

Potential Applications of Algorithmic (Robot) Journalism for the Greek Sport Media

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Abstract

In our days a new type of journalism is been developed : the algorithmic journalism, also known as robot journalism or automated journalism. This kind of journalism is based on an artificial intelligence software (IA) and an advanced natural language generation (Advanced NLG), which automatically generate articles in near real time and in human readable ways. Algorithmic journalism was used in 2016 at the Olympic Games of Rio and at the present time is also used by international news providers.

Keywords: algorithmic journalism, robot journalism, automated journalism, sport media, Greek media.

1. Searching for Innovative business models for the Greek media

The focus point of a necessary research about the changes and the scenarios of the next decade about Greek media is the implementation and prediction of sustainable business models for the Greek Media and the help to those organizations via Knowledge Management (Wang, Ashleigh and Meyer, 2006). The business models will be based on the below factors: a) the usage of new technologies through knowledge assets and knowledge capital b) the utilization of European digital environment of transmission and delivery of information and entertainment programs c) the skills development of Media employees through modern business models d) the adaptation of Media regarding the race, the gender, the age and the financial status of the users.

The Media industry differs from any other field of business as the news as product is a vital element of society and democracy (Keane, 1991). Taking this fact into consideration, the news industry must be maintained in a sustainable and fruitful business environment. Especially in Greek Media industry where the majority of news are provided for free (television, radio, internet) the companies have to build a strong strategy towards their revenues.

Knowledge Management is an innovative form of Management which is based on the new technologies and the full usage of the property's elements as knowledge assets and knowledge capital. The Greek Media have to optimize the maximum through the knowledge assets and capitals of the Greek Media, in order to build up the needed future business models.

The Media industry showed a decline in revenues through sales and advertisements (R. Barkan, 2017) and the needs of the companies are changing as the needs of the users also change. The Media industry, went through rough financial problems the past years (G. Kamiya, 2009) with companies closing. In the Media industry, more than 49 occupations are employed therefore technological changes are promptly engage with the business models and structures. Media constitute a major part of the news industry, socialization, information and civilization. From the traditional media until their recent form, the media industry is a cornerstone of knowledge and information for all the social classes, regardless income, race or gender. Profitable and sustainable media are crucial for the equilibrium of the society (Dillon, 2010).

In Greece the period between 2009-2017, 27 newspapers in total stopped their activity (Lamprakis Press S.A, Pegasus, IMAKO, Lymberis Publications). Furthermore as ESIEA's statistics explain, the salaries of Media employee's are declined for almost 60% the last years.

2.The algorithmic journalism and the 2016 Olympic Games.

The algorithmic journalism is one of the most innovative tools for media organizations, based on the new technologies. It is used by international news providers as the Associated Press, The Los Angeles Times, and the Forbes e.t use it. in order to save costs and time. It is based on an artificial intelligence software (IA) and an advanced natural language generation (Advanced NLG), which automatically generate articles in near real time and in human readable ways. The intelligent software can not replace the human work but it can take up some of the work. It is mainly used for sports recaps, financial reports, weather other stories that are based on statistics and numerical references. It was used in 2016 at the Olympic Games of Rio and although the Greek Media haven't adopt such intelligent technologies on the production and distribution of their articles, the sport journalists who reported the Olympic Games had the opportunity to work on this kind of journalism.

The 2016 Olympic Games were largely communicated by the social media. #Rio2016 was an official Olympics trademark and seen on Twitter, Instagram and Facebook. The opening ceremony was downloaded by

more than 52 millions of active users on Facebook. These users engaged with the content 109 million times. There were also more than 51 million posts, likes and comments on the Instagram. Totally, during the Games more than 277 million active users engaged with the content 1.5 billion times (Triantafillou, S. 2016). Michael Phelps, the most successful athlete of the Games (he won the most medals) used the application “*Facebook Live*” in order to announce his decision to leave professional sport. This video was downloaded by 3.97 million of users and Phelps earned an amount of 200.000 \$. The application “*Facebook Live*” was also used during the Olympic Games by the international news providers (The New York Times, CNN, Washington Post, Reuters, BBC, ABC News, The Wall Street Journal, US Weekly e.t.). For example, the news providers chose to use “*Facebook Live*” in order to take an interview, instead of using cameras and video crews. But the main innovation of the 2016 Olympic Games was the use of algorithmic journalism. By using a simple application for the smartphones, the journalists had the opportunity to receive automatically articles about the results of the games in near real time and inform their public at the same time. By receiving automatically generate articles in real time and in human readable ways, there was a double benefit for the journalists: on the one hand, they ensured the rapid transmission of news that seemed to embody the experience of innovation, on the other hand the application allowed efficiency and cost-cutting, alleviating some financial burden that many news organizations face. The artificial intelligence software (IA) and an Advanced Natural Language Generation (Advanced NLG) that was used during the Games have been developed by the Narrative Science, a data science company in Illinois, USA. Typically, the process involves an algorithm that scans large amounts of provided data, selects from an assortment of pre-programmed article structures, orders key points, and inserts details such as names, places, rankings, statistics, and other figures. The process worked for the Olympic Games like a human analyst, in three steps: In a first step, it processed performance-reporting requests in the form of questions. With advancements in Natural Language Understanding, the software understands simple requests in natural language. In a second step, it aggregated and analyzed data to fulfill requests for information. In a third step, it distilled and communicated the findings in natural language.

As is easily perceived, sport events isn't the only field that algorithmic journalist has been applied. For example, Narrative Science software is used by the FORBES to generate readable, understandable and reliable e-articles about the forecasts of the financial performance of the major companies, the day before the official announcement. Narrative Science is also proposing a new software for the Elections in USA. This software generates articles by scanning large amounts of provided data such as tweets, posts, likes, comments, names, places, rankings, statistics, and other figures. Narrative Science is a leading company on this field with a lot of customers but it isn't the only one that develops software for robot journalism. Google has made much progress on this field and has already bought a lot of companies that produce robotic systems useful to the fields of journalism, physics, medicine etc. On April 2015, Google announced the Digital News Initiative, a partnership with European news editors to support high-quality journalism through technology and innovation. The Associated Press also uses algorithmic journalism to cover 10,000 minor baseball leagues games annually, using a program from Automated Insights and statistics from MLB Advanced Media. Outside of sports, the Associated Press uses software to produce stories on corporate earnings and produces automatically over than 3.000 articles every month about financial forecasts. But the most famous algorithm that generate articles in near real time is called Quakebot and it publishes articles about earthquakes on the Los Angeles Times website. In 2014 it published an article within three minutes after the shaking has stopped.

3. Algorithmic Journalist in the near future

Although “robot journalists” cannot replace human journalists, as it is mentioned above, an extend science discussion is going to take place about the future of this innovative type of journalist. A “revolution” of robot journalists seems to be possible in the future. Recently, the heads of National Weather Service of USA decided for Alaska department to commit the announcement of the weather reports to an intelligent software. According to the Computational journalist, assistant professor of the Philip Merrill College of Journalism Nicholas A. Diakopoulos (kathimerini, 2014) the IBM company has develop a software that has the ability to ask questions to the users of twitter and write down an article. For example, if there is an information that something happens in an airport, the software has the ability to process previous tweets of the people who are there, to find them and to send them a tweet asking what happened. In the present time this software is under-resourced but this scenario is really possible to be true in the few next years. According to Diakopoulos, there are also resources about robot journalism using drones for taking photos, videos etc.

The question is: this is the beginning of robot rowing in Journalism? The answer is not simple. Technology is rapidly evolving and offers to the Media industry a lot of tools in order to automate part of their work and save time and money. Algorithmic journalism is an innovative and rapidly developing type of journalism with many applications to the near future. But according to Nicholas A. Diakopoulos, robots cannot replace the human journalists because they lack an essential feature: Creativity. For this reason Robots can only work as “assistant journalists” in order to collect and analyze standard information. In the other head robot journalism is considered

in our days as an opportunity to release journalists from routine reporting, giving them more time for complex tasks. It also allows for efficiency and cost savings, relieving some financial burden on many news organizations. The constructors and the supporters of the intelligent software highlight the fact that it offers actionable insights that empower employees across the enterprise and the freedom and insights to focus on creating greater value and improving of the company. That's absolutely true. Of course, the development of technology always raises a lot of issues such as professional, social, legal, moral, even politic because of a possibly violation of human rights. Who really knows how this intelligent software can be used in order to gather, process and disclose personal information? Therefore, in the field of journalistic algorithms, a very wide discussion of all this issues is just opening.

4.The users – viewers of Greek Media

To the present, algorithmic journalism is used only by international news providers that have the know—how and the funds to invest on this. Algorithmic Journalism is absolutely unknown for the Greek media industry and also, at the present time the Greek media owners have neither the know-how nor the funds to invest in such technologies. On the other hand, Greek people are close familiar to the new technologies and digital applications. According to FOCUS ON TECH LIFE of the Market Research company Bari Focus in 2017, period: June - October, 81,8% of Greeks use the internet with any frequency and 71% surfs the web daily. Among the 13-44 age groups, Internet usage is universal, while daily usage reaches 88, 4%. It is remarkable the fact that 4 out 5 Greek kinds aged 5 to 12 years old make use of the internet. Additionally, the 67,7% of the Greek smartphone users use the internet via their mobile device with any frequency. Bari Focus measures cover virtually the total Greek population 13-74 years (8,394,000 individuals), and is the first, multiplatform scientific continuous survey in Greece that consists of two-stages interviews: Telephone CATI interviews and online CAWI, which are completed by respondents themselves at their own time and vehicle.

Conclusion

The Greek media industry is being reformulated, innovative business models are searched and new technologies are introducing in the media organizations. The new generation of the Greek journalists and the Greek people are close familiar to the new technologies and digital applications. Of course they are not familiar to the algorithmic journalism but as the Greek sport journalists who reported the Olympic Games of Rio had the opportunity to work on this type of journalism, it is possibly the time for a wide scientific dialogue on the following fields: a) the positive and the negative effects of the intelligent software and the use of robots to the journalism, b) the cost and the benefits of these applications for the media companies, c) the extent of the relevant issues -professional, social, legal, moral etc- which may arise in the future. Given that the scientific community's obligation is to precede, not to follow the Development, robotic journalism is a new and highly interesting field of scientific research.

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