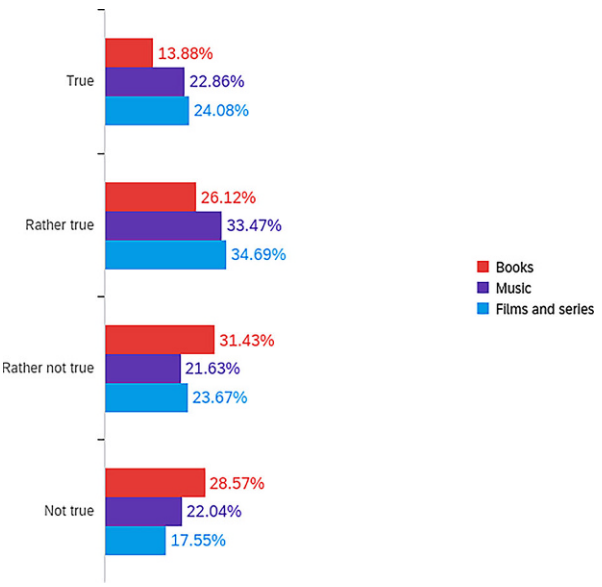

Fig. 6 Question 10: Do personalised recommendations from media providers on the internet assist you in discovering qualitative media content? The figure shows the percentage distribution of the survey responses to question 10 about personalised recommendations by media providers on the internet being helpful in discovering qualitative media content in the three media fields (books, music, films and series). Source: own creation

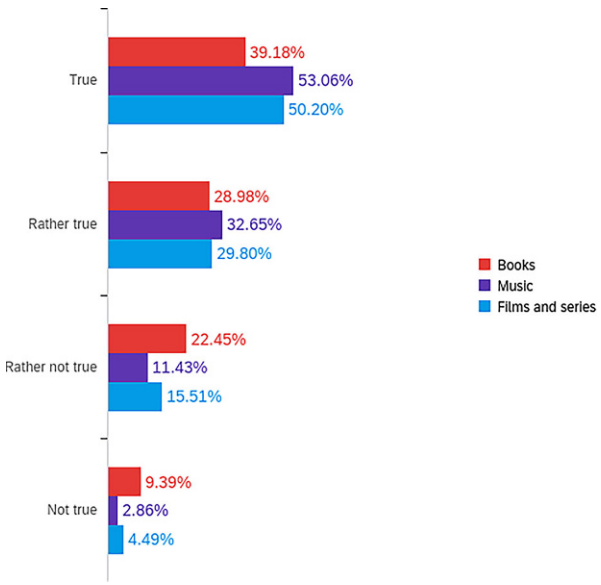

Fig. 7 Question 11: Is it easy for you to discover new media content on the internet? The figure shows the percentage distribution of the survey responses to question 11 about the ease of discovering new media content on the internet in the three media fields (books, music, films and series)

I asked question 11 of the survey to investigate if it is easy for the participants to discover new media content on the internet. Figure 7 shows that 68.16% in the field of books, 85.71% in the field of music and 80% in the field of films and series and hence the clear majority support the opinion that it is easy to discover new media content on the internet. However, they have a propensity to believe that it is slightly easier to discover new media content within the field of music than within the field

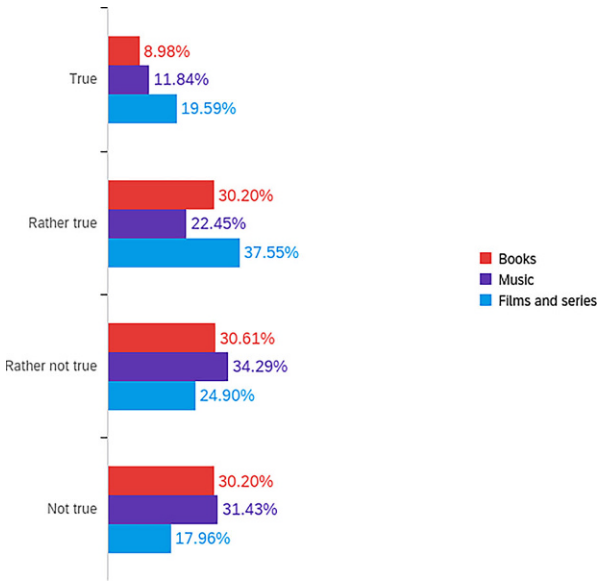

Fig. 8 Question 12: Do you select media content on the internet according to popularity? The figure shows the percentage distribution of the survey responses to question 12 about popularity being a major selection criterion for media content on the internet in the three media fields (books, music, films and series)

of films and series and significantly easier within both fields than within the field of books. Less precise recommendation algorithms for books may be the explanation here again (cf. previous paragraph on question 10).

I applied question 12 of the survey to evaluate if the participants select media content on the internet according to popularity. Figure 8 shows that 60.81% in the field of books and 65.72% in the field of music and hence the slight majority disagree, while 57.14% in the field of films and series and hence the slight majority agree that they select media content according to popularity. However, they have a propensity to believe that they slightly less select music than books according to popularity. The agreement in the field of films and series may be explained by popularity being a signal for quality and higher switching costs to unknown content because of, for example, storylines and characters that need to be learned for several seasons (cf. Sect. 2.2).

Based on the results of questions 7, 10, 11 and 12, I thus can confirm the second hypothesis that consumers in the Digital Age are more informed about media content in all three media fields (books, music, and films and series) than they were in the Pre-Digital Age. However, there is a slight propensity to be less informed about books as most of the current algorithms for book suggestions are less accurate. To solve this problem, Ng and Jung (2020, p. 163) propose using algorithms based on consumer ratings, reviews, and content summaries that consider the book content rather than just the purchasing behaviour.

I set question 5 of the survey to determine if the participants value a large diversity in the three media fields (books, music, films and series). Figure 9 shows that 77.14% in the field of books, 87.34% in the field of music and 84.89% in the field of films and series and hence the clear majority support the opinion that they value a large diversity. However, they have a propensity to believe that they slightly value a large

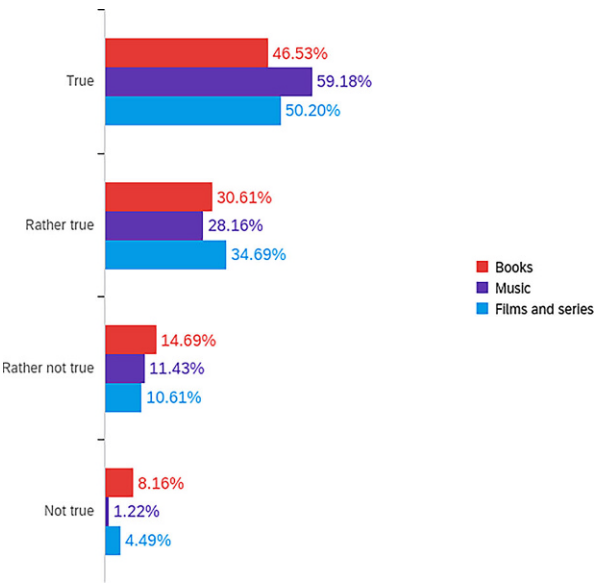

Fig. 9 Question 5: Do you value a large diversity in the following media? The figure shows the percentage distribution of the survey responses to question 5 about the personal value of a large diversity in the three media fields (books, music, films and series)

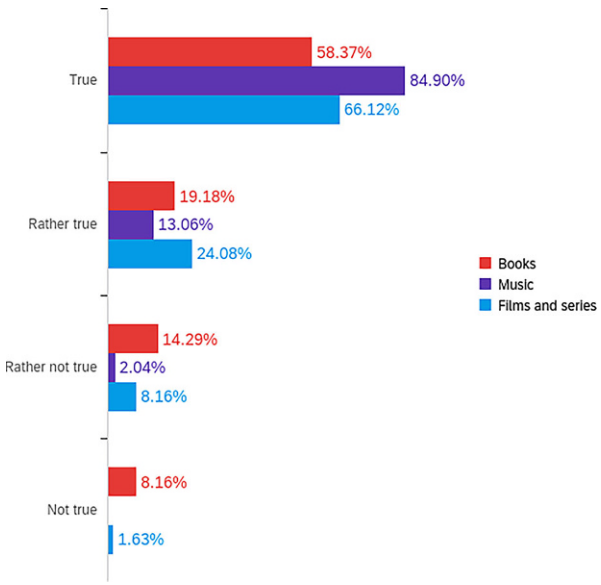

Fig. 10 Question 4: Do you enjoy consuming the following media content? The figure shows the percentage distribution of the survey responses to question 4 about the enjoyment of the consumption of media content in the three media fields (books, music, films and series)

diversity in the field of music more than in the field of films and series and that they significantly value a large diversity in both fields more than in the field of books.

I used question 4 of the survey to see if the participants enjoy consuming media content in the three media fields (books, music, films and series). Figure 10 shows that 77.55% in the field of books, 97.96% in the field of music and 90.2% in the field of films and series and hence the clear majority support the opinion that they enjoy consuming media content. However, they have a propensity to believe that they slightly enjoy consuming music more than films and series and that they enjoy consuming both significantly more than books. A study conducted by *Arbeitsgemeinschaft der öffentlich-rechtlichen Rundfunkanstalten der Bundesrepublik Deutschland* (Consortium of the public-law broadcasting institutions of the Federal Republic of Germany, ARD) and *Zweites Deutsches Fernsehen* (Second German Television, ZDF) found that with 99% the clear majority of the German-speaking over 14-year-olds in Germany consume media content every day in 2021 (Kupferschmitt and Müller 2021, p. 373). As most of them likely also enjoy consuming it, this outcome is consistent with my conclusion.

I implemented question 6 of the survey to see if the participants enjoy consuming media content acquired on the internet (online ordering, streaming or similar). Figure 11 shows that 82.86% in the field of music, as well as the field of films and series and hence the clear majority, support the opinion that they enjoy consuming media content acquired on the internet. However, the participants in the field of books are almost equally divided, with 54.31% opponents and 45.31% supporters, if they enjoy consuming media content acquired on the internet, albeit there is a slight inclination toward the opposition. The deficient book suggestion algorithms, as mentioned before, and the preference for physical books over e-books may explain this. Since the results of question 4 showed, the participants enjoy consuming books in

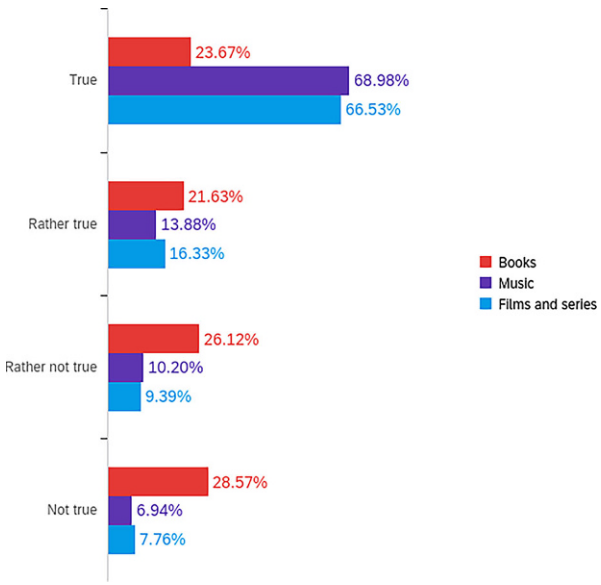

Fig. 11 Question 6: Do you enjoy consuming media content acquired on the internet (online ordering, streaming or similar)? The figure shows the percentage distribution of the survey responses to question 6 about the enjoyment of the consumption of media content acquired on the internet (online ordering, streaming or similar) in the three media fields (books, music, films and series)

general. The findings of the study by ARD and ZDF also proved a preference for physical books over e-books: While 46% of the over 14-year-old German-speaking participants consume physical books at least once a week, only 9% consume e-books weekly in 2021 (Kupferschmitt and Müller 2021, p. 384). Furthermore, a study among adults in Germany in 2017 by Ernst & Young (2017, p. 6ff.) discovered only 7% pay for e-book on-demand streaming services, while 19 and 23% pay for music and video-on-demand streaming. 77% consume music online at least from time to time and 69% consume films online at least from time to time.

When comparing the results of question 4 to question 6, one can see that within the field of books the number of enjoyers in general, no matter how one acquires the media content, is 32.24% higher than the number of enjoyers of consumption of media content acquired on the internet. Within the field of music, it is only 15.1% higher and within the field of films and series, only 7.34%. To conclude, 32.24% within the field of books, 15.1% within the field of music and 7.34% within the field of films and series solely enjoy consuming media content when acquired offline. Hence, the participants have a propensity to believe that they significantly enjoy consuming offline acquired books more than music and that they slightly enjoy consuming offline acquired music more than films and series. However, the number of people who enjoy consuming online acquired books is still 13.04% higher than the number of people who only enjoy consuming offline acquired books.

I utilised question 9 of the survey to see how the participants rate the quality of the media content acquired on the internet from “High” to “Low”. Figure 12 shows that 82.86% in the field of books, 91.84% in the field of music and 85.72% in the field of films and series and hence the clear majority rate the quality of media content acquired on the internet positively. However, they have a propensity to rate the quality of media content acquired on the internet slightly more positively in the

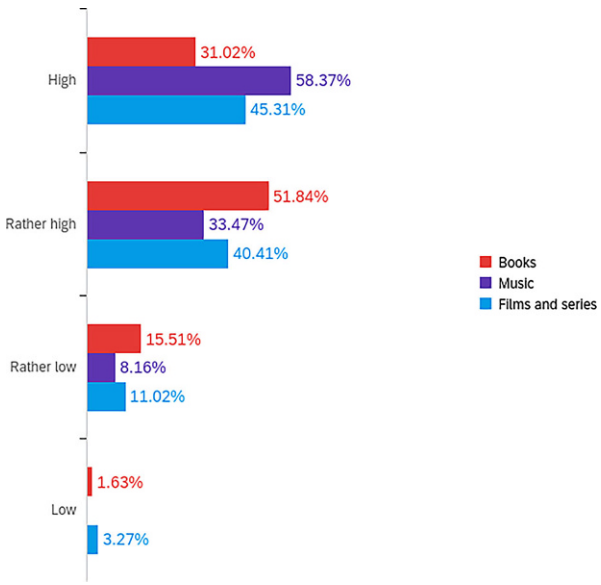

Fig. 12 Question 9: How do you rate the quality of the media content acquired on the internet? The figure shows the percentage distribution of the survey responses to question 9 about the quality of the media content acquired on the internet in the three media fields (books, music, films and series)

field of music than in the field of films and series and the field of films and series than in the field of books. The general preference for music over films and series and books, as seen in the results of question 4, may explain these slight differences.

When comparing the results of question 9 to question 6, one can see that the number of participants that rate the quality of online acquired media content positively within the field of films and series is almost equal to the number of enjoyers. However, within the field of music, there are 8.98% fewer enjoyers than participants who rate the quality positively. Within the field of books, the results even show a discrepancy with the clear majority (82.86%) rating the quality positively, despite that, 54.13% did not enjoy the consumption. An explanation for these differences may be that the participants possibly interpreted the term of enjoyment more as a subjective individual preference, while they saw the term of quality more objectively. So they just prefer consuming offline acquired books on principle and not because they dislike the quality of online acquired books.

Based on the results of questions 5, 4, 6 and 9 and the previous confirmation of the first and second hypothesis, I can thus confirm the third hypothesis that the quality of media content in the Digital Age improved compared to the Pre-Digital Age in all three media fields (books, music and films and series). As most of the participants agreed that they value a large diversity in media and the literature also set diversity as an essential quality criterion of media content (cf. Sect. 2.2), the previous confirmation of the first hypothesis again supports the rise in quality because of the internet. However, in the field of books, my results suggest that participants prefer offline equally to the online acquirement of media content. My conclusion of an improved quality goes in line with the findings of Waldfogel (2017b, p. 212). In the field of books, Brynjolfsson et al. (2003, p. 1590) calculated an additional gain of $ 1 billion in consumer surplus for consumers in the United States solely in the

year 2000 through the increased selection on the internet. Furthermore, Waldfogel (2012, p. 728, 2016, p. 768, 2017a, p. 18) showed, based on the development of the average score of critics and user ratings, that music, film and series quality has been rising since the beginning of the Digital Age.

As one can see, the Digital Age brings numerous chances to consumers and content creators. Still, as Waldfogel (2017b, p. 212) suggests, statutory enhancement of intellectual property rights protection should only happen when the creation of new content and not when the media industry revenues decline, as lower costs might balance profit losses. Excessive intellectual property protection measures are still a recent and important concern, especially in Germany, as the example of the litigation between the *Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte* (Society for musical performing and mechanical reproduction rights, GEMA) and YouTube shows. The GEMA (2016) restricted videos on YouTube in Germany that included the music of 70,000 musicians it represented from 2009 until 2016. According to a study by data journalists of OpenDataCity in 2013, Germany was the country with the highest number of videos in the worldwide top 1000 that are blocked with 61.5% (Matzat 2013). Although YouTube has since retrieved the content, this 7-year-long restriction showed the extent the enhancement of intellectual property rights protection can take.

5 Conclusion

This paper showed that one should not overlook the impact of the Digital Age on the quality of media content in the three media fields (books, music, films and series). Since 1994 and especially 2005, the spread of the internet and web 2.0 caused a rapid shift in the ways consumers acquire and use media content. Consumers now have more remedies like online reviews, search engines and personalised recommendations by algorithms to inform themselves about media content. Furthermore, they can easily order books, music, films and series from online retailers or stream or download them instantly in digital form without time or spatial constraints. This is beneficial to content creators as well as they can distribute their media content more efficiently and easily, even without a contract with a media company. However, it caused a need to reflect on and update existing business models and economic theories.

As I deduced from the theoretical argumentation in the second chapter and the results from my empirical survey conducted among 245 German-speaking internet users, the access to independent content creators and content creators in general increased for consumers in the Digital Age compared to the Pre-Digital Age. Furthermore, the Digital Age came with a significant improvement in information in consumers' media content choices, which mitigates the adverse selection problem. Following that, the quality of media content in the Digital Age improved compared to the Pre-Digital Age.

To improve the consumer experience in the field of books, media providers on the internet should revise their algorithms and start basing their recommendations more on content and less on purchase behaviour to make them more personalised.

Moreover, statutory institutions should not overvalue the enhancement of intellectual property rights protection and only apply it in case of a new content creation decline.

It is important to keep in mind that, because the present study is based on a convenience sample, it does not claim to be representative. The results only show a propensity. One can disprove any of the hypotheses put forward at any time.

Funding Open Access funding enabled and organized by Projekt DEAL.

Conflict of interest S. Barhoumi declares that she has no competing interests.

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