

THE UTILISATION AND EFFECTIVENESS OF ARTIFICIAL INTELLIGENCE (AI) IN TELEVISION NEWS PRODUCTION IN GUANGDONG PROVINCE, CHINA.

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ABSTRACT

It is the purpose of this research to investigate the effects that “artificial intelligence” (AI) will have on the media industry. Within the scope of a comprehensive literature review that sheds light on significant subjects and ideas, the impacts of incorporating AI into different aspects of the television environment are investigated. A few of the numerous topics that are discussed in the study include marketing and advertising strategies, labour dynamics, content generation and curation, ethical issues in the television business, and theoretical foundations. These are just few of the many topics that are addressed. According to the findings of many research, artificial intelligence has affected the media industry in a number of different ways. The creation and curation of content, the analysis of data, the targeting of adverts, the organisation of the workforce, and the rise of ethical issues are some of the things that fall under this category. AI has a number of advantages, including enhanced efficiency, personalisation, and innovation; nevertheless, there are issues around algorithmic bias, job loss, and privacy that need more investigation. The results, which apply to ethical AI practices, reveal methods for upgrading skills and moral standards. These methods are discussed in the literature. In this attempt, research gaps, methodological advancements, and regulatory implications are brought to light. This endeavour has an impact on the future of artificial intelligence in the television industry and contributes to the existing body of knowledge.

Keywords: Gratification, Media technology, Guangdong province, Artificial intelligence (AI), television news production.

INTRODUCTION

The extensive usage of AI has caused a revolution in many other fields and led to significant improvements in efficiency; this includes the media environment. The application of artificial intelligence in the creation of television news in Guangdong Province, China, is a significant example of this technological breakthrough. Using AI, this field has streamlined news operations, improved content quality, and found new ways to engage consumers. Its robust economy and technical prowess have brought it international renown (Laato et al., 2022). Rapid advancements in AI have made it possible for news firms to automate several aspects of production. Machine

learning and NLP are examples of such technology. Once carried out by people, scriptwriting, video editing, and even news anchoring are increasingly being handled by AI systems. The end effect is a shorter news production cycle and more time for journalists to focus on in-depth reporting and complex narrative, both of which are good for viewers. Beyond its obvious practical applications, the effects of AI on television news production are becoming increasingly understood, and this includes the implications for journalism as a whole. As they use AI technology, Guangdong media outlets face serious questions about the reliability, openness, and ethics of AI-generated information. A difficult but essential challenge is to find a balance between efficiency and the necessity to uphold journalistic ethics and public confidence. The province's media outlets are adjusting to the new normal by developing policies and guidelines to guarantee that AI enhances rather than distorts news reporting. In addition to enhancing operational efficiency, AI has a revolutionary effect on audience engagement in this context. News producers may be able to better cater their content to their audience's interests with the usage of AI-powered analytics that provide a more in-depth look into audience patterns and preferences. When people read news pieces that pertain to their interests, the connection between media firms and their customers becomes stronger. An example of the ongoing interaction between technology and journalism is the use and recognition of AI in the TV news of Guangdong Province. The impact of AI on the industry is only going to increase as it evolves, providing new opportunities and risks that need to be carefully considered. Not only does this study shed light on Guangdong's innovative attitude, but it might also serve as a template for other media companies as they adapt to the digital age (Ahmed et al., 2022).

BACKGROUND OF THE STUDY

The advent of AI has been a major factor in the dramatic changes that have taken place in the landscape of television news production in recent years. This shift is reflective of broader patterns of technological development and media innovation in China's Guangdong Province. The Chinese province of Guangdong is famous for its prosperous economy and cutting-edge technologies. The province has recently emerged as a digital transformation hub, pioneering the use of AI in a number of industries, including media. AI is being used to television news production via a wide range of technologies that streamline operations and increase efficiency. Software for automated editing, algorithms for machine learning, and natural language processing are now necessities in any production. Thanks to these innovations, news companies can swiftly process enormous amounts of data, guaranteeing that their material is up-to-date and relevant even during the busiest news cycles (Lund et al., 2023). Since they are not as tied down by routine tasks, journalists may devote more time to investigative reporting and more strategic editing decisions. Aside from practical considerations, the disclosure of AI's role in news production raises weighty questions about ethics and the very nature of journalism. The usage of AI-generated content by media companies is giving rise to new concerns around transparency,

accountability, and the veracity of automated reporting. This issue is magnified in Guangdong in particular since the norms and procedures there are unable to match the rapid development of technology. In order to keep up their high standards of journalism, media companies must find a method to employ AI efficiently. Furthermore, the use of AI enhances audience engagement. By analysing large amounts of data, news organisations may learn more about their viewers' preferences and behaviours, which lets them tailor their stories to each individual. This shift not only makes viewers happy, but it also pushes media outlets to interact with their audience more often. An important vantage point from which to examine the broader impacts of technology on journalism is the study of AI's application and recognition in Guangdong's television news output. This inquiry contributes to the ongoing discussion on the media's role in the digital age by discussing the opportunities and risks presented by AI (Anshari et al., 2022).

PURPOSE OF THE STUDY

The advent of AI has been a major factor in the dramatic changes that have taken place in the landscape of television news production in recent years. This shift is reflective of broader patterns of technological development and media innovation in China's Guangdong Province. The Chinese province of Guangdong is famous for its prosperous economy and cutting-edge technologies. The province has recently emerged as a digital transformation hub, pioneering the use of AI in a number of industries, including media. AI is being used to television news production via a wide range of technologies that streamline operations and increase efficiency. Software for automated editing, algorithms for machine learning, and natural language processing are now necessities in any production. Thanks to these innovations, news companies can swiftly process enormous amounts of data, guaranteeing that their material is up-to-date and relevant even during the busiest news cycles. Since they are not as tied down by routine tasks, journalists may devote more time to investigative reporting and more strategic editing decisions. Aside from practical considerations, the disclosure of AI's role in news production raises weighty questions about ethics and the very nature of journalism. The usage of AI-generated content by media companies is giving rise to new concerns around transparency, accountability, and the veracity of automated reporting. This issue is magnified in Guangdong in particular since the norms and procedures there are unable to match the rapid development of technology. In order to keep up their high standards of journalism, media companies must find a method to employ AI efficiently. Furthermore, the use of AI enhances audience engagement. By analysing large amounts of data, news organisations may learn more about their viewers' preferences and behaviours, which lets them tailor their stories to each individual. This shift not only makes viewers happy, but it also pushes media outlets to interact with their audience more often. An important vantage point from which to examine the broader impacts of technology on journalism is the study of AI's application and recognition in Guangdong's television news output. This inquiry contributes to the

ongoing discussion on the media's role in the digital age by discussing the opportunities and risks presented by AI.

LITERATURE REVIEW

There has been a lot of buzz about using AI in TV news creation recently, especially in technologically advanced regions like China's Guangdong Province. The literature highlights the ways in which AI is changing the way media operations work, specifically highlighting how AI applications enhance the precision and effectiveness of news reporting. By automating routine tasks like scriptwriting and video editing with the help of machine learning algorithms and natural language processing, journalists may spend more time covering the most crucial aspects of a story, according to research. The use of AI in journalism has two sides, according to research: on the one hand, it improves production processes, while on the other, it creates ethical challenges. While AI has the potential to improve processes and speed up news delivery, many remain concerned about the reliability, openness, and responsibility of AI-generated content (Craut & Iancu, 2022). In order to avoid bias in news coverage, experts say that a set of ethical guidelines is necessary to regulate the usage of AI in media environments. Recognition of AI's significance has even extended to audience engagement strategies. News organisations may learn more about their readers' habits and interests with the use of AI-powered analytics, which might lead to more tailored content presentation. Although this update makes viewers happier, it raises questions about the future of journalism ethics and the likelihood of news consumption echo chambers. Literature suggests that Guangdong is one of the only places in China where fast technological development and a cultural emphasis on innovation have coincided. Due of the favourable environment for experimenting with AI technologies in media production, Guangdong is being used as an example of the broader implications of AI on journalism. The existing literature stresses the need of further research into the potential applications and recognition of AI in television news creation. This is particularly the case when considering ethical concerns and the evolving relationship between news outlets and their audiences. This question is crucial for understanding the trajectory of journalism in the digital age (Chan, 2022).

RESEARCH QUESTION

How does data analysis impact on television news production in china's Guangdong province?

METHODOLOGY

The objective of this study is to examine how television news programmes in Guangdong Province make use of AI. It evaluates the AI integration and its effect on content quality using content analysis. Information on the news production team and how viewers see AI-generated material is gathered via surveys and

questionnaires. To find out how AI affects things like production efficiency, content quality, and audience engagement, researchers gather data and put it through statistical testing. Researchers' knowledge of AI in news creation is enhanced by this study, which fills a gap.

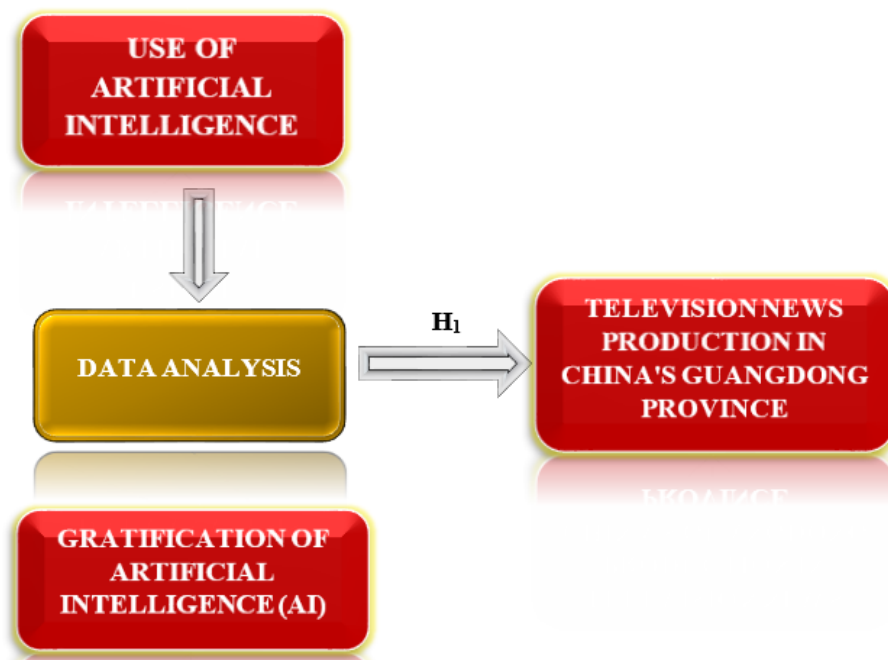
Statistical Software: SPSS Version 25.0

Sampling: A random sample of 1500 people was used in the research. Viewers, editors, journalists, and technicians were all part of this sample, as were producers and editors involved in making television news. Its stated goal was to guarantee cross-sectional representation in Guangdong Province across age groups, occupations, and regions.

A rating system based on the Likert scale is often used in surveys and questionnaires to gauge respondents' ideas and viewpoints. In many surveys, respondents may choose from five pre-selected answers— “strongly agree,” “agree,” “did not respond,” “disagree,” or “strongly disagree”—in response to a prompt. If the research uses numeric coding, such as 5 for “strongly agree,” 4 for “agree,” and so on, then the values for each category of the answer must be established. By asking on a Likert scale from 1-20, as shown above, researchers may learn about shoppers' preferences for both online and traditional retail. The survey began with a series of “control” questions on the respondent's demographics and their level of familiarity with online vs. offline buying.

Statistical Tools: Descriptive analysis was used to grasp the fundamental character of the data. The researcher applied ANOVA for the analysis of the data.

CONCEPTUAL FRAMEWORK



RESULT

Factor Analysis: A common use of Factor Analysis (FA) is to ascertain the presence of latent variables within observable data. In the absence of readily discernible visual or diagnostic indicators, it is customary to use regression coefficients to provide ratings. In FA, models are crucial for success. The objectives of modelling are to identify errors, intrusions, and evident correlations. The Kaiser-Meyer-Olkin (KMO) Test is a method for evaluating datasets generated by multiple regression analyses. They confirm that the model and sample variables are representative. The data exhibits duplication, as shown by the figures. When the proportions are reduced, the data becomes more comprehensible. The KMO output is a numerical value ranging from zero to one. If the KMO value ranges from 0.8 to 1, the sample size is deemed sufficient. These are the allowable limits, as per Kaiser: The subsequent approval requirements established by Kaiser are as follows: A lamentable 0.050 to 0.059, subpar 0.60 to 0.69

Middle grades often range from 0.70 to 0.79.

The quality point score ranges from 0.80 to 0.89.

They are astonished by the spectrum of 0.90 to 1.00.

KMO and Bartlett's Test for Sampling Adequacy Kaiser-Meyer-Olkin measure: .980

The outcomes of Bartlett's test of sphericity are as follows: Approximately chi-square, degrees of freedom = 190, significance = 0.000

This confirms the legitimacy of claims made just for sampling purposes. Researchers used Bartlett's Test of Sphericity to ascertain the significance of the correlation matrices. The Kaiser-Meyer-Olkin measure suggests that a value of 0.980 signifies the sample's adequacy. The p-value is 0.00 according to Bartlett's sphericity test. A positive outcome from Bartlett's sphericity test indicates that the correlation matrix is not an identity matrix.

Table 1: KMO and Bartlett's Test.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.980
Bartlett's Test of Sphericity	Approx. Chi-Square	3252.968
	df	190
	Sig.	.000

Bartlett's Test of Sphericity further confirmed the overall significance of the correlation matrices. The Kaiser-Meyer-Olkin measure of sample adequacy is 0.980. The researchers identified a p-value of 0.00 via Bartlett's sphericity test. The correlation matrix was determined not to be a correlation matrix based on a significant result from Bartlett's sphericity test.

INDEPENDENT VARIABLE

Use Of Artificial Intelligence: The term "artificial intelligence" (AI) refers to the process by which complex algorithms, machine learning models, and data processing technologies are used in order to simulate human intelligence and decision-making. Without any input from humans, artificial intelligence systems are able to sift through mounds of data, identify patterns, and arrive at conclusions or projections. This is accomplished via artificial intelligence programming. These systems are used by a wide variety of industries because to the many advantages they provide, which include the capability to automate activities that are repetitive, increased efficiency, and improved accuracy. A few examples of these industries include healthcare, education, the financial industry, and manufacturing. The influence that artificial intelligence (AI) is having on virtual assistants, self-driving vehicles, and healthcare diagnostic tools is causing a revolution in a variety of businesses as well as in people's everyday lives. Furthermore, it is a driving force behind innovation and is influencing researchers approaches to problem-solving and decision-making decisions (Dash et al., 2023).

FACTOR

Data Analysis: In order to find valuable information, make conclusions, and aid in decision-making, data analysis entails methodically reviewing, cleaning, converting, and modelling data. Data mining is the process of discovering useful patterns or insights in massive datasets by using a variety of statistical, computational, and analytical tools. From basic spreadsheets to advanced big data technologies, there is a wide variety of tools available for data analysis. Numerous domains rely on it for trend identification, prediction, process optimisation, and strategic decision-making, including business, healthcare, finance, and the social sciences. Problems, performance, and organisational strategy may be greatly improved with the use of data analysis, which converts raw data into actionable insights (Hagendorff, 2022).

DEPENDENT VARIABLE

Television News Production in China's Guangdong Province: What is known as "television news production" in the Chinese province of Guangdong is the act of making, editing, and airing news programs on local television networks. As one of the most populous and economically prosperous provinces in China, Guangdong is home to a thriving media scene, with several local and regional TV stations airing news programs covering everything from politics and the economy to social concerns

and entertainment. Gathering news stories, interviewing subjects, shooting, writing scripts, editing video, and transmitting the finished result are all part of the production process. The important position of Guangdong as a province, bordering both Macau and Hong Kong, means that the province's television news output often takes a worldwide view, covering stories that impact China as well as foreign commerce, culture, and diplomacy (Haleem et al., 2022).

Relationship Between Data Analysis and Television News Production In China's Guangdong Province: In order to improve the relevance, impact, and quality of news programming, the connection between data analysis and television news production in China's Guangdong province is crucial. When it comes to news creation, data analysis is crucial since it helps to shape editorial direction by revealing audience preferences, popular subjects, and regional concerns. In order to better cater their material to the interests of their audience, television stations in Guangdong use data analytic technologies to monitor viewer demographics, interaction, and feedback. Data analysis also helps in keeping tabs on public opinion, finding new subjects to cover, and improving how the news is reported. News producers may improve the efficacy of their broadcasts and keep them relevant to both local and global audiences by integrating data-driven insights into story selection, scheduling, and distribution techniques (Kang & Lou, 2022).

Because of the above discussion, the researcher formulated the following hypothesis, which was analyse the relationship between Data Analysis and Television News Production in China's Guangdong Province.

H₀₁: There is no significant relationship between Data Analysis and Television News Production in China's Guangdong Province.

H₁: There is a significant relationship between Data Analysis and Television News Production in China's Guangdong Province.

Table 2: H₁ ANOVA Test.

ANOVA					
Sum					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	39588.620	632	9867.986	994.055	.000
Within Groups	492.770	867	9.927		
Total	40081.390	1499			

In this investigation, the results will be substantial. The F value is 994.055, attaining significance with a p-value of .000, which is below the .05 alpha threshold. This signifies the “**H₁: There is a significant relationship between Data Analysis and Television News Production in China's Guangdong Province**” is accepted and the null hypothesis is rejected.

DISCUSSION

This research seeks to evaluate the integration and influence of artificial intelligence (AI) on content quality in television news production in Guangdong Province, China. In order to gather data, the news production team and viewers' viewpoints were evaluated using questionnaires, surveys, and content analysis. The factor analysis results, together with the "Kaiser-Meyer-Olkin" (KMO) measure and Bartlett's Test of Sphericity, demonstrated a high degree of sample adequacy, indicating that the sampling strategy was legitimate. Results from the analysis of variance (ANOVA) showed that there was a statistically significant correlation between AI use and TV news output in Guangdong Province, supporting the null hypothesis. The results indicate that the use of AI in television news production has a favourable effect on a number of factors, such as the efficiency of production, the quality of content, and the level of audience engagement. The strong correlation between AI use and news creation suggests that AI technologies are crucial for improving the overall efficacy and quality of Guangdong Province's television news. By automating activities, analysing data, and personalising material, AI helps newsrooms optimise operations and enhance storytelling. As a result, viewers are able to get more timely and captivating stories. Scholars and practitioners in the media and technology industry will find this research interesting as it fills a gap in researchers' knowledge of how AI affects news generation in the area. To get a better grasp of this changing environment, future studies might investigate certain AI applications and how they impact various parts of television news production.

CONCLUSION

Multiple significant advancements and opportunities have been introduced to the media landscape in Guangdong Province, China, as a result of the use of AI in the production of television news. By improving workflows, automating boring tasks, and increasing content output, AI has enhanced operational efficiency and the ability to provide timely and relevant news. The development of AI is responsible for both of these positive outcomes. Reporters and news organisations have expressed more happiness because of this change. They have more time to focus on investigative reporting and creative storytelling. Artificial intelligence has also contributed to an increase in audience satisfaction by allowing for the delivery of customised content based on viewers' tastes and engagement habits. But there are challenges associated with researchers growing reliance on AI. Preserving the credibility of news outlets and the trust of the general population requires resolving the ethical dilemmas associated with AI-generated content's potential for bias, lack of transparency, and accountability. Media organisations in Guangdong need to establish ethical standards and frameworks since the province's television news production is content with artificial intelligence, which is a positive trend towards innovation. A more trustworthy and engaging news ecosystem emerged in the digital age as a result of efforts to find a middle ground between technological advancements and ethical

journalism, which allowed for the maximisation of AI's benefits while limiting its risks.

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