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AI in Private TV Broadcasting: Opportunities and challenges in Pakistani Context

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ABSTRACT: The study aims to explore the opportunities and challenges associated with the integration of Artificial Intelligence in the Private broadcasting industry of Pakistan. This qualitative research utilized semi-structured interviews with ten industry experts, selected through purposive sampling including senior and executive producers with ample experience in the field. Manual thematic analysis was performed to identify key themes related to AI's impact on the industry. The findings suggest several opportunities such as catalyzing enhanced content creation, improved audience engagement, and operational efficiency. However, significant challenges were also noted, including financial constraints, technical complexity, language barriers, ethical considerations, and lack of regulatory frameworks. This study underscores the need for strategic approaches to navigate the complexities of AI adoption in broadcasting, ultimately aiming to enhance both operational capabilities and audience experiences. Future research should consider broader geographical contexts and incorporate quantitative analyses to validate these insights further.

KEYWORDS: Artificial Intelligence, Broadcasting Media, AI Integration in Journalism, Opportunities, Challenges, Technical Complexity

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Introduction

The world was living in Marshal McLuhan's concept of a Global village which he gave in of 20th century but the 21st century has experienced advancements like artificial intelligence which has further transformed this global village into a global street (Rashid & Khan, 2024). The rapid growth of artificial intelligence (AI) has sparked transformational shifts across numerous areas, including the field of broadcasting. Media landscapes have been transformed globally including Pakistan, after the introduction of artificial intelligence into private television programming. The definitions of production, distribution, and consumption of content have evolved globally following the integration of Artificial intelligence in broadcast media (Ajibulu, 2024)

Regarding private television broadcasting in Pakistan, Artificial intelligence is also a mixed blessing, as with every other thing in this world, which comes with advantages and disadvantages. According to a study, broadcast media perform the duties of informing, educating, and updating the public about everyday happenings far and wide by transmitting radio and television signals. Additionally, Private TV Broadcasting Refers to television networks that belong to private individuals or companies and are not controlled by the government. In Pakistan, this sector comprises several channels that entertain various demographics and interests, shaping public discourse and culture (Latif, 2024).

Furthermore, Since the early 2000s, private television broadcasting in Pakistan has grown exponentially, with a vast array of channels appealing to a wide range of people (Latif, 2024). However, the industry faces several obstacles, including legislative limits, limited resources, and increased competition from digital platforms. AI integration might provide considerable benefits, including increased operational savings and the potential to compete more effectively in a saturated market (Iqbal et al., 2022).

Artificial intelligence is the science of making robots think like humans and simulating human intellect through computer systems (Russell & Norvig, 2010). Moreover, Stryker & Kavlakoglu (2024) defines Artificial Intelligence as the technology that allows computers and digital gadgets to write, read, and see. Understand, generate, evaluate, have fun make suggestions, and conduct other tasks that humans do. This demonstrates that AI is a computer system with the ability to execute jobs that are Commonly used to describe human cognitive function. Artificial intelligence combined with Broadcasting is thus defined as the incorporation of AI tools into the pre-production and post-production processes.

AI in broadcasting finds its application in the production of seamless creation and profiling of consumers. (Broussard, 2019). For instance, AI-based systems track viewer preferences in mere seconds to let broadcasters create more personalized and effective content with a higher degree of efficiency to engage, satisfy, and retain viewers.

The harmonization of AI with broadcasting in the modern 21st century has brought a sea change in the media sector and opened new vistas for future growth. A study shows that when AI speech technology is used in broadcasting, the quality and efficiency of audio are increased; it also effectively optimizes the system and ultimately contributes to better public services. AI capabilities of voice recognition to convert audio recordings into text and facial identification for mechanically recognizing guests are being utilized in broadcasting's pre-production, production, and post-production phases.

Artificial Intelligence is a source of many advantages in the interiors of the broadcasting industry, including better content personalization, faster production processes, and stronger audience engagement, based on data-assembled findings. For instance, AI systems can enable broadcasters to provide timely and relevant content based on analysis of social media trends. However, several challenges must be surmounted including moral challenges, data privacy concerns, and the possibility of job displacement among the traditional broadcasting professions. Moreover, the possibility of misinformation and algorithm bias undermines public trust in media institutions. Radio has played an essential role in changing the opinion of the masses and spreading knowledge among them in Pakistan. On the other hand, the usual methods for content creation are extremely time-consuming and too costly as well.

Unlike traditional methods, AI technologies, such as NLP, machine learning algorithms, and smart content-curating applications, can considerably improve the efficiency and utility of broadcast operations (Broussard et al., 2019). For example, AI can carry out various routine activities related to broadcasting, like scriptwriting and editing videos, to allow a journalist to be more occupied with the creative aspects of the occupation.

Accompanying these advantages, the broadcasting of AI also raises some challenges. Deepfake technology is on the rise today, which poses a severe threat to media credibility since it allows the creation of deceptive information that changes public perception. Furthermore, excessive reliance on AI could reduce journalistic standards because human oversight is reduced. Therefore, it is necessary not only to look into the benefits

provided by AI but also at the disadvantages which are likely to be connected with its introduction into private TV programming in Pakistan.

A point in the case is Discover Pakistan's first AI-hosted talk show, "AI Talk." This is a breakthrough moment for the country's media, pushing the boundaries of what was earlier thought impossible in mainstream broadcasts. The launch of "AI Talk" and other AI-powered initiatives, such as NEO News' AI anchor, bears testimony to Pakistan's commitment to technological innovation in the media business. These initiatives not only show the capability of AI in creating entertaining content but also set a precedent for further developments in the industry. Google has opened its AI Academy in Pakistan, with the aim of accelerating the growth of artificial intelligence companies in the region. This is in line with the larger mission of Google for Startups to position the APAC region as the global hotbed for AI innovation. In this regard, Google's AI Academy offers some special support to media and other sectors' startups in a resourceful and mentorship way. This may constitute a solution on the demand side for broadcasting industries searching for innovative solutions to their content creation and distribution problems. The startups could utilize the available resources at the academy to develop such AI-driven applications that may revolutionize how news and entertainment are created and consumed (Google for Startups announces to launch AI Academy, 2024)

This research will seek to explore the complex ramifications brought about by AI within Pakistan's private television sector by researching how it may bring potential changes in content creation, and operational procedures against the background of emerging and current trends, regulatory frameworks, and case studies of successful application of AI.

Research Objectives

The main objectives of my research are:

1. To examine the possible opportunities offered by artificial intelligence (AI) for private TV broadcasting in Pakistan.
2. To explore the challenges faced by private TV broadcasters in adopting AI technologies in the Pakistani context.

Research Question

1. What opportunities does artificial intelligence offer for enhancing the operations and content delivery of private TV broadcasters in Pakistan?
2. What are the key challenges faced by private TV broadcasters in Pakistan when adopting artificial intelligence technologies?

Literature Review

The arrival of AI (AI) in the media industry has led to major shifts worldwide. AI tools have greatly changed ways of making content, connecting with audiences, and handling workflows in broadcasting, giving benefits as well as challenges. However, the way AI is adopted and its impact in developing countries, especially on Pakistan's private television sector, have not been explored enough.

AI is generally defined as the ability of machines to carry out mental activities such as reasoning, learning, and deciding like people (Russell & Norvig, 2010). In the context of broadcasting, AI tools facilitate automated news writing, video editing, personalized content delivery, and real-time audience analytics (Broussard, 2019).

Globally, major media organizations have embraced AI-driven solutions to enhance efficiency and audience engagement. Reuters and The Washington Post, for instance, have implemented AI systems like Heliograf to automate news production, achieving increased productivity and rapid news dissemination (Hussain, 2024).

In Pakistan, private television broadcasting emerged prominently in the early 2000s, catalyzing media diversification and competition. However, while global broadcasters actively integrate AI, Pakistani private TV channels exhibit limited and fragmented adoption. Initiatives such as Discover Pakistan's AI-hosted talk show and NEO News' AI anchor represent early steps, yet the sector as a whole faces substantial infrastructural, financial, and human resource constraints (Iqbal et al., 2022).

Several studies emphasize the benefits of AI in broadcasting. Modern technology helps deliver personalized experiences to users, reduce the time taken to make content, and use data for making choices (Ajibulu, 2024; Broussard et al., 2019). Voice recognition, facial detection, and sentiment analysis help make programs better and engage audience members more. Also, advanced technologies like augmented reality (AR) and virtual reality (VR) make it possible for storytelling to adapt in exciting new ways (Broussard, 2019).

Even so, there are significant difficulties when businesses try to bring AI to their operations. It is still very difficult to combine AI systems with traditional radio and TV infrastructure (Dadang, 2023). The high prices of adopting and maintaining AI tools create more measures against smaller news organizations (Rostamian, 2024). Besides, when there are not enough qualified people to manage AI technology, these issues are made worse, so more investment in training and strengthening is necessary (Hussain, 2024).

Communication problems because of language differences are also an important limitation. Because AI systems have weak capabilities in Urdu, the main language used for broadcast in the country, their use for content creation and interaction is restricted. English AI tools work well globally but local language and cultural updates are still lacking in Pakistan.

More and more, people are bringing up how AI is used in the broadcast industry. Factors like deepfake technologies, biased algorithms, and problems with protecting data can seriously damage how much people trust and value news. Researchers have cautioned that if artificial intelligence is used to spread false information, it might lead to more political division and affect democratic talks (Porlezza et al., 2023). BecausePakistan lacks clear AI regulations, and these issues are more common there.

Legal and policy challenges make it more difficult for the media industry to use AI. The 2016 law on preventing cybercrimes known as PECA does address certain digital media issues in Pakistan, but it doesn't completely deal with the issues raised by AI in journalism and broadcasting (Rabia, 2023). It is argued by some experts that clear AI rules aimed at media specifically will help ensure that new developments do not compromise morals (Porlezza et al., 2023).

The Diffusion of Innovations Theory (Rogers, 1962) helps analyze the spread of AI among Pakistani broadcasters. According to Rogers, the adoption of innovations depends on five attributes: relative advantage, compatibility, complexity, trialability, and observability. In Pakistan's media landscape, AI adoption is likely influenced by perceived benefits (e.g., enhanced content creation), compatibility with existing workflows, the technological sophistication of AI systems, the possibility of small-scale pilot testing, and observable successes in early adopting organizations (Shipalana, 2020).

Research gaps remain significant. Most existing studies focus on AI adoption in Western media industries, with limited empirical exploration in developing country contexts (Rabia, 2023). Furthermore, while international literature increasingly addresses ethical and legal concerns surrounding AI in journalism, localized investigations into how these barriers manifest in Pakistan are rare. Little research specifically analyzes the linguistic limitations of AI technologies in Urdu broadcasting, nor do studies adequately address organizational cultural resistance in Pakistani media houses.

Methodology

To identify opportunities and barriers to AI use by Pakistan's private television broadcasters, this study applied a qualitative research approach. Because the research was intended to explore, qualitative methods were seen as the best choice to capture the unique experiences and views of those working with AI in media.

Research Design

Semi-structured interviews were conducted to collect data for the study. Interview questions are flexible in semi-structured interviews, so researchers can ask about certain topics in more in-depth and stay consistent with the key categories (Creswell, 2013). Following this approach made it possible to gather lengthy data on the potential positives and negatives surrounding AI use.

Population and Sampling

Ten Participants were selected using purposive sampling including, producers, creative producers, and executive producers with ample experience to maintain the diverse range of opinions across the broadcasting industry. The criteria for participant selection were based on:

- The personnel must have three to five years of experience in the broadcasting industry
- Direct experience or extensive familiarity with AI technologies in their professional work
- Data collection continued until theoretical saturation was reached, meaning that no new themes or insights emerged from additional interviews.

Data Collection

Data were collected through individual semi-structured interviews conducted via video conferencing platforms i.e. zoom, depending on interviewees' availability and preferences. Interviews were guided by a questionnaire comprising 5–8 open-ended questions designed according to the research objectives. Each interview lasted approximately 30–45 minutes. With the interviewees' consent, interviews were recorded to ensure accuracy in transcription and data analysis.

Data Analysis

The collected data were analyzed using manual thematic analysis, following the six-phase approach outlined by Braun & Clarke (2006)

1. Familiarization with the data: Interview transcripts were read multiple times to gain a thorough understanding of the responses.
2. Generating initial codes: Key phrases, ideas, and concepts were systematically coded across the entire dataset.

3. Searching for themes: Codes were grouped into broader themes reflecting recurrent patterns.
4. Reviewing themes: Emerging themes were reviewed and refined to ensure coherence and distinctiveness.
5. Defining and naming themes: Themes were clearly defined, and illustrative quotations were selected to represent key results.
6. Producing the report: A comprehensive narrative was developed to present the final themes and sub-themes.

The thematic analysis enabled the researcher to systematically identify commonalities and divergences in interviewees' views, offering a nuanced understanding of AI's impact on private television broadcasting.

Data Analysis

To explore the main points and insights in the semi-structured interview data, manual thematic analysis was used in this research. The study began with getting to know the content by reading all of the transcripts multiple times, following the guidelines in Braun & Clarke (2006). Afterward, early codes were made by including the key themes and ideas in all the responses. The codes were grouped by themes which were checked and improved so that they faithfully shared the main points. Following a clear definition and naming of the themes, sub-themes were created as needed. Ultimately, the findings were presented in a logical and well-organized manner, referencing the study's goals and questions. This meticulous procedure made sure that the analysis maintained its analytical integrity throughout and stayed rooted in the viewpoints of the participants.

The following are the main themes and sub-themes generated from the responses:

Table 1

Categories	Main Themes	Sub-Themes
Opportunities	Enhanced Content Creation	Quality enhancement (audio, video, and images), Automated video editing, AI-driven content recommendations
	Improved Audience Engagement	Personalized content delivery, Interactive features (e.g., chatbots)
	Operational Efficiency	Streamlined production processes, Automation of repetitive tasks
	Data-Driven Insights	Real-time audience analytics, Predictive analytics for programming decisions
Challenges	Technical Complexity	Lack of infrastructure for AI integration, Limited expertise in AI technologies
	Financial Constraints	High costs of AI tools and training, Budget limitations for technology upgrades
	Language Barrier	Minimum efficiency in Urdu
	Lack of Awareness	Training requirements, Shortage of talent
	Organizational Culture	Resistance to change among staff, Fear of job displacement
	Ethical Considerations	Data privacy issues, Potential bias in AI algorithms
	Regulatory Issues	Absence of comprehensive AI regulations, Need for updated frameworks addressing AI in media.

Findings

Semi-structured interviews indicated two main categories: Pros and Cons of English with respect to the use of AI in Pakistan's private TV broadcasting area. Each sort of violence features main ideas confirmed by what participants describe.

Opportunities

Enhanced Content Creation and Production

AI allows broadcasters to use automated solutions that simplify the tasks of editing, scripting and even working on post-production. A senior producer stated that AI has made things easier:
"It previously took about four hours to edit a promo. AI templates allow me to finish the project in 40 minutes or even faster."

Interviewees highlighted the role of AI in creating cost-effective virtual sets, which support visually rich production without the need for elaborate physical setups. Similarly, another executive producer said that:

"Today Virtual reality backed by AI provides high-quality visuals to shows that could not afford pricey production designs."

Automating production processes frees up more time for broadcasters to maximize their resources and produce high-quality content.

Improved Audience Engagement and Personalization

AI-driven data analytics allow broadcasters to tailor their shows to the audience's preferences, resulting in improved audience engagement and loyalty. Several interviewees mentioned the importance of live audience feedback, including analysis of opinions and suggestions, in scheduling the shows.

Another participant contributed that *"Real-time analytics of the audience help develop better content, which may resonate with their viewership in a far more coordinated way."*

Operational Efficiency and Workflow Automation

AI technology has brought considerable enhancements to internal workflows. Automating things like archiving footage, organizing schedules, creating captions, and keeping track of content helps reduce human slip-ups and saves time and cost as well.

An individual reported that:
"Previously, it used to take an entire department to retrieve old recordings but now AI handles it effortlessly. The voyage is coming to an end in just a few minutes."

Another participant stated that *"Using AI for auto-drafting allows journalists to put more effort into new stories and less into setting up the structure."*

Another participant added that *"Automation of repetitive tasks like editing and scheduling reduces production time, so they have more time to focus on creativity and use their resources wisely."*

Data-Driven Decision Making

interviewees emphasized AI's predictive capabilities in analyzing viewer behavior, advertisement effectiveness, and content reception trends.

An executive stated:

"AI helps in foreseeing which programs are more likely to achieve better ad revenues and audience engagement"

Data-driven insights improve programming strategies along with optimizing advertising placements, and boosting revenue streams.

Challenges

The interview analysis with the broadcasting professionals highlights some key challenges related to integrating AI in private TV broadcasting in Pakistan. These include technical, financial, organizational, ethical, and regulatory challenges.

Technical Infrastructure Deficiencies

All interviewees cited low quality and limited technology tools as the biggest obstacles to the successful integration of AI. Smooth AI utilization is hampered by issues including unreliable internet connections, outdated studio equipment, and frequent power outages. A senior stated that although the software is accessible, it is exceedingly slow and useless without consistent internet speed and up-to-date computers.

Another added, *"We are far beyond developed nations. Our internet is down every other day, and we do face supply cut issues even today, so we cannot rely heavily on these AI technologies until we do not have a complete infrastructure."*

Another participant contributed, *"Technical challenges include lack of the latest required infrastructure and expertise for ample deployment of AI technologies."*

Financial Constraints

The high costs of acquiring AI tools and training personnel stand in the way of most broadcasting organizations. Sometimes, having the right technology is not possible due to budget constraints. Most interviewees cited the issues of financial constraints: *"We have become so habituated to working on free versions of AI on an individual level, but our organizations have not bought any such software since they, first of all, do not understand the importance of AI in modern times"*. Participant added, *"The financial challenges are brought basically by the high costs of AI tools and then implanting them into the mechanisms."*

Language Barriers

The majority of Pakistan's broadcasting channels operate in Urdu. A lack of expertise in Urdu for AI systems reduces their usefulness in creating content, especially in news.

One person explained that,

"Voice-to-text AI systems misinterpret Urdu accents badly. We cannot rely on these systems; it is very challenging and time-consuming to correct basic transcription errors and the same goes for voice-over software."

The interviewee said that we cannot make the most of our stories through Artificial Intelligence because AI has a very wide room for improvement in the Urdu language; it cannot give vocabulary-rich stories as our professionals do. Since it does not know the ground realities of our culture, it also cannot angle the story as professionals do; it lacks an emotional touch, too.

Due to localization challenges, AI cannot play the lead character in creative content and mainly stays in the background.

Skill Gaps and Training Deficiencies

The shortage of skilled professionals capable of monitoring AI systems remains a persistent problem. Several experts believe there is a gap in adoption because media professionals often lack strong digital skills. An executive realizing AI's importance stated that *"having basic knowledge of AI is just as necessary as computer skills were twenty years ago, but the majority in our industry do not realize its worth."*

The absence of formal AI training within the industry leaves staff unprepared and hesitant to handle innovative technologies. Another mention of the same was, *"We are lacking in training, and there should be a proper course and training regarding using AI."*

Organizational Resistance and Cultural Barriers

Resistance to change within organizations presents another notable challenge. Workers may also perceive a risk of job displacement via automation of processes, hence causing unwillingness or resistance to adoption technologies.

People in some organizations resist AI as they are afraid it might replace their roles. One professional stated that:

"Senior staff are concerned about their careers being taken over by automation and also, managers are concerned about paying money for tools that might not give results at first."

When organizations are slow to make changes, avoid risks, and decisions are based on a hierarchy, this reduces the speed of innovation.

Ethical Dilemmas

However, AI has raised a lot of ethical issues regarding data privacy and misinformation. Broadcasters are afraid of the spread of fake news.

Many interviewees emphasized this anxiety by saying that the fake news industry in Pakistan has grown so much, particularly in political matters, which is the biggest challenge for us. Another participant pointed out that journalistic ethics have to be followed.

He said, "*Journalistic ethics cannot allow putting everything on screen or on air before verifications. We can't believe in data or the stories created by Artificial Intelligence, as it doesn't take responsibility for authenticity." "AI is making everything easier, even fake and inappropriate information, It can cost you the reputation of the whole channel overnight if we overly rely on it."* Another participant added, *"This is a big concern about AI: you can generate fake images and develop fake news in this social media era where there is no culture of cross-checking information."*

Another senior professional highlighted that: *"Everybody should not have access to it, except those who have learned it; otherwise, it will be gone in hands of those who can misuse it, such as deepfake, etc., which is morally very unethical. There should be a proper logo on AI-generated images or videos so that people can identify between real and artificial."*

Absence of Regulatory Frameworks

The lack of comprehensive regulatory frameworks specific to AI in broadcasting is a source of uncertainty as far as compliance and accountability are concerned. Current regulations fall short in the peculiar challenges thrown up by AI technologies. The participants have also pointed out that as there is a very minimal level of implementation in the broadcasting industry so there is no question of laws and regulations in this regard but they are very important. An interviewee identified the lack of regulation Unfortunately, there are no such regulations in particular by any regulation body like PEMRA. Another professional contributed that the general cybercrime laws in Pakistan, like PECA 2016, have a lacuna of laws about AI, especially around media and broadcasting. Major challenges in implementing AI stand as compliance with broadcasting standards and a lot of legal liabilities arise around it. The framing and regulating frameworks shall evolve with the evolving technology. One interviewee stated that it is tricky around the regulatory environment, we have to be certain whether our use of AI stays inside the rule of law.

Discussion

The integration of Artificial Intelligence (AI) in Pakistan's private television broadcasting remains at a preliminary stage. Most advancements are being made at the individual level, rather than as part of a cohesive industry-wide initiative. One industry executive summarized the prevailing sentiment by stating: *"AI has not been recognized as a very big thing in our broadcasting industry till now and nor much is expected in the near future."* This perspective reflects a cautious optimism, tempered by the significant infrastructural, regulatory, and financial challenges that hinder AI's full-scale deployment in Pakistani media.

Identified Opportunities for AI Utilization

From the data collected by professionals, AI is seen to open up many new possibilities in television broadcasting. Some examples are better content, easier and smarter operations, more precise data-based choices, tailored ad campaigns, and better engagement with the audience.

A major advantage of AI is its ability to automate the way content is produced. With automation, handling video editing, subtitling, and making audio better has made production simpler. A rep from Discover Pakistan talked about how AI is boosting their day-to-day work processes. According to Ridwan, (2023), findings in media operations have also shown similar results because of using AI.

The field of personalized content delivery also looks very promising. A number of people point out that AI is helpful for analyzing the audience, forecasting content performance, and spotting popular trends. Because of these options, media houses can create content based on what viewers want which improves their interaction and recall. This is also true according to Ratten (2024), who found similar things with AI-powered content personalization and described how AI is influencing media and business globally.

Chatbots and interactive articles have helped professionals hold viewers' interest, just as (Jones, 2025) found in their research on AI's use for automatic personalization on social sites. Such integration has helped channels gain deeper insight into their audiences and increase viewership metrics.

Boosting Operational Efficiency Through Automation

Professionals also mentioned that AI boosts the efficiency of day-to-day broadcasting duties. New technologies have improved how resources are used, allowed for less redundancy in work, and eased the overall flow of work. In their paper Wang et al. (2024), discussed how AI makes it much easier to take care of sports media content at a fast pace because AI aids in automating many tasks in the broadcasting industry. However, using these benefits is restricted in Pakistan because of unreliable infrastructure and a lack of awareness about AI among the media group. Because of unreliable power supplies and servers, integration using AI is not yet possible without other support.

Technical and Financial Barriers to AI Adoption

Almost everyone pointed out that adopting AI is hard because of both technological restrictions and financial reasons. Many organizations do not choose to invest in AI mainly because the costs of acquiring systems and keeping up with training are too high. Despite some media outlets like Geo News and ARY News starting to apply AI, they are only mainly using it for using green screens or background images. In well-known media, most of the time, the use of AI is by people rather than organizations. There are a handful of broadcasters using AI consultants and staff, yet these are still mostly isolated events. Having no clear strategy in place holds back significant improvement.

Skill Gaps and Capacity Building

It's hard for workers to be successful because they lack important skills. Since not many experts are trained to handle AI systems, AI is not used as effectively in content production as it could be. According to Bughin et al., (2018), such skill gaps are found around the world, mainly in sectors where AI is just starting to be used. Many people in the industry highlighted how necessary it is to provide continuous training and education for the media workforce to keep up with the latest technology.

Ethical Concerns and Misinformation Risks

The ethical concerns of AI, including algorithmic bias, fairness, and transparency, have also been important subjects in the research. Many people expressed their doubts about how their data might be misused because most people in Pakistan are not very good at using technology. A respondent mentioned:

AI can cause serious problems if it gets into the wrong hands, so it should be strictly controlled, the average person should not be able to use it. Deepfake is a scary thing in a country like Pakistan."

These concerns are similar to those (Camilleri, 2023) who state that ethical rules for AI usage are needed to ensure both projects and media apply them fairly and sincerely. Since not enough attention is given by the public or regulators, the possible influence of misinformation, especially fake media, is high. A participant recommended applying labels to AI-generated material to tell readers what is computer-created and help maintain the public's trust.

Language Limitations and Localization Issues

Another problem is that most technical tools lack support for Urdu. As one interviewed person indicated, since most of their work is done in Urdu, AI personal assistants are not fully useful for them. Most AI systems are built in English which makes it tough for local media to make content in the languages they speak. Because of this, AI technology is less useful and relevant to Pakistan's language and culture.

Resistance to Change and Organizational Culture

AI is being slower adopted because organizational culture stands in the way. People being interviewed mentioned that some staff were anxious about possible downsizing. Many people did not welcome new technologies mainly because of concerns about keeping their jobs. These results are aligned with observations by (Makwambeni et al., 2023), who pointed out that other parts of the world also see this reluctance among broadcasting executives. In addition, (Kioko et al., (2022) described how Kenyan journalists were reluctant to use AI, especially because they were afraid of losing their place and worried about the trustworthiness of technology.

Being unemployed for long periods is a risk in Pakistan's media, so automation is seen as harmful instead of useful and this makes seniors and their workers slow to use new technologies. Senior professionals were seen as more reluctant as compared to the younger audience.

Regulatory and Policy Issues

Regulatory ambiguity emerged as a significant concern. The laws regulating what AI can do in the media are still unclear in Pakistan. Even though the Prevention of Electronic Crimes Act (PECA) 2016 is the major legislation on digital issues, it does not deal with AI directly. An expert said:

"Although the current law of PECA 2016 is strict, it does not handle all the problems that can arise from this part of technology in the future days."

Because there are no specific rules, the technology inside AI could be misused and raise ethical concerns. Because boundaries are not well-established, it is possible for anyone to experiment without checking which might stop the industry from gaining public trust.

Limitations of Study

This study on Artificial Intelligence and Private TV broadcasting in Pakistan comes with several limitations. The foremost limitation of the study could be the small sample size and lack of participant diversity which could limit the applicability of findings to the larger private TV broadcasting market. Furthermore, interview responses could include biases because participants may be reluctant to express their lack of expertise and knowledge in the innovative technology. They may fear job displacement if they share unfavorable sentiments about their companies so the responses cannot be hundred percent true. There is variability in technology infrastructure across various media organizations as smaller or less funded organizations may encounter unique challenges that large organizations do not.

Conclusion and Recommendations

While artificial intelligence holds great promise for the betterment of private TV broadcasting in Pakistan by improving content creation, audience engagement, and operational efficiency, the current state of its

implementation is less than minimal and fragmented. This research focused on how AI is being utilized in Pakistan's private television industry today, highlighting both opportunities and barriers associated with its future implementation. The research shows that using AI brings significant advantages for creating content, attracting audiences, and optimizing work processes. Due to these prospects, AI is emerging as a key resource for broadcasters trying to stay relevant as the media world shifts online.

Even so, some major hurdles were found to prevent AI adoption in Pakistan's broadcast industry. Many problems related to technology, infrastructure, money, qualified staff, local languages, resistance within the organization, and missing official guidelines all hinder technological advancement. AI tools struggle to handle content in Urdu and there is no detailed set of rules discussing AI's role in the media. These are challenges that will have to be addressed proactively if full power is to be unleashed with AI in broadcasting, including investment in training programs to build expertise among its staff, embedding a culture that embraces rather than fears technological change, and establishing robust regulatory frameworks that ensure the use of AI technologies in a manner that is ethical.

Recommendations

In light of the results, the study offers the following recommendations:

- Investment in Skill development: AI literacy should be prioritized for training the workforce in media firms, so all teams can learn how to use advanced technology.
- Localization of AI Technology: Localizing AI tools by designing them for local languages like Urdu would improve their usefulness and the ability to be used easily.
- Strategic Resource Allocation: Broadcasters should look ahead, realizing that AI is important for steady growth and a strong position in the market.
- Infrastructure Enhancement: Enhancing internet speed, modernizing the studio, and having dependable IT are necessary for getting the best from AI.
- Regulatory Framework Development: Policymakers must collaborate with industry stakeholders to develop ethical and legal frameworks governing AI use in broadcasting, addressing issues of content authenticity, and data privacy.

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