

Research on the Interactive Mode of Data News Content Presentation

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Abstract: Based on the analysis of multiple interactive data journalism cases, this article delves into the multiple interaction modes of news content presentation, summarizes the current data visualization, human-computer interaction, and participation sharing modes, and analyzes data news interaction the profound impact of the model on the dissemination of news information, and provides reference suggestions for the improvement of the data journalism interaction model. Finally, the model and development of the data journalism interaction are summarized and prospected.

Keywords: Data Journalism, Interactive, Visualization

Data journalism, also known as data-driven journalism, refers to a new way of news reporting based on data capture, mining, statistics, analysis and visualization [1]. The interactive mode of news content presentation has been widely used in AR/VR journalism, data journalism and other fields. Through a variety of new interactive modes, such as data visualization, graphic news, data map, etc., data journalism has changed the long-standing news reading habits of the public, and provided a better convenient, intuitive and experiential channel for information dissemination. Generally speaking, the interactive mode of data journalism has a profound impact on the reform of the press industry.

1. Overview of Interactive Mode of Data Journalism

1.1. Visualization: Basis of Data News Interaction

The presentation forms of data journalism include data visualization, news application and fusion report, in which data visualization includes static information graph, interactive visualization, video, animation, VR/AR display of data news and other forms.

Therefore, data visualization is the premise of data journalism interaction, and the interaction mode of data journalism can only be established on the basis of data visualization [2], such as the selection of dynamic tables of data news, the change of data dynamic map and so on.

1.2. Human-computer Interaction: Characteristics of Visual Interaction

Human-computer interaction refers to the interaction between various systems and users. In the field of data journalism's human-computer interaction, through computers or smart mobile devices, the visual data journalism will show different information according to different operations of users, so that users can get immersive information experience, which greatly enhances users' reading interest and reading quality. There is no doubt that human-computer interaction has greatly promoted the development of visualization of data journalism.

On December 25, 2014, in the data journalism "Crack down on both 'tigers' and 'flies'" published by Xinhua News Agency, the data processing team cross-correlated the collected data of deposed officials in the four dimensions of time, region, age and administrative level, and finally presented it in an interactive visual form. This data news has a strong human-computer interaction function. Human-computer interaction has also become a unique feature of interactive data news, which presents various visualization effects of data journalism through the current new technical means. It can enhance the readability and interest of data journalism, and meet the personalized needs of users to the greatest extent, thus promoting the transformation, development and upgrading of the news industry.

1.3. Participation in Shared Interaction: Trend in Visual Presentation of Data News

One of the characteristics of data news is that it relies on mining and analyzing the published big data. Through the participation of the whole people and data sharing, the data with the highest matching degree can be screened and refined, so as to constantly improve the content, enrich the style and enhance the function of data news.

Taking the data news "Looking for the Quiet Place in new york City" launched by *The New York Times* in 2013 as an example, the location marked in blue on the GIS map of New York represents the quiet place, while these blue signs are marked by readers. If the blue mark is denser in the area, it means that the place has been marked and recognized by more people. This interaction mode has gradually become a practice of "open news" and "crowdsourcing news". It has also overcome the limitation of "one-time reading" in traditional news, and successfully shaped news into an information product, exerting function and influence of news for a long time.

2. Communication Influence of Interactive Mode of Data Journalism

The attempt and development of the interactive mode of data news has brought about industrial changes for the traditional news industry, and its interesting, instant and participatory features have brought far-reaching influence on the dissemination of news information.

2.1 Promotion of News' Accurate Dissemination

On the one hand, users' choice of interactive mode of data news will affect journalists' choice of presentation mode, while the editing team of data news must refer to and meet users' preferences and needs for interactive mode to achieve accurate push of news content. On the other hand, according to different interactive modes of users' visual data journalism, news providers classify and mark readers, and then push specific news information to them, thus promoting the accurate dissemination of news content.

2.2 Enhancement of Reading Interest in News

Through rich and interesting interactive modes, data news attracts a large number of readers to participate in reading, which improves the interest of the younger generation in news reading. Readers' operations such as forwarding, sharing and praising on social media platforms also greatly promote the efficiency and scope of news dissemination.

For example, when *The Guardian* reported the information of casualties in Iraq war, it adopted interactive mode to promote the further dissemination of news information. Readers could know the specific casualties in the war through human-computer interaction and this kind of mode attracted many people, thus greatly improving the reading volume and information capacity of a single piece of data news. Therefore, the visual data news has also been improved in its dissemination scope and dissemination efficiency. On the other hand, visual data news can realize the superposition and integration of many traditional news information [3]. It can make use of users' curiosity to arouse the audience's forwarding, and finally improve the speed and efficiency of news information dissemination.

3. Ways to Improve the Interactive Mode of Data Journalism

The addition of visual interaction in data news has been widely accepted by readers, and has become the development trend of visual data news. However, the application and development of the interactive mode of data news is still not perfect, and the systematic standards and norms have not yet been formed. Therefore, the development and innovation of interactive mode still have a long way to go.

3.1 Dynamic and Static combination, Moderate Interaction

In terms of content presentation, it is necessary to develop and set the interactive mode selectively. While using dynamic interactive pictures and tables, it is better to cooperate them with static charts [4]. For example, a certain amount of dynamic data can be selectively hidden in the static chart. When users click on the corresponding static icon, hidden data will be presented automatically, thus realizing the

second reading of the data and improving the reading experience.

On the other hand, the use of interactive mode should be moderate. Instead of enhancing the news reading anecdotes, frequent setting of interactive modes will arouse the resentment of readers. Taking the above article "Crack down on both 'tigers' and 'flies'" as an example, if the news team displays data news in more than a dozen dimensions instead of four dimensions, it will bring inconvenience to readers and easily dilute the key information of data news, thus affecting the reading experience.

3.2 Personalized Customization, Precise Interaction

The interactive mode of data news also provides recipients with multi-faceted personalized news customization service. With data collection based on users, more accurate personalized news push and customize services in interactive mode can be provided according to different users' reading habits. For example, if some readers like to read news on their mobile phones, the mode can focus on gesture interaction; some readers like to read news by computer, the mode can focus on the interaction between mouse and dynamic chart; some readers like to use tablet computers for reading, the mode can focus on the interaction in gravity sensing.

In a word, it has become a trend of future social development for all walks of life to try their best to meet different individual needs. As of the interactive mode of data journalism develops continuously, we should pay attention to more accurate user interaction mode to meet the reading needs of readers. Only in this way can the long-term development of interactive data news be realized.

3.3 Industry Cross, integrated Interaction

The interactive mode of data news should not stay in chart information or map information, but can cross-integrate the content of data news with multiple industries. For example, many advanced interactive modes, such as deep interactive experience and game interactive design, allow users to participate in or operate games in real time by watching videos.

For data journalism, game interaction has become an important trend in the development of news content. The visualization results of vision and image in modern computer games are also worth learning [4]. Moreover, The interesting, participatory and interactive features of games can also be combined with data news to promote the understanding and dissemination of news information. Tencent News set up a football interactive game during the World Cup, which explained and interpreted the World Cup through the user's walking and gestures. Consequently, it greatly attracted users' reading and participation, and deepened their understanding of the World Cup.

There is no doubt that deep interactive experience and game interactive design will inevitably become the future development trend of interactive data news, and will also bring new breakthroughs and changes to traditional news reading methods and experiences. The characteristics of industry cross have spread all over our lives, and the features of data news integration and interaction will become more prominent with the development of society and technology.

4. Conclusion

With the continuous reform and innovation of data news, the emerging visual interactive mode will inevitably become the focus of the news industry. Data journalism is on the upgrade, accompanied by the continuous extension of information technology. It is going to set off the industrial transformation of the press, subvert the reading habits of people, and promote the dissemination efficiency and atmosphere of news information. It is believed that in the near future, the content presentation of data news will become a visual interaction dominated by information technology, which will surely bring new reading experience and profound reading understanding to readers.

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