

Opinion Power and Diversity of Opinion in Traditional and Modern Information Intermediaries

Paulina Schindler* and Johannes Ruhland

Friedrich-Schiller-Universität Jena, Germany

Abstract.

New forms of information intermediaries have developed from traditional to modern with the emergence of the Internet. There are some differences between them. Since the influence of intermediaries on opinion power and diversity of opinion is a socially relevant topic, these aspects are compared for traditional and modern information intermediaries from an international perspective. Four subcategories are examined in detail for both categories. Opinion power is divided in recipients, availability of alternative information sources using intermediaries, content selection process and transparency concerning the selection of content. The subcategories of diversity of opinion are amount of content creators, amount of content published, accepted diversity of presented content and content selection criteria. A simple, point-based scoring system visualizes the perceived strength of change. The hypothesis that there is at least moderate change in both categories can be confirmed. Both categories show a strong level of change, especially because of the subcategories rated with strong change: recipients, availability of alternative information sources using intermediaries, content selection process (opinion power) and amount of content creators and amount of content published (diversity of opinion). Thus, strong changes have taken place in opinion power and diversity from traditional to modern information intermediaries.

Keywords: comparison; content; creators; recipients; scoring

1 Introduction

A large proportion of all people is relying on information intermediaries (ITU, 2019; Kemp, 2021; Richter, 2021) and is informed by them (Scharrow et al., 2020). In this paper also called “intermediary” for reasons of simplicity, they provide content and make it available to other people via their platforms. Because participation is only possible on their platforms (Paal, 2018), they have particular power concerning the forming of opinion and its offered diversity. Sufficient media diversity is considered an important prerequisite for the opinion formation of the population as a whole (Seufert, 2018).

In this context, modern information intermediaries are those who are possible only with the Internet (like search engines or social media platforms). In contrast, traditional information intermediaries already existed in their concept before the Internet and originally operated offline. Examples for this are newspapers and television programs. Both traditional and modern information intermediaries coexist today. In this case, traditional information intermediaries may also operate online – for reasons of clarity, this hybrid form will not be considered in greater detail.

In this paper, possible differences between traditional and modern information intermediaries will be examined in two categories from an international perspective. In each category, four subcategories will be examined in detail. To illustrate the strength of change, a scoring model is used that assigns points in each category with 0 points representing weak change, 1 point moderate change and 2 points strong change. After that, all subcategory points of a category are summed up. Three evenly distributed levels represent the overall strength of change in a category (0-2 weak change, 3-5 moderate change, 6-8 strong change). It is hypothesized that there is at least moderate change in both categories, which would mean a significant difference. This hypothesis is confirmed in the following.

2 Problem areas of traditional and modern information intermediaries

A model by Schulz and Dankert shows several problem areas in connection with information intermediaries (Schulz & Dankert, 2016). Two of them are opinion power and diversity of opinion. Because opinion and the power that goes with it are topics relevant to society (Lobigs & Neuberger, 2018; Seufert, 2018), they will be examined in detail in the following text.

2.1 Opinion power

The opinion power of an information intermediary is shown by the strength of influence of the selection of its content on the opinion formation of the recipients. Information intermediaries can generally have an influence on opinion formation (Helberger, 2020), even when they are not market-dominating (Peitz & Schweitzer, 2016). Because of the increasing abundance of information, intermediaries and their mediation activities are of central importance for the findability and weighting, presentation and perceptibility of content. This has a decisive influence on economic success as well as on the power of content to shape opinion (Paal, 2018). Because the opinion power can be influenced by recipients, the availability of alternative information sources, the way content is selected and how transparent this is communicated among other things, these factors are examined in detail.

Table 1: Opinion power

Traditional	Modern
Recipients	
Traditional intermediaries today are mainly used by the older population (Malthouse & Calder, 2006; U.S. Bureau of Labor Statistics, 2020; VuMA, 2021). Their user base is declining (Bridge, 2021; Hubert, 2017; Pew Research Center, 2019, B; Pew Research Center, 2019, C; PricewaterhouseCoopers, 2020; Rubado & Jennings, 2020).	Younger people in particular use modern intermediaries (Pew Research Center, 2019, A; PricewaterhouseCoopers, 2019). Their user base is growing (ITU, 2019; Kemp, 2021; Richter, 2021).
The main user base is different for traditional and modern intermediaries. Since modern intermediaries are used to a large extent by younger people, further penetration of society is conceivable as users age.	
Strength of change (0-2): 2	
Availability of alternative information sources using intermediaries	
Alternative options are limited because publishing more content needs additional	Alternatives are easily available because of the abundance of content on the Internet and the

resources (Breed, 1955; La Torre, 2014; Leurdijk et al., 2012). They may offer similar content if smaller intermediaries are taking their inspiration from the content of larger ones (Breed, 1955).	simplicity and low costs of publishing content (Hagel et al., 2013; Marr, 2018; Zimmer & Kunow, 2019).
With modern intermediaries, alternative sources are easier to offer.	
Strength of change (0-2): 2	
Content selection process	
One-sided, recognizably editorially guided and human-directed programming is used to make a pre-selection of information available to the recipient. A small number of people has the power to decide what content is made available to many consumers (Breed, 1955).	In principle, access to all information is offered, but pre-sorting and filtering is provided. This may be part of its service (Schulz & Dankert, 2016). This is influenced through user interaction within the framework of the services (Schwartzmann, 2019). The content is selected and sorted by algorithms (Paal, 2018), for example based on available user data (Schmidt et al., 2017). The user is presented information that is of interest to the user from the point of view of the intermediary. Personalisation is possible.
While traditional intermediaries provide information based on human planning, users of modern intermediaries have access to information on basis of pre-sorting or filtering by algorithms. These results can also be personalized. The nature of content preparation has thus changed fundamentally.	
Strength of change (0-2): 2	
Transparency concerning the selection of content	
Recipients of the disseminated information may expect filtering. However, the filtering rules editors use to choose published content may not be available to recipients. Even if guidelines are expected to be applied (American Press Association, n.d.; New York Times, n.d.; Presserat, n.d.), recipients are seldom able to verify this.	Some intermediaries present themselves as purely technological facilitators (Gillespie, 2018; Tsukayama, 2016), while the scope of their intervention goes beyond this (Stark et al., 2017). It's possible that certain processes are favored or impeded because of their business model based on selection services (Schmidt et al., 2017). Users are not necessarily aware of the pre-filtering of content by algorithms (Kluge et al., 2018). The complexity of these algorithms is so high that it is no longer comprehensible to outsiders which criteria were used to select the content displayed (Schulz & Dankert, 2016). In this context, questions of neutrality and transparency are regularly raised (Deutscher Bundestag, 2018).
While users of traditional intermediaries may be more likely than those of modern ones to be aware that pre-selection of content takes place, the basis on which this is done is often not fully transparent in the case of either.	
Strength of change (0-2): 0	
Sum of subcategory points: 6 (strong)	

Traditional and modern information intermediaries are characterized by different main user bases and available alternative information sources. In both cases, content selection takes place but is done very differently. The lack of transparency concerning this, however, remains similar. This results in a rating of six points for the strength of change concerning opinion power and can thus be classified as strong overall.

2.2 Diversity of opinion

The diversity of opinion that an information intermediary makes available to its users can influence the formation of an individual's opinion and thus that of society. Since a greater amount of information allows for greater diversity and pre-selection criteria may restrict this, this is considered below.

Table 2: Diversity of opinion

Traditional	Modern
Amount of content creators	
Content is provided by selected sources (Harcup & O'Neill, 2016). If the same established sources are used by different intermediaries this can also limit the diversity of the content presented (Brown et al., 1987).	The number of users is rising (ITU, 2019; Kemp, 2021; Richter, 2021). Users are often able to create content.
Traditional intermediaries use a set, limited number of sources while modern intermediaries offer the possibility to publish content to a large user base that continues to grow.	
Strength of change (0-2): 2	
Amount of content published	
Because of resource limits, the publishing space available is limited. Additional space incurs costs (Breed, 1955; La Torre, 2014; Leurdijk et al., 2012).	The available number of contents is rising (Hagel et al., 2013; Marr, 2018; Zimmer & Kunow, 2019). With the costs for storing data having decreased (Klein, 2017; Rosenthal et al., 2012), almost any content can be accepted.
Because of costs, modern intermediaries can publish a large amount of content more easily than traditional ones.	
Strength of change (0-2): 2	
Accepted diversity of presented content	
When consumers need to be attracted and publishing space is limited, the chosen content has to appeal to the consumer base. Content may be selected based on how strongly it conforms to an intermediary's or their recipients' overall attitude (Arlt & Storz, 2010; Jurkowitz et al, 2020).	Since users can publish content themselves, the content can be as diverse as the user base. In some cases, certain content is still kept hidden, possibly unbeknownst to users (Köver & Reuter, 2019).
Both offer content diversity to a certain degree. However, traditional intermediaries may be more dependent on content that appeals to a broad audience.	
Strength of change (0-2): 1	
Content selection criteria	
Because costs are also incurred for publishing (Hagel et al., 2013; Marr, 2018; Zimmer & Kunow, 2019), it makes sense for a media offering to select its published content in a way that it is considered to be valuable to society (Kennedy, 1988) for reasons of profitability (Tushnet, 2008). Other criteria for popular content may also be used (McGregor, 2002). The relevance of content is weighted according to	Because of the amount of available content intermediaries have to make a pre-selection that is subsequently displayed to a user (Drexler, 2017). The behaviour of a user and searches of other users can be considered for this purpose (Stark et al., 2020). Because of this personalization perception may be narrowed to content that matches a user's existing interests (Paal, 2018). Since a user is offered a lot of content even after automated pre-filtering, the

<p>journalistic standards and published accordingly as part of the gatekeeping of content (Stark et al., 2020). However, exact selection factors can vary depending on the situation (Harcup & O'Neill, 2016) and a focus on generating interest without relying on these factors is also conceivable (e.g. "Yellow Press").</p>	<p>recipients of the information themselves serve as an additional filter (Klempert, 2010). Content is measured against the rules for consumer offerings (Schwartzmann et al., 2019). Discriminating against content and ignoring the interests of the participants may even be necessary within a user-oriented system and business model (Schwartzmann et al., 2019).</p>
<p>A form of pre-filtering takes place in both traditional and modern information intermediaries. Traditional intermediaries cannot carry out personalization to the same extent as modern ones. While a narrower selection is offered after filtering with traditional intermediaries, the user is still provided with numerous contents after the algorithmic pre-filtering of a modern intermediary. As a result, users perform further filtering themselves.</p>	
<p style="text-align: center;">Strength of change (0-2): 1</p>	
<p style="text-align: center;">Sum of subcategory points: 6 (strong)</p>	

Because any user can publish content with modern intermediaries, the possible variety of available opinions is initially theoretically almost unlimited and thus higher than with traditional intermediaries. However, both traditional and modern intermediaries may limit the accepted diversity of content to some degree. Content selection criteria are used but may differ, especially because modern intermediaries have more possibilities for automated and personalised filtering. Thus, although the prerequisites for a high diversity of opinion in modern information intermediaries offer greater possibilities than in traditional ones, the diversity remains limited in a way. A rating of six points for the strength of change concerning diversity of opinion is achieved and can thus be classified as strong overall.

3 Conclusion

In total, both categories were rated with strong change, confirming the hypothesis made at the beginning. Especially strong change was found in the following subcategories: recipients, the availability of alternative sources and the content selection process (Opinion power) and the amount of content creators and content (Diversity of opinion). These findings are limited by the fact that only certain aspects were considered in a partially generalized manner in order to obtain an overall international picture. As a result, it is possible that a closer look at the situation of an individual intermediary may reveal deviations. Also, traditional intermediaries that operate online or vice versa were not considered.

Numerous changes have taken place from traditional to modern information intermediaries. These were examined more closely in terms of opinion power and diversity of opinion. In order to investigate further changes in the future and to discover possible trends, these aspects should continue to be investigated as a relevant topic for society in the future.

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