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discours sur l'organisation*

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Electronic version

URL: <http://journals.openedition.org/ctd/3262>

DOI: 10.4000/ctd.3262

ISSN: 2491-1437

Publisher

Chaire Unesco Pratiques émergentes en technologies et communication pour le développement

Printed version

ISBN: 2491-1437

Electronic reference

Yang YU, Kuo HUANG and Bob JONES, "Artificial Intelligence in Media: Journalists' Perceptions and Organizational Talk", *Communication, technologies et développement* [Online], 8 | 2020, Online since 30 June 2020, connection on 29 March 2021. URL: <http://journals.openedition.org/ctd/3262> ; DOI: <https://doi.org/10.4000/ctd.3262>

This text was automatically generated on 29 March 2021.

Communication, technologies et développement

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Introduction

- 1 This year in 2020, China's Xinhua News Agency and Sogou company worked together and rolled out in May their first 3D version of AI news anchor mimicking the looks and voices of a female human journalist, adding to the current line of virtual presenters. This 3D AI news anchor can move around the studio in a smoothly manner, and claims to be able to go out of the studio doing reporting in the near future. "She" can even change her hairstyles and outfits accommodating to various scenarios.¹
- 2 The concept of "artificial intelligence" as we know it, can be traced back to the middle of the last century. In 1950, in his paper *Computing Machinery and Intelligence*, the British mathematician Alan Turing attempted to answer the question of machine intelligence by formulating a thought-experiment, also known as the Turing test, which is considered as the foundation of the philosophy of artificial intelligence. The fundamental question of "Can machines think?" (p.433) is increasingly valid today. The machines could learn and develop in their own way. Actually many predictions of Turing has come true. One example is that machines will compete with human in nearly all intellectual areas, such as playing chess! The program AlphaGo beating the top human player serves as sound evidence of the potential of what computer intelligence could achieve.

Narrow AI, General AI and Super AI

- 3 These sensitizing concepts are useful to help understand the evolution of AI before the discussion goes further. Narrow AI is also known as “weak” AI that has no self-consciousness or emotions. It is programmed in such a way that only a single task is performed at one time, such as collecting raw material to produce news reports. Currently we are still in the narrow AI age and this type of AI is what is mainly discussed about in this study. General AI or “strong” AI is considered to be able to make decisions as human intelligence does, acting equivalent to human beings. General AI possesses human emotions and intelligence such as self-awareness, sentiment or even cross-cultural consciousness. Super AI, however, is predicted to excel human in every aspect such as innovation or the ability of multi-tasking (Jajal, 2018). Some of the most high-profile figures in the field have raised concerns about the rise of artificial intelligence. Scientist Stephen Hawking warned that AI could become the “worst event in the history of our civilization” unless the humans are prepared for the possible risks it poses (Molina, 2017).
- 4 As AI technology progresses from simple computational AI, to perceptual AI and then to complex cognitive AI, and with the advancement of computer language processing technologies, AI is gradually finding its way into the areas of, finance, medical treatment, security, aerospace and auto piloting, retail, education and so on. In particular, it is eyeing the huge user appeal from the media industry and the prospect of tremendous economic benefits. While the approach is broadly welcomed by media organizations, who see the potentials offered by such development, the feelings of the human journalists are less cared about.
- 5 This article aims to explore the perceptions of media practitioners in Chinese media outlets as to the impact of AI on their employment prospect, and attempts to gain a better understanding of how talk/discourse about AI is shaping perceptions at the individual (micro) level and institutional communication at the organizational (meso) level.

Social ecological framework

- 6 Social ecological framework is regarded as an interdisciplinary approach that evolved and culminated in the 1960s and 1970s to better understand the interplay between social and cultural contexts and human development, and to address the impact of structural and situational factors (Bronfenbrenner, 1973 ; Ting-Toomey & Oetzel, 2013 ; Rosa & Tudge, 2013). This theory has evolved over several phases since its incarnation, among which phase one (1973-1979) was characterized with the fullest definitions of the multiple levels of the ecological environment factors in relation to human development (Rosa & Tudge, 2013). This model points out that the ecological environment contains multiple systems and structures, namely microsystem, mesosystem, exosystem and macrosystem, each nested within the next (Bronfenbrenner, 1977). One core assumption of social ecological approach emphasizes the interconnections and the mutual influences between the social and physical settings and the participants in those settings (Stokols, 1996). That perspective is relevant with this research when the media industry is conceived as an ecological setting. This media

ecology exerts influence on the well-being of its participants and vice versa, among which the perceptions of human journalists (micro-level) and how the media organizations communicate the workplace automation (meso-level) are of particular interest to this study. As such, two research questions are developed as follows :

- 7 RQ1 : How do human journalists working in Chinese media industries make sense of/ perceive the impact of artificial intelligence (AI) technology on their employment prospect ? (micro level)
- 8 RQ2 : How do Chinese media organizations communicate with human journalists about the adoption of AI ? (meso level)

Method

- 9 This study employs qualitative methods to explore the media practitioners' perceptions of the impact of AI on their job prospect and how media organizations approach and communicate this issue. In-depth interviews were utilized so that the participants feel comfortable sharing their perceptions and comments in a private setting (Harris et al, 2019). The participants in this study all have experiences of working in Chinese media agencies.

Sample selection

- 10 The snowball sampling of the eighteen journalists was finalized considering several factors, so that different types of Chinese media outlets and various posts were represented in order to reduce bias to minimum. The media outlets selected cover both government-funded media, commercial media and mixed ownership media organizations. All have established prestige on the Chinese mainland in their respective areas in terms of traditional radio, TV, newspapers, social media etc. The journalists' length of service in the media outlets ranged from two to over thirty years. Their current posts are various, such as news anchor, reporter, feature editor, producer, copy editor, social media editor, editorial board member, talk show host, social media director, commentator, correspondent stationed overseas etc. A total of 18 media practitioners participated in the interviews, among them 13 Chinese nationals, 1 British national, 1 Canadian national, 1 Russian national and 2 American nationals.

Data analysis

- 11 The length of interviews ranged from 40 to 90 minutes. 14 interviews were conducted in English, while 4 interviews in Chinese. For the interviews conducted originally in Chinese, they were translated into English verbatim. The lead researcher transcribed the data into written texts, yielding 458 double-spaced pages.
- 12 That was then followed by a coding process with mark-up, categorization, and theme development (Corbin and Strauss, 2008). The data analysis went through three stages of coding. During the "primary-cycle of coding" (Tracy 2013, p. 189), data was read closely twice and coded line by line for descriptive codes. This initial stage was open to creating and refining codes as meaning emerges. Then the secondary-cycle coding began to "organize, synthesize, and categorize codes" (Tracy 2013, p. 194). During the

second stage, analytical leaps were made to move from descriptive codes to interpretive codes by referring to extent literature and theoretical knowledge and reviewing first-level descriptive codes in an iterative approach. The third stage was for axial coding where smaller codes were combined into larger categories and subcategories based on identifying patterns and links between recurring codes (Oliha-Donaldson, 2020). Exemplars employed for the assistance of analysis were edited for clarity while preserving the original meaning.

Findings and Discussion

Concluding remarks

- 13 The findings of this exploratory study have some limitations. Though the participants cover a range of media outlets and professional positions, they do not represent the whole landscape. More lesser known media outlets need to be included in the future study. In addition, the perceptions of AI's impact on media scholars' employment are yet presented in this study, which are likely to be included for comparison and contrast in the future research.

Acknowledgements

- 14 The researchers would like to thank the eighteen journalists for their participation and contribution to this study.

Disclosure Statement

- 15 No potential conflict of interest was reported by the authors.

Funding

- 16 This work was supported by the [BFSU Fundamental Research Funds for the Central Universities # 1] under Grant [number 2020JX045] ; [Beijing Foreign Studies University (BFSU) Joint Doctorate Program with Overseas Universities #2].

BIBLIOGRAPHY

References

Bronfenbrenner, U. (1973). The social ecology of human development. In Richardson, F. (Ed.), *Brain and Intelligence : The ecology of child development* (pp. 113-129). 1st ed. Hyattsville, Md. : National Educational.

- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32(7), 513-531.
- Carlson, M. (2016). Metajournalistic discourse and the meanings of journalism : Definitional control, boundary work, and legitimation. *Communication Theory*, 26 (4), 351.
- Clerwall, C. (2014). Enter the robot journalist : Users' perceptions of automated content. *Journalism Practice*, 8(5), 519-531.
- Corbin, J., & Strauss, A. (2008). *Basics of Qualitative Research*. Thousand Oaks, CA : Sage.
- Diakopoulos, N. (2015). Algorithmic accountability : Journalistic investigation of computational power structures. *Digital Journalism*, 3(3), 398-415.
- Diakopoulos, N., & Koliska, M. (2017). Algorithmic transparency in the news media. *Digital Journalism*, 5(7), 809-828.
- Fernandez-Luque, L., & Imran, M. (2018). Humanitarian health computing using artificial intelligence and social media : A narrative literature review. *International Journal of Medical Informatics*, 114, 136-142.
- Frey, C. B., & Osborne, M. (2013). *The Future of Employment : How susceptible are jobs to computerization ?* Retrieved from https://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf Semptember 17.
- Harris, T., Janovec, A., Murray, S., Gubbala, S., & Robinson, A. (2019). Communicating racism : A study of racial microaggressions in a southern university and the local community. *Southern Communication Journal*, 84(2), 72-84.
- India Today. (2017). AI vs journalists : Bots will be writing all routine stories very soon in the media industry. Retrieved from <https://www.indiatoday.in/education-today/news/story/artificial-intelligence-taking-journalism-jobs-1032673-2017-08-28> August 28.
- Jajal, T.D. (2018). Distinguishing between Narrow AI, General AI and Super AI. Retrieved from <https://medium.com/@tjajal/distinguishing-between-narrow-ai-general-ai-and-super-ai-a4bc44172e22> May 21.
- Jesuthasan, R. (2017). The Human Response to AI. *People & Strategy*, 40 (3), 9-10.
- Jonathan Holmes. (2016). AI is already making inroads into journalism but could it win a Pulitzer ? Retrieved from <https://www.theguardian.com/media/2016/apr/03/artificial-intelligence-robot-reporter-pulitzer-prize> April 3.
- Junqian QIU, & Changfeng CHEN. (2018). Black Box : Artificial Intelligence and Changes of News Production Patterns. *Press Circles*, 01, 34.
- Kuo HUANG, & Fei JIANG. (2015). Analysis of the Integration Strategy of International Mainstream Media. *Chinese Cadres Tribune*, 02, 25-29.
- Latar, N. L. (2015). The Robot Journalist in the Age of Social Physics : The End of Human Journalism ? In Gali Einav (eds.) *The New World of Transitioned Media : Digital Realignment and Industry Transformation*. (pp. 65-80). Springer International Publishing.
- Linden, C. G. (2017). Decades of automation in the newsroom : Why are there still so many jobs in journalism ? *Digital Journalism*, 5(2), 123-140.
- Lokot, T., & Diakopoulos, N. (2016). News bots : Automating news and information dissemination on Twitter. *Digital Journalism*, 4(6), 682-699.

- Marjoribanks, T. (2000). The 'anti-Wapping' ? Technological innovation and workplace reorganization at the Financial Times. *Media Culture & Society*, 22 (5), 575-593.
- McLuhan, M. 1962. *The Gutenberg galaxy : The making of typographic man*. Toronto : University of Toronto.
- Miroshnichenko, A. (2018). AI to Bypass Creativity. Will Robots Replace Journalists ? (The Answer Is "Yes"). *Information*, 2018, 9(7), 183.
- Montal, T., & Reich, Z. (2016). I, robot. You, journalist. Who is the author ? *Digital Journalism*, 5(7), 829-849.
- Napoli, P. M. (2014). Automated media : An institutional theory perspective on algorithmic media production and consumption. *Communication Theory*, 24(3), 340-360.
- Nisioti, E. (2018). Going deeper : A history of ideas in AI research. Retrieved from <https://medium.freecodecamp.org/deeper-ai-a104cf1bd04a> February 9.
- Norris, A. (2017). How artificial intelligence is set to impact media. Available online : <https://www.fipp.com/news/features/how-ai-set-impact-media> October 15.
- Oliha-Donaldson, H. (2020). Coding exercise : Meanings of academic freedom for graduate students [Class handout]. Department of Communication Studies, University of Kansas, Lawrence, KS.
- Rosa, E. M., & Tudge, J. (2013). Urie Bronfenbrenner's theory of human development : Its evolution from ecology to bioecology. *Journal of Family Theory & Review*, 5(4), 243-258.
- Shelton, A. G., Pearson, M. & Sugath, S. (2017) *Mindful Journalism and News Ethics in the Digital Era : A Buddhist Approach*. London : Routledge.
- Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion*, 10(4), 282-298.
- Sulleyman, A. (2017). AI will be better than human workers at all tasks in 45 years, says Oxford University Report. Retrieved from <https://www.independent.co.uk/life-style/gadgets-and-tech/news/ai-jobs-stealing-outperform-human-workers-all-tasks-oxford-university-report-a7767856.html> June 1.
- Thurman, N., Dörr, K., & Kunert, J. (2017). When reporters get hands-on with robo-writing. *Digital Journalism*, 5(10), 1240-1259.
- Ting-Toomey, S. & Oetzel, J. G. (2013). Culture-based situational conflict model : An update and expansion. In Oetzel, J. G., Ting-Toomey, S. (Ed.), *The SAGE handbook of conflict communication* (pp. 763-789). 2nd ed. Thousand Oaks : Sage.
- Tracy, S. J. (2013). *Qualitative research methods : Collecting evidence, crafting analysis, communicating impact*. Hoboken, NJ : Wiley-Blackwell.
- Travis Hessman. (2017). AI, Automation, & Being Human. *New Equipment Digest*, 82 (10), 39.
- Turing, A. M. (1950). Computing Machinery and Intelligence. *Mind*, 49, 433-460.
- Underwood, C. (2018). Automated Journalism – AI Applications at New York Times, Reuters, and Other Media Giants. Retrieved from <https://www.techemergence.com/automated-journalism-applications/> January 17.
- Zuboff, S. (1988). *In the age of the smart machine : The future of work and power*. New York : Basic Books.

Zuboff, S. (2013). *Be the friction : our response to the New Lords of the Ring*. Frankfurter Allgemeine Zeitung. Retrieved from <http://www.faz.net/aktuell/feuilleton/the-surveillance-paradigm-be-the-friction-our-response-to-the-new-lords-of-the-ring-12241996.html> June 25.

NOTES

1. Daily Mail. (2020). *Chinese state news agency unveils 'the world's first 3D AI anchor' after 'cloning' a human reporter*. <https://www.dailymail.co.uk/news/article-8343441/Chinese-state-news-agency-unveils-worlds-3D-AI-anchor.html> May 2020.

ABSTRACTS

Artificial Intelligence's cost-efficient nature and speed of operation has naturally prompted many media organizations to consider its broader application in the media industry. But it has also prompted concern among human journalists that they will be marginalized and ultimately replaced by AI. This study employs qualitative methods to explore the perceptions of media practitioners working in Chinese media context in relation to the impact of AI on media employment, and attempts to shed light on how talk/discourse about AI is shaping perceptions at the individual (micro) level and institutional communication at the organizational (meso) level.

La rentabilité et la rapidité de fonctionnement de l'intelligence artificielle ont naturellement incité de nombreuses organisations médiatiques à envisager une application plus large dans les médias. Mais elle a également suscité l'inquiétude des journalistes humains qui craignent d'être marginalisés et finalement remplacés par l'intelligence artificielle. Cette étude utilise des méthodes qualitatives pour explorer les perceptions des professionnels des médias chinois sur l'impact de l'intelligence artificielle sur l'emploi et tente de mettre en lumière la façon dont le discours sur l'intelligence artificielle façonne les perceptions aux niveaux individuel (micro) et organisationnel (mésos).

La eficacia en función de los costos y la rapidez de funcionamiento de la inteligencia artificial ha impulsado naturalmente a muchas organizaciones de medios de comunicación a considerar su aplicación más amplia en los medios de comunicación. Pero también ha suscitado la preocupación de los periodistas humanos que temen ser marginados y eventualmente reemplazados por la inteligencia artificial. En el presente estudio se utilizan métodos cualitativos para explorar las percepciones de los profesionales de los medios de comunicación chinos sobre la repercusión de la inteligencia artificial en el empleo y se intenta arrojar luz sobre la forma en que el discurso sobre la inteligencia artificial conforma las percepciones a nivel individual (micro) y organizativo (meso).

INDEX

Mots-clés: intelligence artificielle, journaliste humain, discours organisationnel, médias, chine

Keywords: artificial intelligence ; human journalist ; organizational talk ; media ecology, china

Palabras claves: inteligencia artificial ; periodista humano ; charla organizativa ; ecología de los medios de comunicación, China

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