

# **Interactive Infographics in Indian News Portals: A Study Based on Manorama Online and Times of India**

Communication & Journalism Research  
9(2) pp 65-77  
©The Author (s) 2020  
Reprints and Permissions:  
masscomhod@uoc.ac.in  
ISSN 2348 – 5663

**Navaneeth T M**

Postgraduate, Department of Journalism and Mass Communication, University of Calicut, Kerala, India

**Ramis Salam P**

Assistant Professor, Department of Journalism and Mass Communication, University of Calicut, Kerala, India

## **Abstract**

Interactive content is one of the biggest advantages of web journalism. Interactive infographics, which have become the buzzword of Western Internet-based news organisations in the last decade, are now increasingly being used in India as well. The study titled 'Interactive Infographics in Indian News Portals: A Study Based on Manorama Online and Times of India' is an attempt to understand how Indian internet media use interactive infographics. Using content analysis of interactive infographics published by two major online media, Manorama online and Times of India, researchers study the features and complexity of interactive infographics. Samples were selected around the 2019 Lok Sabha elections. Study infers that online news portals in India are developing interactives of high level of interactivity and varying complexity.

## **Keywords**

Infographics, Interactivity, Election Infographics, Data Visualisation

## **Introduction**

Since ancient times, graphical representations have been observed as a powerful medium to communicate ideas. Ancient Egyptian writing system, hieroglyphics, known for its graphical writing style is only one example. Hence systematised graphical communication is nothing new. Infographics can be simply defined as a visual representation of information or concepts that aims to make complex ideas understandable and accessible to the audience (Smiciklas, 2012). When information that is difficult to convey verbally is presented in graphical format, readers grasp the information quickly through visual learning. Because of this, infographics are a helpful tool for news media. Tremendous potential of the internet as an interactive medium helped the web based news organisations to step into the interactive infographics. Apart from viewing and reading, Interactive infographics provide the

option of selecting, shaping and searching the information. (Uyan Dur, 2014). Also interactive format can contain more content than static format. The reader is given the option to choose the necessary information. A more dynamic author-reader relation is enabled by the interactives. Even though it's the author who chooses the content, the reader has the freedom to explore it. It also enables the author to present a larger amount of information using multiple modes.

Weber (2013) defines interactive infographics as the graphical representation of information that includes verbal (text, audio, and typography) and visual (photo, illustration, diagram, map, symbol, icon, pictogram, video, moving image). Interactive infographic examples were identified and selected based on the definition.

The ongoing print to online transition in the media landscape of America and Europe is resulting in innovative transition of infographic content as well. Up until recently, newspapers in India were the only outlets for data-driven election analyses. News organisations had not fully utilised the potential of the online medium, which can effectively harness massive content and interactivity. (Gupta, Sampat, Sharma, & Rajamanickam, 2016).

Infographics in Indian news media have got very little research interest from media researchers. Gupta, Sampat, Sharma and Rajamanickam (2016) as part of a broader research, compared infographics published by two Indian dailies with online presence, The Hindu and Times of India during the Tamil Nadu state elections of 2016. They observed both newspapers published similar types of infographics such as bar charts, donut charts, maps etc. Ghode (2012) compared the number of infographics published by two major newspapers in India. In which statistical infographics published by Times of India and Indian express were divided into three levels according to its detailing. Study shows that both newspapers' preferences were different as the Times of India published more infographics in the news section while Indian Express published more in the article section Ghode (2012). Although this study barely touches the qualitative aspects of the infographics published. There have been many efforts from the scholars to study the feature of interactive infographics such as usability (Albers, 2014), degree of interactivity (Zwinger & Zeiller, 2016) and complexity (Olivio, 2015).

In India elections are the event for which most data visualisations and infographics are produced. During election seasons, many of the news organisations' use of data journalism is frequently restricted to opinion polls, which experts debate whether or not to classify as data journalism (Rajasekar, 2014). Around the 2019 Lok Sabha election, some major online news organisations started using interactive content, among them Times of India (English) and Manorama online (Malayalam) used interactive content extensively. Both of its' print counterparts are known for extensive

usage of static infographics. This paper aims to document this development of interactive infographic in India by studying the content characteristics of the interactive infographics made by these two media. It also aims to compare the complexity of infographics Manorama online and Times of India published during the Lok Sabha election of 2019.

### **Objectives of the Study**

- To study the features of interactive infographics in Indian online news portals, with special reference to Manorama online and Times of India news portal.
- To compare the complexity of interactive infographics produced by Manorama online and Times of India news portal.

### **Methodology and Theoretical Framework**

To achieve the objectives of the study, researchers did the qualitative content analysis of the selected interactive infographics. For this theoretical underpinnings put forth by Weber (2013), classification of interactives by Nichani & Rajamanickam (2003) and the visualisation wheel by Cairo (2013) are employed.

Out of the six dimensions (data visualisation, interactivity, linearity-nonlinearity, communicative function, multimodality and semiotic system) of Weber's (2013) framework, this study concentrates more on 'interactivity' and 'linearity-non-linearity'. The communicative function dimension of Weber (2013) has parallels with the classification based on communicative intent of Nichani M and Rajamanickam.V (2003).

**To Study Features of Interactive Infographics** Weber's (2013) categorisation of interactives based on how readers interact with them has three levels - low, medium and high. Low level of interactivity, when the reader cannot alter or control the infographics, but can simply browse the content and choose what to display out of the given information. If the reader can modify the infographics' structure and compare the content using modalities like a timeline slider or menu buttons which are offered in the infographics, it comes under medium level of interactivity. High level of interactivity, if the reader can provide an input by the options like a dropdown menu, search bar etc. and get an output which may differ according to the input provided.(Weber, 2013; Zwinger, S. & Zeiller, M., 2016).a

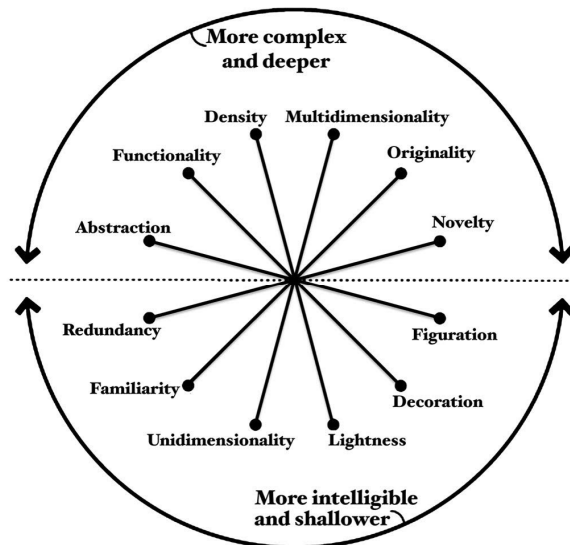
The course of action specifies the movement from one point of the interactive story to another point (Zwinger & Zeiller, 2016). Weber (2013) mentions this dimension is closely related to the interactivity of the infographics. If the movement is through a

linear, predetermined path it's called a linear course of action. It could be by scrolling, next-previous buttons etc. If the movement does not have a predetermined path and allows to drive or navigate the interactive, which is called a non-linear course of action. The navigating tools could be filters, input box, drop-down menu etc. Linear-non-linear course of action allows the reader to navigate the interactive infographics to a certain extent but some parts of the interactive will have a predetermined path.

Narratives (presenting information from a particular point of view), instructives (outlining a procedure step-by-step), explorative (allowing the reader to explore graphics and determine his own communicative intent), and simulatives (allowing the reader to experience a real event or phenomenon) are the classification based on communication intent of interactive infographics (Nichani & Rajamanickam, 2003)

**To Study the Complexity of Interactive Infographics.** To compare the complexity of interactive infographics Cairo's visualisation wheel is used. Alberto Cairo developed this wheel to plan ahead for his infographics projects. Here the six axes of this visualisation wheel is employed to do a close reading of different aspects that contributes to the complexity of infographics. Six axes of the visualisation wheel are abstraction-figuration, functionality-decoration, density-lightness, multidimensionality-unidimensionality, originality-familiarity and novelty-redundancy (Cairo, 2013).

**Fig 1: Visualisation Wheel (Cairo, 2013)**



**Abstraction - Figuration.** A highly figurative infographics will contain a lot of physical representations in the form of drawings or photographs. This brings a sense

of reality rather than conceptuality of the content. An infographic which moves onto the abstraction hand will be more conceptual.

**Functionality - Decoration.** According to Cairo (2013) a functional graphics will contain fewer embellishments and also will be closer to the direct representation of the data. A decorative visualisation will have more artistic embellishments.

**Density - Lightness.** This axis is related to the amount of information the infographic contains. Some visualisations may have to read closely because of the abundance of information it contains. Such visualisations are denser, hence scaled more to the density edge of the visualisation wheel. While some other infographics can be studied quickly and the quantity of information is not much devastating. Which can be said to be lighter.

**Multidimensionality - Unidimensionality.** A visualisation move to the multidimensional edge if it invites the viewer to explore different aspects of a phenomenon. Unidimensionality on the same hand invite single or fewer aspects.

**Originality - Familiarity.** If a broad population is used to a certain kind of visualisation by witnessing it regularly, then it is more familiar than the original. On the other hand, some visualisations are unique and built for a particular use, may make its uses consumes time on the understanding of the presentation. More original in nature.

**Novelty - Redundancy.** Redundancy is the character of visualisation to tell the same story in different ways. It could be using multiples visual elements to convey same information. Novelty is the act of describing the information in only in only one way.

### Sample Profile

Manorama online and Times of India news portal both published five interactive infographic stories each related to Lok Sabha elections in India during March to May, 2019. These were taken as the samples for the study. Stories Manorama Online published were *Vottu cheyyendath engane? (How to vote?)*, *Thiranjeduppukeralam: ariyendathellam (Election in Kerala: Everything you need to know)*, *Thiranjedupp-digital calenderil (Election in a digital calendar)*, *Rahstreeyathodulla Indian cinemakkarude pranayakatha (The love story of Indian film stars with politics)* and *Keralam: votemap*. The interactive infographics Times of India published were *Election 2019: Explainer*, *Fantasy election game*, *Lok Sabha election campaign tracker*, *Battleground 2019: Election datahub* and *Modimetre*.

## **Analysis and Discussion**

Researchers analysed all ten interactive infographics in detail. Out of which two are given here.

### ***1. Lok Sabha Thiranjeduppil Keralam; Ariyendathellam***

#### **(Kerala in Lok Sabha Elections; All You Need to Know)**

This interactive infographic by Manorama online combines multiple visual and textual modalities. As you scroll down from the heading, which is decorated with small sketches of prominent politicians, election-related text cards pop up and align downwards. This card carries the figures related to the Lok Sabha election in Kerala. As we scroll down the figures of critical, sensitive and vulnerable polling stations in Kerala which are presented with a back ground of three colour codes. The total electorate of Kerala on the basis of gender and age is presented as a 3-D pie chart and bar chart, both are interactive. While scrolling down, readers can see a map of Lok Sabha constituencies in Kerala. When the reader clicks on each constituency on the map, a box appears on the right-hand side with information of its current Member of Parliament, attendance in the parliament, number of debates attended, number of questions and number of private bills. Another two static maps of the constituency, which the reader selected in the first map, appear below the below the information box. These two maps show which alliance had the upper hand in the Lok Sabha election of 2014 and state election of 2016. Other elements of this interactive includes an interactive donut chart showing the number of votes received by each party in the 2014 Lok Sabha elections, an interactive column chart showing the number of seats won by each alliance in the parliamentary elections in Kerala during 1980 to 2014, and an interactive line chart showing the number of voters in Kerala during the period 1957-2014 by gender. Hyperlinks to detailed analysis of twenty constituencies in Kerala are given at the end with sketches of candidates of each constituency.

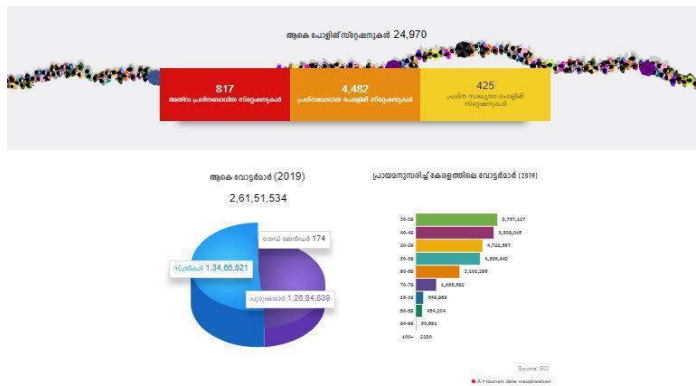


Fig 2. Visualisation from the Interactive Infographics *Lok Sabha Thiranjeduppil Keralam; Ariyendathellam* (“Kerala Lok Sabha Elections 2019,” 2019).

*Degree of Interactivity.* Most of the modalities embedded in the story are interactive contents. The second part, the interactive map and associated information box is given, has a medium level of interactivity. It's because clicking on each point on the map, the corresponding information box and the two maps that appear below the box changes. Readers can also compare two members of Parliament who represent different constituencies. While the other data visualisations in this interactive fall into the low-level interactivity category, this infographic has a hyperlinked, hierarchical structure, also users can manipulate the graphics - indicate medium level of interactivity.

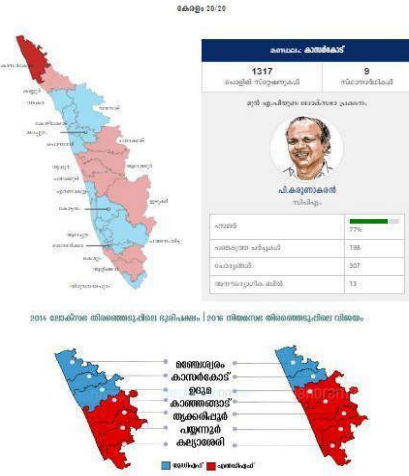


Fig 3: Interactive Map from the Interactive Infographics *Lok Sabha Thiranjeduppil Keralam; Ariyendathellam* (“Kerala Lok Sabha Elections 2019,” 2019)

**Course of Action.** Elements of this interactive infographics are connected linearly, open up while scrolling down. But out of these elements, readers can interactive maps and data visualisations that the reader can explore without a definite path. For example, the interactive map showing the constituency information can be navigated by a reader in a non-linear way. Hence this graphical story show the characters of both linear and nonlinear infographics.

**Communicative Intent.** It is neither an account of an incident nor a detailed walkthrough of a procedure. The information about the constituency, Member of Parliament, voters, etc. is available for the readers to explore as they wish. So this interactive infographics can be categorised as exploratory.

**Complexity of Infographics.** These interactive infographics are more abstract than figurative. Its core content is maps and data visualisations whose referent and representation are purely mimetic, while still having figurative elements, including sketches of members of parliament. The background picture of the text cards and the graphic provided in the background of the polling stations information are embellishments that do not enhance the information in the content. So this infographic is more decorative than functional. The content is distributed in a light manner by providing whitespace as needed in each part. So these graphics feel lighter on the density-lightness axis. The infographic has shown two layers of information for the factor 'number of voters'; a 3-D pie chart for gender wise statistics and a column chart for age wise statistics. Also the Interactive map shows multiple factors which contribute to the performance of the parliament member, which all shows this infographic is more multidimensional. All visualisations used in this interactive should be familiar to the readers such as pie charts, line charts, bar charts and maps. Hence the visualisation moves towards the 'familiar' edge in the originality-familiarity axis. Since the data presented through the charts are not repeating in form of textual descriptions or other visualisations, makes it less redundant.

In overall the interactive infographic is inclined to 'abstract', 'multidimensional' and 'novelty' edges in the 'complex and deeper' hemisphere and 'familiarity', 'lightness' and 'decoration' in the intelligible and shallower hemisphere. Hence researchers infer that this infographics is in a balanced state in terms of complexity.

## **2. Lok Sabha Election Campaign Tracker**

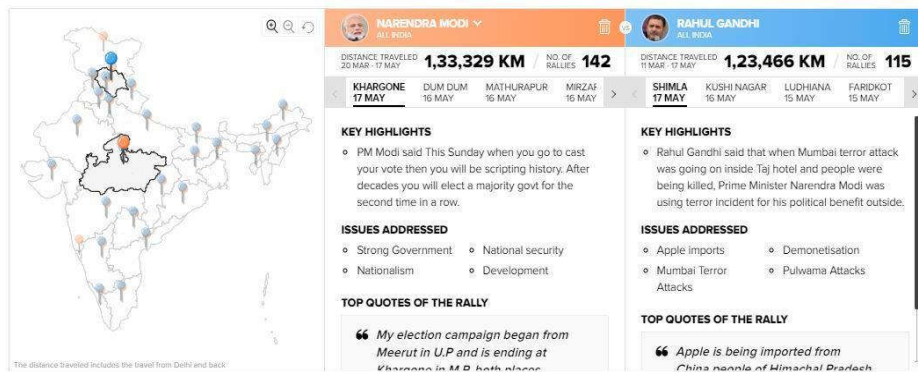
The Times of India's interactive *Lok Sabha campaign tracker*, provides information on the election campaigns of three political figures- Narendra Modi, Rahul Gandhi, and Amit Shah- from the start to the finish of the 2019 Lok Sabha



election cycle. An interactive map and two information boxes with the campaign information are the main content of this infographics. In the first information box, reader can choose either Narendra Modi or Amit Shah, both are part of the ruling party. Reader can choose Rahul Gandhi, the leader of opposition, in the second box. The interactive map shows the states where these three leaders campaigned. Clicking on any of these states will bring up a map of that state, showing the locations of the election campaigns happened. Now by clicking on the point indicating that location, the information box of corresponding leader modifies and shows key highlights, issues addressed and quotes related to that. Readers can also select the distance and day the leaders travelled for campaigns. Links to view campaign coverage, poll tweets and videos related to each alliance are provided below this interactive part in three distinct sections.

**LOK SABHA ELECTIONS CAMPAIGN TRACKER**

TOI's Interactive Campaign Tracker follows PM Narendra Modi, Congress President Rahul Gandhi and BJP President Amit Shah on the poll trail across India. Click on the tabs below to get a day-by-day summary where they are traveling, what they are saying, issues they are focusing on and how TOI is reporting it.



**Fig 3. Interactive Map and Information Boxes from the Infographic, Lok Sabha Election Campaign Tracker.** (“Elections 2019 Campaign Tracker for Narendra Modi, Amit Shah and Rahul Gandhi,” 2019)

**Degree of Interactivity.** All the elements in this infographic are interactive. When the reader clicks on the interactive map, the information in the information box changes. The reader can manipulate the graphics using campaign date, campaign location and also using an option to delete one of the boxes. This indicates a medium level of interactivity.

**Course of Action.** A reader can start reading this interactive at any point. Reader can navigate the graphic using the interactive map or the information box. In the map itself a reader can start with different states. Since it allows the reader to explore the graphics, this comes under the category of non-linear course of action.

***Communicative Intent.*** This interactive infographic is not a step-by-step description of a process or a narrative which explains the event from a distinct point. But it allows reader to explore the content and create their own insights from the graphic. So it's an explorative infographic.

***Complexity of Infographics.*** This interactive is more abstract than figurative since there are very little figurative elements (the small photographs of the leaders). Every other representations such as the maps are abstract elements. Also this infographic has no decorative elements in it. The colours in the background of textbox also cannot be considered as decoration as those are the colour codes of the political front of these leaders. It shows the interactive is more functional than decorative. It's densely packed and has multiple layers. A reader can compare the leaders by the distance covered, the issues addressed in the campaign etc. Even though the interactive map and the text boxes could be familiar for the readers, mode of interaction used in the text box is unique and complex, makes it more original than familiar. Characteristics of this infographics are inclined to 'more complex and deeper' hemisphere of visualisation wheel.

### **Summary of Analysis**

There are differences in the features of interactive infographics published by Manorama Online and Times of India. Taking the degree of interactivity, out of the five interactives published by Manorama Online, three exhibit medium level of interactivity and two exhibit low level of interactivity (Table 1). Three of Times of India's infographics exhibit high level of interactivity and two exhibit medium level of interactivity (Table 2). Except one interactive by Manorama named '*Vottu cheyyendath engane?*', the communicative intent of the infographics produced by both media can be explored by the reader, hence comes under 'explorative' category. Both media do not exhibit uniformity in terms of course of action, they aligned the content in the best visible manner. Another noteworthy point is the difference in content. The main content of the all of the infographics The Times of India published were numerical data. While Manorama was delivering more factual information in textual format. Also Manorama online used more visual modalities, including videos, flash animations in their interactive infographics.

When studying complexity using the Visualization Wheel, Times of India's graphics hardly used decorative elements. Manorama, on the other hand, uses colourful decorations and backgrounds to make the graphics attractive. Times of India's graphics were more abstract as they were using more data visualisations. Manorama's graphics were mostly unidimensional and less dense. Times of India, on the other hand, has presented information very densely with multiple layers. The Times of India's infographics on the visualisation wheel inclined more to the

characteristics of 'complex and deeper' hemisphere.

**Table 1: Features of Interactive Infographics Published by Manorama Online**

<b>Name of the Interactive Infographics</b>	<b>Degree of Interactivity</b>	<b>Communicative Intent</b>	<b>Course of Action</b>
Keralam Votemap	Low	Explorative	Non-linear
Vottu cheyyendath engane?	Low	Instructive	Linear
Rahstreeyathodulla Indian cinemakkarude pranayakatha	Medium	Explorative	Non-linear
Thiranjedupp-digital calenderil	Medium	Explorative	Linear-Non-linear
Thiranjeduppukeralam:ariyendathellam	Medium	Explorative	Linear-Non-linear

**Table 2: Features of Interactive Infographics Published by Times of India**

<b>Name of the Interactive Infographics</b>	<b>Degree of Interactivity</b>	<b>Communicative Intent</b>	<b>Course of Action</b>
Fantasy poll game	High	Explorative	Non-linear
Election 2019 explained	Medium	Explorative	Linear-nonlinear
Campaign mapper	Medium	Explorative	Non-linear
Modimeter	High	Explorative	Linear
Datahub	High	Explorative	Non-linear

## Discussion and Conclusion

Times of India and Manorama online delivering infographics with various levels of interactivity. From this it's clear that news portals in India can make good use of interactive possibilities. News portals starting the use of interactive infographics also a positive step for data journalism in India as the interactive techniques will aid to deliver more data. But effectiveness of interactive medium is also depended upon how readers use the interactive elements. Gupta, Sampat, Sharma and Rajamanickam (2016) had mentioned poor data literacy as one of the reasons that harness the growth of data journalism in India. It's important to understand whether the interactive infographics enhance the data literacy of the readers or whether they struggle to grasp the interactive elements. It is also important for these media to understand what their target readers like about interactive infographics through audience-specific studies. The difference in features and complexity of interactive infographics of Manorama online and Times of India should be due to the difference in target readers. It's positive that media outlets consider their target readers as it will give access of interactive content to every class of readers. It is yet to be seen whether interactive infographics will be used regularly by Indian internet media outlets beyond events like elections.

## References

- Albers, M. J. (2014). Infographics: Horrid chartjunk or quality communication. *2014 IEEE International Professional Communication Conference (IPCC)*, 1–4. <https://doi.org/10.1109/IPCC.2014.7020344>
- Cairo, A. (2013). *The functional art: An introduction to information graphics and visualization*. Berkeley, California: New Riders.
- Elections 2019 Campaign tracker for PM Narendra Modi, Amit Shah and Rahul Gandhi. (2020, September 26). Retrieved from <https://web.archive.org/web/20200926114749/https://timesofindia.indiatimes.com/elections/campaigntracker>
- Gupta, K., Sampat, S., Sharma, M., & Rajamanickam, V. (2016). Visualization of election data: Using interaction design and visual discovery for communicating complex insights. *JeDEM - EJournal of EDemocracy and Open Government*, 8(2), 59–86. <https://doi.org/10.29379/jedem.v8i2.422>
- Kerala Lok Sabha Elections 2019. (2019). Retrieved from <https://specials.manoramaonline.com/News/2019/all-about-kerala-election/index.html>

- Nichani, M., & Rajamanickam, V. (2003). Interactive visual explainers—A simple classification. Retrieved from <https://web.archive.org/web/20040213203502/http://www.elearningpost.com/features/archives/002102.asp>
- Olivio, M. T. (2015). *Visualizing the news: An analysis of a year in interactive news from "The New York Times" and "The Washington Post"* (Rochester Institute of Technology). Rochester Institute of Technology. Retrieved from <https://www.proquest.com/openview/3e4e31a3f59ad99b8fb2b3253751b1c4/1?pq-origsite=gscholar&cbl=18750>
- Rajasekar, P. (2014, July 21). India's Media—Missing the Data Journalism Revolution? Retrieved from Global Investigative Journalism Network website: <https://gijn.org/2014/07/21/indias-media-missing-the-data-journalism-revolution/>
- Smiciklas, M. (2012). *The power of infographics: Using pictures to communicate and connect with your audience*. Indianapolis, Ind: Que Pub.
- Uyan Dur, B. İ. (2014). Interactive Infographics on the Internet. *Online Journal of Art and Design*, 2, 1–14.
- Weber, W. (2013). *What is an interactive information graphic?: Theoretical considerations and empirical studies*. Presented at the Malofiej 21 - Infographics World Summit, Pamplona, Spain, 13-15 March 2013. Retrieved from <https://digitalcollection.zhaw.ch/handle/11475/1490>
- Zwinger, S., & Zeiller, M. (2016). *Interactive Infographics in German Online Newspapers*. Retrieved from <https://people.fh-burgenland.at/handle/20.500.11790/850>