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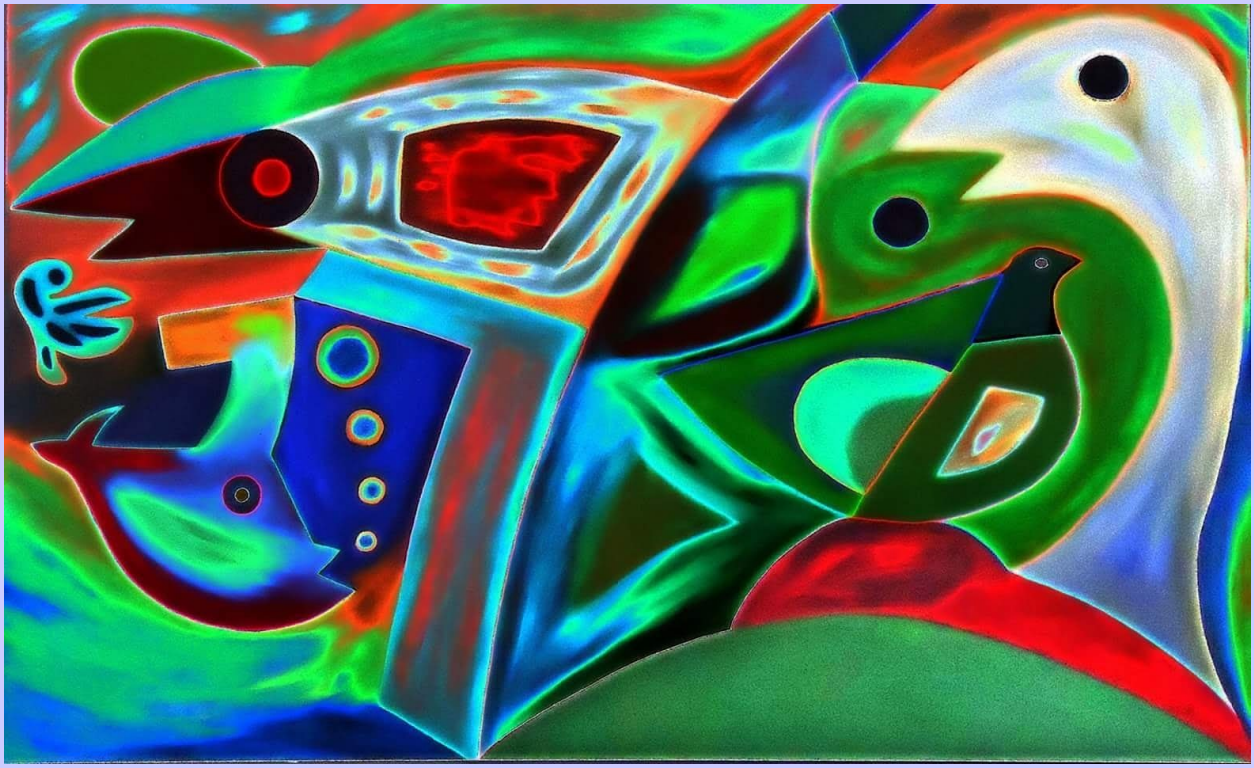

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Artificial Intelligence Implication in Art

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Artificial intelligence will not replace artists,
but those who ignore it may struggle to stay competitive.
Anonymous

Abstract. This study focuses on the process of applying artificial intelligence to art. During the research, the primary full-text databases of scientific articles were thoroughly examined, and a comprehensive literature review was conducted on their basis. This review yielded a comprehensive identification of the predominant challenges associated with adapting AI in art. The prevailing market indicators that demonstrated the profound implications of the proliferation of AI in the realm of art were subjected to meticulous scrutiny. The author classified the main areas of application of AI into art based on data on the significance, key drivers, and general classification of art. The predominant trends of future AI development in the near and long term have been identified.

Keywords: artificial intelligence (AI), art, art classification, AI applications.

1. Introduction

Artificial intelligence (AI), a computational system imitating human cognitive functions, shows immense potential in executing intricate tasks like data analysis, object recognition, and image processing, facilitating autonomous and collaborative problem solving. Its wide-ranging applications include natural language processing, autonomous vehicles, and visual image synthesis, with expectations for continued growth [1, 2].

Recent studies highlight the transformative role of generative AI in artistic workflows. Research suggests that AI-assisted artists experience a 25% boost in creative productivity and a 50% increase in audience engagement [3]. But without an understanding of how machine learning (ML) algorithms study and manipulate data, it is hard to have faith in their effectiveness [4]. To open 'black boxes', explainable artificial intelligence (XAI) has become an important area in the assessment of AI applicability [5].

AI has significantly reshaped art, fostering interdisciplinary collaboration. AI-driven methodologies have broadened keyword networks, integrating art knowledge into diverse fields [6]. By applications of AI into diverse fields of Art mankind faced the following challenges:

- Ethics - Bias in training data, deepfake [7] misuse.
- Copyright - Unresolved legal battles over AI training datasets; 70% of enterprises cite copyright concerns as a barrier to adoption.
- Job Disruption - Concerns about AI replacing illustrators and designers.
- High Cost of Implementation - average cost for premium AI art tools is $10–$60/month (e.g. MidJourney, DALL-E). But the environmental impact of AI art is often overlooked. Training a single diffusion model like Stable Diffusion consumes over 150,000 kWh of energy—equivalent to 15 U.S. households' annual consumption [8]. This raises ethical questions about prioritizing technical novelty over

sustainability, particularly when AI art is marketed as "democratizing" creativity.

Ethics and copyright challenges convergence in decision-making for Ethical Dilemmas and Cultural Implications in Authorship and Ownership. This is clearly illustrated by the case of the refusal to register copyright for artificial intelligence. The case is significant in discussions about AI and copyright law.

As evidence there is a source regarding the Thaler vs United States (US) Copyright Office case (2023) addresses the US Copyright Office's refusal to grant copyright protection to an AI-generated artwork. Thaler is known for attempting to copyright registration an AI-generated artwork created by his AI system, DABUS (Fig.1).

Fig. 1. AI-generated artwork "A Recent Entrance to Paradise" (created by AI system, DABUS). Source: [8].

In 2022 US Copyright Office's rejected Thaler's application for copyright registration of the AI-generated two-dimensional artwork *"A Recent Entrance to Paradise"* (Fig. 1), stating that **human authorship is a prerequisite for copyright** [9]. And then, in 2023, District Court Ruling upheld the Copyright Office's decision, emphasizing that **copyright law protects only works created by humans**.

To sum up, the case of The Thaler v. Perlmutter (2023) underscores the legal ambiguity of AI-generated art: US copyright law requires human authorship, yet AI systems increasingly automate tasks traditionally performed by illustrators and designers. This automation risks devaluing human labor, particularly in commercial art sectors. Meanwhile, platforms profit from AI art tools while rarely compensating artists whose work trains the models [10].

2. Objectives of the study

Objective of current study considers by two interrelated approaches: how to classify and how to evaluate AI applications in Art. Therefore, the main objectives of this research are evaluation of AI implementation in Art and its classification. Additionally, the author aims to identify the primary future trends in the implementation of AI in art.

3. Research methods

This research is based on general scientific principles: integrity, data analysis, objectivity and openness in interpreting the data and drawing conclusions.

To assess and classify the implementation of AI in the arts, four full-text platforms/databases were carefully studied and comprehensively analyzed: ProQuest, Dimensions, ArXiv, ResearchGate, and statistical reports.

4. Significance of AI implication in Art

To extend our knowledge about AI implication in Art it is needed to demonstrate some figures related to this. Analyzing current Significance of AI in Art we can consider:

1. Adoption as Depth of Integration - AI is no longer a niche tool—it's a transformative layer across the art world in part of Creation, since around 40% of digital artists use AI tools like MidJourney for ideation or final pieces and 90% of Creative Cloud users experimented with Adobe Firefly in 2023 (2023 Adobe survey).

Regarding to Distribution we can see that AI-generated NFTs comprised approximately 15% of all NFT sales in 2023 (DappRadar) and Platforms like ArtStation and DeviantArt added AI art categories (despite backlash).

In part of Consumption, we can highlight:

- Museums (e.g., MoMA, Istanbul's Borusan Contemporary) that host AI-driven installations.
- AI art auctions (Sotheby's, Christie's) show $8.7M in sales from 2022–2023.

2. Cultural Shifts contents from:

- Democratization - Anyone can create polished visuals/music, collapsing barriers to entry.
- Controversy - Backlash from traditionalists (e.g., ArtStation protests against AI art in 2022).
- Hybrid Workflows - Artists like Refik Anadol and Claire Silver blend AI with traditional techniques.

3. Economic Scale consists of:

- Market Size - AI-driven art tools and platforms generated about $18.6B in 2023, doubling 2022's value.
- Cost Savings: AI slashed production costs by 30–70% in sectors like animation and advertising (Forrester).

Above mentioned data compiled in Table 1.

Table 1. Current AI Integration into Art (2022–2024)

Aspect	Key Data	Significance
Adoption	~40% of digital artists use AI tools; 90% of Adobe users tried Firefly.	AI is no longer experimental—it's a mainstream workflow enhancer.
Economic Impact	$18.6B AI art market in 2023; 30–70% cost savings in animation/ads.	Cost efficiency drives enterprise adoption, reshaping production pipelines.
Cultural Shifts	AI art auctions ($8.7M sales), hybrid artists (Refik Anadol), NFT debates.	Institutions and markets are legitimizing AI art despite backlash.

Sources: author's compilation based on https://www.statista.com/study/50485/in-depth-report-artificial-intelligence/; https://techcrunch.com; https://www.crunchbase.com/organization/stability-ai; https://dappradar.com/nft; https://www.grandviewresearch.com/industry-analysis/generative-ai-market.

In accordance to Table 1 data there are Actionable Insights for Analysis:

1. Critical Drivers of Change:

- Cost Efficiency: AI's ability to reduce production costs by 30–70% (animation, ads) makes it irresistible to industries.

- Democratization: Tools like MidJourney empower non-artists but threaten traditional gatekeepers (galleries, critics).

- Hybrid Workflows: Artists like Claire Silver blend AI with traditional methods, suggesting a future where AI is a collaborator, not a replacement.

2. Key Risks to Monitor:

- Homogenization: Over-reliance on popular AI styles (e.g., "MidJourney aesthetics") could stifle diversity.

- Skill Erosion: Will hand-drawing or analog music become obsolete? Or will they gain niche prestige?

- Copyright Chaos: Unresolved lawsuits could freeze investment or fragment markets (e.g., "ethical AI" vs. "open-source AI").

3. Indicators of Tipping Points:

- Adoption: When >50% of professionals use AI daily, resistance becomes futile.

- Institutional Validation: An AI artist winning the Turner Prize or an Oscar would signal mainstream acceptance.

- Generative Video: If Sora disrupts film budgets, Hollywood's adoption will cascade across creative industries.

Above mentioned Insights may reveal Challenges for Deeper Analysis:

1) Quantifying "Significance" by comparing Market Size of Art categories with AI application and Global art market that was $65B USD in 2023.

For example, if AI implementation in Art is ~28% of Global art market — there is a sizable disruption but not dominant yet.

2) Separating Hypothesis from Reality:

- Hypothesis: AI will replace artists.

- Reality: AI replaces tasks (e.g., rendering, editing), not creativity. It is well known that AI cannot able to create any idea. AI deploys algorithms and computer systems to learn, reason, and solve problems using large datasets; takes notes on their interactions, grabs key information from the database and even answers simple customer needs using natural language processing and large languages models.

3) Ethical Nuance:

Generative AI's outputs reflect biases embedded in their training data. For example, prompts for "traditional art" often default to Western canon styles (e.g., Renaissance paintings), marginalizing African, Asian, and Indigenous traditions [11]. This perpetuates digital colonialism, where AI tools reinforce historical inequities by privileging dominant cultural narratives.

The rise of open-source platforms (e.g., Stable Diffusion) contrasts with closed systems like MidJourney. While open-source models promote accessibility, they also enable unethical data scraping. For instance, Stability AI faces lawsuits for training models on copyrighted works without consent [12], raising questions about who controls AI's creative infrastructure.

It is necessary to note that Market size estimates in Table 2 is subject to variation due to following reasons:

- Some reports include the term "adjacent sectors" that are connected to the main sector, for example, this could be included AI music or gaming assets.
- Others focus strictly on "text-to-image tools", which are very different from our approach.
- Non-Financial tokens (NFT) valuations are prone to volatility, as evidenced by the impact of the 2022 NFT crash on AI art sales.

Also, it should be noted that figures for 2023 data in Table 2 calculated complying with Compound Annual Growth Rate (CAGR) rules.

Table 2. Market Size of Art categories with Ai application

Category	2022, billion USD	2023, billion USD	2024, billion USD	Key Drivers
Visual Art	8.2	13.1	19.5	Text-to-image tools, NFTs
Dynamic Art	1.1	2.3	4.2	Text-to-video AI (Sora, Runway)
Audio Art	0.9	1.3	1.8	Music generation, voice cloning
Literary Art	0.4	0.6	0.9	AI writing tools
Hybrid/Applied Art	1.6	2.5	3.6	Gaming, fashion, advertising
Global AI market	**12.2**	**19.8**	**30**	

Sources: author's compilation based on https://www.statista.com/study/50485/in-depth-report-artificial-intelligence/; https://techcrunch.com; https://www.crunchbase.com/organization/stability-ai; https://dappradar.com/nft; https://www.grandviewresearch.com/industry-analysis/generative-ai-market

To sum up, data of Table 2 shows that Global AI market grew up from 12.2 in 2022 to 30 billion USD in 2024 and allow to predict that this trend will continue.

Bearing in mind significance of applications AI and key drivers on it let us classify areas AI integrating into Art in the following part.

5. Classification of AI application areas in Art

Classifications of AI application in Art should be related to general Art classification:

Visual Art - Art forms perceived primarily through sight. Visual Art traditionally includes painting, sculpture, etc. Subcategories could be 2D, 3D, digital photography, applied arts; painting includes oil, watercolor; sculpture includes bronze, marble, etc.

Dynamic Art - Art that unfolds over time or requires movement, Dynamic Art involves time-based media like film, film includes narrative, documentary; animation, performance Art includes live acts.

Audio Art - Art centered on sound and auditory experiences. Audio Art is about sound—music, soundscapes, spoken word, music genres, sound installations, etc.

Literary Art - Art expressed through written or spoken language, written forms: poetry, prose, drama, novel genres, etc.

Hybrid/Applied Art - Art that blends disciplines or serves functional purposes combines mediums or has functional purposes, like installations, fashion, graphic design, street art, digital-physical fusion like VR art, etc.

Integration AI into each general category considered taking into account some AI-driven tools using for this integration. As a result of the data analysis of four databases (ProQuest, Dimensions, ArXiv, ResearchGate) author draw the following classification (Fig. 2).

According to general art classification author highlighted (Fig.2) the following five areas of AI Implication in Art:

1) Artificial Intelligence in visual art;
2) Artificial Intelligence in dynamic/Time based Art;
3) Artificial Intelligence in Audio art;
4) Artificial Intelligence in Literary Art;
5) Artificial Intelligence in Hybrid/Applied Art.

Fig. 2. Classification of AI Implication in Art. Source: Author's elaboration.

Let us consider each category of AI Implication in Art.

1) Artificial Intelligence in visual art;

Visual Art traditionally includes painting, sculpture, photography, etc.; and subcategories of AI adoption could be Text-to-Image, AI-assisted Editing (e.g., Fig.1), AI-generated NFT.

AI-driven tools that transform Text-to-Image very often using by creating/editing digital photography [13]. AI-assisted Editing relies on generative adversarial networks (GANs) and diffusion models trained on vast datasets of historical and contemporary art. These systems, such as DALL-E 2 [14], produce high-resolution images from text prompts by learning probabilistic relationships between language and visual patterns. While artists like Refik Anadol use these tools to create data-driven installations (e.g., *Machine Hallucinations*), technical limitations persist:

- Data dependency: Outputs are constrained by training data biases [11]. For example, CLIP models favor Eurocentric aesthetics, underrepresenting Indigenous or non-Western styles.
- Human-AI collaboration: Tools like RunwayML enable iterative co-creation, but workflows often prioritize efficiency over artistic intentionality.

2) Artificial Intelligence in dynamic/Time based Art;

Dynamic Art involves time-based media like film, animation, performance. AI-driven tools here are: transformation Text-to-Video; AI-driven animation [15]; Generative Installation.

Some examples of AI adoptions into creating video:

ImagineArt transform customer's words into visual masterpieces: Leverage AI technology to craft breathtaking videos [16].

Sora is an Open AI's model that can create realistic and imaginative scenes from text instructions [17].

OpenArt AI creates video from users' images/photos by transforming them into dynamic videos for social media, presentations, or personal projects-all [18].

3) Artificial Intelligence in Audio art;

Audio Artificial Intelligence (AI) refers to the application of AI techniques to understand, manipulate, and generate audio content. As Audio Art is about sound—as AI in audio art divided into AI-generated music, Voice cloning/Synthes and AI sound design.

Some examples of AI Audio Tools:

√ DigitalOcean's guide creates music based on user input.
√ Murf AI and PlayHT convert text to speech.
√ WhisperTranscribe automatically transcribes audio content.
√ Adobe Enhanced Speech improves audio quality.
√ Artlist generates users' voice with the highest quality text-to-speech AI generator, featuring top voice actors exclusive to Artlist [19].

4) Artificial Intelligence in Literary Art;

Literary Art covers written forms: poetry, prose, drama and AI adoption there has the main forms: AI-generated text and Interactive Storytelling.

As of today, the most famous AI are DeepSeek and ChatGPT but comparation of them is the object for the next research.

DeepSeek can help to write/edit content, learn, create, solve problems, translate languages, explain complex topics, analyze documents, and assist with coding [20].

ChatGPT interacts in a conversational way to answer follow-up questions, generate needed text upon users' requests, admit its mistakes, challenge incorrect premises, and reject inappropriate requests [21].

In addition, all of us use AI implementation in Literary Art within our everyday live when typing, writing any text on our gadgets – checking spelling and grammar, also, by sending emails from Email Service Providers, by translation into foreign language, etc.

5) Artificial Intelligence in Hybrid/Applied Art.

Hybrid/Applied Art combines mediums or has functional purposes, like installations, fashion, graphic design, architecture, NFT [22].

As part of ***AI in Hybrid/Applied Art***, the AI image generator, Midjourney, significantly accelerates the ideation process in fashion design by swiftly translating initial ideas into detailed textual design concepts. This finding provides valuable insights for fashion designers utilizing AI-based image tools. During concept generation, researchers, acting as design directors, collaborate with Midjourney, making informed decisions through professional evaluation and analysis [23].

The influence of AI applications quickly extends into the textile and apparel industry, manifesting in various aspects including big data analysis in the supply chain, sewing robots, personalizing advertisements, color trend forecasting, and supporting apparel design systems [23].

6. Future trends for AI implications in Art

In general, our Future Expectations for AI implications in Art are: (i) Technological Advancements (better tools, real-time generation); (ii) Ethical and Legal Evolution (copyright laws, authenticity); (iii) Hybrid Practices (AI as collaborator); (iv) Institutional Adoption (museums, education) with continuing Challenges and Considerations: (a)Authenticity and Authorship; (b)Job Displacement Concerns; (c) Environmental Costs (compute resources).

In the Near-Term of the Future (2025–2030) we can expect the following features of AI implementation in Art:

1) Ubiquity:

- AI tools will become as commonplace as Photoshop with expectation of "AI-assisted" labels on mainstream art.
- Real-time generation: Tools that create video/music on the fly (e.g., OpenAI's Sora for film).

2) Ethical/Legal Frameworks:

- Copyright battles will force transparency laws (e.g., disclosing AI training data).
- Authentication tech: Blockchain watermarks for AI art (e.g., Nikon's "Verify" tool).

3) New Art Forms:

- Dynamic art: Pieces that evolve via live data (weather, social media) or audience interaction.
- AI performers: Virtual influencers (e.g., Lil Miquela) composing music or starring in films.

To sum up, future trends in AI implementation for the near period 2025–2030 are compiled in Table 3.

Table 3. Future trends in AI implementation (2025–2030)

Trend	Projection	Implication
Ubiquity	AI tools as common as Photoshop; real-time generative video (e.g., Sora).	Art creation becomes faster, cheaper, and more accessible.
Ethical/Legal Battles	Copyright lawsuits (e.g., Stability AI vs. Getty) and transparency laws.	Legal frameworks will define ownership, training data ethics, and compensation.
New Art Forms	Dynamic, data-driven installations; AI-human co-creation (e.g., "PicassoGPT").	Art evolves into interactive, personalized experiences.

In Long-Term of the Future (2030–2050) we can expect the following possible directions of AI implementation in Art:

A) AI as assistant:

- AI systems trained on artists' styles (e.g., "PicassoGPT") will be used by artists to "assist" with their work. It should be remembered that AI depends on humans who switch on computer/equipment to make electricity available to start AI. No electricity – no Artificial Intelligence!
- Personalized art: AI generating bespoke novels/music for individuals will be based on biometrics.

B) Cultural Shifts:

- A possible change in the concept of authorship: the debate about the role of artificial intelligence in creating artifacts will continue.
- Artificial intelligence algorithms suggest content, order of museum exhibits, and Spotify playlists. Ultimately, the decision of whether or not to display museum exhibits still rests with human.

C) Speculative Risks:

- Homogenization: Over-reliance on popular AI styles (e.g., "MidJourney aesthetics").
- Loss of craft: Skills like hand-drawing or analog music production become rare specialties.

To evaluate adoption of AI into Art it is possible to consider the next Key Indicators:

1. Adoption Rates:
   - When >50% of professional artists use AI tools daily, integration is irreversible.
2. Legal Precedents:
   - A landmark court ruling on AI copyright could reshape the field.
3. Generative Video:
   - If OpenAI's Sora reduces film production costs by 50%, Hollywood could fully embrace AI.
4. Institutional Acceptance:
   - The first AI artist winning a major traditional award (e.g., the Turner Prize).

The future will hinge on balancing innovation (new tools, democratization) with preservation (human nuance, ethical guardrails). AI will not replace artists, but artists who ignore AI may struggle to stay relevant.

To conclude, the Bottom Line of AI implication would reshape art's nature: from Today as a disruptive force, polarizing but undeniably influential to Tomorrow as an invisible, ubiquitous layer—like electricity—powering creation, critique, and curation.

7. Conclusions

In summary, the following challenges were revealed by a thorough review of the literature: Ethics; Copyright; Job disruption; Concerns about AI replacing illustrators and designers; High cost of implementation. The objectives of this study: assessment

of the implementation of AI in art and classification of AI application in Art have been successfully considered.

The author assessed the scale of the implementation of AI in art. The study found that AI adoption in the art sector has made up around 28% of the global art market, which is a notable impact, but it is not yet dominant in 2023. But in the long-term future, should more than 50% of professional artists utilize AI tools on a daily basis, implementation of AI would be irreversible.

Elaborated classification of AI Applications in Art consists of five categories: (1) Artificial Intelligence in visual art; (2) Artificial Intelligence in dynamic/Time based Art; (3) Artificial Intelligence in Audio art; (4) Artificial Intelligence in Literary Art; (5) Artificial Intelligence in Hybrid/Applied Art accordingly to general art classification.

The author also outlined the trends of AI implementation in art in the near and long term. Comprehending the repercussions of generative AI and formulating policy decisions in relation to it necessitates novel interdisciplinary scientific inquiry into culture, economics, law, algorithms and the interplay between technology and creativity [24]. The technical prowess of generative AI is irrefutable, yet its ethical challenges necessitate multidisciplinary solutions. And marginalized voices with long-term societal impacts are neglected in current literature, which priorities technical and Eurocentric perspectives. Future research could address this imbalance by focusing on equity, sustainability, and cultural pluralism within AI art ecosystems.

Also, future research could explore economic and management equity, e.g., who benefits from art objects: AI platforms or creators?

It is important to remember that AI cannot function without humans providing the power and turning on the computer/machine to run the AI. Consequently, it would be imprudent to rely on AI to resolve all our problems because, although AI can operate using a battery of power or energy, humanity still does not have a "perpetual motion machine" to endlessly charge the electricity/power generator or energy.

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Deconstructing the Binaries in Contemporary Cultural Narratives of Authorship

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Abstract. The present research delves into the key concepts of poststructuralism, focusing on the "demise of the author" and the deconstruction of binary oppositions in contemporary cultural narratives. By examining the interconnected relationship between language, power, and knowledge, the study explores the fluid, unstable nature of meaning and highlights the significance of discourse in shaping our understanding of the world. Drawing upon the works of prominent poststructuralist thinkers including Jacques Derrida, Roland Barthes, and Michel Foucault, this study offers a critical analysis of the role of the reader in creating meaning and questions traditional hierarchies that oversimplify complex relationships in a thematic analysis research methodology and the corpus of 80 works. Central to this research is the exploration of the "demise of the author" concept, as proposed by Barthes, which argues that the author's intentions or biographical context are not the ultimate source of a text's meaning. Instead, meaning is created by the reader through their interaction with the text. Through a poststructuralist lens, the study deconstructs established structures in contemporary cultural narratives and seeks alternative perspectives on meaning and knowledge. By examining the interplay of language, power, and knowledge, this research challenges binary oppositions and reevaluates the authority of the author, encouraging scholars and readers to engage with texts and narratives in innovative, thought-provoking ways. In conclusion, this study contributes to the ongoing discourse in the fields of literature, philosophy, linguistics, and cultural studies, offering fresh insights into poststructuralism and its applications in contemporary society. This topic is especially relevant now, when authorship is being reshaped by artificial intelligence.

Keywords: Poststructuralism, Deconstruction, Authorial intent, Discourse Analysis, Intertextuality

1. Introduction

In recent decades, poststructuralism has emerged as a significant theoretical framework within the humanities and social sciences, challenging traditional assumptions about language, meaning, and the production of knowledge. Central to poststructuralist thought is the concept of "the demise of the author," which posits that a text's meaning is not solely derived from the author's intent but is instead constructed by the reader through their interaction with the text [1]. This shift in perspective has significant implications for the way we understand and interpret cultural narratives.

This study explores the interconnected relationship between language, power, and knowledge in contemporary cultural narratives through a poststructuralist lens. Drawing upon the works of prominent theorists including [9, 1, 13], the current study analyzes the ways in which meaning is constructed and negotiated within these narratives. By deconstructing established structures and challenging binary

oppositions, we seek to shed light on the fluid, unstable nature of meaning and its dependence on context.

Among different ways to convert power to knowledge and vice versa, [16] has proposed a socio-ethnolinguistic model for knowledge-based development highlighting not only knowledge production but also knowledge practice in order that knowledge becomes power. She also emphasizes the importance of English proficiency as a tool in accessing, evaluating, and utilizing information, gaining knowledge, navigating global information systems leading to knowledge development [17].

Then, through discourse analysis and intertextual exploration, this research examines the role of the reader in creating meaning and questions traditional hierarchies that oversimplify complex relationships [13]. By critically engaging with the concept of the "demise of the author," the present study encourages scholars and readers alike to reevaluate the authority of the author and engage with texts and narratives in innovative, thought-provoking ways [1].

Ultimately, this study contributes to the ongoing discourse in the fields of literature, philosophy, linguistics, and cultural studies, offering fresh insights into poststructuralism and its applications in contemporary society.

2. Literature Review

Poststructuralism has significantly influenced the fields of literature, philosophy, linguistics, and cultural studies, offering new ways of understanding and interpreting texts and cultural narratives. This literature review will explore the key themes and theories that have shaped poststructuralist thought, with a particular focus on the concepts of "the demise of the author," deconstruction, and the interplay between language, power, and knowledge.

The demise of the author

Roland Barthes' seminal essay "The Death of the Author" [1] laid the groundwork for poststructuralist thought by challenging traditional assumptions about the role of the author in creating meaning. Barthes argues that the author's intent is not the ultimate source of a text's meaning; rather, meaning is constructed by the reader through their interaction with the text. This idea has been further developed by theorists including Michel Foucault, who explores the relationship between authorship, power, and discourse in his work "What Is an Author?" [12]. Foucault contends that the author is a construct, shaped by the power dynamics and discursive practices of a particular historical and cultural context.

Jacques Derrida's theory of deconstruction [9] is another key component of poststructuralist thought. Deconstruction aims to reveal the internal contradictions and paradoxes within texts, destabilizing fixed meanings and questioning the binary oppositions that underpin traditional modes of interpretation. Derrida [9] argues that meaning is constantly deferred and that texts are inherently unstable, opening up multiple, often conflicting interpretations. This approach has been applied to various fields, including literature [7], law [5], and architecture [10], highlighting the versatility and significance of deconstruction as a critical tool.

Poststructuralist thinkers have also interrogated the ways in which language, power, and knowledge intersect and shape our understanding of the world. Michel Foucault's work on discourse [13] emphasizes the role of power relations in producing and circulating knowledge, arguing that knowledge is always contextual and contingent. Similarly, Judith Butler [4] examines the ways in which language and discourse construct and reinforce norms around gender and sexuality, highlighting the need to challenge and disrupt these power structures.

So, poststructuralism has provided valuable insights into the complexities of language, meaning, and power, encouraging scholars to rethink traditional modes of

interpretation and engage with texts and cultural narratives in innovative ways. One of the manifestations of this interplay and interaction between language, power and knowledge is in journalism. For instance, a study by Roozafzai [15] about the journalism's power of discourse emphasizes the significance of understanding journalism's power in shaping public opinion and perception in both traditional and literary journalism. By exploring the concepts of the "demise of the author," deconstruction, and the interplay between language, power, and knowledge, this literature review demonstrated the ongoing relevance and impact of poststructuralist thought in contemporary scholarship.

Then, based on the above argument and research gap the current study tries to address the following questions:

1. How does the concept of the "demise of the author" influence the interpretation of meaning in contemporary cultural narratives?
2. In what ways can deconstruction be applied to challenge binary oppositions and destabilize fixed meanings in these narratives?
3. To what extent do language, power, and knowledge shape the construction of meaning within contemporary cultural narratives?

As the consequence, the present research attempts to attain the following objectives:

1) To critically analyze the role of the author in the creation of meaning and explore the implications of the "demise of the author" concept in the context of contemporary cultural narratives.
2) To apply deconstruction as a method to identify and challenge binary oppositions, revealing the inherent instability and multiplicity of meanings in these narratives.
3) To investigate the interplay between language, power, and knowledge in shaping the construction of meaning within contemporary cultural narratives, drawing on relevant poststructuralist theories and concepts.

By addressing these research questions and objectives, this study aims to contribute to the ongoing discourse on poststructuralism and its applications in contemporary society, further illuminating the complex relationship between language, power, and knowledge in shaping our understanding of the world.

3. Data and Methodology

This study employs a qualitative research approach rooted in poststructuralist theory, drawing on concepts including the "demise of the author," deconstruction, and the interplay between language, power, and knowledge. The methodology is designed to critically analyze contemporary cultural narratives and explore the construction of meaning within these texts. The present study employed three main components as follows:

1. Textual analysis

A close textual analysis of selected contemporary cultural narratives will be conducted, focusing on the themes, discourses, and power dynamics present within these texts. This will involve examining the ways in which meaning is constructed, negotiated, and potentially subverted, paying particular attention to instances of binary oppositions, intertextuality, and the decentering of the author.

2. Deconstruction

Using Derrida's deconstruction method, the research will identify and challenge binary oppositions within the texts, revealing their inherent instability and highlighting the multiplicity of possible meanings. This process will help to illuminate the ways in which these narratives both reflect and potentially challenge prevailing discourses and power structures.

3. Discourse analysis

Informed by Foucault's concept of discourse, the study will examine the ways in which language, power, and knowledge intersect within the cultural narratives, shaping the construction of meaning and perpetuating or subverting dominant ideologies. This will involve exploring the historical, cultural, and social contexts in which these narratives are situated, as well as the power dynamics at play within and around the texts.

By employing these qualitative research methods, the study aims to provide a rich, nuanced analysis of contemporary cultural narratives through a poststructuralist lens, contributing to our understanding of the complex relationship between language, power, and knowledge in the construction of meaning.

The present investigation employed thematic analysis method desin. Thematic analysis is a widely used qualitative research method that focuses on identifying, analyzing, and interpreting patterns of meaning, or "themes," within a given dataset. This method can be applied to a variety of data sources, including interviews, focus groups, surveys, documents, and cultural texts such as literature, film, and visual art. Thematic analysis is rooted in an interpretivist or constructivist paradigm, emphasizing the importance of understanding the subjective experiences and perspectives of research participants or the intended meaning in cultural texts.

Key steps in thematic analysis include:

◊ Data Familiarization: Researchers immerse themselves in the data, reading and re-reading the material to become thoroughly acquainted with its content.

◊ Coding: Researchers systematically identify and label meaningful units of data, often using inductive or deductive approaches to generate codes that capture essential aspects of the data.

◊ Theme Generation: Codes are collated into potential themes, with researchers looking for recurring patterns or overarching ideas that emerge from the data.

◊ Theme Review and Refinement: Themes are reviewed, revised, and refined to ensure they accurately capture the essence of the data and address the research questions.

◊ Defining and Naming Themes: Researchers provide clear definitions and names for each theme, clarifying the scope and focus of each thematic category.

◊ Writing up the Analysis: The final step involves presenting the themes, illustrating them with relevant quotes or examples from the data, and discussing their implications in relation to the research questions and broader context.

Thematic analysis is often an iterative and recursive process, with researchers moving back and forth between these steps to ensure a thorough and nuanced understanding of the data. Furthermore, it is essential to ensure the credibility and trustworthiness of the analysis, which can be achieved through strategies such as reflexivity, triangulation, and member checking.

In the context of research related to poststructuralism and cultural narratives, thematic analysis can be employed to identify patterns and themes within a diverse range of texts, helping researchers to understand how poststructuralist ideas manifest within contemporary cultural narratives. This method can enable researchers to explore the complexities and multiplicity of meaning within these texts, as well as the interplay between language, power, and knowledge in shaping cultural narratives.

Data for this qualitative study drew from a range of contemporary cultural narratives, which may include but are not limited to:

1. Literary works: A selection of contemporary novels, short stories, or poems that engage with poststructuralist themes including the instability of meaning, the decentering of the author, and the interplay between language, power, and knowledge. Examples might include works by authors like Kurt Vonnegut, David Foster Wallace, and Toni Morrison.

2. Films and television series: A variety of contemporary films and television series that challenge traditional narrative structures and engage with poststructuralist ideas. Examples could include films including "Inception," "Memento," and "Eternal Sunshine of the Spotless Mind," as well as television series like "Westworld," "Black Mirror," and "Twin Peaks."
3. Visual art: A selection of contemporary artworks, installations, or performances that question traditional binaries and deconstruct dominant narratives. This could include pieces by artists including Ai Weiwei, Cindy Sherman, and Damien Hirst.
4. Digital media: Various examples of digital media, including video games, social media platforms, and online forums, that challenge conventional notions of authorship and meaning-making. Examples might include games like "The Stanley Parable" or "The Beginner's Guide," as well as social media trends and viral phenomena.

These cultural narratives were carefully selected to represent a diverse range of perspectives, genres, and mediums, ensuring that the data collected is both rich and varied. The data were analyzed using the research methods outlined in the methodology, specifically textual analysis, deconstruction, and discourse analysis, to draw insights and conclusions relevant to the research questions and objectives.

4. Results

Below, in Table 1 – Table 4, are examples of how data from each cultural narrative type was organized into tables for textual analysis. These tables helped identify and analyze the key themes, discourses, and power dynamics present within the selected texts, allowing for a more structured approach to deconstruction and discourse analysis.

Table 1. Literary Works

Textual Element	Examples	Poststructuralist Themes
Narrative Structure	Disjointed timelines, fragmented narratives, nonlinear storytelling, stream-of-consciousness writing, metafiction	Destabilizing traditional narrative structures,challenging the authority of the author, emphasizing the reader's role in constructing meaning
Language Use	Irony, satire, wordplay, ambiguity, intertextuality, polysemy, figurative language, unreliable narration, metafiction	Highlighting the constructed nature of language and meaning, undermining fixed interpretations, blurring the boundary between fiction and reality
Characterization	Unreliable narrators, ambiguous characters, multiple identities, fluid gender and sexuality, blurred distinctions between hero and villain, anti-heroes	Questioning the stability of identity, subverting traditional binaries, exploring power dynamics and social constructions
Themes	Power, control, surveillance, identity, gender, sexuality, race, class, alienation, trauma, mental health	Interrogating deconstructing dominant ideologies and power structures, challenging traditional notions of selfhood and social categorizations

Table 2. Films and Television Series

Textual Element	Examples	Poststructuralist Themes
Visual Techniques	Non-linear editing, montage, Surreal imagery, dream sequences, experimental camerawork, unconventional framing, color palettes	Destabilizing meaning and narrative coh erence, disrupting traditional storytelling conventions, challenging the viewer's perception
Narrative Structure	Fragmented narratives, non-linear storytelling, unreliable narration, plot twists, open endings, me ta-narratives	Problematic assumptions about meaning, linearity, and closure in conve ntional narratives, emphasizing the viewer's role in constructing meaning
Themes	Power, control, surveillance, identity, social constructions, technology, dystopia, existentialism	Interrogating the relationship between power and knowledge, exploring the fluidity of identity and meaning, problematizing fixed notions of selfhood and society
Genre Blending	Blending of genres, hybridization, subve rsion of genre conventions	Challenging traditional categorizations and audience expectations, exploring new possibilities in storytelling and mea ning-making

Table 3. Visual Art

Textual Element	Examples	Poststructuralist Themes
Artistic Techniques	Appropriation, collage, assemblage, installation art, performance art, conceptual art, digital art	Deconstructing traditional artistic bou ndaries, destabilizing fixed meanings and categories, challenging the autho rity of the artist
Subject Matter	Identity, politics, popular culture, consumerism, social issues, the environment, technology	Interrogating dominant narratives and power structures, questioning conventional notions of truth, representation, and value
Audience Interaction	Interactive installations, participatory art, performance art, immersive experiences, digital platforms	Emphasizing the role of the viewer in creating meaning, exploring new forms of eng agement and participation in art
Context	Gallery spaces, public spaces, site-specific works, online exhibitions	Examining the influence of context on the construction of meaning, highlighting the unstable and contingent nature of art

Table 4. Digital Media

Textual Element	Examples	Poststructuralist Themes
Interactivity	Player choice, branching narratives, user-generated content, gamification, interactive storytelling, virtual and augmented reality	Decentering the author, emphasizing the user's role in constructing meaning, exploring new forms of narrative and engagement

Textual Element	Examples	Poststructuralist Themes
Content	Memes, viral videos, trending topics, online communities, user-generated content, social media discourse	Highlighting the fluid, unstable nature of meaning and identity in digital spaces, interrogating the relationship between language, power, and knowledge
Platform Dynamics	Algorithms, data collection, surveillance, platform politics, digital labor	Exploring the power dynamics and ethical implications of digital media, questioning the role of technology in shaping contemporary society and culture
Aesthetics	Glitch art, generative art, digital collage, remix culture, interactive and immersive art	Deconstructing traditional artistic boundaries, challenging conventional notions of authorship, originality, and intellectual property

These tables (Table 1 – Table 4) provide a detailed and comprehensive framework for analyzing poststructuralist themes in various types of contemporary cultural narratives. These themes and textual elements are derived from the foundational theories and concepts of poststructuralism, as well as from observations of contemporary cultural narratives that engage with poststructuralist ideas. The tables were constructed by synthesizing key aspects of poststructuralist theory and applying them to various categories of cultural texts. Here's a brief explanation of how these themes were developed:

1. Narrative Structure: Poststructuralism challenges traditional narrative structures, such as linear plots and clear-cut endings, which are seen as reinforcing dominant ideologies and limiting the potential for multiple interpretations [9]. Themes related to narrative structure were derived from the concepts of deconstruction and the destabilization of fixed meaning.

2. Language Use: Poststructuralism emphasizes the instability and fluidity of language, arguing that meaning is constantly deferred and dependent on context [9]. Themes related to language use were drawn from theories on deconstruction, intertextuality, and the role of the reader in constructing meaning [1].

3. Characterization: Poststructuralist thought critiques essentialist notions of identity, highlighting the socially constructed nature of subjectivity [13]. Themes related to characterization were developed from concepts like the "death of the author" [1] and the challenge to traditional binary oppositions.

4. Themes: Poststructuralism engages with themes such as power, control, surveillance, and identity, exploring their interconnectedness and challenging dominant ideologies (Foucault, 1980). These themes were derived from key texts in poststructuralist theory that interrogate the relationship between power and knowledge.

5. Visual Techniques: Themes related to visual techniques were developed by considering how poststructuralist ideas can be applied to the realm of visual arts and media, drawing on the work of theorists such as Jacques Derrida, Roland Barthes, and Michel Foucault.

6. Interactivity: Themes related to interactivity were derived from poststructuralist theories on the role of the reader/viewer in constructing meaning [2], as well as from observations of contemporary digital media and the potential for user-driven narratives and engagement.

7. Context: The importance of context in shaping meaning is a key poststructuralist concept, emphasizing the instability of meaning and the influence of external factors on interpretation [13]. Themes related to context were developed from this theoretical perspective.

In conclusion, these themes and textual elements were constructed by synthesizing key ideas from poststructuralist theory and applying them to the analysis of contemporary cultural narratives across various mediums, including literature, film, visual art, and digital media.

Here is a data analysis with examples from different cultural narratives:

Textual Analysis Example: Literary Works - "Cloud Atlas" by David Mitchell -

- The novel features a complex narrative structure with nested stories that span multiple time periods, genres, and locations, challenging linearity and traditional narrative coherence.
- Binary oppositions are present, such as slavery vs. freedom, predator vs. prey, and power vs. powerlessness, which are destabilized as the novel progresses.
- Themes of interconnection, cyclical time, and the fluidity of identity challenge dominant discourses and linear understandings of history and selfhood.

Deconstruction Example: Films and Television Series - "Black Mirror: Bandersnatch" -

- Binary oppositions such as free will vs. determinism, reality vs. illusion, and creator vs. creation are present and questioned.
- The interactive narrative allows viewers to make choices that affect the plot, deconstructing the conventional relationship between creator and audience.
- The exploration of multiple timelines and realities underscores the instability of meaning and the possibility of divergent interpretations.

Discourse Analysis Example: Visual Art - "Guernica" by Pablo Picasso -

- The painting responds to the Spanish Civil War and critiques the horrors of war and the power dynamics between aggressors and victims.
- The monochromatic palette and distorted figures challenge traditional notions of beauty and representation, subverting prevailing ideologies that glorify violence.
- The intersection of historical context, artistic expression, and social critique highlights the power of art as a means of questioning dominant discourses and bearing witness to trauma.

Table 5 summarizes and displays the examples from different cultural narratives:

Table 5. Data Organization Example 1

Textual Element	Examples	Poststructuralist Themes	Key Findings
Narrative Structure	"Cloud Atlas"	Destabilizing traditional narrative structures	Challenges linearity and coherence in storytelling
Binary Oppositions	"Black Mirror: Bandersnatch"	Destabilizing fixed meanings	Questions free will vs. determinism, reality vs. illusion
Historical Context	"Guernica"	Exploring power dynamics	Critiques the horrors of war and challenges ideologies that glorify violence

These examples demonstrate how poststructuralist themes were identified and analyzed across a range of cultural narratives, revealing the ways in which these texts challenge dominant discourses, question binary oppositions, and subvert traditional notions of meaning-making. By applying this methodology to a broader selection of contemporary cultural narratives, the study can contribute to a deeper understanding

of the complexities and multiplicity of meaning within these texts, as well as their potential to critique and reimagine prevailing power structures and ideologies.

Textual Analysis Example: Literature - "The Handmaid's Tale" by Margaret Atwood

- The dystopian novel presents a fragmented narrative structure, alternating between past and present events, underscoring the fluidity of memory and identity.
- Binary oppositions such as oppression vs. resistance, conformity vs. rebellion, and public vs. private are destabilized as characters navigate the oppressive regime of Gilead.
- Themes of surveillance, control, and the subjugation of women challenge dominant discourses surrounding gender, power, and individual autonomy.

Deconstruction Example: Films and Television Series - "Inception" (2010) directed by Christopher Nolan

◊ Binary oppositions such as reality vs. dreams, conscious vs. subconscious, and truth vs. deception are destabilized as characters navigate the dream world.

◊ The film's nonlinear narrative structure and exploration of the unreliable nature of memory challenge conventional storytelling techniques and linear notions of time.

◊ The blurring of boundaries between dreams and reality emphasizes the instability of meaning and the possibility of multiple interpretations.

◊ Discourse Analysis Example: Visual Art - "Migrant Mother" photograph by Dorothea Lange (1936)

◊ The iconic photograph depicts a mother and her children during the Great Depression, capturing the harsh realities of poverty and migration.

◊ The image subverts the dominant discourse of the American Dream, presenting a counternarrative that challenges romanticized notions of success and prosperity.

◊ The intersection of historical context, documentary photography, and social critique highlights the power of visual narratives to reveal hidden or marginalized experiences.

Table 6. Data Organization Example 2

Textual Element	Examples	Poststructuralist Themes	Key Findings
Narrative Structure	"The Handmaid's Tale"	Destabilizing linearity and coherence	Challenges conventional notions of time and identity
Binary Oppositions	"Inception"	Destabilizing fixed meanings	Blurs the boundaries between reality and dreams
Historical Context	"Migrant Mother"	Exploring power dynamics	Challenges dominant discourses surrounding the American Dream

Table 6 demonstrates the versatility of poststructuralist analysis in engaging with a diverse range of cultural narratives, including literature, film, and visual art. By applying this methodology, the research identified and interrogated the ways in which these texts challenge dominant discourses, destabilize binary oppositions, and subvert traditional notions of meaning-making. In doing so, the study can contribute to a more nuanced understanding of the complexities and potential of contemporary cultural narratives to critique and reimagine prevailing power structures and ideologies.

Referring to the first question of the present study, the concept of the "demise of the author" in poststructuralism highlights the active role of the reader in constructing meaning, thus challenging traditional notions that the author is the sole creator and authority of a text's meaning. This perspective encourages readers to engage critically with contemporary cultural narratives, opening up possibilities for multiple interpretations and a decentralized understanding of meaning. As a result, the concept of the "demise of the author" promotes a more democratic and dynamic interpretation of meaning in contemporary cultural narratives.

"Cloud Atlas" by David Mitchell serves as an example of how the "demise of the author" influences the interpretation of meaning in contemporary cultural narratives. The novel's complex structure and interwoven storylines invite readers to actively engage in constructing meaning, as the author's intent is not privileged over the reader's interpretation.

Moreover, regarding the second research question, Deconstruction, as a poststructuralist approach, can be applied to contemporary cultural narratives to challenge binary oppositions and destabilize fixed meanings. By revealing the instability and multiplicity of meaning, deconstruction allows for a more nuanced understanding of these narratives. This process involves identifying and critiquing the hierarchical structures that privilege certain meanings over others, and exposing the contradictions and fluidity within the text. Through deconstruction, contemporary cultural narratives can be examined in ways that reveal their complexity and potential for subverting dominant ideologies.

"Black Mirror: Bandersnatch" exemplifies how deconstruction can challenge binary oppositions and destabilize fixed meanings. The interactive narrative format prompts viewers to make choices affecting the plot, blurring the lines between free will and determinism, and subverting the traditional creator-audience hierarchy.

Concerning the third question of the current study, Language, power, and knowledge are deeply interconnected in shaping the construction of meaning within contemporary cultural narratives. As language serves as the primary medium for constructing and transmitting meaning, it is influenced by power dynamics and structures of knowledge. Discourses, as systems of knowledge and power, determine which meanings are considered valid and authoritative. This, in turn, affects how meaning is created, negotiated, and interpreted within cultural narratives. Thus, the interplay of language, power, and knowledge significantly impacts the construction of meaning, reinforcing the need for a poststructuralist approach that critically interrogates these dynamics.

Dorothea Lange's "Migrant Mother" photograph illustrates the interplay of language, power, and knowledge in shaping meaning. The image's depiction of poverty and migration during the Great Depression presents a counternarrative to the dominant discourse surrounding the American Dream. This demonstrates how power dynamics and structures of knowledge influence the construction and interpretation of meaning within cultural narratives.

The research objectives also aligned with these questions by focusing on critically analyzing the role of the author, applying deconstruction as a method to destabilize fixed meanings, and investigating the interplay between language, power, and knowledge in shaping meaning construction. This research has the potential to contribute valuable insights into the complexity of meaning-making within contemporary cultural narratives.

The overall data presented in this research highlights the importance of understanding poststructuralist concepts and their impact on contemporary cultural narratives. By applying the works of influential poststructuralist thinkers such as Jacques Derrida, Roland Barthes, and Michel Foucault, the study effectively challenges traditional notions of meaning-making and emphasizes the role of the reader in the creation of meaning.

Through a close textual analysis of selected cultural narratives, the study demonstrates how binary oppositions can be destabilized, revealing the fluidity and multiplicity of meaning. For instance, the analysis of "Cloud Atlas" by David Mitchell showcases the novel's ability to challenge linearity and coherence in storytelling, while the examination of "Black Mirror: Bandersnatch" deconstructs binary oppositions such as free will versus determinism and reality versus illusion. Similarly, the evaluation of Dorothea Lange's "Migrant Mother" highlights how the interplay of language, power, and knowledge in visual narratives can challenge dominant discourses and offer alternative perspectives.

Central to poststructuralist thought is Roland Barthes' concept of the "demise of the author." This concept challenges traditional notions that the author is the sole creator and authority of a text's meaning. Instead, it argues that meaning is not inherent in the text but rather emerges from the interaction between the reader and the text.

As a result, readers become active participants in the creation of meaning, allowing for multiple interpretations and a decentralization of authorial authority. This shift in perspective encourages readers to critically engage with texts, questioning dominant narratives and exploring alternative meanings.

In poststructuralism, the interplay of language, power, and knowledge significantly shapes the processes of meaning transfer and identification. As language serves as the primary medium for constructing and transmitting meaning, it is essential to understand how power dynamics and knowledge structures influence the creation and interpretation of texts.

Language, as a system of signs and symbols, is not neutral but rather embedded within cultural, social, and political contexts. Michel Foucault's notion of discourse highlights how language shapes and is shaped by power dynamics and structures of knowledge.

Within this framework, discourse serves as a means of constructing and transmitting meaning, enabling the transfer of knowledge and shaping individual and collective identities. However, power relations can influence which discourses are privileged or marginalized, affecting how knowledge is produced and disseminated.

Poststructuralist thinkers emphasize that language is not a transparent medium for transferring meaning. Instead, meaning is constantly deferred and destabilized through the play of language, a concept known as "différance" proposed by Jacques Derrida. This instability undermines the notion of fixed, universal truths and encourages the interrogation of dominant discourses that structure meaning and knowledge.

This research aligns with the core principles of poststructuralism, as highlighted in key references such as [3, 6, 14]. The findings emphasize the importance of deconstruction, as described by Derrida [8], and demonstrate how cultural narratives can both reflect and potentially subvert dominant ideologies [11, 1].

Furthermore, the study engages with themes such as the instability of meaning, the role of discourse in shaping our understanding of the world, and the interconnection of language, power, and knowledge in texts [2, 13]. These findings contribute to ongoing discussions in the fields of literature, philosophy, linguistics, and cultural studies, encouraging scholars to reevaluate the authority of the author and engage with texts in innovative ways [2, 8, 11).

The interplay of language, power, and knowledge impacts the processes of meaning transfer and identification in several ways:

1. Power dynamics influence which discourses and narratives are considered authoritative, affecting how meaning is transferred between individuals and groups.

2. The destabilization of the author's authority and the recognition of multiple meanings in texts allows for more fluid and dynamic processes of meaning transfer and identification.

3. The critique of binary oppositions and essentialist identities fosters a greater awareness of the constructed nature of meaning and identity, promoting more inclusive and intersectional understandings.

So, poststructuralism's emphasis on the demise of the author, the interplay of language, power, and knowledge, and the instability of meaning challenges traditional notions of meaning transfer and identification. This framework encourages a critical and reflexive engagement with texts, fostering a deeper understanding of the complexities of meaning-making and its implications for individual and collective identities.

In conclusion, the presented data supports the notion that a poststructuralist approach to cultural narratives allows for a deeper understanding of the complexities of meaning-making in contemporary society. By challenging binary oppositions and destabilizing traditional hierarchies, this research encourages a more nuanced and multifaceted engagement with texts and narratives, ultimately fostering a greater appreciation for the potential of language and discourse to shape our perceptions of the world.

5. Conclusion

The current exploration into poststructuralist themes within contemporary cultural narratives has shed light on the complexity of meaning-making processes and the interplay of language, power, and knowledge. Through the examination of selected Literary works, Films and television series, Visual art, and Digital media it was observed how poststructuralism challenges traditional notions of authorship, binary oppositions, and fixed meanings.

The concept of the "demise of the author" encourages readers to actively engage with texts, promoting a multiplicity of interpretations and a decentralized understanding of meaning. By applying deconstruction as a method, we can challenge binary oppositions and destabilize fixed meanings within contemporary cultural narratives, revealing the instability and fluidity of meaning.

Furthermore, the examples analyzed in this discussion demonstrate the significant role of language, power, and knowledge in shaping meaning construction. The interconnections between these elements influence the discourses and narratives that are considered authoritative, affecting how meaning is created, negotiated, and interpreted within cultural contexts.

This research emphasizes the importance of critically engaging with contemporary cultural narratives through a poststructuralist lens. By interrogating the complexity of meaning-making processes and the factors that shape them, we can develop more nuanced and inclusive understandings of individual and collective identities. Moreover, this approach encourages us to challenge dominant ideologies and consider alternative perspectives, fostering a critical and reflective engagement with the diverse cultural landscape of contemporary society.

In summary, this study has highlighted the relevance of poststructuralist themes in contemporary cultural narratives, offering valuable insights into the intricate dynamics of meaning-making and identity construction. Further exploration of these themes may contribute to ongoing discourse on the complexities of contemporary cultural narratives and their implications for our understanding of the world.

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Appendix A

More data and data interpretations are the followings:

1. Narrative Structure:

"Cloud Atlas" by David Mitchell serves as an example of how poststructuralism challenges traditional narrative structures. The novel's nested stories spanning multiple time periods, genres, and locations destabilize linearity and coherence, emphasizing the fluidity of narrative structure.

"Pulp Fiction" (1994) - Quentin Tarantino's film employs a nonlinear narrative structure, disrupting conventional storytelling methods and inviting viewers to piece together the fragmented storyline.

"Eternal Sunshine of the Spotless Mind" (2004) - This film's exploration of memory manipulation leads to a disjointed narrative structure, challenging traditional linearity and questioning the reliability of memory.

"House of Leaves" (2000) by Mark Z. Danielewski - The novel's unconventional structure, with footnotes and appendixes that blur the line between reality and fiction, destabilizes the reader's expectations and invites multiple interpretations.

"Slaughterhouse-Five" (1969) by Kurt Vonnegut - The novel's use of time travel and fragmented narrative structure challenges conventional storytelling techniques, questioning the linearity of time and the coherence of individual experience.

2. Binary Oppositions:

"Black Mirror: Bandersnatch" deconstructs binary oppositions such as free will versus determinism and reality versus illusion. The interactive narrative allows viewers to make choices affecting the plot, destabilizing the conventional creator-audience relationship. This challenges traditional binaries and highlights the instability of meaning.

"The Matrix" (1999) - The film deconstructs binary oppositions such as reality versus illusion, human versus machine, and freedom versus control, highlighting the instability of meaning in a simulated world.

"The Dark Knight" (2008) - This film challenges binary oppositions such as hero versus villain, order versus chaos, and moral absolutism versus relativism, blurring the lines between good and evil.

"Blade Runner" (1982) - The film interrogates the binary oppositions between humans and androids, empathy and indifference, and nature and technology, questioning traditional hierarchies and destabilizing fixed meanings.

"The Handmaid's Tale" (1985) by Margaret Atwood - The novel deconstructs binary oppositions such as oppression versus resistance, conformity versus rebellion, and public versus private, challenging dominant discourses surrounding gender, power, and individual autonomy.

3. Historical Context:

Dorothea Lange's "Migrant Mother" photograph challenges dominant discourses surrounding the American Dream during the Great Depression. The image's depiction of poverty and migration subverts romanticized notions of success and prosperity, offering a counternarrative to mainstream ideologies.

"1984" (1949) by George Orwell - The novel critiques totalitarianism and surveillance in the wake of World War II, offering a dystopian vision that challenges dominant ideologies of government control and individual freedom.

"The Great Gatsby" (1925) by F. Scott Fitzgerald - The novel explores the American Dream during the Jazz Age, subverting its romanticized image by revealing the excesses and disillusionment of the era.

"Things Fall Apart" (1958) by Chinua Achebe - Set in pre-colonial Nigeria, the novel challenges Eurocentric narratives by presenting the perspectives and experiences of African characters, subverting dominant discourses of colonialism.

"The Crucible" (1953) by Arthur Miller - The play critiques the historical context of the Salem witch trials, drawing parallels to the McCarthyism of the 1950s and challenging dominant discourses surrounding power and paranoia.

4. The Role of Language, Power, and Knowledge:

Each example above showcases the interplay of language, power, and knowledge. "Cloud Atlas" interrogates power dynamics through themes of slavery and freedom, while "Black Mirror: Bandersnatch" examines the power dynamics between creator and creation. "Migrant Mother" critiques prevailing ideologies by offering an alternative perspective on poverty and migration.

"Discipline and Punish" (1975) by Michel Foucault - Foucault's examination of the modern penal system critiques how power dynamics shape social institutions and influence individual behavior.

"The Second Sex" (1949) by Simone de Beauvoir - De Beauvoir's feminist critique examines how language and discourse shape gender identities, highlighting the interplay of power and knowledge in patriarchal societies.

"White Teeth" (2000) by Zadie Smith - The novel explores the interconnectedness of language, power, and knowledge in postcolonial Britain, challenging binary oppositions and dominant discourses surrounding race, ethnicity, and identity.

"A Thousand Plateaus" (1980) by Gilles Deleuze and Félix Guattari - This philosophical text deconstructs binary oppositions and questions traditional hierarchies, emphasizing the interconnectedness of language, power, and knowledge in creating meaning.

These examples demonstrate how poststructuralist themes can be applied across various cultural narratives, fostering a deeper understanding of meaning-making and challenging dominant ideologies in society. They illustrate the importance of poststructuralist themes in understanding contemporary cultural narratives. By deconstructing binary oppositions and destabilizing traditional hierarchies, poststructuralism encourages a more nuanced understanding of meaning-making in society.

Appendix B

Data Analysis Guideline for the Study

To conduct a comprehensive data analysis based on the provided methodology, the following steps were followed for each cultural narrative:

1. Textual Analysis

- Select a diverse range of contemporary cultural narratives from literature, films and television series, visual art, and digital media.
- Closely read or view the texts, paying attention to themes, discourses, and power dynamics.
- Identify and analyze instances of binary oppositions, intertextuality, and the decentering of the author.
- Note how meaning is constructed, negotiated, and potentially subverted within each text.

2. Deconstruction

- Using Derrida's deconstruction method, identify and challenge binary oppositions within the texts.
- Examine how these binary oppositions are unstable and reveal the multiplicity of possible meanings.
- Discuss how these destabilized binary oppositions challenge prevailing discourses and power structures.

3. Discourse Analysis

- Drawing on Foucault's concept of discourse, analyze the ways in which language, power, and knowledge intersect within the cultural narratives.
- Explore the historical, cultural, and social contexts in which these narratives are situated.
- Examine the power dynamics at play within and around the texts, considering how they shape the construction of meaning.
- Discuss how these narratives both reflect and potentially challenge dominant ideologies.

Data Organization

- Create tables or spreadsheets to organize the analyzed data for each cultural narrative.
- Include columns for the textual element, examples, poststructuralist themes, and key findings from the deconstruction and discourse analysis.
- This structured organization will facilitate the identification of patterns and themes across the different narratives.

Synthesis and Interpretation

- Analyze the data collected in the tables or spreadsheets to identify common themes and patterns across the different cultural narratives.
- Discuss the implications of these findings in relation to poststructuralist theory and contemporary cultural narratives more broadly.
- Consider how these narratives contribute to our understanding of meaning-making, discourse, and power dynamics in contemporary society.

By following this comprehensive approach to data analysis, the study provided a nuanced and multifaceted understanding of the ways in which meaning is constructed, negotiated, and potentially subverted within a diverse range of contemporary cultural narratives.

Ethical Challenges in Explainable AI: A Review on Cultural and Social Bias

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Abstract: Explainable Artificial Intelligence (XAI) has emerged as a critical domain within AI research, aiming to enhance system transparency and user trust. While technical advancements in XAI have improved algorithmic interpretability, ethical concerns, particularly cultural and social biases, remain underexplored. This study adopts a semi-systematic literature review approach to examine how ethical challenges, particularly cultural and social biases, are addressed in Explainable AI (XAI) research, based on papers published between 2017 and 2025, focusing on how current XAI systems recognize, reinforce, or attempt to address such biases. The findings indicate a predominant focus on Western user populations, minimal engagement with underrepresented communities, and a lack of participatory or culturally responsive design strategies. By analyzing themes across healthcare, education, and decision-support systems, the review highlights the limitations of existing models and the need for inclusive, user-centered approaches. The paper concludes by proposing research directions centered on localized explanation models, participatory design, and expanded evaluation metrics that account for cultural relevance and social equity. These insights contribute to the ongoing effort to align XAI development with ethical principles and ensure equitable AI outcomes across diverse user groups.

Keywords: Explainable Artificial Intelligence (XAI), Ethical AI, Social Bias, Cultural Bias

1. Introduction

Explainable Artificial Intelligence (XAI) has become a vital component in the pursuit of transparent, trustworthy, and accountable AI systems. As AI technologies continue to permeate critical domains such as healthcare, education, and decision support, the ability for users to understand and question AI-generated outcomes has become increasingly essential. This relevance extends to business and enterprise applications as well, where the integration of explainable AI helps build trust, ensure accountability, and support ethical data-driven decisions [1],[2]. Classify XAI into opaque, interpretable, and comprehensible systems, each offering varying levels of algorithmic transparency and user involvement. Fig. 1 demonstrates this fact. This distinction underscores the growing need to develop AI systems that are not only functional but also understandable.

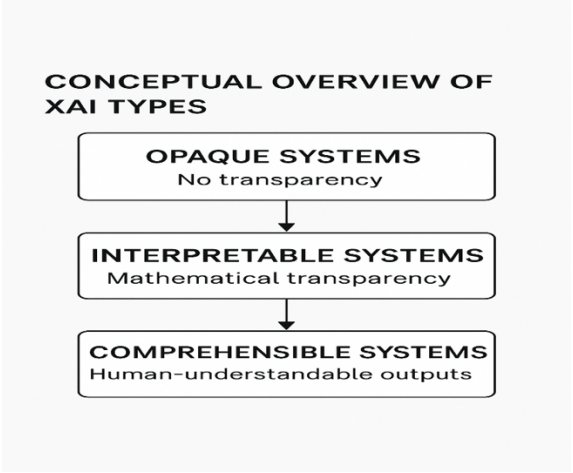

Fig. 2. Conceptual Overview of XAI Types. Source: based on [2] .

Research in XAI has increasingly emphasized human-centered approaches. [3] advocate for integrating insights from the social and behavioural sciences to enhance explainability from the user's perspective. Similarly, [4] extend the conversation to design-centered and symbolic reasoning contexts, suggesting that effective explanation must go beyond model transparency to reflect how users actually interpret AI behavior.

Despite these advancements, the majority of XAI literature remains focused on technical optimization, often neglecting ethical challenges such as cultural and social bias. Studies by [5] reveal a Western-centric orientation in XAI research and call for the inclusion of marginalized perspectives. Additionally, [6] highlight the significance of culturally sensitive AI in healthcare, where contextual understanding can impact user trust and system effectiveness.

This paper will look to addresses these ethical gaps by conducting a semi-systematic review of recent XAI literature, with a specific focus on how cultural and social biases are identified, addressed, or overlooked. In doing so, it aims to support the development of more inclusive, transparent, and ethically grounded XAI frameworks.

2. Literature Review

Explainable Artificial Intelligence (XAI) has become a critical focus in AI research, driven by the need to enhance transparency, interpretability, and user trust in increasingly complex algorithmic systems. [2] Propose a foundational classification of XAI systems, opaque, interpretable, and comprehensible, highlighting varying levels of algorithmic transparency and user involvement. These distinctions illustrate the breadth of approaches in making AI systems understandable to human users. To improve effectiveness, [3] argue for integrating social and behavioural science insights into XAI design, promoting a shift toward human-centered evaluation. Similarly, [4]have emphasised tailoring AI explanations to real-world user needs, whether in design or decision support contexts. [7]extends the relevance of XAI beyond machine learning, noting its potential across symbolic AI domains.

Within high-stakes sectors like healthcare, the demand for transparency has led to further frameworks and applications [8]. Advocates for "glass box" systems and domain-specific XAI approaches to foster responsible AI use [9]. Provide an overview of available XAI methods, reinforcing the importance of informed technique selection. In line with this, [10] highlighted the role of XAI in addressing black-box challenges and promoting accountability, trust, and ethical deployment of AI models.

AI's rapid growth across sectors has introduced crucial ethical challenges, such as bias, transparency, and accountability. Ethical AI plays a vital role in ensuring responsible development and building trust, aligning AI systems with societal values [11]. It emphasizes principles like fairness, inclusiveness, and human-centered design to prevent harm and promote equitable outcomes. As AI becomes more embedded in decision-making, ethical frameworks are essential to guide its deployment in socially sensitive contexts.

Further, some of the past research works show significant concerns regarding cultural biases in XAI, particularly a predominant focus on Western populations. In [12] conducted a systematic analysis that highlights this bias, indicating a critical gap in understanding how diverse cultural backgrounds influence user interactions with XAI systems. Their findings suggest that existing research often overlooks the needs and responses of non-Western users, which could lead to ineffective or even harmful AI applications in diverse contexts. Further supporting this, [13] emphasize the importance of incorporating marginalized cultural perspectives into AI systems, arguing that enhancing transparency and control, especially when working with underrepresented datasets, can help mitigate deep learning bias. Similarly, [6] explore the implications of AI in palliative and hospice care for underrepresented groups, highlighting the need for culturally sensitive AI applications in healthcare. Together, these studies underscore a pressing ethical concern: without attention to cultural and social diversity, XAI systems risk reinforcing existing inequalities and failing the very users they are meant to serve.

This paper conducts a semi-systematic literature review to examine how ethical challenges, particularly cultural and social biases, are recognised, addressed, or overlooked in current Explainable AI (XAI) research. By analysing recent literature, the review aims to highlight the limitations of technically focused XAI models and emphasise the need for culturally inclusive and socially aware explainability frameworks.

4. Methodology

This study adopts a semi-systematic literature review approach to explore how ethical challenges, particularly cultural and social biases, are addressed in Explainable Artificial Intelligence (XAI) research. A targeted search was conducted across three academic databases: Google Scholar, Scopus, and IEEE Xplore.

The search utilised combinations of the following keywords: "Explainable AI", "Ethical AI", "Bias in AI", "Social bias in AI", "Cultural bias in machine learning", and "Fairness and explainability." The inclusion criteria were:

- Peer-reviewed articles,
- Published between 2017 and 2025,
- Focused on XAI and its ethical, cultural, or social dimensions,
- Written in English.

The screening process began with an initial review of titles and abstracts to assess relevance, followed by a thorough full-text evaluation of the selected articles. To minimize potential bias and enhance interdisciplinary insight, all three authors participated in the review process, bringing together expertise from both social science and technical backgrounds alongside their contributions to the overall

development of the paper. The final set of papers was analyzed thematically, with particular attention to how cultural and social biases are identified, represented, or addressed within the context of XAI systems. This approach is consistent with established practices in semi-systematic and mapping reviews, which allow for flexible but rigorous exploration of under-researched themes [14]

5. Results and Discussion

5.1 Cultural Biases in Explainable AI

Cultural biases in explainable AI (XAI) have garnered increasing attention in recent years, as researchers seek to understand how these biases affect the design, implementation, and user experience of AI systems. A significant body of literature highlights the need for a more nuanced approach to XAI that considers cultural differences and the implications of these biases.

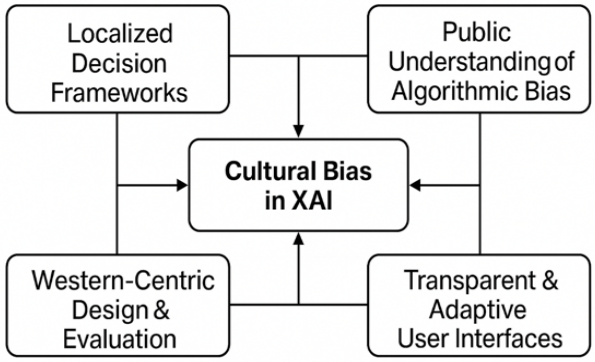

Fig. 3. Key Dimensions of cultural biases in explainable AI systems, based on [12].

[15] Propose a conceptual framework for developing human-centered, decision-theory-driven XAI, emphasizing the importance of understanding human decision-making processes. Their work suggests that integrating insights from philosophy and psychology can enhance the empirical application of XAI, potentially addressing cultural biases by tailoring explanations to diverse user needs.

In a related vein, [16] conducted in-depth interviews with stakeholders to explore user perceptions of biases in AI applications. Their findings indicate that the general public often lacks the understanding necessary to navigate the complexities of black-box algorithms, particularly in high-stakes situations. This underscores the necessity for XAI systems to be designed with cultural contexts in mind, ensuring that explanations resonate with users from various backgrounds.

Further emphasising the cultural dimension, [5] conducted a systematic analysis of cultural bias in XAI research. They found a predominant focus on Western populations, which raises concerns about the applicability of XAI systems across culturally diverse user groups. Their analysis highlights a critical knowledge gap that future research must address to ensure that XAI is equitable and effective for all users.

Additionally, [17] advocate for the development of transparent and explainable models from the outset, which could mitigate some of the biases identified in existing systems. By prioritizing transparency, the EVOTER framework aims to build trust in AI systems, potentially reducing cultural biases by making the reasoning behind AI decisions more accessible to a broader audience.

[18] highlight the role of biases in exacerbating healthcare inequalities, particularly in radiology. Both studies emphasize the need for XAI to address these biases to promote fairness and equity.

Finally, [19] explore the potential of wearable AI systems to enhance human reasoning, suggesting that such technologies could serve as symbiotic counterparts to users. This approach may offer a pathway to develop culturally sensitive AI systems that adapt to the reasoning styles and explanatory needs of diverse populations.

In summary, there is a pressing need to address cultural biases in explainable AI through user-centered design, transparency, and an understanding of diverse cultural contexts. Future research should focus on developing frameworks and methodologies that account for these biases, ensuring that XAI systems are equitable and effective across different cultural landscapes.

5.2 Social Biases and Inequality in XAI

The exploration of social biases in explainable artificial intelligence (XAI) has become crucial in the recent years, highlighting the intricate relationship between human cognition, algorithmic decision-making, and the interpretability of AI systems. A critical aspect of this discourse is the recognition that while XAI aims to enhance user trust and understanding, it is not immune to the biases that can influence both the design and evaluation of these systems.

According to [20], who provide a heuristic map linking cognitive biases to XAI techniques. They identify that cognitive biases can distort the evaluation of XAI methods in user studies and that certain biases may be mitigated or exacerbated by XAI techniques. This duality underscores the complexity of integrating human cognitive factors into the design of XAI systems.

Further complicating the landscape, [21] argue against a purely technical approach to XAI, positing that understanding and addressing algorithmic bias requires a broader epistemological framework, such as feminist philosophy. This perspective challenges the notion that technical experts can independently manage bias without considering the social and ethical implications of their work. Similarly, [22] advocate for a genealogical approach to algorithmic bias, critiquing existing methodologies for their assumptions about protected characteristics and discriminatory outcomes. This critique highlights the need for a more nuanced understanding of how biases are embedded within algorithmic processes.

[23]explores these concerns within the civil justice system, emphasizing how AI-driven decision tools risk undermining due process and legal fairness when not paired with meaningful explainability. Her discourse analysis highlights structural power imbalances exacerbated by opaque AI models and urges that any XAI deployment in justice settings must ensure transparency, procedural equity, and contestability.

The ethical dimensions of XAI are further explored by [24], who discusses the moral implications of explainability in AI systems. [25] argue that ethical responsibility in AI development cannot be delegated to the systems themselves, especially when addressing social bias. They caution against framing AI as moral agents and emphasise that designers and policymakers must maintain accountability for ethical outcomes. This perspective reinforces the idea that explainability should clarify human agency, rather than suggest machine autonomy.

The study emphasizes the necessity of transparency in AI decision-making processes, which is crucial for users to comprehend the rationale behind AI judgments. This ethical lens is echoed in the work of [26], who investigate how XAI can reduce opacity and address bias in algorithmic models. They argue that by elucidating the predictive processes of algorithms, XAI can play a pivotal role in mitigating biases that may arise from opaque decision-making.

In the context of specific applications, [27] provide a systematic review of XAI challenges in clinical decision support systems, highlighting the need for explainability to ensure equitable healthcare outcomes. This is particularly relevant given the potential for biases in medical AI systems to exacerbate existing disparities in healthcare access and treatment.

Overall, the literature indicates that while XAI holds promise for improving transparency and trust in AI systems, it is essential to critically examine the social biases that can influence both the development and implementation of these technologies. Addressing these biases requires a multifaceted approach that incorporates ethical considerations, cognitive psychology, and a commitment to understanding the broader societal implications of AI. Figure 02, demonstrates the common social bias challenges in XAI explanations.

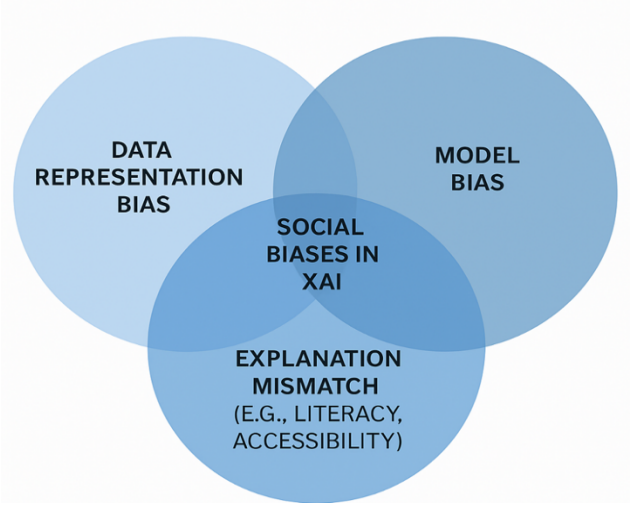

Fig.4. Common Social bias challenges in XAI explanations. Source: [6].

5.3 Current Efforts to Address Bias

There have been some research efforts in the recent past tried to address both social and cultural bias of explainable AI(XAI), highlighting both the potential and limitations of XAI tools in mitigating bias and enhancing fairness in AI systems.

The importance of user backgrounds and impressions in shaping interactions with AI systems is examined by [28].Their study highlights how anchoring bias can influence users' mental models during initial interactions with intelligent systems. They argue that effective explanations can play a crucial role in mitigating such biases, underscoring the need for XAI to consider user diversity in its design and implementation.

Cultural bias in XAI research is critically analyzed by [12] who point out the predominance of Western-centric perspectives in existing studies. Their systematic analysis reveals a significant gap in understanding how culturally diverse users engage with XAI systems, suggesting that future research should prioritize inclusivity to address these biases effectively.

[29] contribute to the discourse by proposing a genealogical approach to understanding algorithmic bias. They argue that examining the conditions that enable bias can provide valuable insights into the assumptions underlying various XAI

methodologies, thereby fostering a more nuanced understanding of bias in AI systems.

[26] discuss the transformative potential of XAI in reducing opacity in algorithmic models. They assert that XAI can elucidate decision-making processes and help mitigate bias, thereby enhancing the accountability of AI systems. This perspective aligns with the broader goal of making AI more transparent and equitable.

In the context of healthcare, [30] systematically review the impact of XAI on clinicians' trust in AI applications. Their findings indicate that while XAI can enhance trust by providing clarity, it also poses risks of over-reliance, which can lead to adverse outcomes when AI recommendations conflict with clinical judgment. This highlights the delicate balance required in fostering trust without compromising critical decision-making processes.

Overall, the literature underscores the complexity of addressing bias in XAI. While XAI holds promise for improving transparency and fairness, significant challenges remain in ensuring that these tools effectively detect and mitigate bias across diverse user populations and contexts. Future research must continue to explore these dimensions to enhance the efficacy and equity of AI systems.

6. Gaps and Research Directions

Despite notable progress in the development of Explainable AI (XAI), current systems continue to exhibit unconscious cultural and social biases. Much of the existing research prioritizes technical accuracy and general usability, often overlooking the diverse cultural contexts in which AI systems operate. As highlighted in the reviewed literature, the predominance of Western-centric data, design assumptions, and evaluation frameworks raises concerns about the inclusivity and equity of XAI applications.

One critical gap is the lack of localized and community-centered explanation models. Current approaches rarely consider how explanations are interpreted differently across cultural groups, potentially leading to misunderstandings, mistrust, or exclusion. Addressing this requires future research to move beyond one-size-fits-all solutions and instead develop explanation methods that are tailored to specific user communities.

Moreover, there is a clear need for the adoption of participatory design methods in XAI. Rather than designing explanations for users based on assumed preferences, future systems should be developed with input from diverse users, including those from underrepresented or marginalized backgrounds. This participatory approach can help ensure that explanations align with the values, expectations, and cognitive models of intended user groups.

A similar emphasis on contextual sensitivity is seen in domain-specific XAI research, such as cybersecurity, where ethical challenges extend beyond fairness to include risks of adversarial misuse. Scholars caution that exposing internal mechanisms of AI systems, even for transparency, may lead to security vulnerabilities if explanations are accessed by malicious actors [31]. This reinforces the importance of carefully balancing explainability with contextual constraints, particularly in culturally or politically sensitive domains.

Finally, existing evaluation metrics in XAI largely focus on technical correctness or understandability from a system's perspective, while overlooking dimensions such as cultural relevance, fairness, and social inclusivity. Future work should expand the criteria for evaluating XAI to include these ethical and contextual factors, enabling more holistic assessments of system effectiveness and impact. Supporting this direction, [32] review the use of AI Impact Assessments (AI-IAs) as structured tools to anticipate ethical and social risks. Their analysis of 38 AI-IAs reveals their potential

to stimulate proactive reflection and broaden stakeholder engagement. Incorporating such frameworks into XAI evaluation processes can help ensure that explainability efforts address not only technical clarity but also cultural relevance and ethical accountability.

In summary, advancing equitable and ethical XAI requires a shift in both design and evaluation, from technically centered models to those that prioritize cultural sensitivity, user engagement, and social responsibility.

7. Conclusion

Explainable AI (XAI) has emerged as a crucial area in artificial intelligence, aiming to improve transparency, trust, and interpretability in complex systems. While the field has made technical strides, this review highlights a significant ethical gap: the persistent neglect of cultural and social dimensions in XAI design and evaluation. Many current systems remain shaped by Western-centric assumptions and overlook the diverse needs of global user populations.

Through a semi-systematic review of recent literature, this paper examined how cultural and social biases are manifested—and sometimes challenged—in XAI research. Findings reveal a lack of inclusive frameworks, limited representation of marginalized communities, and minimal use of participatory approaches. These limitations not only reduce the effectiveness of AI explanations but also risk reinforcing existing inequalities.

To move toward more equitable and responsible AI, future XAI research must prioritize culturally sensitive, user-centered design, adopt participatory methodologies, and broaden evaluation metrics to include social inclusivity and cultural relevance. Embedding these considerations into the core of XAI development is essential for building systems that serve diverse populations ethically, transparently, and effectively.

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Exploring the Impact of Politically Appointed Leadership on HRIS Implementation and Health Practices

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Abstract. The influence of politically appointed leadership on human resource information systems (HRIS) implementation and health practices in the management of public sector organizations has received attention in several jurisdictions. Evidence shows that issues surrounding healthcare policy, recruitment and transfer are mostly controlled by political actors. However, within teaching hospitals in Ghana, despite the continuous appointment of leaders by successive governments, little is known about how these appointments influence the management of human resource practices. Using a qualitative approach, a purposive sampling technique was used to select 27 respondents across selected teaching hospitals in Ghana to answer a semi structured interview guide. The study revealed that while all CEOs acknowledged the benefits of HRMIS in enhancing transparency and improving human resource planning, their individual commitment to its implementation varied significantly. The findings suggest that the success of HRMIS implementation is strongly influenced by the leadership style and technical competence of the CEO.

Keywords: Political appointment, HRIS implementation, Health practices.

1. Introduction

The influence of politically appointed Leaders in the management of public sector organizations has received attention in several jurisdictions [1]. Political appointments have several consequences on public sector organizations in several jurisdictions and settings ranging from positives to negatives [2, 3]. In modern times, political appointment is said to serve as a useful tool for controlling bureaucracies in order to create responsive agencies for fastening government agenda [3]. Political appointment is seen as a means by which governments take control over state institutions and ensure they do the right thing in order for government to be able to achieve its agenda. Political appointment is also considered as a means of fostering organizational agenda due to a direct link between presidents and public sector institutions [4]. One major importance of political appointment is the fact that state institutions are able to get the needed support since the president has his personnel in charge of operations. Further, political appointments serve as a means to improve governance structure to achieve government desired goals within public sector organizations [5].

Notwithstanding the positives above, the appointments of politically aligned persons onto state institutions is said to have some negative influence on public sector performance [6, 41]. This negative influence includes demotivation of staff morale, discontinuity of projects, reduction in organizational performance [6] reduction in employee commitment to duty and psychological well-being [7, 8, 9].

Within the health sector, evidence shows that hospitals with more effective management practices provide higher-quality of care and provide a better long-term pandemic management [10, 11]. However, little is known about management practices and human resource information systems (HRIS) in hospitals which are managed from political points of view. In Ghana, though there are some studies on how various management practices affect healthcare delivery within selected hospitals [12, 13, 37], empirical evidence on how HR management practices of politically appointed leaders affect the healthcare delivery in the Ghanaian context remain unearthed. Previous studies have explored various aspects of management's impact on healthcare delivery, including the effects of healthcare management practices [13], artificial intelligence [39, 44], financial management practices [12], and logistics management. Research has also examined employees' perceptions of political interference in human resource management and the governance of public hospitals [14]. However, none of these studies have investigated the specific role of management practices implemented by politically appointed Leaders in Ghanaian healthcare institutions. Furthermore, even though all chief executive officers of teaching hospitals in Ghana are appointed by government, there is little evidence to suggest how human resource management practices of politically appointed Leaders would influence healthcare practices within teaching hospitals in Ghana. This study sought to fill this gap and explore the influence of appointing Leaders based on political affiliations on human resource management practices of teaching hospitals in Ghana.

The rest of the paper is structured in the following order: first the study provides a review of literature. This is proceeded by the methodology for the study and followed by the results and findings for the study. The study then presents the discussion of findings as well as the implications for practice and policy. The study concludes with the limitations and directions for future studies.

2. Literature Review

From the ***System Theory Perspective*** [42], systems within health institutions are interrelated and therefore management of these digital transformation systems must meet the aspirations of the units within the system to ensure optimal work output. It is argued that, many healthcare delivery issues are managerial rather than policies [15]. Thus, whereas most healthcare institutions have laid down policies and programs that arise from the hospital's mission and vision, their achievements are largely dependent on how systems are managed within the hospital which serves as a motivation for staff commitment towards achieving hospital goals or otherwise [16, 22]. The direct relationship between management practices and healthcare delivery has been argued in previous studies. In a systematic review of 37 studies, [17] found that the performance of healthcare systems and organizations are correlated with management practices, leadership, manager characteristics, and cultural attributes that are associated with managerial values and approaches.

Similarly, [13] opined that healthcare management practices and healthcare delivery were positively and significantly related. Thus, the type of management practices that are executed by a manager of a hospital has a direct effect on the delivery of healthcare. In their study, [17] noted that healthcare organizations that are managed by clinicians perform better than those managed by non-clinicians. From this perspective, it is assumed that since teaching hospitals in Ghana have mostly medical doctors (clinicians) appointed as leaders, they would perform better to ensure hospital growth. However anecdotal evidence has mostly deviated from this assertion with staff of teaching hospitals often encountering challenges with appointed Leaders over managerial misunderstandings [18]. Therefore, [13] suggestion that insufficient specific management training system for doctors and other clinicians who become

leaders of healthcare facilities in Ghana largely contribute to the challenges appointees face. In the light of the above discussions, this study construes management practices as decisions and activities undertaken by hospital management in the running of the hospital that directly and indirectly affect the quality of healthcare delivery in the hospital.

3. Methodology

A multiple case study design was adopted to draw participants from three teaching hospitals in Ghana. The hospitals were located in the southern, middle and northern zones of the country. Participants were purposively [19] drawn from management level since they have lived experiences on the activities of appointed Leaders on human resource management practices. Semi structured interviews were conducted in line with the objectives of the study. The survey was conducted from June to August 2023. Interviews were conducted mostly in the offices of participants upon earlier discussion and arrangement on venue, time and mode of interviews. In all 27 interviews were conducted with 16 face-to-face and 11 telephone conversation. Interviews were recorded upon consent of participants after the purpose of the study had been explained to interviewees as strictly for academic purposes. Raw interviews were transcribed manually and a thematic analysis done to establish findings. Key themes and sub themes were used to presents the results of the study. Results were presented wholistically by fusing responses from all interviews and direct quotations used to back findings. For triangulation of results and generalization, responses from all hospitals were juxtaposed and rhyming themes and sub themes used as identified results.

4. Results

The results of this study are divided into two sections: a) Impact of Politically Appointed Leadership on HRMIS Implementation, and b) Impact of Politically Appointed Leadership on Health Practices in Ghanaian Teaching Hospitals.

Table 1: Demographic Characteristics of Study Participants

Participants	Sex	Years in TH	Portfolio
P1	M	12 years	Head of Department
P2	M	14 years	Head of Department
P3	M	13 years	Head of Department
P4	M	23 years	Head of Department
P5	F	19 years	Head of Department
P6	M	21 years	Head of Department
P7	F	25 years	Principal nursing officer
P8	M	25years	Head of Recognized Union
P9	M	20years	Senior Staff Association
P10	M	17 years	Administrator
P11	M	21 years	Procurement Manager
P12	M	24years	Head of Department RP1
P13	M	16years	Head of Department
P14	M	13years	Head of Department
P15	M	16years	Head of Department

Participants	Sex	Years in TH	Portfolio
P16	F	15 years	Principal Nursing Officer
P17	M	25 years	Administrator
P18	M	22 years	Administrator
P19	M	14 years	Head of Recognized Union
P20	M	15 years	Senior Staff Association
P21	M	15 years	Human Resource Manager
P22	M	24 years	Head of Department
P23	M	13 years	Head of Department
P24	M	10 years	Human Resource Manager
P25	F	23 years	Head of Recognized Union
P26	M	14 years	Deputy Director
P27	M	19 years	Procurement officer

4.1 Impact of Politically Appointed Leadership on HRMIS Implementation

Theme 1: Political Influence on Leadership Autonomy

All fifteen CEOs acknowledged that their appointments were politically driven. However, the **degree of influence** varied. One described being "given a free hand" to run the hospital, while another frequently received calls from political offices recommending hires.

"Sometimes, you get phone calls suggesting someone be placed in HR or given a position. If you insist on using the HRMIS to track performance or process contracts, you're seen as being difficult." — CEO A

Theme 2: Varied Commitment to HRMIS

Commitment and familiarity with HRMIS differed:

- **CEO A** actively pushed for digitization and used HRMIS reports in management decisions.
- **CEO B** was aware of the system but left its operation entirely to the HR unit.
- **CEO C** cited minimal engagement, stating, *"I focus more on clinical performance than system software."*

Theme 3: Structural and Resource Challenges

All CEOs cited barriers such as: outdated systems, inadequate training, limited funding, and resistance from senior HR staff

"We have the system, but not the culture. Staff still prefer doing things on paper."

Theme 4: Political Appointments and Staff Recruitment

Political appointments often led to **"protocol employment"** that bypassed the HRMIS workflow. This made it hard to maintain accurate records and enforce merit-based HR practices.

Theme 5: Perceived Impact on Hospital Performance

Only three CEOs could confidently say that HRMIS was improving decision-making. Others felt the system was underutilized, or worse, **used selectively** when it supported political interests.

This study explored how politically appointed CEOs influence the implementation and use of Human Resource Management Information Systems (HRMIS) in Ghana's teaching hospitals. Through semi-structured interviews with fifteen politically appointed CEOs, the study uncovered a complex interplay between political mandates, leadership autonomy, and the effectiveness of HRMIS deployment.

A key finding was that while all CEOs acknowledged the benefits of HRMIS in enhancing transparency and improving human resource planning, their individual commitment to its implementation varied significantly. One CEO actively championed HRMIS usage, integrating it into hospital-wide decision-making processes and insisting on regular reporting from the system. In contrast, the other two CEOs were either detached from the operational use of HRMIS or delegated its management entirely to their HR departments, resulting in minimal strategic integration.

Another central theme that emerged was the **influence of political interference on HRMIS effectiveness**, particularly in staffing decisions. All three CEOs admitted facing some form of political pressure to employ individuals through informal "protocol arrangements," often bypassing the formal recruitment processes that HRMIS was designed to enforce. This practice undermined the credibility of the system and limited its functionality, especially in maintaining accurate staff records and ensuring merit-based hiring.

The study also highlighted critical **implementation challenges**, including inadequate ICT infrastructure, limited staff training, and resistance to change, particularly among senior HR personnel accustomed to manual processes. Even where HRMIS platforms were present, they were often underutilized or used symbolically to meet reporting requirements rather than being embedded into routine HR practices.

Finally, the findings suggest that the success of HRMIS implementation is strongly influenced by the **leadership style and technical competence** of the CEO. Transformational leaders were more likely to embrace the system, drive reform, and overcome resistance, whereas transactional leaders maintained existing practices with limited engagement in systems modernization.

In conclusion, the study finds that while HRMIS has the potential to transform human resource management in Ghana's teaching hospitals, its effective implementation is constrained by political appointments, inconsistent leadership commitment, and institutional resistance. Addressing these issues requires not only technical upgrades but also governance reforms that promote autonomy and meritocracy in healthcare leadership.

4.2. Impact of Politically Appointed Leadership on Health Practices

Perceived Biases in Promotions

Generally, the responses revealed that politically appointed Leaders do not have direct control over promotion of medical staff since there is a laid down structure governed by the respective professionally recognized associations. The Ghana Medical Association (GMA) and Ghana Registered Nurses and Midwifery Council (GRNMC) outlines the steps of career progression for its members. This includes the qualification that warrants a certain promotion as well as the years of service.

This notwithstanding, the study revealed that there are some underpinning favoritisms in the promotions since the Director General of the Ghana Health Service (GHS) as well as the Minister of Health are all political appointees. In this regard, the appointed CEO can recommend party faithful's who should be considered for promotion. On internal promotions within the THs which is often under the purview of the CEO and board, there are usually political considerations. One participant recounted;

> *"Internal promotions within the TH are sometimes skewed to favor cronies of Leaders. Despite the conduct of interviews to determine qualified staff for promotion, the constitution of the interview panel and their recommendations are not subject to knowledge of staff and so the results of interview for promotions are least challenged." (P8).*

The responses indicated that there were instances where some colleagues were given some promotions ahead of others due to their association with key management people. Notable was the promotion to Head of Department (HoD) where some people got to HoD status ahead of others due to their connections to the political party that appointed a particular CEO. In relation to this assertion, a participant mentioned;

> "D*ue to a suspicion that I belong to a certain political party, I was denied the opportunity to be an HOD at a time I was the most qualified. A junior staff that had spent fewer years in the hospital was appointed ahead of me. Even some senior staff members wrote to petition the CEO and board members, but as you know they are all appointees of the same government so nothing was done about it. It took the intervention of a new board under a new government to rectify and make me the HOD". (P1).*

Another participant recounted;

> *"Even though I was qualified for the position of HoD way back in 2014, I was not given until 2017. An acting HOD was appointed by the then-CEO. Meanwhile, previously it was somehow automatic that the senior most become the HOD. In my time alone, I was denied that opportunity because I belonged to a certain political party." (P23).*

These responses clearly revealed that, due to political or polarized systems of leadership in the hospitals, certain appointments were skewed to favor party affiliates ignoring certain laid down processes to favor political crony's ahead of others.

4.3. Perceived Skewedness in Duty Allocation

Staff members often aspire to serve on committees, as such service can be advantageous when applying for promotions or other positions within the hospital. Beyond the financial benefits and other incentives, the experience gained on a committee often serves as a valuable credential for future assignments and provides a sense of personal accomplishment. While these appointments play an important role in employee motivation, this study indicates that qualified individuals are sometimes denied committee positions due to internal politics within the hospital. Thus, selection onto committees was biased. One participant mentioned:

> *"Selection onto committees is not done with fairness, there is no transparency and it lacks equal opportunity for all. Most staff become demotivated at such happenings. I can say such biases in allocation of duties are the cause of most internal agitations in the hospital" (P7)*

In some instances, rewards to certain undeserving people were offered without consulting the departmental heads or even the administrators. In relation to this one

participant recounted;

> *"Committees are formed and staff within my department were added without my knowledge. In fact, it is so disturbing as this kind of selection causes disaffection for commitment to duty" (P22)*

Another informant suggested;

> *"We deal directly with nurses and doctors yet when there is an opportunity for rewards our recommendations are ignored and others who have the same political affiliation with the CEO are selected. It's unfortunate but that is the system we find ourselves in" (P10).*

This was argued to have contributed to several misunderstandings and demotivation of hard working employees in various departments. It was also revealed that there were instances where an individual may be most qualified and has competency in an area but due to the politicization of issues within the TH, his services would not be sought unless a staff had a specific skill and competence that is needed. This implies that an individual must be politically affiliated with the authority to warrant consideration onto a committee. This is evident in the response indicated below;

> *"Some people are on almost every committee. Others who equally qualify are not given the chance because of suspicion of non-affiliation with the top management. It is unfortunate" (P20)*

It was evident from the responses that often there are discrimination in terms of selection of employees onto committees. Thus, while some persons were best fit for certain portfolios, they were denied due to their party of affiliation. Based on these responses, it can be concluded that the political appointment of Leaders has a negative influence on the allocation of duties and internal promotions of staff within teaching hospitals selected for this study.

4.4. Perceived Biases in Selection for Training

The responses showed that since in-service training forms a major part of career advancement and progression, the various professional groups organize such training and supported staff to further their education. However, within the THs such opportunities for career development are politicized such that when there is an opportunity for studies outside the country which require governmental or institutional support, the approval is mostly politically inclined. There were instances where certain staff were intentionally denied opportunities to study abroad citing a suspicion of political machination. One participant indicated:

> *"I was duly qualified for a training programme outside the country when I got a one-year admission to study with partial sponsorship from a school in the Netherlands. However, the counter sponsorship from my hospital and by extension government delayed and I could not attend the training since I was not politically affiliated to the powers that be. So my documents were not submitted on time (P4).*

Another participant indicated that some junior colleagues with fewer years of experience in the hospitals were given the opportunity to further their studies with sponsorship from the hospital ahead of senior officers due to political affiliation with some management members and the CEO who had powers to grant or deny such offers. The participant further indicated that often medical professionals who despite the refusal of the sponsorship and used their own means to seek higher learning were classified as having abandoned the post and upon return, they mostly lost their job. Reinstatement or re-absorption into the hospital as medical professions (usually as specialized doctors) became problematic. This was indicated in the response below:

"My brother even when I qualified for further studies, I wasn't given sponsorship, yet some of my juniors were given full scholarship to pursue their specialized fields of study. I managed to seek support from other sources to go for the study and when I came back, it wasn't easy at all for me to be readmitted to do my work" (P14).

The evidence from the analysis shows that, the change in CEO of teaching hospitals and its associated appointment of CEO through political lenses influences training and opportunity for further studies. The aftermath is a demotivation of qualified staffs.

4.5. Perceived Discrimination in Performance Appraisal

The responses from the interview showed that there were biases in rewards for hard work and this demotivated some staff. There were instances where certain committed staff were denied certain recommendation due to their alleged dealing with political parties that were different from that of the CEO. This affected their work output thereby affecting the general healthcare delivery in the hospital. One participant remarked:

"I am only doing my job as a trained clinician. I have been denied an opportunity to travel for a specialized course due to my political affiliation. In fact, it has really demotivated me and I wish to even travel outside and continue my profession there". (P8)

The responses from participants also revealed that favoritism characterized how people were appraised within THs leading to biases in associated rewards or punishment. Some participants expressed worry on how different standards were applied to people in respect of rewards for outstanding performance. Participants also indicated that some who have sacrificed to serve the hospital so well were not rewarded accordingly due to their political affiliation. Such discriminatory rewards served as a major source of demotivation for many staff members. One participant noted:

"I have served for 15 years in this department. There are times I used my own resources to provide some items of necessity. I assisted most of the young nurses who came here but when they were rewarding hard work, a young lady who has been here for seven years was selected ahead of me. It really pained me." (P16).

Similarly, it was revealed that favouritism existed in the punishments that are meted out to staff who commit similar offences. The study revealed that when staff members commit similar offences, some are punished whiles others are left off the hook. Thus, selective justice was often applied in disciplinary issues due to supposed affiliation with authorities in the TH. This was indicated in the response of a participant who remarked:

"When people commit similar or same offences, those with political links with an appointed CEO or board members are treated with kid's gloves while others who do not have any affiliation are given stiffer punishment. Mostly the offenders use their political relations to subdue the due process and some are left without any punishment". (P10)

Generally, the findings showed that, when appraisal systems in hospitals are not well structured and implemented, it adversely affects employee commitment. It was noted that due to political influences, there are biases in rewards and punishment that were meted out to staff. Often persons with political colorations were able to lobby their way through even in the event of committing a more serious offence. Again, management and particularly the CEO are unable to enforce some punitive measures when the offender has the same political affiliation.

From the analysis of the data set, this study reveals that political appointees can influence human resources management practices within THs. The evidence shows that HR practices such as training, promotion and allocation of duties and appraisal of employees are all affected by the activities of politically appointed Leaders.

5. Discussion and Conclusion

5.1 Promotion and Allocation of Duties

Management of human resources in an organization is very essential for the achievement of organizational goals since it provides a positive working environment at the workplace and subsequently enhances the quality of delivery [20]. This is confirmed by the study finding which revealed that the human resource practices of politically appointed leaders play a role in the quality of healthcare delivery though inconclusive[46]. In relation to promotion and allocation of duties, the study revealed that internal promotions and assigning of duties are not implemented on an equitable basis, resulting in the demotivation of staff.

This finding is consistent with the finding of a study by [15] which indicated that procedural unfairness in promotions affects employees' commitment and job satisfaction. When the activities of politically appointed Leaders' relating to promotion and allocation of duties are politically instigated and not implemented with fairness, transparency and equal opportunity, staff become demotivated as opined by [21] and the quality of healthcare delivery is invariably affected [43]. The of demotivation of staff in view of perceived biases in the allocation of duties in teaching hospitals is in tandem with the findings of [7] and [23] who earlier indicated that when staff are demotivated due to activities of politically appointed Leaders it affects their morale, commitment to duty and work output.

The study also revealed that since the hospital set-up is made up of multi-professional teams with different disciplines, training and upbringing [24], a politically appointed CEO must be guided to avoid nepotism which causes a section of staff to be demotivated, leading to reduction in commitment levels and eventually poor delivery of service. This is in line with the findings of the study by [25] whose study revealed that there is a significant negative effect of nepotism on employee performance & HRM practices.

5.2 Performance Appraisal

When politically appointed Leaders of teaching hospitals are committed to ensuring that staff are appraised to measure their output of work devoid of biases, staff morale is boosted as indicated by [26] who indicated that performance appraisal in organizations contribute to the management of human resource and strongly related to organizational performance. This study revealed that often the appraisal systems and modes of measurement are biased and unbalanced in THs with Leaders who are politically appointed. Again, punishments are meted out with discrimination and favouritism based on the political affiliation of employees. This contradicts earlier studies which have found that fair, balanced exchange relationships within an

organization enhance the feelings of certainty about gaining fair rewards for substantial innovative efforts [9]. Again, the study found that appraisal and rewards are done with unfairness within teaching hospitals headed by CEO's appointed due to their political affiliations and this is demotivating to employees of such institutions. This finding contradicts the findings of the study of [27] which emphasized the need for appraisals to be done fairly, and posited that this must be constructively done, to create a positive atmosphere in the working environment where workers admit shortcomings to improve on delivery as well. The study finding is also in line with the findings of [29] revealed that, organizations that have fair appraisal systems contribute to motivating employees in ensuring the achievement of targets. In suggesting how appraisals are done, the finding of this study agrees with [28] who highlighted the need for the leadership of organizations to ensure fairness in performance appraisal, proper feedback and fair rewards.

While all three CEOs acknowledged their political appointments, the extent of interference varied. One CEO reported substantial autonomy, while another faced regular political pressure, especially regarding HR decisions. This influence often discouraged strict use of HRMIS tools, particularly for performance tracking and hiring. CEO commitment ranged from active engagement and integration of HRMIS into decision-making (CEO A) to complete detachment. This inconsistency led to uneven implementation and reduced system impact across institutions. All participants cited poor infrastructure, inadequate training, and resistance from entrenched HR personnel as key obstacles. Despite the availability of HRMIS, the organizational culture remained rooted in manual processes, limiting adoption. This implies that political protocol hiring should be formally restricted through enforceable guidelines. HRMIS should be mandated as the official channel for all recruitment, with audits to ensure compliance. Also, there is a need to institutionalize monitoring and evaluation [39]. Regular evaluation of HRMIS adoption and use, led by independent bodies, can identify gaps, promote transparency, and support continuous improvement.

5.3 Training and Opportunity for Career Development

The study revealed that, often Leaders of teaching hospitals in Ghana are committed to ensuring that the staff of their facilities receive the training necessary for their work. This is consistent with other studies that have highlighted the need for the management of organizations to provide training opportunities for their employees as a means of developing their skills and competencies to contribute meaningfully to meeting organizational goals [30, 45]. This notwithstanding, it was further revealed that the selection of persons for training and career development is biased and discriminatory affirming earlier finding on how discrimination in organizations in respect of selection for training and carrier advancement hinders organizational growth [31].

The study also confirmed earlier indication by [30] which revealed that every employee is interested in further studies. However, it was indicated that though final approval for further studies is the mandate of the MOH, persons who have affiliations with political parties in power often get such opportunities. This finding confirms earlier assertion that personal association with political authority enhances opportunities to enjoy certain privileges in the public sector [2]. The level of biases in such selection also affects staff commitment and acquisition of current knowledge and empowerment which is needed for quality health care delivery. This contradicts earlier findings by [35] which urges the need for staff to be empowered to carry out innovative functions in an organization.

To achieve real productivity, [32] posited that managers must invest in ability-enhancing practices such as training, motivation, and capital equipment of staff for

service delivery. Similarly, [33] emphasize the need for managers to contribute towards developing the human resource capacity of employees for optimal performance of staff. In light of the current study finding which has shown biases in selection for training and career development, it is suggested that management of THs must abstain from biases relating to opportunity for career development and create an enabling environment for training to enhance staff desire for meeting personal goals whiles enhancing the innovative ideas for quality service delivery as indicated by [40] and [34] who have all shared how organizational fairness and respect for innovative ideas contribute to commitment and improved service delivery.

5.4 Implications for Policy and Practice

A key finding of this study reveals that internal promotions and assignments within the hospital are often based on employees' political affiliations. Specifically, only those aligned with the CEO's political views are typically considered for advancement. This practice has significant consequences for healthcare facility management and public sector governance. By undermining merit-based professional growth, it demotivates staff, leading to decreased morale, reduced productivity, and ultimately, poorer performance across the healthcare facility. Furthermore, it risks creating a workplace where political loyalty trumps competence, skill, and genuine dedication. This could have significant negative impacts on the quality of patient care and transparency in operations of the THs.

The study also revealed that the appraisal systems and modes of measurement in teaching hospitals manned by CEO's who are appointed based on their political affiliations are biased and unbalanced. This practice can have adverse effects on the development of employees, their motivation, and the overall delivery of healthcare. This will be equally difficult to present an accurate description of employee's abilities, talents, skills and contributions of employees. This practice will undermine confidence in the evaluation systems in teaching hospitals manned by CEO's appointed based on their political affiliations and will inevitably result in unjust rewards, recognition or penalties, as well as employee demotivation and dissatisfaction. This will ultimately result in a decline in the overall delivery of healthcare in the various THs.

- **Decouple Leadership Appointments from Political Influence**: To protect institutional autonomy, leadership selection for teaching hospitals should be based on professional competence rather than political affiliation. Transparent appointment mechanisms can reduce external interference and promote accountability.
- **Strengthen Leadership Accountability for HRMIS Utilization**: Hospital CEOs should be held responsible for HRMIS performance indicators. Introducing performance-based contracts tied to system use and HR outcomes can incentivize proper implementation. The introduction of artificial intelligence in systems integration can help streamline operations in the near future [44].

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Management risks in the medical organization

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Abstract. The aim of the study is to rank the risks affecting the activities of a medical organization. A.V. Zavrazhsky's classification was used to identify five risk groups (general economic, professional, market, social and legal). The original questionnaire was developed for analyze the degree of influence of risks on the activities of a medical organization. Heads of the regional medical organizations participated in the study. Nonparametric statistical criteria were used to compare three or more independent samples by a quantitative or ordinal feature. Professional and social risks (14.8% and 16.7% respectively) are less influenced the efficiency of medical organization management. The leading place is occupied by financial risks (25.9%), general economic risks (23.8%) and legal risks (14.6%). A correlation was established between the length of service, position of respondents and risk assessment. The study allowed us to identify key factors influencing the assessment of management risks of a medical organization. The data obtained can be used to develop effective risk management strategies in medical organizations in the region aimed at improving the quality of medical care and improving its effectiveness. In future research, we aim to explore the use of the artificial intelligence (AI) for improving management in medical organisations. AI offers potential benefits like optimised use of resources and better decision-making. But there are also significant risks, including ethics, patient safety, privacy, staff well-being and legal concerns.

Keywords: risk management, effective functioning of a medical organization.

1. Introduction

The effective operation of medical organizations (MO) depends on the influence of external and internal environmental factors. To minimize their influence in MO, it is necessary to develop a risk management concept. Risk controlling is a rather complex process, the purpose of which is to prevent and reduce possible damage from the impact of risks on the effective functioning of MO and the results of medical activities [6].

2. Materials and methods

The aim of the study is to rank the risks affecting the activities of a medical organization. To conduct the scientific research, the authors used the typology of risks by A.V. Zavrazhsky, developed by the author to "substantiate approaches to professional medical liability insurance, including 5 risk groups (general economic, professional, market, social and legal)"[3] and corresponding sources of danger.

Based on the classification of risks by A.V. Zavrazhsky and the results of the analysis of data from form 62 "Information on resource provision and provision of

medical care to the population" [8], which were used to verify the sources of danger of financial risks affecting the adoption of management decisions in terms of the rational use of budget and extra-budgetary funds in a medical organization, an original questionnaire was developed in which respondents were asked to assess on a six-point scale the possible risks of a medical organization in the regional healthcare system affecting the quality of medical care, where 6 is the highest risk, 1 is the lowest risk. A sociological survey of 256 individuals (N = 321 people) holding managerial positions in the State Healthcare Institutions of the Saratov Region working in the compulsory medical insurance system was conducted, among whom the bulk were heads of medical organizations (MO) and their deputies (65%). The remaining 35% are heads of departments (26%), chief accountants (8%) and heads of planning and economic departments (1%). The sample population is representative and reflects the general one in terms of quantitative and qualitative indicators and corresponds to the structure of managers in medical organizations of the region, studied according to the data of statistical form No. 30, approved by the order of Rosstat No. 681 dated 12/25/2023. The following methods of data analysis were used: goodness-of-fit test, Kruskal-Wallis H-test and Nemenyi test, Fligner-Killeen test. Permutation ANOVA was implemented with 11,000 data permutations, the distance matrix was constructed in the Hoover's distance mathematical space. All analyzes were carried out using the R programming language (v. 4.3.2) in the RStudio environment. Data reliability was determined at $p < 0.05$.

3. Results

In the structure of the influence of possible risks on the efficiency of medical care, according to the results of a sociological survey of the administrative and managerial apparatus, financial risks take first place, general business risks take second place, legal risks take third place, and social and professional risks take fourth and fifth place, respectively (Fig. 1).

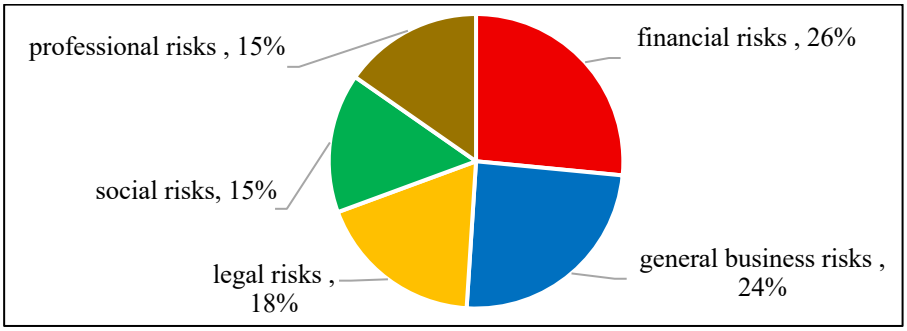

Fig. 1. The structure of possible risks affecting the activities of a medical organization. Source: Authors.

The respondents' position and length of service in their specialty correlate with risk assessment. The factors of position and length of service have the strongest impact on the respondents' assessment of all management risks.

We determined, that chief physicians and their deputies with more than 10 years of experience consider insufficient funding to be the main risk affecting the successful organization of a medical organization in earlier studies [11].

Organizational risks ($p<0.001$) and contractual liability risks ($p \leq 0.01$) in the structure of general business risks also have a major impact on the activities of the

medical organization, according to more than 80% of heads of medical organizations with more than 6 years of experience.

Managers with work experience from 1 year to 5 years believe that the results of medical activities are most influenced by the risks of providing poor-quality medical services, risks of liability under contracts and risks of legislative regulation. Despite the fact that social risks in the structure of influence on the efficiency of the functioning of the MO took only fourth place, and professional ones – fifth place, 76% of chief physicians, 74% of deputy heads and 45% of heads of departments believe that personnel and demographic risks also have a significant impact on the work processes of the medical organization [11].

There is a reliable decrease in the population, including those living in urban and rural areas ($p < 0.05$) in the Saratov region for the period from 2014 to 2023. Thus, the population of the region decreased by 4%, the urban population - by 2%, the rural population - by 11%. The people of older working age are dominated by region, they account for 28% of the total population of the region; the share of people of working age accounts for 55%, the share of people under working age (under 15 years) - 17%. The presented structure determines the regressive type of the region's population (Fig. 2).

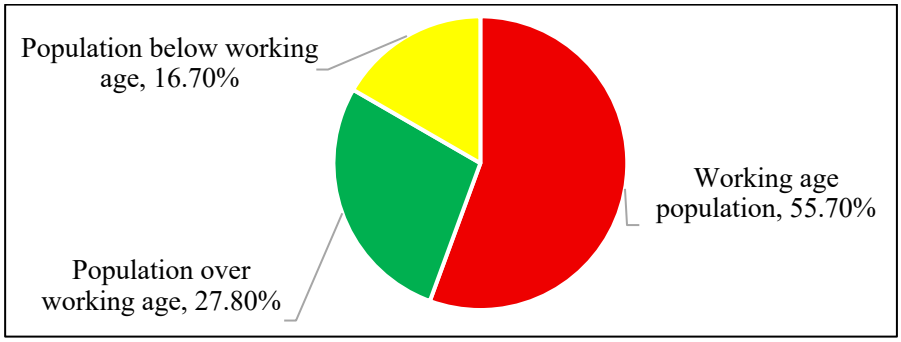

Fig. 2. Population structure of the Saratov region (%). Source: Authors.

The region has seen a statistically significant excess of mortality rates over birth rates, and a negative natural increase has been recorded over the past ten years. Thus, mortality rates for the entire population in the region exceeded birth rates in 2014 by 1.3 times, in 2022 - by 2.1 times. Negative natural increase increased by 2.5 times over the same period in the region.

A comparative analysis of mortality rates showed that in the Saratov region and the Russian Federation over 10 years there has been a significant decrease in overall mortality rates (by 1% and 0.8%, respectively) and infant mortality rates: by 54% and 44%, respectively (Table 1).

Table 1. Dynamics of overall and infant mortality rates in the Saratov region and the Russian Federation for the period from 2013 to 2022 (per 100 thousand population)

Year of observation	**General mortality of the population**		**Infant mortality**	
	Russian Federation	Saratov region	Russian Federation	Saratov region
2013	1304	1440	82	70
2014	1305	1410	78	68
2015	1304	1419	65	68

Year of observation	General mortality of the population		Infant mortality	
	Russian Federation	Saratov region	Russian Federation	Saratov region
2016	1289	1403	60	68
2017	1244	1363	56	51
2018	1246	1389	51	47
2019	1225	1373	49	42
2020	1460	1682	45	32
2021	1673	2028	46	48
2022	1294	1428	46	32

The first place is taken by mortality from diseases of the circulatory system, the second place is taken by mortality from malignant neoplasms in the structure of overall mortality, both in the Russian Federation and in the region [12]. The third place is taken by cases of death from external causes, the fourth place is taken by mortality due to diseases of the digestive system. In fifth place are cases of death from diseases of the respiratory system (Fig. 3).

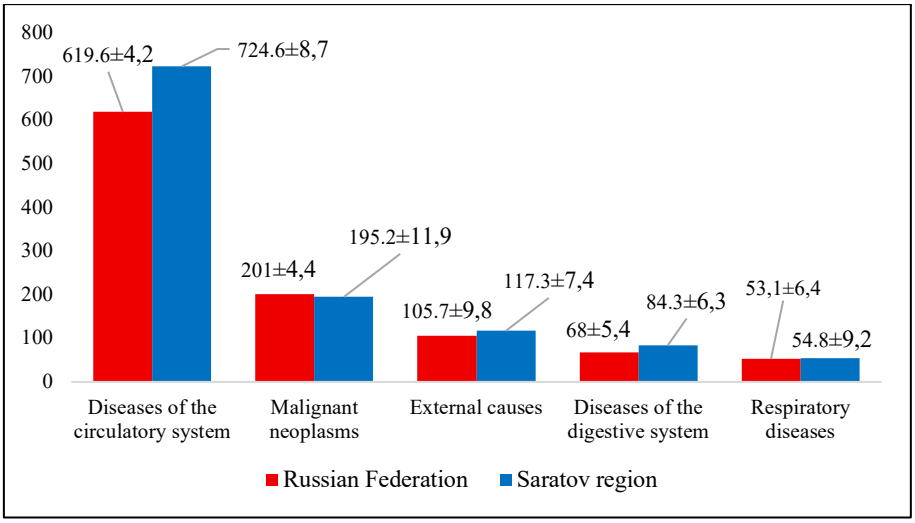

Fig. 3. Structure of causes of general mortality in the Russian Federation and Saratov region (number of cases per 100 thousand people, P±m). Source: Authors.

The least significant factor was the presence of a PhD degree: it has an insignificant effect on respondents' assessment of the risks of insufficient funding from the constituent entity of the Russian Federation and the municipal budget. The presence of a qualification category factor turns out to be the most influential in respondents' assessment of the risks associated with changes in judicial practice ($p \leq 0.001$).

4. Conclusions

The rational use of resources is a strategic factor for the successful functioning of a medical organization is. In this regard, methodological approaches to assessing the effectiveness of their use, taking into account the impact of various risks, are very

important [1]. Risk management is an integrative process, the use of which helps management determine strategic and tactical goals for the development of MO and make appropriate management decisions [10]. Currently, scientific researchers pay sufficient attention to risk research. In published materials, the authors propose "creating an integrated risk management model and "using risk management technologies in the management of medical organizations" [5,7,9]. In accordance with GOST R ISO 31000-2019, "risk management is necessary to forecast the activities of organizations, taking into account possible negative and positive factors affecting the effectiveness of management decision-making" [2,3].

In scientific literature, financial management issues are considered mainly by economists, while MO heads do not pay enough attention to this problem, despite the fact that effective financial management affects the performance of a medical organization [4].

According to the results of our study, when ranking the risks of medical organizations, a correlation was revealed between the risk assessment, the position and length of service of respondents in the specialty. The most significant impact on respondents' assessment of all management risks is exerted by factors of position and length of service. The financial deficit, including insufficient funds from compulsory medical insurance and the regional budget, also affects the efficiency of the MO.

The regressive type of health of the population of the Saratov region, the prevalence of people over working age in the population structure, negative natural growth, high mortality rate of primary disability of the population due to diseases of the circulatory system and malignant neoplasms are related to demographic risks that have a significant impact on the processes of providing medical care to the population of the region [12,13,14].

The creation of a risk management system depending on the degree of their influence on organizational processes will positively influence the adoption of management decisions by heads of medical organizations.

In subsequent research, it is intended to examine the implementation of artificial intelligence (AI) with a view to enhancing management within medical organisations. The potential of AI to enhance management in medical organisations is considerable, with the capacity to optimise resources, enhance decision-making and predict needs. Nevertheless, the risks are considerable and manifold, encompassing ethical considerations, patient safety, privacy, staff well-being, legality, and reputation. The success of such initiatives is contingent upon proactive, responsible, and human-centred implementation. In order to achieve this objective, it is essential to establish robust data governance frameworks, accompanied by clearly defined ethical principles, effective accountability mechanisms, continuous monitoring processes, transparent communication channels, and an unwavering commitment to the core mission of patient care. It is imperative to acknowledge the potential risks associated with this endeavour, as failure and harm can result from ignoring them. However, by implementing a diligent management approach, significant benefits can be realised.

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The Impact of AI-driven Marketing Personalisation on Consumer Purchase Decisions: A Mixed-Methods Analysis

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Abstract. Advertising is a fundamental aspect of modern business that helps companies promote their products and services to potential customers. The effectiveness of advertising campaigns is a key concern for marketers and business owners, as they seek to maximize the return on investment (ROI) of their advertising budgets. In this paper, we examine the effectiveness of advertising from a consumer perspective, and also investigated how artificial intelligence (AI) driven data integration create a synergistic relationship between customer experience personalization, data management and analysis, and competitive intelligence in the Ghanaian market. A quantitative research design is employed to examine consumer's perception of online products and the target sample size for this research is 120 participants. The results revealed that there was an admission of fear in respect of personalization and privacy, some discarding the customization of ads, but others expressed concern over the collection of data. Also, we found that competitive intelligence shows moderate correlations with all other variables, while AI competitive advantage shows the strongest relationships with other variables. Additionally, it was clear that ads on the internet were seen as more powerful than traditional, however, traditional media is still relevant to marketing efforts. The study shows that personalised marketing increases the likelihood of purchase by creating a sense of being understood by the brand. Finally, approximately 41% (r^2 = 0.407) of the variance in customer experience personalisation can be explained by AI implementation – thus, there is a need to develop integrated strategies that consider AI, data management and analysis and personalisation as interconnected capabilities.

Keywords: AI, advertising, digital advertising, consumer purchase behaviour, resource-based theory, Ghana.

1. Introduction

In today's dynamic business environment, marketing would be incomplete without advertising, which serves as a critical channel through which organizations reach consumers in need of their goods or services. Despite its centrality, advertising campaigns can be costly, leading marketers and executives to question their efficiency given the significant share of the marketing budget they consume [1]. This study seeks to examine the influence of advertising on consumer behaviour and decision-making, particularly in relation to online products in the Ghanaian market. Advertising plays a persuasive role in shaping consumer knowledge, preferences, and purchasing decisions. It informs consumers about new products and their attributes while fostering intent to purchase. Research supports the notion that advertising impacts

consumer behaviour on several levels—by increasing product awareness, reshaping perceptions, and influencing buying intentions [2].

Effective advertising campaigns require a nuanced understanding of various factors, including the messaging strategy, the choice of media, audience segmentation, and the timing of exposure. The interplay of these elements determines the overall success and impact of a marketing initiative. While social media advertising is increasingly recognized for its efficiency and reach, there remains a significant gap in understanding how it compares to traditional advertising. This is particularly relevant given the emerging role of Artificial Intelligence (AI) in marketing. AI introduces novel capabilities such as interactive user-generated content and hyper-personalized marketing, which may significantly influence consumer purchasing behaviour [3, 4].

AI-driven marketing leverages technologies such as machine learning and predictive analytics to understand customer behaviour at scale, personalize interactions in real-time, and continuously optimize campaign performance. In contrast to traditional marketing's broad targeting and static processes, AI enables automated, data-driven strategies that respond dynamically to consumer needs [5].

Despite advancements, there is limited research exploring how cultural differences affect advertising outcomes. Understanding how language, symbols, social norms, and other cultural elements influence consumer responses is essential for crafting effective campaigns in diverse markets like Ghana [5]. Similarly, variations in advertising effectiveness across industries and product categories also warrant further study. For instance, advertising strategies for luxury goods differ markedly from those for everyday products, while services such as healthcare and finance require tailored communication approaches [6].

Moreover, the relationship between customer experience personalisation and competitive intelligence—both increasingly shaped by AI—is often examined in isolation. Yet, AI-enabled data integration offers the potential to bridge these functions, creating a closed-loop system wherein insights from competitive intelligence directly enhance customer experience strategies, and vice versa [4, 12]. The mechanisms through which AI facilitates this synergy, the types of data required, and the resulting impact on competitive advantage remain underexplored [12, 32].

In this context, the study contributes to the growing discourse on AI-enhanced marketing by focusing on the Ghanaian business landscape. It investigates how advertising motivates individual consumers, strengthens brand value, and fosters business growth. Specifically, the study aims to address the following research objectives:

1. How do cultural and societal factors influence the effectiveness of different advertising channels and strategies in shaping consumer perceptions and experiences with online products?
2. How does AI-driven data integration create a synergistic relationship between customer experience personalisation, data management and analysis, and competitive intelligence?

In conclusion, investigating advertising effectiveness from the consumer's perspective yields actionable insights for businesses and advertisers. In Ghana and beyond, such evidence-based strategies can significantly enhance both the effectiveness and profitability of marketing efforts

2. Literature Review

Advertising effectiveness refers to the ability of an advertisement to achieve its intended goals, which typically involves influencing the target audience to take a specific action, such as making a purchase, visiting a website, or signing up for a service [2, 3]. Advertising effectiveness is a critical factor in the success of any

marketing campaign, as it determines whether or not the investment in advertising is worthwhile. Effective advertising can generate significant returns on investment, while ineffective advertising can result in wasted resources and lost opportunities.

The concept of advertising effectiveness has been the subject of extensive research in the field of marketing. Scholars have proposed various models and frameworks for measuring and evaluating advertising effectiveness, each with its unique strengths and weaknesses. In this article, we will explore the definition and concept of advertising effectiveness and review some of the most widely used theoretical frameworks for measuring advertising effectiveness.

2.1 Defining Advertising Effectiveness

Advertising effectiveness can be defined as the ability of an advertisement to achieve its intended goals [7]. These goals can vary depending on the objectives of the advertising campaign, but typically involve one or more of the following:

i. Increasing brand awareness
ii. Generating leads and sales
iii. Encouraging customer engagement
iv. Improving brand reputation
v. Building customer loyalty

Advertising effectiveness can be measured using a variety of metrics, such as sales revenue, website traffic, social media engagement, brand recognition, and customer satisfaction [8]. The most effective advertising campaigns are those that achieve their intended goals while also maximizing return on investment (ROI) [9].

2.2 The Concept of Advertising Effectiveness in AI Era

The core purpose of advertising lies in its ability to influence and alter the perceptions, attitudes, and behaviours of a targeted audience. At its foundation, advertising seeks to engage viewers, deliver a clearly defined message, and prompt a specific action. Effective advertisements achieve this by resonating with audiences on emotional and psychological levels, using appropriate communication channels and formats to enhance message delivery and impact [10, 11]. Advertising effectiveness is shaped by several interrelated factors, including the content of the message, the characteristics of the target audience, the format of the advertisement, and the contextual environment in which it is delivered [12]. Strategies such as personalization, segmentation, storytelling, and humor have been shown to significantly enhance effectiveness.

Personalization—often discussed in the context of gamification—refers to the customization of messages and delivery mechanisms based on individual audience preferences and behaviours [13]. Segmentation involves dividing the broader target audience into subgroups defined by shared traits or interests, allowing for more precise targeting. Storytelling, which engages both the emotional and intellectual faculties of the audience, creates a compelling narrative around the brand or product [14]. Humor, through the use of wit or jokes, captures attention and fosters positive brand associations [15].

In the AI era, advertising is undergoing a profound transformation. Artificial Intelligence enables unparalleled levels of personalization, automation, and data-driven decision-making [4]. By leveraging advanced analytics and machine learning, marketers can now target specific segments with tailored messaging, optimize campaigns in real time, and predict future consumer behaviours. These capabilities collectively enhance consumer engagement and improve return on investment (ROI) [32]. Beyond the messaging and execution strategies, scholarly research emphasizes

the sequential nature of consumer responses to advertising. Theoretical models suggest that effective advertisements guide consumers through a progression of response stages, reflecting an understanding of both communication theory and marketing objectives [16, 17].

This sequence—commonly conceptualized as cognitive, affective, and conative stages—is typically hierarchical, though some models suggest alternative pathways. According to this information-processing framework, the success of an advertisement depends on the clarity of the message, the execution strategy, and the relevance of the featured brand, product, or service [18, 19]. If a message is effectively delivered and clearly understood, it is more likely to influence consumer interpretation and action. Ultimately, the consumer's role in this process is shaped by individual needs and predispositions, rendering the response both intentional and, to a certain degree, predictable [19, 31].

2.3 Theoretical Foundation

The effectiveness of advertising from the viewpoint of the consumer can also be explained using the Resource Based View (RBV) theory and the Organizational Information Processing (OIP) theories.

2.3.1 Resource-Based View Theory and Dynamic Capabilities Concept

The Resource-Based View (RBV) theory posits that a firm's sustained competitive advantage stems from the strategic use of resources that are **valuable**, **rare**, **inimitable**, and **non-substitutable**. These resources typically include physical capital, human capital, and organizational capital. When effectively coordinated, such resources can significantly enhance a firm's performance and competitiveness [20, 21]. However, the RBV theory has been critiqued for its static perspective and conceptual ambiguity. To address these limitations and better capture the dynamic challenges faced by modern firms, the **dynamic capabilities** framework was introduced. This concept refers to an organization's capacity to **integrate, build, and reconfigure** internal and external competencies in response to a rapidly changing environment [22]. Dynamic capabilities involve repetitive and experience-based behaviours rooted in tacit knowledge, which allow firms to sustain their competitive advantage over time [23].

Despite ongoing debates regarding its definitional clarity, the dynamic capabilities approach has found substantial application in marketing and advertising research. It has been used to examine critical areas such as campaign development, partner engagement, shifting consumer preferences, market volatility, and risk management [25]. By realigning internal processes and resource deployment, firms can respond swiftly to disruptions and effectively mitigate their adverse effects.

2.3.2 Organizational Information Processing Theory

Organizational Information Processing (OIP) theory offers valuable insights into how firms can manage unpredictable disruptions, particularly in the marketing domain amid the rise of artificial intelligence (AI). This theory suggests that organizations must develop robust **information processing capabilities** to manage increasing levels of uncertainty [21, 24]. The more capable an organization is in collecting, analyzing, and interpreting data, the better it can respond to unforeseen challenges [26]. Disruptions in advertising often generate vast amounts of data that must be efficiently processed to inform risk assessment and strategic decision-making [34]. The degree of uncertainty associated with such disruptions typically correlates with their scale and complexity [27].

To address these challenges, firms should establish **structural mechanisms and practices** that align with their information processing needs. By investing in

these capabilities, organizations can enhance both their resilience and competitive edge [34]. Within the context of advertising, applying OIP principles enables firms to better manage their communication channels, target audiences, and content strategies. The OIP framework also provides a foundation for formalizing procedures that facilitate timely data collection and interpretation, thereby improving preparedness and reducing the negative impacts of market disruptions [28, 29].

3. Data and Methodology

The objective of this research is to evaluate advertising effectiveness from the consumer's perspective and to examine the relationship between artificial intelligence (AI)–driven competitive advantage, data management and analysis, personalized customer experiences, and competitive intelligence. The study aims to understand consumer perceptions, emotional responses, and behaviors toward advertising, employing diverse strategies across various media platforms. A quantitative research methodology was adopted, involving data collection from a sample of 120 participants through structured questionnaires. The data were analyzed using the Statistical Package for the Social Sciences (SPSS) to ensure robust and reliable insights.

3.1. Research design

This study employs a quantitative research design to examine consumer perceptions of marketing practices, with a focus on advertising effectiveness.

Research Type: The study is designed as a cross-sectional survey, whereby data were collected from respondents at a single point in time to provide a snapshot of consumer attitudes and behaviours.

Data Collection Method: The primary data were collected using a structured questionnaire, distributed among participants through an online survey platform. Online surveys, enabled by advances in digital technology, offer broad reach and efficiency, making them an increasingly popular tool for data collection. The survey targeted consumers in the Greater Accra Region, with the majority of respondents being university students, and was conducted between January and February 2025.

In addition to primary data, secondary data were sourced from peer-reviewed academic articles and scholarly books focusing on the effectiveness of advertising, providing a theoretical foundation and supporting context for the analysis.

Research Approach: A descriptive research approach was adopted to summarize and interpret the data collected. To explore the relationships among key variables, a correlation analysis was conducted to examine the associations between AI-driven competitive advantage, data management, competitive intelligence, and personalisation.

Furthermore, a qualitative component was integrated to assess cultural and societal factors influencing the effectiveness of various advertising channels. This mixed-methods approach enriches the study by providing both statistical insights and contextual understanding, thereby supporting more informed recommendations for policy and practice.

3.2. Participants

The survey achieved a relatively balanced gender representation, with male respondents comprising 54.2% and female respondents accounting for 45.8%. This near parity suggests a broad level of interest and willingness among both genders to share their perspectives, thereby enhancing the inclusiveness and representativeness of the findings. The results reflect an effort toward gender-balanced participation, contributing to the credibility and relevance of the data for broader population insights

[26]. In terms of age distribution, the majority of participants fell within the 25–34 age group, indicating a high level of engagement and interest from younger adults. In contrast, the 55 and above age group had the lowest level of representation, which may suggest a lower inclination or accessibility for participation among older respondents.

Understanding the demographic composition—particularly age and gender—is critical for interpreting survey results, as different cohorts often demonstrate distinct preferences, behaviours, and attitudes. These insights are essential for tailoring policies, programmes, and communication strategies that are responsive to the diverse needs of the population.

Table 1. Demographic Characteristics (n=120)

Factors	Frequency	Percent
Gender		
Male	65	54.2
Female	55	45.8
Age		
18-24	21	17.5
25-34	43	35.8
35-44	28	23.3
45-54	19	15.8
55 and above	9	7.5

4. Results and Discussion

4.0 Analysis of the Correlation Between AI Competitive Advantage, Data Management and Analysis, Customer Experience Personalisation and Competitive Intelligence

We analyzed the relationships between four marketing variables to establish the influence of AI in current marketing trends using Spearman's rank correlation coefficient: AI competitive advantage, data management and analysis, customer experience personalisation and competitive intelligence. Table 2 presents the correlation coefficients and corresponding p-values. The findings indicate that all the correlations were statiscally significant ($p<0.0001$).

Table 2. Correlation Analysis between AI Competitive Advantage, Data Management and Analysis, Customer Experience Personalisation and Competitive Intelligence

Variables	AI competitive advantage	Data management and analysis	Customer experience personalisation	Competitive intelligence
AI competitive advantage	1.000	0.711 (p=0.020)	0.638 (p=0.032)	0.442 (p=0.001)
Data management and analysis	0.711 (p=0.002)	1.000	0.603 (p=0.010)	0.408 (0.001)
Customer experience personalisation	0.638 (p=0.032)	0.603 (p=0.010)	1.000	0.451 (p=0.031)
Competitive intelligence	0.442 (p=0.001)	0.408 (p=0.001)	0.451 (p=0.031)	1.000

Correlation strength scale: strong ≥ 0.6; moderate 0.4 ≤ r < 0.6; weak: r < 0.4

A moderate positive correlation was identified between AI competitive advantage and competitive intelligence. This indicates that marketing organisations that adopt

AI technologies in their campaigns and strategic efforts tend to exhibit stronger competitive intelligence and a more pronounced edge over competitors who are slower to embrace these innovations.

Furthermore, a strong positive correlation was observed between AI competitive advantage and data management and analysis, as well as between AI competitive advantage and customer experience personalisation. The correlation coefficient between AI and data management ($r = 0.711$) suggests that approximately 51% of the variance in data management ($r^2 = 0.506$) can be attributed to AI implementation. This finding implies that organisations seeking to enhance their AI capabilities must also invest in upgrading their data infrastructure and analytical tools.

Similarly, the correlation between AI competitive advantage and customer experience personalisation indicates that 41% of the variance ($r^2 = 0.407$) in personalisation effectiveness can be explained by AI adoption. This underscores the need for integrated strategic planning that aligns AI technologies with data management systems and personalised customer engagement initiatives.

In addition, a positive correlation was found between data management and customer experience personalisation, suggesting that improvements in data management practices are likely to enhance personalisation outcomes. In essence, marketing organisations with robust data handling systems tend to deliver more tailored and effective customer experiences.

A moderate positive correlation was also observed between data management and competitive intelligence, as well as between personalisation and competitive intelligence. Specifically, data management accounted for approximately 25% ($r^2 = 0.248$) of the variance in competitive intelligence, indicating its significant—though not exclusive—role in shaping intelligence capabilities. Similarly, personalisation explained around 21% ($r^2 = 0.206$) of the variance in competitive intelligence, suggesting that while it contributes to intelligence gathering, it operates partially independently of it.

In short, AI competitive advantage demonstrates the strongest relationships with all other marketing capabilities assessed in this study. This highlights AI's central role in enhancing data-driven decision-making, customer engagement, and competitive positioning. These findings reinforce the view that personalised marketing—enabled by AI and supported by strong data management—enhances purchase likelihood by fostering a deeper sense of connection and understanding between brands and consumers.

4.1 Advertising Awareness

How often are you exposed to advertisements online?

The survey targeted to measure the frequency of how respondents are exposed to advertisements. The analysis of the results shows how often the target audience encounters product commercials across different broadcasting channels such as the TV, online advertisement, and billboards. A significant number of the respondents thus 50% reported that they are exposed to the product advertisement on daily basis, revealing that the brands marketing effort yields substantial portion of their intended audience. The exposure is what contributes the brands awareness and emphasizes the product's presence in the minds of consumers. For respondents who are exposed on weekly basis, the study recorded 20% (n=20) suggesting that the advertisement strategy do maintain engagement with s sizeable percentage of the population in a week. There were some respondents who also encounter advertisement monthly and this number constitutes 12.5%. This shows that about 85% of the respondents are exposed to the advertisement at least in a month which is commendable.

Which platforms do you encounter advertisements on the most?

This question aimed to identify the platforms where participants encounter products advertisements most frequently. By understanding the dominant advertising channels, products can allocate resources effectively to target the right platforms. The results show the preferences of the participants for encountering advertisements: Television (39.2%, n=47) and social media (28.3%, n=34) emerge as the top two platforms where respondents encounter product advertisements the most. Television, being a traditional advertising medium, still holds significant influence, while social media's digital reach has become increasingly impactful in recent years. Websites and billboards had 11.7% and 7.5% respectively. Showing that the percentage of outdoor advertising along with websites answers our advertising questions well, confirming that they do reach the target audience. The reported figures still indicate the use of print media, 5.8% and radio, 5%; these channels of advertisement are actively used in products campaigns but at lower rates. The 'Other' category, which accounts for 2.5%, includes such sources where online advertisements make way to the homes of the buyers. This trend provides valuable information on opportunities that remain unexploited. Overall, the studied factors determine the right ads aired to the audience and by doing so, online products would improve its marketing mix. Impacting concentration on the most important channels would increase the ad coverage, brand and time which will lead to greater sales amongst customers and help retain the loyalist.

4.2 Impact on Consumer Behavior

How often does advertising influence your purchasing decisions?

This section seeks to ascertain the degree to which advertising influences customers' purchase decisions. The responses offer significant insights into the efficacy of advertising in influencing consumer behavior. The proportion of respondents who reported that advertising "Always" (37.5%, n=45) or "Often" (33.3%, n=40) impacts their purchasing decisions demonstrates the efficacy of advertising in influencing consumer behavior. An approximate 70% prevalence in these categories indicates that the advertising efforts exert a substantial influence on the target audience, greatly shaping their preferences and decisions.

The category "Sometimes" (12.5%, n=15) shows that advertisement do play some role in the consumers decision making but that is not the main determining factor. Other factors mentioned includes personal recommendations, word of mouth, price negotiation and consideration, which also contributes to influence consumers choices and purchasing decisions. There is also the "Rarely" group (8.3%, n=10) and the "Never" category (4.2%, n=5), which indicates that the proportion of respondent who claim that advertisement have less influence on consumers choice. This group can be said to be less receptive to traditional advertisements methods or may have different purchasing lifestyle which is not persuaded by advertisement.

Which types of products or services do you think are most influenced by advertising?

The results show the distribution of responses, indicating which product/service categories are perceived as most influenced by advertising: Food and beverages (21.6%, n=26), fashion and clothing (20%, n=24), and health and beauty products (18.3%, n=22) are among the top categories with a high percentage of respondents feeling influenced by advertising. This suggests that advertisements in these sectors effectively capture consumers' attention and drive purchasing decisions. Electronics and gadgets (11.7%, n=14), along with automobiles (11.7%, n=14), also show a significant influence of advertising, indicating that consumers are responsive to advertisements when considering such purchases. Entertainment (movies, music,

etc.) (8.3%, n=10) and travel and tourism (4.2%, n=5) are perceived to have a low impact on consumer behavior through advertising, but they are slightly less influential compared to other categories. The "Others" category (4.2%, n=5) lets respondents list other types of goods or services that they think are affected by advertising. This gives us more information about how effective advertising is in certain businesses.

4.3 Advertising Channels and How Well They Work

Which type of advertising do you think has the biggest effect on your decision to buy something?

The data reveal the distribution of responses regarding the influence of various advertising channels on consumer purchasing behaviour. Among the 60 respondents, 50% identified social media as the most influential platform affecting their buying decisions. This underscores the growing dominance of social media in shaping consumer behaviour, largely due to its highly personalized and targeted advertising capabilities, which enhance relevance and engagement. Television advertising was also noted as a significant influence, with 25% (n = 30) of respondents indicating that television commercials impact their purchasing decisions. This demonstrates that traditional media still holds relevance, particularly in regions or demographics with high television viewership.

Additionally, word-of-mouth recommendations accounted for 12.5% of responses, highlighting the continued importance of personal referrals in influencing consumer choices. This finding suggests a need to explore how peer-to-peer endorsements can be effectively integrated into broader advertising strategies to amplify trust and reach. The remaining 12.5% of respondents cited other advertising channels—including online banners, email marketing, and print media—as having some level of influence on their purchasing behaviour. Although these channels were less dominant, they still represent valuable touchpoints in a comprehensive marketing strategy. These insights provide a clear understanding of the relative effectiveness of different advertising channels, enabling businesses and policymakers to optimize communication strategies. By aligning marketing efforts with the most impactful platforms—particularly social media and television—organizations can improve audience engagement and enhance campaign outcomes.

How likely are you to engage with an advertisement on social media (e.g., liking, sharing, commenting)?

- *Very likely: 56.7% (n=68)*
- *Somewhat likely: 12.5% (n=15)*
- *Neutral: 20.8% (n=25)*
- *Somewhat unlikely: 6.7 (n=8)*
- *Very unlikely: 3.3% (n=4)*

To assess the respondent's willingness to engage with advertisements on social media platforms in the form of sharing, liking and commenting, the above question was posed. It is imperative for the organization to understand how consumers are engaged on social media platforms concerning advertisement since this is essential for social media advertising campaigns. The findings present the distribution of the respondents view on how they are likely to engage social media advertisements. A high percentage of respondents (56.7%) expressing they are "Very likely" to engage with social media advertisements indicates the effectiveness of engaging ad content and campaigns on these platforms. "Somewhat likely" responses (20.8%) also show a substantial percentage, suggesting that a significant portion of consumers remains open to interacting with well-crafted social media ads. The "Neutral" category reflects a portion of consumers (20.8%) who neither feel strongly compelled to engage nor

are resistant to doing so. "Somewhat unlikely" and "Very unlikely" categories represent consumers (10%) who are less likely to engage with social media advertisements. These respondents may be more selective in their interactions or may find such ads less appealing.

From the above results it has becomes necessary for online product brand to get their target audience engaged on social media and also guide their marketers to create content that compelling and sharable to attract their target audience. This also increases the brand exposure and reach since it encourages interactions on the product in a wider space.

In your opinion, which type of advertising is more memorable and effective?

- *Traditional advertising (TV, print): 40% (n=48)*
- *Digital advertising (online, social media): 60% (n=72)*

The percentage of respondents (40%) favoring "Traditional advertising (TV, print)" suggests that some consumers still find traditional media more impactful and memorable due to its long-standing presence and potential for broader reach. On the other hand, "Digital advertising (online, social media)" also garners a significant percentage (60%), indicating the increasing effectiveness of online advertising, especially among digital-native consumers. It is important to note that the preference for one type of advertising over the other may vary depending on the target audience's demographics, preferences, and media consumption habits. Businesses can use these insights to strike the right balance between traditional and digital advertising approaches to maximize the impact of their advertising campaigns.

Generally, it is important to solicit and understand consumers opinions on the channels of advertisement and the effectiveness of these channels which can impact of marketing decisions. This helps the online marketing team to redefine their strategies based on data and efficiently allocate resources and come up with campaigns which will get their targeted audience more engaged.

4.4 Impact of Advertising Frequency on Brand Perception

Does the frequency of seeing an advertisement impact your perception of the brand or product?

This question explores whether the frequency with which consumers see advertisements affects their perception of a brand or product. It aims to determine how repetitive exposure to advertisements shapes consumer attitudes. The results show that 35% (n = 42) of respondents answered "Yes, positively," indicating that frequent exposure to advertisements enhances their familiarity with the brand, thereby improving brand recall and fostering a more favorable perception.

Conversely, 19.2% (n = 23) responded "Yes, negatively," suggesting that repeated advertisements can lead to annoyance, a sense of oversaturation, and perceptions of aggressive marketing tactics, which may harm brand image. A further 16.7% (n = 20) indicated that frequency makes no difference to their perception, implying that other factors—such as product quality, personal experience, or peer influence—play a more decisive role in shaping their views. Finally, 29.2% (n = 35) selected "Not sure," reflecting uncertainty about the impact of advertisement frequency on their perception. These findings underscore the importance for businesses to carefully calibrate the frequency of their advertising. While strategic repetition can strengthen brand recognition and favorability, overexposure risks alienating potential customers. Understanding this balance is crucial for effective and sustainable marketing campaigns.

Have you ever decided to switch to a different brand or product based on a more appealing advertisement?

A large percentage of the respondents (74.2%, n=89) answered "Yes" suggesting that advertisements which are appealing can influence consumers to loyalty to a brand. Thus, consumers are able to switch between brands. This analysis throws emphasis on the need to invest in persuasive advertising in order to influence the consumers behavior towards the product. The 25.8% (n=29) of the respondents who answered "No" indicating that they are not persuaded by enticing advertisements and are loyal to particular brand irrespective of the kind of advertisement. Most advertisements are able to attract consumers based on its ability to carry the relevant information pertaining to the consumers' needs and the perceived benefit of the alternative brand or product

Do you believe that advertisements influence how consumers perceive a product's quality?

This question explores the influence of advertisement on the consumers perception of quality of the product being advertised. Knowledge of this kind is crucial since it reveals how effective the advertisement and as well shapes the consumers attitude towards the product. The results presented shows the distribution of the responses, showing how advertisements influence consumers perception of quality of brand or product. Respondents (36.7%, n=44) who believe that advertisements influence a product's quality "significantly" or "to some extent" (31.7%, n=38) suggest that advertising plays a role in shaping how consumers perceive the overall quality and attributes of a product. Effective advertising can create positive associations and enhance the perceived value of the product. The "No, it doesn't impact perception" category indicates that some respondents (10%, n=12) do not believe that advertisements have a direct impact on their perception of a product's quality. Other factors, such as personal experiences, word-of-mouth, and reviews, may be more influential in shaping their opinions.

The "Not sure" category represents respondents (21.7, n=26) who are uncertain about the extent to which advertisements influence their perception of a product's quality. These results show that the perception of a product's quality is crucial in consumer decision-making. Understanding how advertisements influence this perception can help businesses create compelling and informative ad campaigns that align with consumers' expectations and contribute to building a positive brand image.

4.5 Personalization and Privacy

How do you feel about personalized advertisements tailored to your online browsing habits or interests?

- *Appreciate and find them useful: 40%, n=48*
- *Neutral, neither positive nor negative: 33.3% n= 40*
- *Feel uncomfortable with personalized ads: 24.2% n= 29*
- *Not sure: 2.5% n= 3*

The aim of this question was to understand consumers' attitudes towards personalized advertisements that are tailored to their online browsing habits or interests. Personalization is a marketing strategy that uses data to deliver more relevant and targeted ads to individual consumers.

The results show the distribution of responses, indicating how consumers feel about personalized advertisements: A significant percentage of respondents (40%) who "Appreciate and find them useful" suggest that personalized advertisements are well-received and positively impact their online shopping experiences. These consumers may appreciate relevant product recommendations and special offers

based on their interests. Respondents (33.3%) who feel "Neutral, neither positive nor negative" may not have strong feelings towards personalized ads, indicating that personalization does not significantly influence their online browsing experience. The "Feel uncomfortable with personalized ads" category shows the portion of consumers (24.2%) who are uneasy with the idea of their online activities being tracked and used for personalized advertising. Concerns about privacy and data collection might be influencing their response. The "Not sure" category represents respondents (2.5%) who are uncertain or undecided about their feelings towards personalized advertisements. Considering consumers' sentiments towards personalized ads is essential for marketers to strike a balance between personalization and privacy concerns. Effective personalization can enhance the overall user experience, but marketers must also be mindful of potential privacy sensitivities.

Are you concerned about the collection and use of your personal data for advertising purposes?

- *Very concerned: 56.7% n= 68*
- *Somewhat concerned: 11.7% n= 14*
- *Neutral: 18.3% n= 22*
- *Not very concerned: 13.3% n= 16*

This question assesses the level of concerns of the consumers in the collection and use of personal information for advertisement purpose. Since most adverts rely on personalized information, understanding how consumers perceive the use of their information is imperative for ethical marketing practices. The results of this analysis are presented showing respondents level of concerns regarding the use of their personal data.

From the results, a significant number (56.7%, n= 68) of the respondents are "Very concerned" about the use of their personal data, while 11.7% of the respondents are "Somewhat concerned". This figure reveals that majority are conscious of their privacy and the use of their personal information. There were some 18.3% of the respondents who selected "Neutral" suggesting that they are not really concerned or unconcerned with the collection and the use of their data. Lastly there 13.3% of the respondents who are "Not very concerned" or "Not concerned at all" and this may indicate some level of trust in the methods adopted in collecting and handling personal data for advertisement purpose.

This is very crucial for the online marketers to value the protection of personal data to ensure absolute confidentiality to build trust. This will help create more positive perception of the brand.

4.6 Overall Perception of Advertising

Overall, do you believe advertising plays a positive role in informing consumers about products and services?

This analysis presents consumer perceptions regarding the role of advertising in providing information about products and services. Overall, 58.3% of respondents answered "Yes, always," indicating a strong belief that advertising plays a positive role in informing consumers and assisting them in making informed purchasing decisions. Additionally, 17.5% of respondents (n = 21) selected "Mostly yes, with some exceptions." This group generally acknowledges the positive role of advertising but also recognizes that advertisements may occasionally fail to deliver accurate or reliable information to targeted consumers. A neutral stance was taken by 12.5% of respondents, suggesting uncertainty or ambivalence about whether advertising has a positive impact in informing consumers.

Meanwhile, 11.7% chose "Mostly no, with some benefits," expressing reservations about the overall effectiveness of advertising, while still acknowledging that it can be beneficial in certain circumstances. Only 1.7% of respondents selected "No, never," indicating a complete lack of trust in advertising as a source of consumer information. This minority view reflects a minimal but noteworthy level of dissatisfaction with advertising, particularly in online product promotions.

How important is it for you that the product or service advertised lives up to your expectations upon purchase?

The aim of this question is to understand the significance of meeting consumers' expectations regarding the advertised products or services. Customer satisfaction and product performance are critical factors in maintaining brand loyalty and positive perceptions. The results show the distribution of responses, indicating consumers' importance of the product or service living up to their expectations: A significant percentage of respondents (39.2%, n=47) expressing that it is "Extremely important" highlights the critical role of delivering on advertised promises to ensure customer satisfaction and loyalty. Respondents (19.2%, n=23) who find it "Important" underscore the significance of meeting expectations, but they may also be open to certain variations in performance. The "Neutral"(37.5%, n=45) category represents consumers who do not feel particularly strong about the product living up to their expectations upon purchase. "Somewhat unimportant" and "Not important at all" responses (4.2%, n=5) may indicate that some consumers are less concerned about strict adherence to advertised claims, potentially focusing on other factors such as price or convenience. This study indicated that considering the importance consumers place on meeting their expectations can guide products in focusing on product quality, consistency, and customer experience to align with advertising promises.

If there's one thing you would like advertisers to know about your perspective as a consumer, what would it be?

If there's one thing we'd like advertisers to know about how we see things as consumers, it's that authenticity matters now more than ever. Consumers can tell when they are being marketed to versus when a brand is genuinely trying to build a connection. They value transparency, meaningful content, and communication that respects consumers intelligence and time. In a world saturated with ads and information, the brands that stand out — and earn our loyalty — are the ones that see consumers not just as targets or data points, but as real people with values, needs, and choices. In short, there is a need to pay attention to consumer feedback and suggestions. Undertaking this initiative will help the company achieve the best advertising campaigns and also build a strong relationship with customers.

5. Implication for Policy

Our insight on advertising engagement reveals significant potential for improving global marketing practices. Key demographic groups demonstrate distinct patterns of sustained engagement, suggesting targeted approaches would yield better outcomes. Further demographic-specific research could refine our understanding of how gender and age influence advertising perception across diverse populations. Consumer media consumption patterns require deeper analysis to optimize advertising strategies worldwide. By mapping engagement trends across demographic segments, organizations can develop more effective media allocation. However, growing privacy concerns necessitate finding balance between personalization and data protection. We recommend implementing transparent data practices and opt-in mechanisms to build consumer trust while maintaining advertising efficacy.

Our analysis of repetitive advertising's impact on brand perception indicates the need for exposure thresholds to prevent diminishing returns or negative associations. Identifying moderating factors would enable organizations to control exposure levels strategically across markets. We strongly advocate expanding this research globally to account for cultural variations. International perspectives would provide invaluable insights for crafting culturally-sensitive advertising approaches. This comprehensive framework would support responsible, effective advertising practices that respect consumer preferences while achieving organizational objectives in our increasingly interconnected world.

5.1. Implications for Practice

The following are some implications for practice for the advertising industry:

Content creation and tailoring: Advertisers must spend time building exciting and engaging pieces of digital content since optimistic evaluation would increase effectiveness and engagement levels in digital marketing. Insights gathered by understanding the preferences of respondents are then converted into ads expected engage the target audiences. Traditional advertising and digital channels are used to create synergies of both channels and their relevance. However, there is a need for firms to continue to be strong in TV but should be made more effective through outreach in social media to reach larger audiences.

Privacy Focus Practices: There is a need to address customer concerns regarding privacy by making the data collection practices transparent and providing simple opt-in personalization options in advertising. To build trust and foster brand loyalty, advertisers must secure consumer data, respect user preferences, understand what truly matters to consumers—especially regarding purchase decisions—and ensure that advertising claims genuinely align with the actual value of the product or service.

Engagement with consumers: Given participants' high willingness to engage with social media ads, brands should consistently produce shareable and experiential content that encourages action, expands reach, and enhances satisfaction—focusing not just on what the product does, but how it stands out from competitors by highlighting its unique selling points and leveraging the persuasive power of appealing advertising to drive brand-switching.

Informed Recommendations: Participants emphasized the importance of integrating customer-driven recommendations into advertising strategies—such as tracking clicks and actively engaging with customer issues and preferences—not only to enhance the user experience, but also to foster adaptive relationships, continuously monitor evolving consumer sentiments through ongoing research, regularly collect end-user data to inform campaigns, and explore dynamic factors like changing behaviors, preferences, and even gender dynamics in future consumer purchase behavior studies [32].

Translating research results into concrete measures can enable firms to achieve advertising effectiveness, gain strong ties with their customers and still have a seat at the table in an ever-evolving marketing world. By converting research insights into business action, firms could enhance advertising effectiveness, create improved customer-to-brand relationships and still remain competitive in a continually morphing marketing ecosystem [33, 36].

5.2. Implication for Research: Advertising Impact Model Flow

To visualize how advertising effectiveness can be measured and predicted more accurately in the future, Fig. 1 presents the Advertising Impact Model Flow diagram, developed based on insights from this study, which begins with User Interaction as

the key input and funnels through three core elements: exposure metrics (frequency and distribution tracking), platform impact (reach and engagement measuring), and consumer response (brand switching and privacy monitoring).

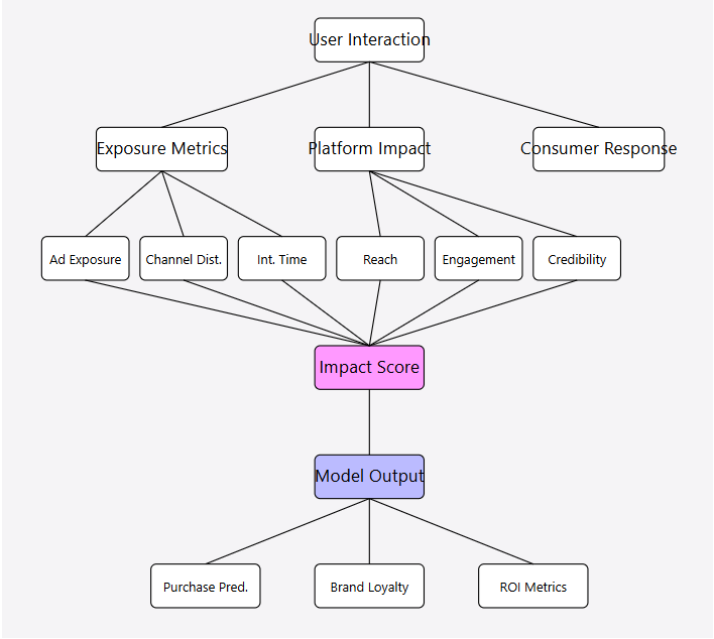

Fig. 1 Advertising Impact Model Flow

These streams combine to create an impact score that delivers actionable insights—such as purchase prediction, brand loyalty index, and ROI metrics—through a model that integrates traditional advertising measurements with modern challenges like privacy and platform credibility, while incorporating real-time data processing, a privacy-first architecture, and self-adjusting learning trends, ultimately enabling companies to offer precise advertising solutions that respect user privacy preferences without compromising measurement accuracy.

6. Conclusion

From the study, it becomes evident that the interaction between consumers and advertising is a multifaceted, active, AI-driven, and ever-evolving process that conventional advertising effects theories struggle to fully explain, making a reader-response approach—focused on consumers' real-time engagement with advertising—more appropriate, although the generalizability of the findings is limited by the study's sample, which consisted solely of respondents in Ghana.

Besides, advertising effectiveness can no longer be restricted to traditional metrics based on firms, products, or brands, as has been suggested recently by [30] with respect to service-dominant logic of marketing. These would not include the valuable extent to which audiences draw from the collaborative act of co-producing or co-creating meaning, brand affinity, and, for that matter, entertainment themselves. Thus, this connotation carries forward the search for future research on how we can measure advertising effectiveness concerning the pleasure or satisfaction felt by audiences and consumers while interacting with advertising.

In the Ghanaian context, it is imperative to delve into the role that social media, especially advertisements, play in the everyday lives of ordinary individuals. The transformation from a transactional and managerial perspective of advertisements to a consumer-centric and socially constructed standpoint, as previously outlined, necessitates a reconsideration of the concepts of 'audience' or 'consumer' in the advertising realm. This, in turn, prompts us to challenge conventional methodologies in comprehending advertising effectiveness.

7. Recommendations

The study suggests that, in addition to the traditional advertising theories, firms should consider a reader-response AI strategy that focuses on what the consumers feel and think at the time of interaction with the product advertisement. In this way, advertisements can be better designed, as marketers will be able to adapt their actions considering people's reactions to the ads, what they feel at the moment of seeing the ad, and what meaning they associate with it. At the same time, these brands should adapt their advertising to the service-dominant logic of marketing. That is, it is essential to understand that consumers are value enabled as they interact with the firm's brand. They should consider and promote the making of such advertisements that go beyond only displaying the goods or services but the act of constructing meaning and identifying with the brand. Thus, such advertisements can involve creating co-produced materials, customer reviews of the product, or even promotional campaigns aimed at the consumers. Such finding as well shows the need to investigate the place of media and advertising in the life of a consumer as a participant of a culture. Understanding how the audience uses the advertisement as part of the routine, social context, and culture will help firms reach their potential customers by formulating appropriate advertisement and the channels best suited for their needs and goals.

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The main goal of this journal is to efficiently disseminate original findings generated by human brain with utilizing modern information/digital technologies with multidisciplinary approach.

Topics discussed in this journal include the following: Artificial Intelligence in Art, Culture, and Marketing; Digital Technology in Health Care.

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