# No Anchor, No Trust: Inference Journalism and the Empathy–Ethics Paradox in AI Nonfiction

by

Katharina Bötel-Azzinnaro

Submitted for the degree of
Doctor in Philosophy
from the
University of Surrey



Centre for Creative Arts and Technologies,
Department of Music and Media, Faculty of Arts, Business and Social Sciences,
University of Surrey, Guildford, Surrey GU2 7XH, U.K.

September 2025

# Abstract

This thesis examines how audiences evaluate trust, credibility, emotions, and ethical acceptability in nonfiction films when comparing traditional indexical imagery with AI-generated synthetic visuals. The implicit contract of nonfiction, that what is shown has an indexical link to reality, is increasingly unsettled by AI. As synthetic media enters documentary and journalism, a pressing question arises: how do audiences evaluate trust and authenticity when the anchor of recording is replaced by machine inference?

Two short films were produced for the study: a real documentary constructed from conventional footage and a synthetic version generated using machine learning models. Participants did not know whether the film they viewed was real or synthetic, ensuring that their responses were shaped by the viewing experience itself rather than by disclosure. A mixed-methods design was employed. Quantitative survey data were analysed in Survey Monkey and Excel, while qualitative open-text responses were coded and thematically analysed in NVivo. The analysis was organised into six thematic areas: educational value and perceived reliability; emotional response and empathy; perception of ethical boundaries; realism and visual impact; trust and credibility; and viewer awareness and interpretive frames.

Findings highlight three overarching contributions. First, indexical anchors remain central to trust: technical flaws in the real film were tolerated as signs of authenticity, whereas anomalies in the synthetic film were interpreted as evidence of unreality. Second, in the AI-generated film, two deliberately designed reconstructions of a deceased individual produced heightened emotional closeness while also provoking strong ethical discomfort, a tension conceptualised here as the empathy–ethics paradox and one of the study's most significant findings. Third, ethical boundaries were drawn more firmly around people than places: while AI use to recreate environments was broadly accepted if transparent, recreating deceased individuals was largely rejected.

Building on these insights, the study proposes *Inference Journalism* as a new professional genre term for nonfiction storytelling. Defined as the transparent use of AI/ML to infer and reconstruct places, events, or people from real-world anchors such as photographs, recordings, or data traces, *Inference Journalism* frames synthetic material as reconstruction rather than deception. By offering audiences a clear interpretive category, this genre proposal seeks to stabilise trust and expectations in nonfiction practices during the age of synthetic media.

Email: k.botel-azzinnaro@surrey.ac.uk

Website: www.kbacreative.co.uk

# Acknowledgements

This thesis would not have been possible without the generous support of my supervisors, colleagues, friends, and family.

First and foremost, I would like to thank my supervisors. Jon Weinbren, thank you for your steady guidance, inspiration, expertise, and encouragement throughout this project. I am also grateful for the opportunity to try my hand at teaching under your mentorship, an invaluable experience that has inspired me and will stay with me well beyond this project. Dr. Andrew Gilbert, thank you for opening my eyes and mind to the world of machine learning research. Being part of the "Gilbertines" was both intellectually stimulating and great fun; the weekly presentations and culinary adventures made your regular nudges and feedback all the more enjoyable. Between you both, I learned not only how to shape a thesis but also how to survive on equal parts of rigour, creativity, and the occasional well-timed slice of cake. The consistent support and thoughtful critique from you both were not only immensely helpful but also instrumental in shaping this research into its final form.

I am also grateful to the wider team at the Centre for Creative Arts and Technology for providing an intellectually stimulating environment, your generosity in sharing ideas and resources, and the great friendships that developed over time. Thank you, too, for awarding me my first trophy — *Best Christmas Bauble 2024*. It may not have been for research, but it will keep me motivated to work toward winning more.

Special thanks are due to all the participants who took part in the surveys and generously shared their time and reflections. Your openness and thoughtfulness are the foundation of this study. I am equally indebted to my fellow doctoral colleagues at the Centre, whose feedback, and conversations made the long process of research both productive and enjoyable.

On a more personal note, I would like to thank my parents and brother, Carola, Uwe, and Nils, for their constant encouragement and belief in me throughout this journey. To my husband Martin, your support has meant more than I can express, and to our daughters Valentina and Vivienne, thank you for reminding me daily of what truly matters.

Finally, to all who, in ways large and small, supported and inspired me along the way, I extend my heartfelt gratitude.

# Declaration

This thesis and the work to which it refers are the results of my own efforts. Any ideas, data, images or text resulting from the work of others (whether published or unpublished, and including any content generated by a deep learning/artificial intelligence tool) are fully identified as such within the work and attributed to their originator in the text, bibliography or in footnotes. This thesis has not been submitted in whole or in part for any other academic degree or professional qualification. I agree that the University has the right to submit my work to the plagiarism detection service TurnitinUK for originality checks. Whether or not drafts have been so-assessed, the University reserves the right to require an electronic version of the final document (as submitted) for assessment as above.

Signed: Katharina Bötel-Azzinnaro

Date: 18.09.2025

# Contents

# List of Figures and Tables

# Chapter I

# Introduction

## 1.1 Opening Context and Rationale

The rapid advance of artificial intelligence (AI) and machine learning (ML) has introduced profound challenges and opportunities for nonfiction media. Journalism and documentary filmmaking, long anchored in the evidentiary logic of the camera, now operate in an environment where synthetic images can be produced with increasing realism. These developments raise urgent questions about audience trust, ethical acceptability, and the future of nonfiction storytelling. If the indexical trace, the photographic link between representation and reality, has traditionally stabilised nonfiction's authority (Barthes, 1981; Nichols, 2017), what happens when that anchor is weakened or absent?

Recent public debates around "deepfakes," synthetic media, and algorithmic generation have tended to frame AI primarily as a threat to trust in factual communication (Chesney and Citron, 2019; Vaccari and Chadwick, 2020). Yet the reality is more complex. AI tools are increasingly being explored within creative and journalistic domains not only for automation but also for augmentation: filling evidentiary gaps, reconstructing inaccessible environments, or animating archival fragments. This points to the emergence of new representational practices that do not fit neatly into existing genre categories.

It is important to note, however, that the majority of current applications of AI in journalism are not creative but technical. They are used to improve newsroom workflows, filter and process data, automate repetitive reporting tasks, or generate text for financial or sports journalism (Carlson, 2015; Dörr, 2016). In most cases, these uses remain behind the scenes, operating at the level of efficiency rather than form. Similarly, existing research on

journalists' use of generative AI has focused primarily on text-based production, as exemplified by the work of Cools and Diakopoulos (2024). Very rarely is AI deployed in the creative spectrum of nonfiction production, for example, to generate images, reconstruct places, or animate archival material. It is precisely this underexplored domain that this research addresses, offering new insight into how audiences respond when AI enters the representational fabric of nonfiction media.

This thesis responds to this shifting landscape by investigating how audiences evaluate nonfiction films produced either with traditional indexical imagery or with AI-generated synthetic visuals. The project focuses on two short films about Antarctica: one constructed from real footage and another partially generated through machine learning models. Survey data, both quantitative ratings and qualitative open-text responses, provide insight into how audiences judge trust, credibility, emotional impact, and ethical acceptability across these two conditions.

The rationale for this research rests on three interlocking concerns. First, journalism and documentary rely on public trust for their authority and social role. Understanding how AI reshapes audience perceptions is therefore vital for the profession. Second, audience responses do not merely reflect individual taste but are structured by genre expectations, assumptions about what nonfiction "should" look like. Violations of these expectations, as this study shows, can destabilise credibility even when audiences are not explicitly told that AI has been used. Third, there is an urgent need for conceptual and professional vocabulary to address these emergent practices. Terms such as "automated journalism" or "robot journalism" capture the functional use of AI in content production, but they do not describe the representational work of reconstructing places, events, or people using generative techniques.

This thesis introduces the concept of Inference Journalism to fill that gap. Inference Journalism refers to the transparent use of AI/ML inference techniques to reconstruct nonfiction content, whether places, events, humans, or data, anchored in some form of real-world trace, such as a photograph or audio recording. Like courtroom sketches or docudrama reconstructions, inference relies on partial evidence but extends it through generative mediation. The key principle is disclosure: audiences are told explicitly that what they are seeing is an inferred reconstruction, not a direct record.

By proposing Inference Journalism as a new professional genre, this study contributes to both scholarly debates and practical media ethics. It provides a vocabulary that helps stabilise audience expectations in a context where traditional documentary contracts are under strain. More broadly, it illuminates the paradoxical dynamics at play when AI is introduced into nonfiction: while synthetic movement can heighten empathy, it can also

intensify ethical unease; while audiences may accept AI for places, they resist its application to people. These tensions demand careful theorisation and professional reflection, making the study both timely and necessary.

## 1.2 Aims and Objectives

To clarify why these aims and objectives are necessary, the study must first be grounded in the background of the problem. The next subsection outlines the technological shifts and conceptual tensions that shape the research, with particular attention to AI's role in nonfiction media and the implications for trust and ethics.

### 1.2.1 Background of the Problem

For more than a century, nonfiction film and journalism have been grounded in what has been called the "documentary contract" (Winston, 2000; Nichols, 2017). This implicit agreement between filmmaker, journalist, and audience rests on the assumption that nonfiction images carry an indexical trace, a direct connection to reality, secured through the camera lens. The authority of nonfiction media has therefore been closely tied to its indexical basis. Even when highly edited or narratively framed, the visual presence of recorded reality has provided a form of evidentiary guarantee.

The rise of artificial intelligence and machine learning fundamentally unsettles this contract. Advances in generative models now make it possible to produce visual sequences with no direct capture of reality. While such synthetic imagery can be based on real inputs (photographs, audio recordings, or descriptive metadata), it ultimately functions through inference: algorithms generate plausible representations of what might have existed. This capability opens significant creative and journalistic possibilities, from reconstructing lost places to animating archival fragments. At the same time, it undermines the traditional anchor of nonfiction trust, the assumption that what is seen is a direct trace of the real.

Most applications of AI in journalism to date have been technical rather than representational. Newsrooms have adopted automation to generate financial reports, sports coverage, or weather updates (Carlson, 2015; Dörr, 2016). AI tools are also widely used for data mining, filtering, translation, and workflow optimisation. These uses, while significant, remain largely invisible to audiences. They operate behind the scenes, contributing to efficiency rather than reshaping the form of nonfiction representation itself. By contrast, AI's potential in the creative spectrum, particularly in the visual domain of journalism and documentary film, is less developed and less studied. Here, its impact is not hidden but manifest: visible in the very images that audiences consume.

This study intervenes in that gap. It focuses specifically on AI-generated visuals in nonfiction film and examines how audiences respond to them. The case study is Antarctica, presented in two short films: one made from real footage, and one generated synthetically using machine learning models. By comparing audience reactions across these two conditions, the study provides a unique window into how trust, credibility, empathy, and ethical judgments are negotiated in the age of AI.

The background problem, then, is not simply technical but epistemic and cultural. It is about how the evidentiary role of nonfiction is transformed when indexical anchors are replaced or supplemented by machine inference. This problem requires urgent attention because trust in journalism and documentary is already fragile, and the introduction of synthetic imagery risks amplifying scepticism. Yet it may also open new pathways for storytelling, especially in reconstructing inaccessible places or visualising events that cannot otherwise be captured. The challenge is to understand how audiences perceive these new practices, where they draw ethical boundaries, and what professional frameworks might stabilise credibility in this evolving media landscape.

1.2.2 Statement of the Problem

The problem this study addresses can be summarised in three interrelated points:

1. Erosion of Indexical Anchors
   Nonfiction media has relied on the indexical trace for credibility. AI-generated visuals, even when based on real photographs or audio, lack direct indexicality. This raises the question: without anchors, can nonfiction still be trusted?
2. Paradox of Empathy and Ethics
   Synthetic media can intensify emotional engagement, for example, by animating still photographs of deceased individuals. Yet the very same movement that creates presence can also raise ethical unease and suspicion of manipulation. This paradox complicates traditional assumptions about the relationship between affect, trust, and credibility.
3. Unclear Professional Vocabulary
   Existing terms such as "automated journalism" or "robot journalism" describe AI's functional role in news production, but they do not capture representational practices where AI reconstructs people, places, or events. Without conceptual clarity, both scholars and practitioners lack the tools to describe, regulate, and ethically evaluate these emerging genres.

These problems are not abstract. They touch directly on journalism's ability to sustain public trust, documentary's claim to truth-telling, and nonfiction's role in education and

cultural memory. If audiences cannot distinguish between technical imperfection (a shaky camera, blurred frame) and synthetic anomaly (odd lighting, incorrect details), then the epistemic authority of nonfiction risks collapse. Conversely, if new professional frameworks can stabilise expectations, for example, through disclosure or explicit genre markers, then AI may become a legitimate tool of nonfiction storytelling.

1.2.3 Purpose of the Study

The purpose of this study is threefold:

1. To examine how audiences evaluate nonfiction films that use either traditional indexical imagery or AI-generated synthetic visuals. This involves measuring perceptions of trust, credibility, authenticity, emotional engagement, and ethical acceptability.
2. To explore the dynamics of audience interpretation in relation to anomalies and flaws. The study investigates why technical imperfections in real footage are tolerated as signs of authenticity, whereas similar or different anomalies in synthetic films are interpreted as evidence of unreality.
3. To propose a new conceptual framework, Inference Journalism, to describe and stabilise emerging practices. By framing AI reconstructions as transparent inference, the study contributes to both theoretical debates (indexicality, documentary contract) and professional practice (journalistic ethics, genre vocabulary).

1.2.4 Scope of the Study

This study focuses on audience perceptions of two short films about Antarctica. The design involved two separate participant groups: one watched the real film, constructed entirely from indexical footage; the other watched a synthetic film, generated with machine learning models. Participants then completed surveys combining quantitative scales and qualitative open-text responses.

The scope is deliberately narrow in terms of subject matter (Antarctica, short-form documentary) and participant sample size (under 50 per group). This allows for detailed analysis of audience responses but also imposes limits on generalisability. The study does not aim to provide definitive conclusions about all nonfiction genres or all audiences. Instead, it offers an exploratory, comparative insight into how AI is perceived in nonfiction and how trust, empathy, and ethics are negotiated.

While focused on film, the findings have broader implications for journalism, education, and public communication. They address not only the reception of nonfiction content but

also the professional practices and ethical debates surrounding AI in factual media. The scope thus extends beyond documentary studies into journalism, media ethics, and emerging fields of synthetic media research.

1.2.5 Aims and Objectives

The overarching aim of the study is to understand how audiences perceive trust, credibility, and ethical acceptability in nonfiction films that differ in their use of indexical versus AI-generated imagery. To achieve this, the study pursues six specific objectives, each corresponding to a research question:

1. To evaluate educational potential and perceived reliability
   – Compare how participants exposed to the real film versus the synthetic film assess its educational value and reliability as a resource.
2. To analyse emotional responses and empathy
   – Measure intensity and types of emotions (fascination, empathy, sadness) elicited by each film and examine how these responses intersect with trust and credibility.
3. To investigate perceptions of ethical boundaries
   – Explore participant views on the ethical acceptability of AI use in nonfiction, with attention to differences between recreating places and resurrecting people.
4. To assess realism and visual impact
   – Identify how audiences interpret technical flaws and anomalies in visuals, and how these interpretations differ between indexical and synthetic imagery.
5. To examine trust and credibility
   – Assess how participants judge overall authenticity, accuracy, and believability across the two conditions, and whether disclosure of AI use alters these judgments.
6. To explore viewer awareness and interpretive frames
   – Investigate how participants contextualise their viewing experience, what assumptions they bring to nonfiction, and how genre expectations shape interpretations of AI-generated material.

Together, these objectives serve both an empirical and conceptual purpose: empirically, they provide comparative data on audience perceptions; conceptually, they inform the proposal of Inference Journalism as a new genre framework that makes transparent the role of AI inference in nonfiction media.

## 1.3 Methodological Alignment of Objectives

To ensure that each objective was addressed systematically, the research design integrated quantitative and qualitative instruments. Participants completed surveys

hosted on SurveyMonkey, which combined scaled (Likert-style) responses with open-text questions. Quantitative responses were analysed using Excel for descriptive statistics, while qualitative responses were coded thematically in NVivo, with support from ChatGPT 5.0 for clustering and reflexive checking.

The alignment of objectives, survey questions, and analytical methods is outlined below:

Objective 1: To evaluate educational potential and perceived reliability

- Survey questions:
    - *Q10 (Informative Value)* – scaled responses on how informative the film was.
    - *Q20 (Educational Resource)* – yes/no, followed by qualitative justification.
- Data sources: Quantitative survey data; qualitative comments coded under *Educational Value* and *Perceived Reliability*.
- Analytical approach: Descriptive statistics of ratings; thematic coding of rationales (e.g., requests for more detail, concerns about narrative framing).


Objective 2: To analyse emotional responses and empathy

- Survey questions:
    - *Q17 (Emotional Intensity)* – scaled ratings of empathy on a 1–10 scale.
    - *Q19 (Emotional Resonance)* – scaled; did the film evoke strong feelings?
    - *Open-text (Q16, Q18, Q23)* – qualitative reflections on immersion and emotional impact.
- Data sources: Quantitative empathy and emotion scales; qualitative descriptions coded under *Emotional Response and Empathy*.
- Analytical approach: Statistical distribution of empathy scores across both films; qualitative clustering of emotion terms (fascination, sadness, boredom).


Objective 3: To investigate perceptions of ethical boundaries

- Survey questions:
    - *Q24, Q25 (AI Disclosure and Trust)* – yes/no/more positive/more negative, plus qualitative follow-up.
    - *Q26, Q28 (AI Use: Places vs. People)* – ethical acceptability of recreating places or deceased individuals.
- Data sources: Quantitative distribution of acceptability ratings; qualitative rationales coded under *Perception of Ethical Boundaries*.

- Analytical approach: Comparative analysis of acceptance rates for AI use in places vs. people; qualitative examination of frames (e.g., respect, deception, consent).

Objective 4: To assess realism and visual impact

- Survey questions:
  - Q9 (Engagement) – scaled ratings.
  - *Q11 (Visual Quality)* – scaled ratings.
  - *Q12 (Visual Credibility)* – scaled ratings.
  - *Q13, Q16 (Odd/Unrealistic Elements, Editing Credibility)* – open-text follow-ups.
  - *Q18 (Immersion)* – yes/no responses, followed by qualitative elaboration.
- Data sources: Quantitative ratings of quality and credibility; qualitative commentary on anomalies.
- Analytical approach: Statistical clustering of ratings; thematic differentiation between "technical flaws" and "synthetic anomalies."

Objective 5: To examine trust and credibility

- Survey questions:
  - *Q14 (Overall Authenticity)* – scaled authenticity ratings.
  - *Q15 (Accuracy Questioned)* – yes/no, with qualitative elaboration.
  - *Q21 (Believability)* – scaled ratings.
  - *Q27 (Manipulation / Perceived Storytelling Effectiveness)* – scaled response.
- Data sources: Quantitative indicators of trust and authenticity; qualitative statements coded under *Trust and Credibility*.
- Analytical approach: Comparison of overall trust ratings between films; thematic coding of comments.

Objective 6: To explore viewer awareness and interpretive frames

- Survey questions:
  - *Q22 (What Would Help Build Trust)* – open-text.
  - *Q23 (Additional Thoughts)* – open-text.
- Data sources: Purely qualitative, coded under *Viewer Awareness and Interpretive Frames*.
- Analytical approach: Thematic clustering of calls for disclosure, requests for more detail, or reflections on AI/non-AI expectations.

By aligning each objective with specific survey items, the study ensures that both quantitative and qualitative dimensions are integrated into the analysis. Quantitative measures capture breadth of response (distribution across scales), while qualitative coding adds depth and nuance. This alignment also reinforces the mixed-methods logic of the research: scaled ratings establish patterns, and open-text data reveal the interpretive frames through which audiences make sense of nonfiction films in the age of AI.

## 1.4 Research Questions and Hypotheses

The research questions at the centre of this study examine how audiences evaluate trust, credibility, and ethical acceptability in nonfiction films when comparing responses across two distinct groups: one that viewed a traditional indexical documentary film, and another that viewed a synthetic version generated with machine learning models. This design allows us to explore how audiences respond to films that differ not in narrative content but in the nature of their visuals.

The study therefore asks: when two different groups of viewers encounter films that differ only in whether the visuals are indexical or synthetic, how do their perceptions of trust, credibility, ethics, emotions, and educational value diverge? By structuring the research design in this way, it becomes possible to assess not only how audiences respond to each film individually but also what contrasts emerge across groups.

Overarching Research Question:

*How do audiences evaluate trust, credibility, and ethical acceptability in nonfiction films when responses are compared across two groups, one viewing a traditional indexical film and the other viewing an AI-generated synthetic version?*

Sub-Questions:

The six sub-questions correspond to the NVivo thematic framework used in analysis. Each is formulated to highlight the between-groups comparison:

1. Educational Value and Reliability
   RQ1: How do participants exposed to the real film assess its educational potential and perceived reliability, and how do these assessments compare with those of participants who viewed the synthetic film?

2. Emotional Response and Empathy

RQ2: What emotional responses (e.g., empathy, fascination, shock, boredom) do participants report after viewing the real film, and how do these differ from those expressed by participants who viewed the synthetic film?

3.  Perception of Ethical Boundaries

RQ3: Where do participants in each group draw ethical boundaries regarding the use of AI in nonfiction, particularly in relation to recreating places versus representing deceased individuals?

4.  Realism and Visual Impact

RQ4: How do participants in each group evaluate visual quality, anomalies, and stylistic choices in the film they viewed, and how do these evaluations shape perceptions of realism across the two groups?

5.  Trust and Credibility

RQ5: How do participants who viewed the real film judge its trustworthiness and credibility, and how do these judgments compare to those of participants who viewed the synthetic film, particularly when disclosure of GenAI involvement is considered?

6.  Viewer Awareness and Interpretive Frames

RQ6: In what ways do participants position themselves as interpreters of the film they viewed, and how do interpretive frames differ between those exposed to indexical imagery and those exposed to synthetic visuals?

Justification by Thematic Area

Each sub-question addresses a critical component of audience evaluation, grounded in relevant scholarship.

1.  Educational Value and Reliability
    Documentary is often valued for its epistemic authority and use as an educational resource (Renov, 2004). However, as Hall (2003) and Metzger et al. (2010) show, audiences judge reliability through a mix of content cues and heuristic judgments. The first sub-question is justified by the need to understand whether AI-generated visuals disrupt this perceived authority.

2.  Emotional Response and Empathy
    Plantinga (2005) and Nash (2014) emphasise the role of emotion in documentary reception. Nonfiction films seek not only to inform but also to engage affectively. The second sub-question explores whether AI-generated imagery produces comparable emotional intensity, or whether it undermines immersion.

3. Perception of Ethical Boundaries
   Ethical issues have long surrounded nonfiction (Winston, 2000). Floridi and Cowls (2019) stress that AI introduces additional challenges, particularly around transparency and consent. The third sub-question asks where audiences themselves locate ethical red lines, for instance, between recreating places and representing deceased individuals.
4. Realism and Visual Impact
   Hall (2003) demonstrates that audiences evaluate realism by looking for consistency with their experience and with media conventions. Corner (2002) highlights that factual credibility is performed through style. The fourth sub-question probes how these judgments differ when audiences encounter indexical versus synthetic visuals.
5. Trust and Credibility
   Media trust literature (Metzger et al., 2003; Karlsson, 2010) shows that credibility depends heavily on transparency. Survey 1 and 2's disclosure of potential AI use proved decisive. The fifth sub-question directly tests how trust and credibility diverge across the two groups, with disclosure.
6. Viewer Awareness and Interpretive Frames
   Roscoe and Hight (2001) argue that audiences interpret nonfiction reflexively, drawing on expectations of authenticity. Karlsson (2010) and Metzger et al. (2010) similarly highlight how credibility is assessed through interpretive heuristics. The sixth sub-question asks how participants in each group framed their role as interpreters, and whether AI disrupted these interpretive habits.

Hypotheses

Based on this theoretical grounding, the following hypotheses guided the research design:

1. H1: Educational reliability will be rated higher by participants who viewed the real film than by those who viewed the synthetic film.
2. H2: Emotional responses will differ between groups: participants who viewed the real film will report generally positive emotions, while participants who viewed the synthetic film will show more mixed emotions.
3. H3: Ethical acceptability of AI will be higher for recreating places than for representing deceased individuals, regardless of group.
4. H4: Technical flaws in the real film will be interpreted by its viewers as signs of authenticity, whereas anomalies in the synthetic film will be interpreted by its viewers as signs of unreality.

5. H5: Trust and credibility ratings will be higher among participants who viewed the real film than among those who viewed the synthetic film.
6. H6: Demand for disclosure will be stronger among participants who viewed the synthetic film than among those who viewed the real film.

The overarching research question and six sub-questions together provide a comprehensive framework for examining how audiences respond to nonfiction films under conditions of technological change. By structuring the study around two groups, one exposed to indexical imagery and one to AI-generated visuals, the research makes it possible to identify not only patterns within each group but also contrasts between them.

The hypotheses reflect key theoretical expectations: that indexicality stabilises trust, that anomalies in AI images undermine it, and that disclosure plays an increasingly central role in how credibility is negotiated. This framework is justified both by the scholarly literature and by the urgent practical challenges facing journalism, documentary practice, and public trust in media.

To demonstrate the coherence of the research design, Table I maps each objective onto the specific survey questions, data sources, and analytical approaches used. This alignment highlights how the mixed-methods strategy integrates quantitative breadth with qualitative depth, ensuring that every research aim is systematically addressed.

Table 1.1: Alignment of Research Objectives, Survey Questions, Data Sources, and Analytical Approaches

| Objective | Survey Questions | Data Sources | Analytical Approach |
|---|---|---|---|
| 1. Evaluate educational potential and perceived reliability | Q10 (Informative Value); Q20 (Educational Resource) | Quantitative scales; open-text comments | Descriptive statistics; thematic coding of rationales (requests for detail, concerns about framing) |
| 2. Analyse emotional responses and empathy | Q17 (Empathy intensity, 1–10); Q19 (Emotional resonance); Q16, Q18, Q23 (Open-text reflections) | Quantitative empathy scales; qualitative descriptors | Statistical distribution of empathy scores; thematic clustering of emotion terms (fascination, sadness, unease) |
| 3. Investigate perceptions | Q21 (Ethical acceptability); Q24, Q25 (AI disclosure & | Quantitative ratings; | Comparative analysis of acceptance rates; |

| | trust); Q26, Q28 (AI use: places vs. people) | qualitative rationales | thematic coding around respect, deception, consent |
|---|---|---|---|
| of ethical boundaries | | | |
| 4. Assess realism and visual impact | Q9 (Engagement); Q11 (Visual quality); Q12 (Visual credibility); Q13, Q16 (Odd/unrealistic elements, editing credibility); Q18 (Immersion, yes/no + follow-up) | Quantitative ratings; qualitative commentary | Statistical clustering of quality/credibility scores; thematic analysis of technical flaws vs. synthetic anomalies |
| 5. Examine trust and credibility | Q14 (Overall authenticity); Q15 (Accuracy questioned); Q21 (Believability); Q27 (Manipulation / storytelling effectiveness) | Quantitative trust/authenticity ratings; qualitative elaborations | Comparison of trust scores; thematic coding of comments (e.g., "nothing odd" vs. "seems unreal") |
| 6. Explore viewer awareness and interpretive frames | Q22 (What would help build trust?); Q23 (Additional thoughts) | Purely qualitative responses | Thematic clustering of calls for disclosure, requests for detail, reflections on AI expectations |

Table 1.1

## 1.5 Significance of the Study

The rise of artificial intelligence and machine learning represents one of the most profound transformations in the history of media. While earlier technological shifts from the introduction of photography and film to the rise of television and digital streaming have all reshaped nonfiction storytelling, the emergence of synthetic media is distinct in that it directly unsettles the evidentiary foundation of nonfiction communication. This study's significance lies in its detailed examination of how audiences evaluate nonfiction films when traditional indexical anchors are replaced with AI-generated inferences, and in its proposal of a new conceptual framework, Inference Journalism, to stabilise professional practice and scholarly debate in this emerging field.

Academic Significance

From a scholarly perspective, the study makes three primary contributions:

1. Re-examining Indexicality and the Documentary Contract

First, it advances theoretical debates on indexicality. Since the early writings of Bazin (1967) and Barthes (1981), scholars have argued that the documentary image derives much of its authority from its indexical relationship to the real and the photographic "trace" that ties representation to reality. While these accounts remain foundational, subsequent scholarship has demonstrated how digital imaging, algorithmic media, and platform infrastructures fundamentally reshape the status of the indexical image (Doane, 2007; Manovich, 2020; Lister, 2013; Cubitt, 2014; Gunning, 2018). By analysing how participants respond differently to technical flaws in real footage and anomalies in synthetic images, this study demonstrates that audiences continue to rely heavily on indexical anchors as markers of authenticity.

2. The Empathy–Ethics Paradox

Second, the study contributes to affect theory and media psychology by identifying what may be termed the empathy–ethics paradox. AI-generated animation of deceased individuals heightened empathy by producing a sense of presence yet simultaneously increased ethical unease and mistrust. This tension adds nuance to existing theories of emotional engagement in nonfiction (Plantinga, 2005; Nash, 2014; Eitzen, 1995), suggesting that affect and trust may not always align but can in fact pull in opposite directions. This finding also resonates with recent research in cognitive film studies (Smith, 2020) and media ethics (Ward, 2018) that stresses the fragility of viewer identification in contexts of perceived manipulation.

3. Genre Innovation: Inference Journalism

Third, the study contributes to genre theory by proposing the concept of Inference Journalism. While existing terms such as "automated journalism" (Carlson, 2015) or "robot journalism" (Dörr, 2016) capture AI's role in newsroom automation, they do not address representational practices where AI reconstructs events, places, or people. By framing these practices as inference, transparent reconstructions anchored in partial real-world traces, this study introduces a vocabulary that aligns with both academic theorisation and professional ethics. It positions inference alongside established genres such as docudrama (Paget, 2011) or courtroom sketching (Hirsch, 2019) but updated for the age of machine learning. This theoretical innovation expands the field of journalism and documentary studies by offering a new way to conceptualise AI-mediated nonfiction.

Professional and Industry Significance

Beyond academia, the study has direct implications for journalists, documentary filmmakers, and media organisations.

## Sustaining Trust in Nonfiction

Trust is journalism's most vital currency. Findings that disclosure of AI use in synthetic films reduced trust among nearly two-thirds of participants underscore the urgency of developing transparent professional practices. Audiences expect disclosure and react negatively when it is absent. This aligns with calls for algorithmic transparency in journalism (Diakopoulos, 2019) and resonates with wider debates in media accountability (McBride and Rosenstiel, 2013).

## Navigating Ethical Boundaries

The study also clarifies where ethical boundaries are most contested. While audiences were relatively open to AI use in reconstructing places, they were firmly opposed to resurrecting deceased individuals without consent. This finding provides a practical guideline: AI may be welcomed for contextual or illustrative purposes but must be approached with extreme caution in relation to human likenesses. Media organisations seeking to experiment with AI should therefore differentiate between categories of use and avoid practices that audiences perceive as disrespectful or deceptive (Floridi and Cowls, 2019; Pavlik, 2020).

## Educational Applications

Educational institutions frequently rely on nonfiction media as teaching tools. Survey 1 showed that audiences strongly endorsed the real film's value as an educational resource, while Survey 2 produced divided opinions. The implication is that educators may be cautious about adopting AI-generated nonfiction unless disclosure and accuracy are assured. At the same time, synthetic media offers potential benefits for visualising remote, inaccessible, or past environments. By foregrounding transparency and context, Inference Journalism could provide a framework for integrating such materials into classrooms without undermining epistemic reliability (Renov, 2004; Buckingham, 2019).

## Societal Significance

The broader societal significance of this research lies in its contribution to public understanding of media literacy and synthetic media.

## Media Literacy in the Age of AI

Audiences are increasingly confronted with AI-generated content across news, social media, and entertainment. Yet literacy around these forms remains uneven (Mihailidis and Viotty, 2017; Bulger and Davison, 2018). This study highlights the interpretive frames audiences use to make sense of anomalies, distinguishing between "documentary noise" that signals authenticity and "synthetic anomalies" that suggest unreality. By articulating

these distinctions, the study contributes to the development of media literacy strategies that help citizens critically evaluate the nonfiction content they consume.

Democratic Trust and Information Integrity

At a time when misinformation and disinformation are pressing concerns, understanding how audiences negotiate trust in AI-mediated nonfiction has democratic implications. Journalism's role as a watchdog depends on its ability to maintain credibility. If audiences perceive synthetic media as deceptive or manipulative, public trust may erode further, compounding broader crises of confidence in institutions (Lazer et al., 2018; Tandoc et al., 2019). Conversely, if professionals adopt transparent frameworks such as Inference Journalism, they may be able to incorporate AI tools without destabilising their social contract with audiences.

Methodological Significance

By combining quantitative survey data with qualitative NVivo coding, the project models a mixed-methods approach to studying audience responses to emerging technologies. It shows how computational tools can aid qualitative analysis while still preserving reflexivity and researcher judgment. This methodological contribution is significant for scholars studying rapidly evolving media phenomena, where new methods are needed to handle complex, hybrid datasets (Creswell and Plano Clark, 2017; Lupton, 2021).

The significance of this study lies in its capacity to address a pressing contemporary problem, how AI reshapes audience trust in nonfiction media, while offering theoretical, professional, and societal contributions. It reaffirms the centrality of indexical anchors for credibility, identifies the paradoxical relationship between empathy and ethics in AI-mediated storytelling, and introduces Inference Journalism as a new genre framework. These contributions matter not only for academic debates in media theory but also for the practical futures of journalism, documentary, and education. At a historical moment when nonfiction's authority is under unprecedented strain, the study provides both diagnosis and direction, making it a timely and important intervention.

## 1.6 Definition of Key Terms

Given the complexity of the issues examined in this study, it is essential to define several key terms that form the conceptual foundation of the thesis. These terms are drawn from documentary theory, media studies, and emerging debates on artificial intelligence, while others are introduced here as original contributions. Together, they establish the framework through which the audience responses to real and synthetic nonfiction films can be understood.

One of the most central terms is indexicality, or what Nichols (2017) and others call the *indexical anchor*. Indexicality refers to the semiotic property by which an image is causally linked to the reality it depicts, such as light striking a camera sensor or film stock. This concept has long underpinned documentary credibility since viewers often take indexical traces as evidence of "being there." By extension, the *documentary contract* (Winston, 2000; Nichols, 2017) describes the implicit agreement between nonfiction producers and audiences that what is represented is grounded in the real, unless signalled otherwise. These concepts are crucial for this study, as they help explain why participants interpreted technical flaws in the real film as signs of authenticity, while treating anomalies in the synthetic film as evidence of fabrication. *Augmented Indexicality* refers to the use of ML models to infer new representations from an existing indexical anchor (e.g., a photo, audio clip, or dataset), extending the evidentiary trace without replacing it.

The study also engages with the notion of *synthetic media*, defined as content, visual, auditory, or textual, that is generated or significantly altered by artificial intelligence. Often referred to in popular discourse as "deepfakes" or AI-generated content, synthetic media challenges established boundaries of nonfiction by replacing indexical anchors with computational inference (Chesney and Citron, 2019; Vaccari and Chadwick, 2020). Relatedly, the terms *artificial intelligence* and *machine learning* are used in this thesis to denote generative systems that learn from datasets to create outputs such as images or video sequences. In this study, machine learning models were used to generate a largely synthetic version of a short nonfiction film, allowing for a direct comparison with its real, indexical counterpart.

A new conceptual category introduced by this thesis is inference and its proposed professional extension, *Inference Journalism*. The term *inference* is deliberately borrowed from computer science, where *inference* refers to estimating model parameters or predicting outcomes based on data rather than fabricating information from nothing. In statistical and machine learning contexts, inference generates outputs by extending what is already known from existing inputs. Applied to nonfiction media, *Inference Journalism* designates a practice where ML techniques are transparently used to reconstruct places, events, or individuals from an evidentiary anchor such as a photograph, audio clip, or dataset. The term signals that these reconstructions are inferred extensions grounded in real data, not wholesale inventions. A more detailed explanation and theoretical framing of this concept is provided in Chapter 5.5.3.

Several further terms are important for interpreting audience responses. The *empathy–ethics paradox*, identified in this research, refers to the phenomenon whereby synthetic animation of the deceased (e.g., eye blinks, head movements) generated heightened

empathy and emotional closeness but simultaneously increased ethical unease and suspicion of authenticity. Related to this is the category of *empathy*, defined here as emotional engagement expressed through fascination, sadness, or closeness to subjects, which was measured quantitatively in survey scales and qualitatively in open comments.

The study also distinguishes between *documentary noise* and *synthetic anomalies*. *Documentary noise* refers to imperfections such as blur, shaky footage, or poor audio, which audiences often interpret as markers of authentic fieldwork. By contrast, *synthetic anomalies* are artefacts specific to AI-generated visuals, such as incorrect flag details, overly smooth textures, or unnatural light reflections. While both disrupt the visual field, their reception diverged sharply in this study: documentary noise tended to be read as authenticating, whereas synthetic anomalies were commonly read as signs of unreality.

Finally, the term *AI disclosure* is used to describe the act of informing audiences that ML techniques were used in creating nonfiction material. Disclosure has been widely debated in media ethics, with scholars noting both its necessity for transparency and its potential to reduce perceived credibility (Floridi, 2020; Dobber et al., 2021). In Survey 2, disclosure itself emerged as a credibility frame, with many participants reporting that they would feel more negative if they knew AI had been used, a finding that underscores the complex role disclosure plays in shaping audience expectations and trust. By clarifying these terms at the outset, the thesis aims to provide a shared vocabulary for analysing how audiences engage with both indexical and synthetic nonfiction media.

Table 1.2: Key Terms, Definitions, and Relevance to Study.

| Term | Definition | Relevance to Study |
|---|---|---|
| Indexicality / Indexical Anchor | A semiotic property where an image is causally linked to reality (e.g., light hitting a sensor). | Basis of documentary trust; distinguishes real footage from synthetic imagery. |
| Documentary Contract | Implicit agreement that nonfiction media is grounded in real events, unless disclosed. | Frames audience expectations of truth and authenticity. |
| Synthetic Media | AI-generated or altered media content (images, video, audio, text). | Central to the synthetic film; challenges indexical trust. |
| Artificial Intelligence (AI) / Machine Learning (ML) | Systems that simulate human intelligence (AI); ML algorithms learn patterns to generate outputs. | Core technologies used to produce synthetic visuals in the study. |
| Inference / Inference Journalism | Inference: reconstruction of missing details from real anchors; Inference Journalism: transparent AI/ML reconstructions disclosed to audiences. | Original contribution of this thesis; proposes a new nonfiction genre. |

| | | |
|---|---|---|
| Empathy–Ethics Paradox | Stronger empathy from AI-generated movement of people, but greater ethical discomfort and mistrust. | Identified as a key audience response dynamic in this study. |
| Empathy | Emotional engagement (e.g., fascination, sadness, closeness). | Measured through surveys and open comments; varied across real vs. synthetic films. |
| Documentary Noise | Technical flaws in real footage (blur, shaky shots, poor sound). | Seen as authenticating in Survey 1. |
| Synthetic Anomalies | Artefacts specific to AI visuals (odd reflections, wrong flag details, unnatural light). | Seen as signs of unreality in Survey 2. |
| AI Disclosure | Informing audiences about AI use in nonfiction production. | Affected trust in Survey 2; participants often reacted negatively. |

Table 1.2

## 1.7 Assumptions, Limitations, and Delimitations

Every research project operates within a set of parameters that shape the design, conduct, and interpretation of findings. Making these explicit serves not only to clarify the scope of the study but also to highlight the epistemic conditions under which its conclusions should be read. Following standard research conventions (Creswell and Creswell, 2018; Yin, 2014), this section distinguishes between assumptions (conditions accepted as true for the purposes of the study), limitations (constraints beyond the researcher's control), and delimitations (choices deliberately made to define the boundaries of inquiry). In the context of this thesis, which investigates audience responses to real and synthetic nonfiction films, such distinctions are especially important given the rapid evolution of generative AI technologies and the contested nature of documentary realism.

Assumptions

Several assumptions underpin the research design. First, it is assumed that participants responded to survey questions honestly and thoughtfully. Since both closed and open-ended responses formed the basis of analysis, the study relies on the good faith of participants to articulate genuine perceptions rather than offering flippant or strategic answers.

Second, the study assumes that the sample, while modest in size, reflects broader tendencies in how contemporary audiences approach nonfiction media. This does not mean the findings are statistically generalisable but that they capture meaningful patterns of reception that can inform theoretical and professional debates.

Third, the open-text comments are assumed to reflect valid interpretive positions, even where they contradict one another. The integration of NVivo coding with quantitative results presumes that these comments offer a window into participants' reasoning and affective engagement.

Fourth, it is assumed that participants possess at least a basic familiarity with nonfiction genres and conventions. Without this, questions about trust, realism, and ethical acceptability would lack common reference points. Documentary has long relied on audience literacy around its conventions, such as voiceover narration, interviews, or vérité footage, and this study assumes that participants were drawing upon those cultural frames when evaluating the films.

Finally, the study assumes that the context in which participants viewed the films, primarily online via SurveyMonkey, provided sufficient exposure to form legitimate judgments. While viewing conditions may have varied (different devices, environments, distractions), the assumption is that these did not fundamentally distort participants' ability to engage with and evaluate the films.

Limitations

Despite careful design, the study faces several limitations that must be acknowledged.

Sample size and demographics - With 75 participants in the survey, the sample is relatively small and demographically constrained. While sufficient for exploratory analysis, it does not allow for robust generalisation across broader populations. Furthermore, demographic distribution (age, cultural background, education level) may have shaped responses in ways that cannot be fully disentangled.

Short-form film stimuli - Both the real and synthetic films were deliberately short in duration. While this facilitated online survey administration, it constrains the ecological validity of the findings. Audience responses to a short film may differ substantially from responses to feature-length documentaries or broadcast journalism. The brevity of the films may also have affected immersion, empathy, and perceived educational value.

Survey method - Reliance on self-reported data means that findings capture perceptions rather than measurable behaviours. For example, participants stated trust in a film does not necessarily translate into future viewing choices or belief in factual content. Self-reporting also risks biases such as social desirability, acquiescence, or priming effects.

Generalisability - The results cannot be generalised to all audiences or media contexts. They provide a situated account of audience responses to two particular films under

specific conditions. While patterns are evident, they should be read as exploratory rather than definitive.

Research framing - A further limitation arises from the research framing itself. Participants were informed that the study related to artificial intelligence in nonfiction, which may have primed them to be especially alert to questions of authenticity and manipulation. It is possible that responses would have differed if no mention of AI had been made in advance.

Technological specificity - The synthetic film was produced using ML tools available in 2025. Given the rapid pace of technological change, visual quality, anomaly detection, and audience literacy are all likely to evolve quickly. The findings therefore reflect a specific technological moment and may not hold once generative tools become more sophisticated or widely adopted.

Platform constraint - The films were delivered via online survey software (SurveyMonkey). This ensured efficiency but limited ecological validity compared to theatrical, classroom, or broadcast settings. Differences in screen size, internet quality, and environmental distractions may have shaped reception.

Delimitations

In addition to these constraints, several deliberate choices were made to define the boundaries of the study.

Focus on short nonfiction film - The study is restricted to short-form nonfiction films, designed for survey-based audience testing. It does not extend to other genres such as advertising, fictional cinema, or immersive VR nonfiction, even though these may also be affected by synthetic media.

Two-group design - Participants were randomly assigned to one of two groups: one viewed the real film, and the other the synthetic film. Each participant therefore evaluated only one version. The design avoids direct comparative bias but also means that no participant experienced both versions, limiting within-subject analysis.

Scope of AI application - The study focused specifically on visual reconstruction, AI-generated images and short sequences, rather than on other uses of AI in journalism, such as automated text generation, voice synthesis, or data-driven reporting. This delimitation was necessary to keep the research manageable and aligned with the core interest in visual nonfiction.

Cultural/geographic limits - Participants were primarily English-speaking and located in Western contexts. Audience perceptions may differ significantly in other cultural settings, particularly where documentary traditions or attitudes toward AI diverge.

Ethical scope - The study examined perceived ethics, how participants judged the acceptability of AI use, rather than engaging with actual regulatory frameworks or institutional practices. This means that the findings speak to cultural perceptions of ethics rather than formal policy or law.

Reflection

By distinguishing between assumptions, limitations, and delimitations, the scope and boundaries of the study are made transparent. The assumptions acknowledge the interpretive foundation upon which the research rests. The limitations underscore constraints that reduce generalisability and caution against overstatement. The delimitations clarify the strategic choices made to narrow the focus, allowing the study to address its research questions within manageable parameters.

While these boundaries inevitably restrict the claims that can be made, they also provide clarity and focus. This thesis does not claim to capture universal audience responses to synthetic nonfiction. Rather, it offers a situated, carefully bounded exploration of how contemporary viewers engage with real and AI-generated films. These clarifications strengthen the integrity of the research by situating it honestly within its methodological, technological, and cultural conditions.

## 1.8 Structure of the Thesis

The thesis is organised into five chapters, each progressing from contextual foundations to empirical results, interpretation, and implications. The structure ensures a logical flow from the rationale and design of the study, through the analysis of audience responses, to its theoretical and professional contributions.

- Chapter I: Introduction
  This chapter establishes the foundations of the study. It begins with the opening context and rationale, followed by the aims and objectives. The background and statement of the problem are outlined, together with the purpose and scope of the study. Research objectives are aligned with methodological approaches, and the research questions and hypotheses are presented. The chapter also discusses the significance of the study, provides definitions of key terms, and clarifies assumptions, limitations, and delimitations. It concludes with an outline of the structure of the thesis.
- Chapter II: Literature Review
  This chapter situates the study within existing scholarship. After an introduction to the scope and search strategy, it establishes the theoretical and conceptual

framework. The review proceeds thematically, covering philosophical debates about truth, reality, and perception; the interface theory of perception and cognitive psychology; issues of news, politics, and post-truth society; and practices of documentary and mockumentary. It also examines visual effects in journalism, the rise of machine learning and AI inference in synthetic media, and ethical implications for public trust. The chapter concludes by identifying research gaps that this thesis addresses.

- Chapter III: Mixed Methods Research Design
  This chapter presents the methodological framework. It justifies the use of a mixed-methods approach and provides an overview of the research design. The production of the film stimuli is explained, from conception to post-production. Details of participant recruitment, sampling, and data collection instruments are provided, followed by the process for assessing visual perception and ethical acceptability. The chapter explains the plan for quantitative and qualitative data analysis, including the use of Excel, NVivo, SurveyMonkey, and ChatGPT 5.0. Research ethics and challenges are also addressed.

- Chapter IV: Presentation of Research Results
  This chapter reports the findings of the two audience surveys. It begins with an introduction to the analytical framework, including the NVivo coding process and the justification for quantitative and qualitative tools. Data inclusion criteria are explained. The results are then presented in two parts: Survey 1 (real film) and Survey 2 (synthetic film). For each survey, quantitative findings are presented question by question, followed by qualitative results. Key findings are then summarised by NVivo thematic area, and comparisons are drawn between qualitative and quantitative results. Finally, a comparative overview of both surveys is provided, followed by reflections on the analysis process.

- Chapter V: Discussion, Outcomes, and Implications
  The final chapter interprets and synthesises the research findings. It begins with a discussion of results across the six thematic areas: educational value and reliability, emotional response and empathy, ethical boundaries, realism and visual impact, trust and credibility, and viewer awareness and interpretive frames. The discussion is then organised by research question, addressing each in turn. The chapter moves to broader outcomes, including a summary of key findings, theoretical contributions, and practical implications. Subsections address implications for documentary filmmakers, journalism, and educational use, alongside the proposal of *Inference Journalism* as a professional genre. Professional guidelines for AI in nonfiction are also considered. The chapter

concludes with methodological reflections, limitations of the study, suggestions for future research, and a final conclusion.

# Chapter II
# Review of the Literature

## 2.1 Introduction to the Literature Review

This chapter reviews the body of scholarly and practice-based literature relevant to the use of synthetic media and machine learning models in news production. It critically examines how concepts of reality, truth, perception, and ethics intersect with technological advances in journalism, particularly through the lens of inferred truth. To develop a conceptual framework for the study, literature was drawn from interdisciplinary fields including philosophy of truth, cognitive psychology, visual culture, artificial intelligence, journalism ethics, and documentary theory. These were selected to address the theoretical, technological, and ethical dimensions of synthetic visual environments in factual storytelling. The literature included in this review was selected through a comprehensive and systematic search of academic databases such as JSTOR, and Google Scholar, as well as the University of Surrey's library resources. Keyword searches were conducted using a combination of core terms including *'machine learning'*, *'synthetic media'*, *'GANs' (Generative Adversarial Networks)*, *'artificial intelligence in news'*, *'inferred truth'*, *'documentary ethics'*, *'film'*, and *'post-production visual effects'*. These terms were cross-referenced to locate studies at the intersection of technology, media production, and journalism ethics. The review also utilised backward and forward citation tracking from seminal and recent papers to identify influential sources. References cited in relevant PhD theses and scholarly articles across fields such as media studies, computer vision, cognitive psychology, and documentary filmmaking were also reviewed. This multi-source approach ensured a well-rounded understanding of both theoretical constructs and

applied research related to the use of AI-generated content in factual storytelling. The review is organised into six thematic sections:

1. Philosophical and cognitive frameworks of truth and reality;
2. News, politics, and manipulation in the post-truth era;
3. The visual environment in factual media;
4. The documentary-mockumentary spectrum;
5. Machine learning models and AI inference tools;
6. Ethical implications of using artificial content in news.

This exploration not only maps the scholarly terrain but also identifies critical gaps and tensions, particularly the lack of empirical research on audience perception of synthetic yet data-informed visual content. This literature review thus lays the foundation for assessing the credibility and acceptability of AI-generated imagery in journalistic practice.

## 2.2 Search Strategy

The research process began with a systematic review of scholarly literature across academic databases including JSTOR, Scopus, IEEE Xplore, Google Scholar, ProQuest, and Taylor & Francis Online. These platforms were selected for their broad access to peer-reviewed journals and conference proceedings in both the humanities and computer science domains. Additionally, the University of Surrey's library services, including digital thesis repositories and media archives, were instrumental in retrieving full-text articles, books, and dissertations relevant to the research focus.

Keyword searches were designed to reflect the core concepts of the research. Initial exploratory searches used terms such as "synthetic media," "machine learning," "AI", "journalism," "documentary," "truth," "fake news," "ethics," and "visual storytelling." These searches helped identify foundational texts and emerging studies. As the research focus narrowed, more specific and technical search strings were employed, including "Generative Adversarial Networks (GANs)," "post-production in film," "news manipulation," "deepfake ethics," "mockumentary analysis," and "inferred reality." Boolean operators (AND, OR, NOT) were used to combine these terms and refine results, for example, *"GANs AND journalism"*, or *"synthetic visuals NOT fiction."*

Backward and forward citation tracking was used to identify additional key texts. Seminal articles and monographs were traced to locate earlier influential works, while forward citation analysis revealed how recent scholarship had built upon or critiqued these foundations. This recursive method was especially useful in interdisciplinary topics where citations often span across computer science, media theory, and philosophy.

Beyond scholarly databases, grey literature such as technical white papers, digital journalism reports, AI ethics guidelines, and media production blogs were consulted. Industry case studies (e.g., use of AI-generated content in *The New York Times*, *BBC*, or in films like *Roadrunner* and *The Rise of Skywalker*) provided practical insight into how synthetic visuals are being implemented in real-world scenarios. While not peer-reviewed, these sources offer valuable context on current trends and practices.

Dissertations and PhD theses from institutions known for media innovation and computational arts were also examined, especially those published in the last decade. References within these documents provided curated lists of field-specific texts that enriched the depth of the review. These included works addressing the evolution of CGI, the ethics of documentary reconstruction, and perceptual realism in visual communication.

## 2.3 Scope of the Literature Review

Given the hybrid nature of the research, the scope of the review encompasses both theoretical discourse and technical practice, with a strong emphasis on interdisciplinary connectivity. The literature is organised thematically to reflect the layered structure of the thesis.

Firstly, philosophical and cognitive frameworks were reviewed to understand how concepts such as truth, reality, illusion, and perception have been historically defined and contested. Foundational theories from Aristotle, Plato, Descartes, and more contemporary philosophers like Chalmers and Hoffman helped contextualise how truth can be conceived in digital and artificial contexts. Their work offered conceptual grounding for terms such as *"inferred reality"* and *"perceptual realism."*

Secondly, literature on media ethics, journalism studies, and post-truth discourse was assessed to examine how the integrity of news has evolved under digital pressures. Authors such as Pierre Bourdieu, Mark Curtis, and Hearns-Branaman were key in analysing journalism's role as a "field of struggle for truth." Topics included media manipulation, the spread of misinformation and disinformation, and the ethical implications of using reconstructed imagery in factual reporting. Recent industry and academic research have also examined how the public understands and evaluates AI's growing role in journalism. Large-scale audience studies consistently show that while people recognise the potential value of generative AI for efficiency and explanation, they express deep concern about its impact on credibility, transparency, and trust in news (Newman et al., 2023; Simon et al., 2025). The Reuters Institute's *Generative AI and News Report 2025* in particular demonstrates that public acceptance of AI in journalism is conditional on clear disclosure,

human oversight, and perceived public benefit. These concerns provide important context for the present study's focus on audience responses to AI-generated visual reconstruction.

A third category of sources focused on film theory and documentary practice, especially in relation to visual authenticity and the mockumentary genre. This included work by Roscoe and Hight on the documentary-fiction continuum, Kilborn and Izod on realism, and Barthes on photographic truth. These sources illuminated how images function as both persuasive devices and potential distortions of reality.

The fourth thematic area addressed machine learning technologies and synthetic visual environments. Key studies on GANs, semantic segmentation, and AI inference models such as GauGAN2 and MonoDepth2 were included to understand their mechanisms and creative applications. Academic papers were supplemented with technical documentation and GitHub repositories to fully grasp the operational logic and limitations of these tools. Studies in computer vision and computational graphics were particularly valuable in framing how realism can be synthetically reproduced and judged.

Finally, the literature review investigated ethical frameworks surrounding the use of AI-generated visuals in public communication. Topics included informed consent, transparency in media production, and the blurred boundaries between simulation and deception. Reports by research centres in AI ethics, as well as debates in peer-reviewed journals such as *AI & Society* and *Journalism Studies*, helped interrogate the line between innovation and manipulation.

Delimitations

Although the research addresses AI and synthetic media broadly, the review focuses specifically on visual representations in the context of non-fictional storytelling, mainly in journalism and documentary film. It does not extend into audio-only formats, gaming environments, or fictional cinema outside of comparative examples. The technical literature is also limited to those models and tools that are publicly available or practically relevant to the creation of visual environments for factual storytelling.

By drawing together these diverse yet interconnected domains, the literature review provides a comprehensive foundation for investigating how audiences perceive artificially generated yet fact-based media environments. The following sections build upon this review to explore key themes in greater depth, identify research gaps, and support the development of a mixed-method inquiry into inferred truth and synthetic realism in news production.

## 2.4 Theoretical and Conceptual Framework

## 2.4.1 Truth, Reality and Perception: Philosophical Foundations

Understanding truth and reality has long been central to philosophical inquiry, but in the age of synthetic media and machine learning, these questions acquire renewed urgency.

### Plato's Cave and the Challenge of Appearances

Plato's allegory of the cave, presented in *The Republic*, is one of the earliest and most enduring metaphors for the conflict between reality and illusion. In Plato's story, prisoners chained inside a cave perceive shadows cast on a wall and mistake them for reality because they have never seen the real objects. When one prisoner escapes, at first, he is blinded by the firelight and confused by the new reality. As his eyes adjust, he begins to understand that the shadows on the wall were mere illusions, and that the objects casting them are more "real." If the prisoner is taken outside the cave into the sunlight, he experiences an even more profound level of reality. He sees the world as it truly is: full of colour, depth, and life. Once enlightened, the freed prisoner may feel compelled to return to the cave to help others see the truth. However, upon re-entering the darkness, his eyes struggle to adjust. The remaining prisoners, seeing him disoriented and unable to interpret the shadows clearly, mock him. They may even become hostile, preferring the certainty of the shadows over the disorienting truth of the outside world.

This allegory serves as a metaphor for the nature of human perception and the difficulty of accessing true knowledge. The cave represents the world of appearances, or the superficial understanding of reality based on sensory experience. The shadows are analogous to media representations or received knowledge that do not reflect the full truth. In the context of this research, AI-generated media can be seen as analogous to the shadows on the cave wall, representations that mimic reality, but do not arise from direct experience. However, unlike Plato's prisoners, modern audiences often knowingly engage with synthetic images, raising questions about how such representations affect public understanding of truth.

### Descartes and the Primacy of Ideas

René Descartes contributed significantly to the epistemological foundations of truth with his assertion: *Cogito, ergo sum* ("I think, therefore I am"). For Descartes, the act of thinking was the one certainty that could not be doubted and thus formed the basis for establishing all other knowledge. He distrusted the senses, arguing that they are often deceptive, where a stick looks bent in water, a dream feels real while it is happening, and therefore cannot be fully trusted to reveal the truth about the world. As such, Descartes advocated for a

rationalist approach, where knowledge is constructed through logical deduction and mental reasoning, not sensory experience alone.

This view is deeply relevant in the age of synthetic media and AI-generated content. Machine learning models trained on real data can generate visuals that do not replicate a single sensory instance, but instead represent a generalised or inferred depiction. These outputs, while not "real" in the traditional sense, are grounded in datasets and structured reasoning that reflect meaningful patterns in the real world. In this way, synthetic media can be seen as a cognitive construction, akin to Descartes' rationalist epistemology, which offers a mediated but coherent understanding of reality.

Furthermore, Descartes made a distinction between the *formal reality* of things (their actual existence) and their *objective reality* (the content of the ideas we have about them). When viewers engage with AI-generated videos, they may be responding not to the formal reality of a scene, which might never have existed as shown, but to its objective reality as a plausible, meaningful representation of an event or setting. This supports the thesis's proposition of an *inferred truth*, where the validity of the image is not in its documentary authenticity but in its conceptual and informational coherence.

Aristotle and Objective Reality

Aristotle offered a more empirical stance, arguing that reality consists of both material and immaterial entities, accessible through sense perception and intellect. For Aristotle, objects possess *essences,* intrinsic properties that determine their nature and behaviour, and these essences can be known through observation and reason. Unlike his teacher Plato, who privileged the world of abstract forms, Aristotle was more grounded in the physical world, believing that knowledge begins with what we can see, touch, and experience, but is deepened through rational analysis.

In the context of synthetic media, Aristotle's concept of essence is particularly illuminating. AI-generated images may not be exact copies of the real world, but they can still capture the *essence* of what is being represented, the emotional tone, spatial context, or social meaning of an event. For example, a machine-generated backdrop of a refugee camp may not depict a specific camp that exists in that form, but it may accurately convey the general conditions, atmosphere, and lived reality of many such camps. This distinction between literal truth and *essential* truth is at the heart of the thesis's argument for using synthetic visuals to support journalistic storytelling.

Moreover, Aristotle also believed that understanding a phenomenon required knowing its *causes*, including its purpose or final cause (*telos*). Applied to this research, this implies that the *purpose* of a synthetic visual, to educate, to inform, or to bring clarity to complex

issues, contributes to its legitimacy. If the generated image achieves its goal of enhancing public understanding, then it can be considered aligned with Aristotelian truth, even if it does not stem from an unaltered photograph or physical record. Thus, AI models like GANs, when used ethically and with journalistic intent, do not betray truth; they reshape and articulate it.

Zhuangzi and the Butterfly Dream

The Chinese philosopher Zhuangzi posed a striking question in his famous *butterfly dream* parable: was he Zhuangzi dreaming he was a butterfly, or a butterfly dreaming he was Zhuangzi? This story profoundly challenges assumptions about the stability of reality and identity. Zhuangzi's tale suggests that the boundary between illusion and truth, dream and waking life, is not only fragile but perhaps fundamentally indeterminate. Reality, in this view, is a construct mediated by experience and belief, not a fixed external certainty.

This ontological uncertainty has direct resonance with synthetic media. As viewers engage with AI-generated visuals, images that are artificial but often indistinguishable from real photographs, they are navigating this Zhuangzian ambiguity. If the representation evokes a truthful response, enhances understanding, and matches the viewer's expectations of plausibility, does it matter whether it is a "dream" or a "reality"? Zhuangzi would argue that subjective experience holds as much weight as objective facts when it comes to determining meaning.

This thesis leans into this philosophical ambiguity by proposing *inferred truth* as a legitimate mode of journalistic communication. The parable challenges the primacy of origin, whether something was recorded or generated, and instead draws attention to interpretation, perception, and narrative coherence. In an age of media saturation and information complexity, Zhuangzi's dream suggests that audiences may no longer differentiate between real and synthetic based on origin alone, but on how compelling, credible, and contextually appropriate the representation is. This further reinforces the exploration of how *perception*, rather than ontological status, plays a central role in determining credibility in contemporary media.

2.4.2 Interface Theory of Perception and Cognitive Psychology

Understanding how humans perceive reality and how perception may differ from objective truth is essential in evaluating the credibility and acceptability of AI-generated visuals in news production. This section examines Donald Hoffman's *Interface Theory of Perception* (ITP) and integrates insights from cognitive psychology to show how human perception is not a mirror of reality, but rather a functional, evolved interface. These theories support the

idea that audiences may accept artificial or inferred visual content as credible, even when it is not literally real, because perception prioritises usefulness over accuracy.

Hoffman's Interface Theory of Perception

Donald Hoffman's Interface Theory of Perception radically challenges the assumption that our sensory systems evolved to perceive objective reality. Instead, ITP proposes that perception has evolved not to reveal the truth about the world, but to guide adaptive behaviour in the most efficient way. Hoffman compares perception to a desktop interface on a computer: icons (like the trash bin or folder) do not resemble the physical circuits or binary code underlying them, but they allow users to function effectively. Likewise, humans do not see the world as it objectively is; they perceive simplified symbols that enhance survival.

From an evolutionary standpoint, this theory suggests that organisms which perceive "truth" are not necessarily more fit than those which perceive in ways that maximise utility. Hoffman's *Fitness Beats Truth* (FBT) Theorem formalises this idea mathematically, showing that in a world governed by natural selection, perceptual systems that favour utility over accuracy will often dominate. This is particularly relevant to visual storytelling in journalism, where the goal is not always to display raw, unfiltered images, but to communicate complex realities in a digestible, impactful format.

In the context of this research, this theory supports the legitimacy of using AI-generated, data-informed visuals to represent events or environments in news stories. These images may not be "real" in the mimetic sense but can still function effectively as communicative tools. Just as our brains perceive simplified versions of reality to navigate the world, audiences may accept inferred truth or synthetic media if it helps them understand truth-based narratives more clearly. This underpins the concept of *inferred truth,* a simulation that is not identical to physical reality but based on it and perceived as credible.

Perception and Illusion in Cognitive Psychology

Cognitive psychology offers a complementary perspective to ITP by exploring how perception is shaped by mental processes, expectations, and previous experiences. Two key theories in this domain are Richard Gregory's constructivist model and J.J. Gibson's ecological approach, which represent opposing views on how perception operates.

Gregory's theory of perception is top-down and interpretative. He argued that perception is not a direct reflection of stimuli but a constructive process involving hypothesis testing. Because the brain receives incomplete sensory information, it must rely on stored knowledge to interpret what is seen. According to Gregory, perception is an active process of inference, which makes it prone to visual illusions and misinterpretations, particularly

when unfamiliar stimuli are presented. This view strongly aligns with the potential of synthetic visuals to manipulate or guide perception. If viewers are unfamiliar with a given environment (e.g. a conflict zone or climate-ravaged region), their interpretation of an AI-generated image may rely more on plausibility and narrative coherence than on authenticity.

Gibson, by contrast, proposed a bottom-up, direct theory of perception, suggesting that the environment provides sufficient information for accurate perception without the need for internal inference. While useful in explaining certain real-time interactions with the physical world, Gibson's theory is less applicable to mediated experiences like film or news, where audiences are interpreting images at a distance. In such cases, perception is necessarily filtered through prior knowledge, cultural cues, and media conventions supporting the use of constructed visuals that "feel" real even if they are not.

A synthesis of both approaches can be found in Ulric Neisser's *Perceptual Cycle Model*, which suggests a dynamic interplay between top-down and bottom-up processes. Neisser proposed that our mental schemas guide what we observe, but these observations also modify our schemas. In media consumption, this cycle means that AI-generated visuals, if consistent with viewers' expectations and experiences, can reinforce perceptions of realism and truth, even when the images are synthetic. This cyclical nature of perception further supports the proposal that inferred truth can function as a viable representational mode in journalism.

Perception and Realism in Visual Media

Contemporary cognitive film theory offers important insight into how viewers interpret and emotionally engage with mediated representations. Murray Smith's work on character engagement and the structure of cinematic experience demonstrates that emotional response is not merely affective but cognitively organised through processes of recognition, alignment, and allegiance (Smith, 1995; Smith, 2020). This perspective is particularly relevant to synthetic nonfiction, where viewers must simultaneously process perceptual realism, narrative coherence, and ethical cues. Smith's model helps explain why AI-generated imagery in this study could heighten emotional engagement while also triggering ethical unease, a dynamic later conceptualised in this thesis as the empathy–ethics paradox.

Visual realism is not solely dependent on material authenticity, but on *perceptual cues* such as light behaviour, depth, motion, and texture. This view is reinforced by Prince's concept of *perceptual realism*, which identifies how digital effects mimic the physical world by replicating environmental cues our brains are conditioned to interpret as "real."

AI models like GauGAN2 and MonoDepth2 enhance these cues, making synthetic environments appear spatially and physically credible, even though they are constructed. Such techniques are already widely used in cinema and news, often without viewer awareness of their artificial nature.

Moreover, illusions in perception are not flaws, they are often strategic simplifications. As Palmer notes, heuristic processes based on usually accurate assumptions guide our interpretation of visual information. When these heuristics are violated, illusions occur. AI-generated visuals that use known perceptual heuristics to simulate reality may thus be perceived as more real than grainy or incomplete raw footage, because they align with how we expect reality to appear. This has significant implications for journalism, where clarity, emotional engagement, and comprehension often take precedence during material choice.

Interface Theory and cognitive psychology both suggest that perception is not a direct pipeline to objective reality, but a constructed, functional representation shaped by evolutionary, cognitive, and contextual factors. Inferred truth may be accepted by audiences because they align with perceptual expectations and serve communicative functions effectively. Far from being deceptive, these images can operate within an accepted framework of realism, provided their artificial nature is transparently disclosed.

## 2.5 Review by Themes

The thematic review is organised around six interrelated strands that together illuminate how nonfiction is being reshaped in the age of AI. The first theme, *Reality, Illusion, and Perception*, examines the philosophical and media-theoretical debates that underpin questions of what audiences consider "real," how illusions are constructed, and how perception mediates the boundary between authenticity and artifice.

### 2.5.1 Reality, Illusion, and Perception

The rise of AI-generated short video clips depicting people and locations has introduced new complexities to our understanding of perception, truth, and illusion. These forms of synthetic media can convincingly mimic real-world footage, challenging traditional epistemological frameworks. This review introduces new philosophical and cognitive psychology perspectives on reality and perception, building a foundation for analysing the reception, credibility, and ethical implications of AI-generated audiovisual content.

Philosophical Perspectives on Reality and Illusion

Friedrich Nietzsche criticised the notion that humans could perceive the world objectively and without interpretation. In *Thus Spoke Zarathustra*, (1883) he ridiculed the idea of "immaculate perception", the belief in unmediated, value-free observation. Instead, Nietzsche argued that all perception is filtered through desire, cultural constructs, and individual values. This aligns with concerns in synthetic media, where viewers interpret AI-generated imagery through social and emotional frameworks that shape their sense of reality.

This insight has profound implications when evaluating AI-generated short video clips. Even highly realistic deepfakes or synthetic sequences may be interpreted differently depending on the viewer's political orientation, emotional state, or prior exposure to similar content. Nietzsche's scepticism about pure objectivity reminds us that audiences bring complex interpretive filters to their media consumption, making perception an act of meaning-making, not passive observation.

The Problem of Perception

Philosophers have long debated the "Problem of Perception," which addresses how experiences can mislead us, particularly in cases of illusion and hallucination. Theories such as sense-datum theory (Russell, 1912), adverbialism (Ducasse, 1942), and disjunctivism (Snowdon, 1980) attempt to explain the relationship between perception and objective reality. These theories caution against assuming that vivid sensory experiences equate to truth, a relevant warning in an era where AI-generated video can evoke strong belief without physical referents.

For instance, AI-generated videos of a public figure speaking, which are completely fabricated, may appear no different from actual footage. If perception is treated as a reliable basis for truth, viewers are at high risk of being misled. Disjunctivism, which posits that perceptual experience in genuine and illusory cases is fundamentally different, becomes difficult to apply in mediated contexts where synthetic and authentic visuals are indistinguishable.

Māyā and Illusion in Eastern Philosophy

In Advaita Vedanta, the concept of *Māyā* posits that the world we perceive is an illusion—transitory and deceptive—concealing a deeper, unified reality (Deutsch, 1986). This idea reinforces the philosophical insight that sensory experience does not necessarily reflect

objective truth. AI-generated videos can be considered modern manifestations of *Māyā*, where simulated people and places appear real, yet lack ontological substance.

The notion of *Māyā* also introduces a valuable non-Western epistemology to the discussion, emphasising detachment from appearances and cultivation of deeper understanding. For journalism and education, the relevance is significant: it implies that simply "seeing" is not knowing, and underscores the importance of context, source transparency, and reflective scepticism when interpreting synthetic media.

Cognitive Psychology and Perception

Visual illusions such as the Ebbinghaus illusion demonstrate that perception is not merely passive reception, but an active interpretation shaped by context (Coren and Girgus, 1978). These illusions reveal the brain's reliance on environmental cues to make sense of ambiguous inputs. In AI-generated video, similar perceptual cues, like lighting, motion parallax, or facial expression, can evoke credibility, even when the footage is artificial. In practice, this means AI-generated clips that exhibit micro-expressions, camera shake, or naturalistic lighting are more likely to be perceived as authentic. This illusion of realism poses ethical challenges, especially when such details are deliberately added to manipulate viewers.

Predictive Processing and Bayesian Models

Predictive processing models argue that the brain continuously generates hypotheses about incoming sensory input and updates them based on prediction error (Friston, 2010). This Bayesian framework suggests that perception is not bottom-up but inferential. If AI-generated content conforms to viewers' predictions (e.g., how a face should move or a location should appear), it may be accepted as real even without a physical referent.

This also implies that manipulated videos which confirm viewers' biases or expectations are more likely to be believed regardless of their synthetic origin. In a media environment where speed and coherence often trump verification, predictive processing helps explain why misinformation travels so effectively through visual media.

Motivated Perception and Wishful Thinking

Motivated perception research shows that people's desires and goals influence what they see (Balcetis and Dunning, 2006). For example, thirsty participants are more likely to interpret ambiguous images as related to water. This psychological bias implies that

viewers may "see" authenticity in AI-generated clips when the content aligns with their emotional or ideological expectations.

This phenomenon is highly relevant to political or emotionally charged synthetic videos. People may interpret AI-generated clips showing controversial figures in compromising situations as genuine if the content resonates with their pre-existing beliefs. Motivated perception thus compounds the ethical responsibility of content creators and platforms, particularly in the context of manipulated media.

Additional Psychological Considerations

Recent work in affective neuroscience demonstrates that emotion shapes perceptual processes at a fundamental level. Barrett and Bar (2009) argue that emotional states not only influence what we pay attention to but can alter the way we interpret neutral stimuli. In the context of AI-generated videos, this suggests that emotionally charged content, whether fear-inducing, sentimental, or provocative, has a heightened chance of being accepted as truthful, especially if it triggers strong affective responses.

Temporal Perception and Motion Cues

Time-based perception is another relevant domain. Research by Eagleman and Sejnowski (2007) shows that humans use subtle motion cues and timing irregularities to determine the plausibility of events. AI-generated video clips that mimic naturalistic timing, such as eye blinks, speech pauses, or ambient camera motion, are more likely to pass as real. This indicates that the realism of synthetic video is not just visual but deeply temporal, engaging our perception of causality and event flow.

Source Credibility and Perceptual Framing

Studies in media psychology (Metzger and Flanagin, 2013) emphasise that perceived credibility of content is influenced not just by the content itself but by its source, context, and presentation format. When AI-generated videos are presented within trustworthy platforms or by known media outlets, their perceived authenticity increases. This introduces a layered perceptual issue: truth becomes contingent not just on visual realism, but on external cues that frame how the content is interpreted.

The literature on reality, illusion, and perception reveals that human understanding is fundamentally interpretative, vulnerable to illusion, and shaped by expectations, emotion, and context. From Nietzsche's critique of objective vision to predictive coding models in

neuroscience, there is widespread agreement that what we "see" is heavily mediated by our cognitive and emotional systems.

2.5.2 News, Politics, and Post-Truth Society

News are information or reports about recent events (Cambridge Dictionary, 2022). Many definitions also have the added "noteworthy" information, which can be seen ambiguously. Subjective human decisions decide here what is defined as noteworthy. Some news organisations interpret what the people need to know differently than others. This judgment of what and what should not be reported has come under increased scrutiny in the digital age when more information is accessible and being circulated to the public without first being filtered by political or corporate media organisations.

The core, as is often taught to journalism students, is to report the truth. Sometimes the boundaries in doing this in a truthful manner are crossed. An example are the actions of a German news reporter during the historic floods in North Rhine-Westphalia in 2021 where dozens died. Moments before going live on camera she smeared mud all over her clothes. She said she had felt ashamed to report in clean clothes from the scene (BBC News, 2022). The criticism in social media was immense with people from the region, who had directly been affected, feeling disrespected. Others complained that acts such as these were a reason for the loss of public trust in journalism and a sign of narrative control by corporate media (mz_storymakers, 2022).

Hearns-Branaman (2016) describes four philosophical approaches to journalistic practice and truth: 1) The realist approach is predicated on positivist ideas and Enlightenment that reality is accessible to human mind, therefore journalists can convey reality to their audiences through news media – the journalist's goal is to provide the most valid information that corresponds to the reality. 2) The pragmatic approach is a marketplace of ideas approach which privileges the airing of as many ideas and knowledge sources as possible; in journal- ism this means as many different opinions and views as possible should be offered. Both approaches are based on the idea that information about reality can be conveyed. 3) The antirealism approach argues that the reproductions that journalists create can never actually correspond to reality; the focus here is on how journalists construct reality. 4) From the three differing perspectives Hearns-Branaman suggest hyperrealism as it incorporates the uncertainty of reality while still grounded in a sense that conveying reality is a journalist's goal, however, considering the social constructivist nature of reality – as a construct of language and other influence – journalists give signs of reality relying on the self-referential code of media logic.

News and truth

Hoxha and Hanitzsch (2017) have proposed a news production model that captures the three stages of story ideation, story narration, and story presentation (see figure below
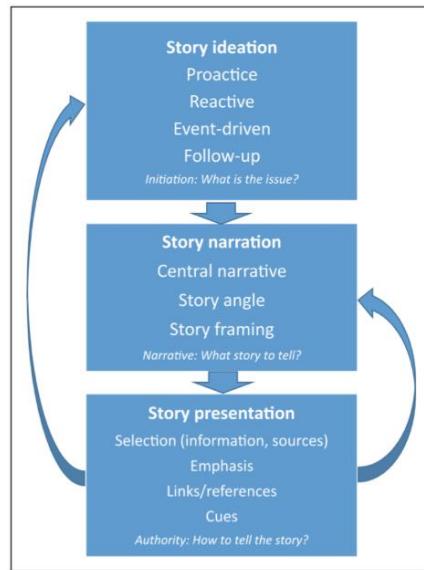


Figure: 2.1

Story ideation is the key process by which the story is generated and there are four ways in which a story can come into being: story ideation can be proactive when journalists initiate research on a particular story idea. In this case, the impulse to build a story comes from the journalists themselves, most of the time out of their curiosity about something they have become aware of. More common, the author argues, is the reactive mode of story ideation, in which the story is initiated through a person or an institution outside journalism. Journalists may attend a press conference and write about it; newsrooms may receive press releases and turn them into articles; or some kind of sensitive information is pitched (or leaked) to an investigative reporter. The third mode of story ideation is follow-up: journalists become aware of a potential story by observing other media outlets' coverage or by revisiting an issue previously reported by themselves, their own news organization, or other media outlets. The story is therefore initiated simply by the fact that the issue already received media coverage and journalists jump on the bandwagon. Finally, story ideation can also be event-driven, for there are events that leave journalists and the media no other choice than to report on them. In this mode, journalists routinely respond to occurrences 'on the ground' that hit the established criteria of newsworthiness in a way that newsrooms feel they must report on these events because everyone else will do.

In the second stage, the story narration where the question of what story to tell is ad-dressed by looking at the central narrative (the 'story'), the story angle (the perspective

51

from which to tell the story), and the story framing (the embedding of a story within an established interpretative framework) (Hoxha and Hanitzsch, 2017). Gans (1979) and Schudson (1995) make a distinction between 'important' and 'interesting' news in terms of judgements by journalists when deciding about framing the story and angle they will take to cover the news. Becker et al. (2004) argue that journalists first make decisions about the design and intention of the narrative and then use narrative techniques to create a news account. Story presentation is the third in the sequence of news production where journalists build the news item in a way that is consistent with the story line. In doing so, they establish discursive authority over the material, which is presented as a 'true' account of what 'really' happened. Four elements are central for the process of story presentation: selections which refers to the choice of information bits (or 'facts'), sources, sound bites and any other substantive aspects that get covered in the news account; emphasis reflects the fact that not all of these elements are presented as equally important or relevant in the news account; links and references because news accounts do not exist within a narrative vacuum; and cues which link a news account to real-world occurrences. The most powerful cues in this regard are visuals, such as the picture of the 3-year-old Syrian boy who drowned in the Aegean Sea in 2015, and who has subsequently become an icon of the European failure of dealing with the refugee crisis (Smith, 2015). News production is an iterative process. Often, the central narrative, angle and framing of a story may change when facts, article emphasis or cues do not support it. The narrative may also change in response to the coverage of other, notably competing, news media. Finally, a story idea might get dropped altogether if the narrative is deemed outdated or out of place, or if there are not enough facts to support the central story line (Hoxha and Hanitzsch, 2017).

The digital age is a new age of extremes for news reporting. New media technology has transformed both the way news is produced and consumed. On the one hand you have easier and quicker access to footage and witnesses of events on the ground, you could argue that transparency has seen a push over the last few years. Independent journalists play a critical role in every healthy democracy and the internet has given journalists the opportunity to publish their content outside government censor (Howard, 2011). The Arab Uprisings, or sometimes also called Facebook or Twitter revolutions, are an example of how social media have been used as a tool by the people to directly communicate with the world and help initiate anti- governmental protests and uprisings. Networks formed online were crucial in organising a core group of activists, specifically in Egypt (Khamis and Vaughn, 2011). Digital media has been used by Arabs to exercise freedom of speech and as a space for civic engagement (Ghannam, 2012).

With now more than eight-in-ten Americans getting news from digital devices, there has also been a transition of news from print, television and radio to digital spaces which

has caused huge disruptions in the traditional news industry (Shearer, 2021). There seems to be a shift from which sources Americans use to access digital news. When in 2012, 49 percent of American adults reported seeing news on social media, in 2016 it was a majority 62 percent getting news on social media (Gottfried and Shearer, 2016) with Facebook leading the way by far. Nearly two-thirds of its users get news from the platform. In 2021 half said they got news from social media (Shearer, 2021). Many more might have read the tweet in the past rather than the follow up story. But the numbers seemed to have gone slightly down which might hint to a public's distrust in news on social media after politicians, such as US president Donald Trump, have used this effect to their advantage. According to latest figures, around two-thirds of American adults say they get news at least sometimes from news websites, apps, or search engines (Shearer, 2021). The increased migration of news from print to digital media in recent years highlights the importance of good, realistic digital visuals to support reporting.

Politics and manipulation

News have always been target for misinformation and disinformation. In 1981, investigative journalist Eckart Spoo has given an insight into how "we the journalists make history" and that "all wars start with lies" (Engelmann et al., 1981). He gives an example of what consequences false or manipulated reporting can have. Spoo described that in April 1980, the German *Spiegel* magazine reported of an anthrax attack in the Soviet city of Sverdlovsk, now Yekaterinburg. The combat agent had made it from the laboratory into the city centre. The accident was said to have cost 300 to possibly 1000 lives. Source to the story was "an emigrant". Six months earlier, the same story was published by the British right-wing magazine *Now*, only that here the location was Novosibirsk and the source was "a traveller". The German *Bild* newspaper re-used the story and three months later published a follow-up claiming biological weapons had killed 1000 Russians, the location had changed again. The US foreign information service picked up the story and the *Daily Telegraph* followed up with an article explaining that the US's publication was part of a greater strategy to shake up public opinion considering biological and chemical weapons. Consequently, the NATO General for Europe ordered the introduction of chemical weapons so if Russia started a chemical weapon offensive they had a deterrent. The *Bild* then claimed their exclusive story had led to new increased tensions between the US and Russia. The *Bild* readers, and others, never found out that the US government later distanced itself from the whole story.

Now in the 21st century, any information that has not been fact checked or that has 48 been actively manipulated, whether it is the news story's narrative or its portrayal, can be instantly spread quickly and easily around the world. Even when politicians and others

make statements that are false, they are often shared and tweeted by reporters as quotes. It is often not until you read or hear the detailed report until you find out how and why the statement is not true (Davis, 2019). An analysis done by Buzzfeed revealed that the highest 20 fake news stories about the 2016 US Presidential election received more attention on Facebook than the highest 20 election stories from 19 major media outlets (Chang et al., 2016).

A well-documented example of active digital disinformation for the purpose of political propaganda is the Massachusetts special Senate election in 2010 between Scott Brown and Martha Coakley (Viser, 2010). Midway through the campaign computer science researchers noticed that a group of suspicious-looking Twitter accounts were launching attacks on Coakley making allegations that she was anti-Catholic and tweeting anti-Coakley content. The allegations made it into the news citing the Twitter messages as evidence for growing anti-Coakley sentiment in the public. Bots had given the allegations against Coakley the illusion of legitimacy and popularity (Woolley, 2020). Eventually the opposing party won the election. This is an example that bots can also help create illusions.

Another danger is that journalists simply echo the analytical framework of the sources by uncritically using keywords and photos (Howard, 2011). This can lead to the discourse from the source as being used in the news coverage and thus potentially lending credence to a fundamentalist group's framing of a conflict, for instance, as has been seen in the reporting about the Maluku conflict in Indonesia in 2005 (Lim, 2005).

In addition to news manipulation, since the mid-2010s the concept of fake news burst onto the global scene following the rise of false news stories during the presidential election in the United States. The same people who produced the junk content known by this moniker reclaimed the phrase as a means of undermining legitimate journalism, as a crutch to attack inconvenient scientific findings or to refute factual stories about their own misdeeds (Woolley, 2020). The term fake news itself has become a tool for spreading fake news. A research paper in 2017 detailed the social media propaganda expenses of various governments around the globe. It claimed that Filipino president Duterte spent hundreds of thousands for a social media army whose goal was to viciously defend against critics (Bradshaw and Howard, 2017). The Filipino news outlet Rappler revealed his regime funded malicious digital propaganda and trolling campaigns against dissenters (Ressa, 2016). Social media can be used for public manipulation.

Political truth

Reporters and journalists can unwillingly aid the spread of falsehood. Davis (2019) sees an increasingly successful deployment of the tools of truth suppression and with this volume of false information flowing around the globe, whether deliberate or unwitting, some politicians and scholars alike have started seeing us living in a post-truth era. A post-truth society has been defined as one in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief (Oxford Learner's Dictionary, 2022).

Saul Newman (2019) lists a number of what he considers typical traits of post-truth such as propagation of falsehoods, lies, misinformation, outrageous exaggeration, and distortion of reality, and more. According to Nealon, politicians create or produce reality by their discourses (Nealon, 2017). Informed by readings of Austin and Derrida, he suggests that what is politically true, or what can be called political truth, is rather performative, noting that political truth functions not on the logic of facts. Austin argues that performatives are straightforward utterances that simply cannot possibly be true or false, rather they do something, they perform (Austin, 1961). For Fridlund it appears rather to be the force of the utterance, as a performative utterance, that does the job (Fridlund, 2020). In the end it is what it does that counts, not whether truth is told or not (Ford, 2018). As long as there is the opportunity for misuse, it is likely to happen. Therefore, maybe it is not despite us living in an age where fake news, manipulation and post-truth challenge news reporting, but because these are the circumstance that using partly artificially produced visual environments that are based on real data and deliver an inferred truth, might be a viable option so to educate and inform with facts and oppose those challenges in a way that deflates those tactics.

2.5.3 Documentary and Mockumentary Practices

Documentary is often defined as a genre although Kilborn and Izod (1997) suggest that the term may have outlasted its critical usefulness, owing to the proliferation of actuality programming. It is often described as either a "television, film, video, or radio programme dealing with factual material rather than fictional material, usually with some defined goal to create new insight or exposure to facts" (Oxford References, 2023). It holds a privileged position within society with its claim that "it can present the most accurate and truthful portrayal of the socio-historical world... the image and the record of that image are seen as being one and the same, suggesting a strong and direct connection between the cinematic record and 'reality' (Roscoe and Hight, 2001)."

There are three key ingredients for a documentary to authenticate a story: Eyewitnesses, photographs, and newsreel footage (Roscoe and Hight, 2001). They are part of the code of realism and naturalism at the same (Banks et al., 2020) time documentaries make

frequent use of reconstruction which sees the use of fictional and dramatic codes. Roscoe and Hight (2001) highlight that documentary text constructs relationships with both factual and fictional discourse and therefore exists rather along a fact-fictional continuum. From its origins in 1877, when Eadweard Muybridge captured sequential photographs of galloping horses and projected them using his zoopraxiscope, the moving image has been intertwined with the study and representation of reality (NYFA, 2015), documentary film has taken many forms and adopted numerous styles and techniques. It is a constructed object assembled of many pieces and, for Roscoe and Hight, documentary transforms the fragments of real life into argument or story.

Derek Paget's work on docudrama provides a crucial historical framework for understanding contemporary practices of reconstruction in nonfiction. Paget argues that docudrama occupies a productive tension between factual authority and dramatic representation, relying on transparency and audience awareness rather than strict indexicality to maintain credibility (Paget, 2009; Paget, 2011). This tradition is directly relevant to the present study's examination of AI-based reconstruction. Inference Journalism extends the logic of docudrama into the age of machine inference, replacing theatrical reenactment with computational reconstruction while preserving the same ethical requirement: that audiences understand what is inferred and from what evidentiary basis.

The Evolution of Documentary Realism

From its inception, documentary filmmaking has been situated between two competing imperatives: to record reality and to construct meaning. Early practitioners like Dziga Vertov (1984) and John Grierson (1933) laid foundational philosophies for documentary realism, each addressing the potential and limits of the cinematic apparatus in capturing truth.

Vertov's Kino-Eye theory posited the camera as a machine capable of revealing truths inaccessible to the human eye. For Vertov, the camera was not merely a passive recorder but a revolutionary tool for seeing the world anew stripped of narrative illusion and bourgeois subjectivity. His films, such as *Man with a Movie Camera* (1929), rejected fictional storytelling in favour of a cinematic montage that emphasised construction and perception over neutral observation.

John Grierson, credited with coining the term "documentary," defined the form as "the creative treatment of actuality." This phrase highlights the central paradox of the genre: while rooted in real events and conditions, documentaries are like news mediated through narrative, aesthetic, and editorial decisions. Grierson's social documentaries like *Drifters*

(1929) and his influence on British documentary culture in the 1930s reinforced the genre's public service mission, to educate and inform, while acknowledging its dependence on stylistic intervention to engage audiences. The use of natural material has been regarded as the vital distinction (1933, p. 145).

The post-war period saw the emergence of *cinéma vérité* and *Direct Cinema*, two movements that further complicated notions of realism. *Direct Cinema*, practiced by filmmakers such as the Maysles Brothers who produced *Salesman (1969) and Gimme Shelter (1970*), emphasised observational neutrality (NYFA, 2015). Armed with lightweight cameras and synchronous sound equipment, these documentarians sought to capture events as they unfolded with minimal intervention. Yet, their claims to objectivity have been critiqued; the very presence of the camera often influenced behaviour, and the final product was always shaped by selective editing.

In contrast, *cinéma vérité*, as developed by French filmmaker Jean Rouch and theorist Edgar Morin, embraced interaction and participation. Rouch's *Chronique d'un été* (1961) foregrounded the filmmaker-subject relationship and reflexively interrogated the authenticity of what was being captured. By provoking subjects and acknowledging the performative dimension of interviews, Rouch shifted the focus from pure observation to a more complex, dialogic truth. The characters' actions in the film consistently appear to be reactions prompted by the interviewer or the person guiding the conversation. (NYFA, 2015).

This pluralism of approaches is codified in Bill Nichols' widely adopted taxonomy of documentary modes (2001). Nichols identifies six modes: expository, which uses voice-over narration and argumentation; observational, associated with Direct Cinema; participatory, as in cinéma vérité; reflexive, which foregrounds the construction of the documentary itself; performative, emphasising the subjective and affective dimensions of experience; and poetic, which privileges aesthetic over narrative coherence. Each mode negotiates realism differently, balancing documentary's factual aspirations with its inherently constructed nature.

Thus, from Kino-Eye to Nichols' postmodern modes, documentary has never been a simple mirror to reality. Instead, it is a dynamic form shaped by technological, ideological, and aesthetic choices. This evolution is particularly relevant in the context of AI-generated visual content, where realism is no longer tethered to photographic indexicality, but to plausibility, coherence, and ethical framing.

Mockumentaries

Mock-documentaries, or mockumentaries, are films or television shows made in the style of a documentary to make invented events seem real (Cambridge Dictionary, 2023). Roscoe and Hight (2001) propose a schema of three degrees, assessing mockumentaries according to the filmmaker's intention, the degree of appropriation of documentary codes and conventions, and the level of reflexivity encouraged in the audience. These categories are parody, critique, and deconstruction, each representing a different type of engagement with documentary form and realism.

Parody represents the most "benevolent" form of mockumentary. These texts affectionately mimic the style and conventions of documentaries while clearly signalling their fictional status. A classic example is *This Is Spinal Tap* (1984), which humorously follows a fictional British rock band through a faux concert tour, using the tropes of music documentaries. Similarly, *Best in Show (*2000) satirises the world of competitive dog shows by adopting the stylistic language of fly-on-the-wall documentary. In both cases, the audience is in on the joke, and the mockumentary functions as a form of cultural commentary through affectionate imitation.

Critique, the second level, involves a more ambivalent appropriation of documentary aesthetics. These mockumentaries may blur the line between fact and fiction more deliberately, often relying on hoaxes or partial deception to provoke critical reflection. The *Blair Witch Project (1999)* is a well-known example, originally marketed as a found-footage documentary to amplify its horror. Its realistic visual style and ambiguous presentation prompted many viewers to initially believe it was real. Another case is Peter Jackson's *Forgotten Silver (1995)*, a fictional account of a forgotten New Zealand filmmaker, presented with such convincing use of archival footage and expert testimony that many viewers were deceived. These works both accept and subvert documentary codes to question audience trust and highlight the constructed nature of all documentary forms.

Deconstruction, the most "hostile" appropriation according to Roscoe and Hight, actively exposes and dismantles documentary's claims to truth. *Exit Through the Gift Shop* (2010), attributed to the street artist Banksy, questions authorship, authenticity, and media manipulation by blurring the line between art documentary and elaborate prank. Similarly, *Peter Greenaway's The Falls* (1980) presents a surreal catalogue of fictitious biographies using the deadpan seriousness of the documentary voice, ultimately revealing the absurdity and arbitrariness of institutionalised knowledge. In these cases, the mockumentary becomes a tool of critique that disrupts viewer expectations and exposes the ideological assumptions embedded in documentary practices.

A key distinction between documentary and mockumentary lies in the deliberate use of falsified images that purport to represent the socio-historical world. This is especially

significant in the current media environment, where AI-generated visuals increasingly blur the line between authentic representation and simulation.

Changing practice

Images have always played a crucial role in authenticating documentary claims. Kilborn and Izod (1997) summarise that such images function in a metonymic mode: the image stands in for a larger truth, assumed to share the same order of reality through its indexical bond to the real. "In short, metonymy is a significant part of the persuasive machinery of documentary realism" (Kilborn and Izod, 1997, p. 100). Roland Barthes (1981) similarly argued that the photograph's indexicality, that is, its physical, causal connection to what it depicts, endowed it with a seemingly irrefutable authenticity. This indexical trace was long considered the cornerstone of photographic realism, and by extension, the documentary genre's truth claims.

This belief in photographic truth was perhaps most famously theorised by André Bazin, who in his essay "The Ontology of the Photographic Image"(1945/1960), argued that photography's power lay in its mechanical objectivity. For Bazin, the camera could record the world "automatically," preserving the real with a faithfulness no human hand could reproduce. This ontological connection between image and referent, what Bazin called "the embalming of time" (Stafford, 2013), provided the foundation for the documentary's claim to unmediated reality. Viewers trusted what they saw on screen not just because it was plausible, but because they believed it had a physical origin in the world.

While the work of Bazin, Barthes, and Heath established the classical ontology of the photographic image, contemporary scholarship has complicated their claims by showing how digital compositing, CGI, and machine vision dissolve any simple notion of indexical realism (Rodowick, 2007; Prince, 2012; McCosker & Wilken, 2020; Chun, 2016). Rather than signalling the "end" of indexicality, this body of work reframes it as an evolving epistemic practice shaped by software, data, and computation.

In the 21st century, trust is being radically undermined. As Philip Rosen explores (2001), the digital image already began to loosen the ontological security of photographic realism. Unlike the analogue photograph, the digital image is not a direct imprint of reality but a series of data points which are manipulable, reproducible, and susceptible to total fabrication. With the advent of AI-generated imagery and video, this detachment has become even more profound. There is no longer a necessary, causal link between an image and a real-world referent. Instead, what we see may be the product of machine inference, trained on data rather than derived from physical reality.

In this context, AI-generated images disrupt indexicality by severing the traditional trace between the event and its representation. While they may appear to depict real people, places, or events, these images are not "of" anything as defined by Bazin in the 1960s. They are representational fictions engineered to resemble reality, yet they originate entirely within computational frameworks. Despite this, such images often still function metonymically: they stand in for the real, simulate emotional or historical truth, and evoke the authority of the photographic image even as they are ontologically distinct from it.

This creates an epistemological tension. The aura of the real persists even in the absence of physical causality. Viewers may interpret synthetic visuals as evidence, especially when presented in documentary or journalistic contexts. The danger lies in how easily the aesthetic codes of realism, such as handheld camera movements, natural lighting, archival styling, can be imitated by AI-generated content. When such visuals are decoupled from reality but still coded as truthful, they inhabit a new, precarious space: one in which indexical trust has collapsed, but rhetorical authority remains. Truth is inferred.

What once was the domain of artistic imagination, the visualisation of the unseen, is now increasingly the domain of machine learning and algorithmic inference. AI-generated environments and characters can reconstruct the past, simulate the present, or speculate about the future, filling gaps where no visual documentation exists. In non-fiction storytelling, this aligns with the rise of animated documentaries and the growing popularity of visual reconstructions in journalistic formats. As Ehrlich (2021) observes, today's culture is poised between fiction and fact, increasingly open to media that blend the two.

When synthetic elements like AI-generated backdrops or avatars are integrated into nonfiction storytelling, they often function metonymically. They may not provide photographic evidence, but they stand in for real referents, invoking the authority and familiarity of realism without being materially tied to it. This shift invites deeper reflection on authenticity, intentionality, and the viewer's role in negotiating documentary truth in a media landscape where images can be both convincingly real and entirely artificial.

Redefining Authenticity in the Age of AI

As AI-generated video and synthetic imagery become increasingly integrated into journalistic and documentary storytelling, traditional definitions of authenticity, rooted in indexicality, objectivity, and visual transparency (Nichols, 2008), are undergoing a fundamental transformation. The documentary, once bound to its status as a genre defined by form and intention, is now evolving into a media logic or discursive mode. In this expanded framework, the documentary no longer requires direct photographic evidence

but instead makes a broader claim: that what is being shown, however constructed, speaks to a recognisable and relevant truth about the world.

This shift is not merely technological but conceptual. Authenticity, once located in the material trace between camera and subject, is now increasingly understood in terms of intentionality, transparency, and epistemic grounding. An AI-generated video clip of a historical figure or a synthetic reconstruction of an inaccessible location may be perceived as authentic not because it is ontologically "real," but because it is truthful in purpose, clear in context, and consistent with known facts. In other words, authenticity becomes performative and relational, something that is negotiated between the media text, its creators, and its audiences.

Scholars such as Nichols (1991) have long argued that documentaries are not reflections of reality but arguments about it. This perspective aligns with the emerging use of AI-driven media, which often operates less as a direct record and more as a rhetorical construction. As a result, audiences are being asked not to believe what they see because it "happened," but because it fits within a transparent ethical framework that supports the documentary's larger communicative goals.

As highlighted by Uricchio (2011) and Nash (2021), algorithmic media redefine the documentary project and rather than signalling the death of documentary, AI-generated content demands new visual grammars. These may include on-screen disclaimers, stylistic cues that distinguish synthetic footage, or metadata that links AI-generated scenes to source data. New norms are also emerging around the use of voice cloning, facial synthesis, and virtual environments, tools which, if disclosed and responsibly applied, can expand the documentary toolkit without compromising trust.

In this sense, the documentary is becoming less about format and more about function. It is defined not by what it looks like, but by what it claims to do, whether that is to inform, represent, witness, or provoke inquiry. This functional perspective allows documentary principles to travel across genres and platforms, from traditional long-form films to TikTok explainers, VR experiences, and AI-generated short clips. Authenticity, in this broader ecosystem, is not an inherent property but an effect, co-produced by narrative integrity, contextual clarity, and viewer awareness.

2.5.4 Visual Effects in Journalism and News Environments

Computer-generated imagery (CGI) has been an integral part of the film industry for decades, with its techniques now influencing how information is visually constructed across media, including journalism. For instance, in *Star Wars: The Rise of Skywalker* (2019), the late Carrie Fisher's character, Leia Organa, was digitally recreated using

archived footage and CGI (Acuna, 2020). Machine learning-enabled facial synthesis allowed the filmmakers to retain Fisher's likeness, enabling them to complete the narrative in a way that aligned with the original story arc. This use of synthetic media illustrates what some have called "artificial imagination" (Vales, 2019), a blend of human intent and machine inference to visually represent what cannot be directly filmed.

The ethical implications of synthetic media have extended into nonfiction storytelling, notably in the documentary *Roadrunner: A Film About Anthony Bourdain* (2021). In this film, director Morgan Neville used AI-generated voice synthesis to recreate Bourdain's voice reading lines from an email, sent during his life but never recorded (Yang, 2021). While Neville (Tangcay, 2021) defended the method as a "modern storytelling technique," it sparked widespread criticism for its lack of transparency and absence of consent from Bourdain's family. This controversy underscored a growing need for ethical frameworks around deepfake use, particularly in emotionally sensitive or truth-claiming genres like documentary and news.

Visual environments, long a staple of film set design, have similarly evolved. Historically, filmmakers used matte paintings, hand-painted glass backdrops integrated with live-action footage, to extend or fabricate environments (Ward, 2022). These techniques have since transitioned into digital matte painting, allowing for more dynamic and immersive compositing. Films like *Shutter Island* (2010) used a blend of live actors, miniature models, and digital elements like ocean and sky to create a convincing psychological landscape.

In *Speed Racer* (2008), a more advanced form of virtual production was employed: location scouts collected 360-degree, high-definition images from various global sites. These were then integrated into green-screen scenes back in the studio (Hobart, 2008). The result was an amalgamation of HDR photography, CG set extensions, and real decor blurring the boundaries between real-world referents and digital invention. These built environments, layered with real and virtual data, exemplify what some scholars call the synthesis aesthetic, a digitally constructed realism composed of multiple, interlaced media sources.

Importantly, these same techniques are no longer confined to cinema or high-budget streaming content, they are increasingly standard practice in news environments. Major networks such as Germany's ZDF Heute Journal and ARD Tagesschau now regularly deploy virtual studios, green screen rooms, and media walls equipped with advanced projection systems. These technologies allow presenters to seamlessly transition between different backgrounds, be it a war zone, a climate chart, or a football stadium, without ever leaving the studio.

This development reflects what could be described as the rise of "visual journalism infrastructures", modular, reactive spaces that adapt visually to the narrative content of a broadcast. As Schausten (Film-TV-Video.de, 2021), deputy editor-in-chief of ZDF, notes, the goal is to explain complex facts in a concise and engaging way using visual cues. Presenters might appear to report from Mars or the depths of the ocean, but with the explicit aim of enhancing viewer understanding rather than simulating an actual presence. Schausten emphasises that "no false reality is feigned"; the visual effects are interpretive aids, not replacements for journalistic truth.

In traditional broadcast news, visual grammar, such as framing, lighting, studio design, and on-screen graphics, plays a key role in constructing authority and credibility. With the rise of AI and CGI, these conventions are evolving. Newsrooms now use virtual sets, dynamic backgrounds, and data-driven infographics that respond in real time to unfolding events. While these techniques enhance clarity and engagement, they also blur the line between authentic representation and performative simulation. According to media theorist Stephen Heath, visual conventions in news "naturalise" authority, making it seem neutral and objective (Heath, 1990). With AI-generated environments, these same conventions can now be fabricated entirely, requiring a reconsideration of how visual authority is produced and perceived.

Contemporary journalism often uses visual simulations to explain complex phenomena such as pandemics, economic data, or military strategies. These simulations are constructed using 3D modelling, predictive algorithms, and increasingly, machine learning. The BBC's and CNN's use of "explainer rooms" (digitally rendered spaces where presenters walk through data visualisations) exemplifies this trend. While they aim to make data more accessible, they can also create the illusion of objectivity, reinforcing narratives through selective visualisation. As Manovich (2001) noted, "information aesthetics" is never neutral, what is shown, omitted, or emphasised can deeply affect interpretation.

Virtual production also transforms the role of the news presenter. Instead of being a static authority behind a desk, presenters now navigate dynamic, AI-enhanced spaces appearing to "walk" through war zones, climate disaster sites, or even historical reenactments. This shift introduces a performative element that blends journalism with documentary theatre. As Chouliaraki (2010) argues, this spatial storytelling creates "synthetic proximity", allowing audiences to emotionally engage with distant suffering. While emotionally compelling, this also raises questions: is the emotion evoked by the event, or by the production design?

While Western news outlets like the BBC, CNN, and ZDF have embraced AI-enhanced visuals, other regions have developed different approaches. In Japan, augmented reality

and virtual anchors are used to animate news bulletins, especially for youth audiences (Hornyak, 2025). In China, AI-generated newsreaders now deliver 24-hour bulletins with no human input (The Independent, 2018). These variations reflect not only technological availability but also cultural norms around trust, authority, and realism.

Yet, as these environments become increasingly photorealistic, especially with the integration of real-time rendering engines like Unreal Engine, the line between editorial support and perceptual deception becomes harder to draw. When viewers see a presenter standing in what looks like a real refugee camp or flooded city, the emotional and rhetorical impact is shaped not just by the content but by the aesthetic realism of the background. If AI-generated visuals are introduced, entirely fictional but plausible, do audiences perceive them as equally trustworthy? And does this shift the journalistic contract between visibility and verification?

Future news production may not simply rely on virtual sets, but on inferred environments generated by machine learning, scenarios or scenes reconstructed from incomplete data, statistical modelling, or even speculative projections. These environments could visualise climate futures, conflict zones inaccessible to journalists, or speculative reconstructions of crimes. Such practices will require not only technical fluency but editorial transparency and ethical oversight to ensure viewers are not misled by synthetic verisimilitude.

The increased sophistication of synthetic visuals also poses risks, especially when visual effects are weaponised to spread misinformation. Deepfakes and synthetic avatars can be used to fabricate news events, impersonate public figures, or distort history. Journalistic institutions must now contend with "anticipatory accountability", the responsibility not only to report truthfully but to foresee how visual content might be misinterpreted or repurposed. Recent AI Ethics Guidelines (Deck, 2024) emphasise the need for clear editorial guidelines, source transparency, and AI-generated content disclaimers.

2.5.5 Machine Learning, AI Inference and Synthetic Media

This research proposes the use of machine learning (ML) models in news production to generate synthetic visual environments that can optically support and enhance factual explanations. Rather than attempting to replicate a false reality, these AI-generated visuals draw on a method known as AI inference, producing what may be termed an inferred truth. This is not deception, but a reconstruction informed by real data and built from learned patterns. In this context, AI-generated imagery acts as an illustrative supplement to journalistic content, intended to improve audience understanding while adhering to editorial truthfulness.

AI Inference and Machine Learning Principles

AI inference involves the application of learned intelligence from training data to new, unseen scenarios. Machine learning broadly consists of two phases: the training phase, where the model is exposed to large datasets (e.g., thousands of car images), and the inference phase, where it applies this acquired knowledge to classify or interpret new inputs (Arm, 2022). In more complex systems, inference can be used to augment human decision-making, predict likely outcomes, or generate novel content from pattern recognition.

For instance, ChatGPT, developed by OpenAI, is a large language model trained with both supervised and reinforcement learning. It demonstrates how inference models can produce coherent, data-informed outputs even in the absence of direct source material. However, as OpenAI acknowledges, such models can generate plausible but incorrect responses, due to the lack of a fixed "truth set" in the training phase (OpenAI, 2022). This reveals the central tension in ML-generated content: it mimics truth without direct indexical reference, presenting a form of inferred realism.

Machine learning models achieve their results through a two-phase process: training and inference. During the training phase, a model is exposed to vast datasets containing labelled or structured examples, such as thousands of images, audio files, or texts. These data samples allow the model to identify patterns, correlations, and statistical relationships between features (for instance, how wheels, headlights, and body shapes commonly appear together in images labelled "car"). The model uses algorithms, such as backpropagation in neural networks, to adjust internal parameters (or "weights") so it can predict correct outputs more accurately over time. This iterative adjustment is a form of "learning," where the model minimises errors between its predictions and the actual labels in the data. Once the model has been sufficiently trained, it enters the inference phase, where it applies the learned patterns to new, unseen data. For example, it might classify a previously unseen image as a "car" because its features statistically align with those learned during training (Du, Zhang, Jiang, Zeng, and Lu, 2025). Importantly, ML models do not memorise examples but generalise from them, meaning their outputs are probabilistic rather than deterministic, they produce the most likely result based on training patterns, not a guaranteed truth. This is what makes their outputs powerful for tasks like image synthesis or natural language generation, but also inherently uncertain when applied to high-stakes domains like journalism or documentary storytelling.

Traditional visual effects techniques such as CGI and matte painting have long been used in film, television, and journalism to create or enhance environments that are either impossible or impractical to film. Matte paintings, originally hand-painted on glass and later rendered digitally, serve as static background elements, while CGI involves detailed,

manual 3D modelling, rigging, animation, and compositing by visual artists (Ward, 2022). These traditional methods are highly labour-intensive, artist-driven, and require extensive previsualisation and design pipelines. They rely on deliberate creative input and artistry to simulate physical reality, often involving teams of designers and long render times.

By contrast, AI-generated environments powered by machine learning introduce a fundamentally different paradigm. Instead of manually crafting assets, generative models like GANs or diffusion networks are trained on massive datasets of real-world images. Once trained, they can generate novel, photorealistic scenes from minimal input, such as sketches, segmentation maps, or text prompts. For example, a tool like GauGAN2 can synthesise a detailed landscape simply from a rough layout and a label like "river" or "mountain," without modelling each object individually. This marks a shift from rule-based visual creation to data-driven synthesis. These models infer what an environment should look like based on statistical learning, rather than constructing it piece by piece. As a result, AI methods offer speed, flexibility, and a form of inferred realism, plausible visual representations that are not direct recreations of reality but convincingly mimic it based on patterns in the training data.

Generative Models: GANs, Diffusion Models, and Image Synthesis

One of the most impactful innovations in synthetic media has been the Generative Adversarial Network (GAN), invented by Ian Goodfellow in 2014. GANs operate on a competitive dual-network framework comprising a generator, which produces synthetic data, and a discriminator, which evaluates whether the output is real, or fake based on training data. The two models are trained together in an adversarial loop, continuously improving through mutual feedback. The generator learns to produce outputs that increasingly resemble real-world data, while the discriminator sharpens its ability to detect inaccuracies or artifacts. Over time, this iterative contest leads to the production of highly convincing synthetic outputs, including faces, objects, and environments that may be entirely artificial but visually indistinguishable from real imagery (Goodfellow, Pouget-Abadie, Mirza, Xu, Warde-Farley, Ozair, Courville, and Bengio, 2014). GANs are particularly powerful because they learn from real-world distributions rather than relying on rule-based programming, meaning they can interpolate features and generate novel, coherent visual data rather than simply replicating what they have seen.

A leading example of this innovation is GauGAN2, a deep learning model developed by NVIDIA, which exemplifies the convergence of semantic segmentation, text-to-image synthesis, and style transfer into a single, intuitive user interface. Trained on over 10 million high-resolution landscape photographs, GauGAN2 enables users to input a basic sketch or segmentation map and assign semantic labels such as "sky," "tree," or "water."

The model then generates a photo-realistic landscape that obeys the structural and stylistic cues provided. Additionally, users can add text prompts to refine or modify the output, allowing a flexible, multimodal form of creative control (Ingle, 2021). This technology presents enormous potential for visual storytelling in journalism and documentary production, especially when reporting on conflict zones, climate disasters, or historical events for which no direct imagery exists or where filming is dangerous, restricted, or ethically problematic.

GauGAN2 not only accelerates production workflows but also opens new possibilities for editorial illustration, location reconstruction, and contextual visualisation in news content. For example, a news segment about melting glaciers in the Arctic could feature an AI-generated yet data-informed visualisation of the terrain based on satellite data and historical photography. This could help journalists provide visual context in situations where traditional B-roll footage or photojournalism is limited or unavailable. Furthermore, GauGAN2's ability to simulate lighting, weather conditions, and stylistic choices in real time means that visuals can be tailored for emotional tone or narrative emphasis, without extensive post-production work. However, such power also introduces new ethical responsibilities. As the line between factual and fabricated visuals becomes increasingly blurred, it is essential for journalists and documentarians to disclose when and how synthetic media is used. Transparency measures such as on-screen labels, watermarks, or metadata tags can help preserve viewer trust while taking advantage of the expressive and explanatory benefits of AI-enhanced visuals.

In sum, GANs and tools like GauGAN2 are transforming synthetic media from niche novelty into a serious toolset for journalistic communication and factual storytelling. When applied responsibly, they can extend the reach of visual journalism into spaces previously inaccessible augmenting, rather than replacing, the mission of informing the public with clarity, depth, and visual insight.

GANs vs. Diffusion Models

Diffusion models represent a new class of generative machine learning frameworks that have emerged as a powerful alternative to GANs. While both aim to create synthetic data, such as images, audio, or video, the underlying mechanics differ significantly. GANs use a dual-network approach: a generator produces fake data, and a discriminator tries to detect whether the data is real or artificial. The two networks are trained adversarially, pushing the generator to produce increasingly convincing outputs. In contrast, diffusion models do not rely on adversarial training but instead simulate a thermodynamic process of noise and denoising.

The core idea behind diffusion models is deceptively simple: start with a real image, then progressively add random noise over many steps until the image becomes indistinguishable from static. During training, the model learns how to reverse this noise-adding process. Once trained, the model can start from pure noise and "denoise" it step by step to produce a coherent and realistic image (Chan, 2025). This iterative refinement process allows diffusion models to achieve exceptional visual fidelity, often surpassing GANs in producing naturalistic and artifact-free outputs.

One of the main advantages of diffusion models is training stability. While GANs are known for being difficult to train, frequently suffering from mode collapse, vanishing gradients, or unstable convergence, diffusion models are generally more predictable and scalable. Their ability to model the entire data distribution also leads to greater diversity in output, reducing the tendency to generate repetitive or similar images, a problem commonly associated with GANs (Dhariwal and Nichol, 2021).

Another distinction lies in inference speed and flexibility. GANs typically generate images quickly because the output is computed in a single forward pass. In contrast, diffusion models require many sequential denoising steps, making inference slower. However, the trade-off often results in higher-quality images, and recent advances (like latent diffusion) are addressing the speed limitations. Moreover, diffusion models have proven especially adept in text-to-image generation, with tools like DALL·E 2, Stable Diffusion, and Midjourney producing photorealistic results from textual prompts, merging creativity and control in novel ways.

In summary, diffusion models signal a shift from rule-based adversarial training toward probabilistic modelling and iterative synthesis (Luo. 2022). Their structure makes them not only more stable but also more interpretable in terms of how they construct images. In journalistic and documentary contexts, this opens new possibilities for synthesising environments, people, or events from limited inputs, while raising important questions about the authenticity and transparency of such images.

3D Environments and Depth Prediction

Another valuable model is MonoDepth2, which can generate depth maps from a single image. Trained on sequences of real-world video frames, it reconstructs spatial relations and motion cues without requiring manual labels or stereo image pairs. This is particularly relevant in visualising environments from still images or enhancing virtual camera movement within generated scenes (Schiappa, 2019). MonoDepth2's capabilities make it a useful tool for producing spatially coherent reconstructions of real places, particularly when integrated with green screen technology in news studios.

Enhancing Motion and Animation in Static Frames

The Eulerian Motion Fields model is a promising method for animating otherwise static image regions such as clouds or waves (Holynski, Curless, Seitz, and Szeliski, 2020). This creates subtle, lifelike movement from still photographs, enhancing immersion in visual environments. Such techniques can be used to augment news visuals without misrepresenting the core content.

Available Tools and Open-Source Platforms

Several platforms and datasets support the integration of AI-generated visuals in media production:

- RunwayML is a user-friendly platform that enables creators, journalists, and designers to apply cutting-edge generative AI models without requiring deep technical expertise. It offers an accessible interface for tasks such as text-to-image synthesis, video editing, style transfer, and image segmentation, integrating powerful models like Stable Diffusion and GEN-2 into intuitive workflows (Mishra, 2023). This accessibility has made RunwayML popular in creative industries and experimental media production, especially for prototyping visual content quickly. However, while RunwayML excels in ease of use, it comes with limitations in terms of model customisation. Users are generally restricted to pre-configured models and cannot easily fine-tune parameters or retrain models on custom datasets. As such, RunwayML is best suited for general applications or rapid content generation, rather than highly specialised or research-intensive projects that require deeper control over model architecture or training data. Nonetheless, it represents an important tool in the growing ecosystem of applied synthetic media. GitHub: a repository for up-to-date, customisable models and source code, essential for experimentation.
- GitHub is a widely used platform for version control and collaborative software development, but it has also become an essential resource for creatives working with generative AI and digital media. Beyond code hosting, GitHub functions as a global repository for cutting-edge machine learning models, open-source tools, and pre-trained datasets that can be repurposed or modified for creative projects. Artists, designers, and media producers increasingly use GitHub to access and experiment with models for image generation, style transfer, sound synthesis, and more. Unlike user-friendly platforms like RunwayML, GitHub allows for greater control and customisation, enabling creatives to fine-tune models, adjust parameters, or even build new workflows from scratch, provided they have some technical familiarity. Many projects hosted on GitHub come with permissive

licenses and detailed documentation, fostering a culture of experimentation and innovation across disciplines. For creators seeking to push the boundaries of synthetic media, GitHub offers both the tools and the community support to move beyond plug-and-play solutions into more tailored and expressive applications.

- LiDAR (Light Detection and Ranging) datasets: publicly available 3D terrain maps created via laser imaging, which can be imported into animation software like Houdini for hyper-realistic terrain modelling (Environmental Agency National, 2022). LiDAR datasets are high-resolution, three-dimensional maps of terrain and built environments created through laser-based remote sensing. Using airborne sensors that emit laser pulses toward the Earth's surface, LiDAR systems measure the time it takes for each pulse to reflect back, generating highly accurate spatial data points, often referred to as "point clouds." These datasets can be processed to produce detailed models of topography, vegetation, and urban structures. Many national and international LiDAR datasets are publicly available through governmental and research institutions, such as the U.S. Geological Survey (USGS) 3D Elevation Program or the European Environment Agency. For creatives and researchers, LiDAR data offers a valuable foundation for building realistic digital environments in film, video games, or news media. When combined with 3D modelling software such as Houdini or Blender, these datasets enable the reconstruction or simulation of specific geographic locations with a high degree of realism, making them particularly useful in synthetic media, documentary production, or virtual journalism, where visual accuracy is essential but traditional footage is unavailable.

These tools enable the creation of artificial yet data-informed environments, suitable for use in green screen news segments, explainer videos, or documentary reconstructions.

AI-Generated Environments vs. Traditional VFX

Traditional visual effects in film and broadcast, such as CGI and matte painting, have long been used to construct environments that either extend physical sets or depict locations that are logistically or economically inaccessible. CGI evolved to simulate entire worlds using manually modelled 3D assets, lighting effects, and texture maps, often requiring extensive manual input, render time, and production planning.

By contrast, AI-generated environments built with machine learning introduce a new paradigm: data-driven automation. Crucially, AI-generated scenes are not hand-designed or directly drawn from photographs; they are inferred composites, learned from statistical patterns in training data. This distinguishes them from traditional VFX not only in workflow

but also in epistemological terms: AI-generated visuals are simulated truths, built on plausibility rather than physical reference or artistic interpretation.

AI tools like GANs and diffusion models are increasingly used to reconstruct events for which no visual record exists. For example, investigative journalists may use AI to recreate crime scenes, refugee camps, or disaster zones based on satellite data, witness testimony, and public records. These reconstructions are not photographic evidence, but they operate metonymically standing in for inaccessible realities. Here, truth is not indexical, but inferential. This raises ethical concerns about transparency, consent, and emotional manipulation. As Rosen (2001) reminds us, the power of documentary realism lies not just in the image, but in the trust contract between producer and viewer.

2.5.6 Ethical Implications and Public Trust

As visual effects and AI-generated content become more embedded in journalism and factual programming, public broadcasters are beginning to formalise ethical frameworks to govern their application. This shift reflects growing concern over how synthetic media, such as AI-generated video, voice synthesis, and photorealistic environments, might blur the boundaries between fact and fabrication. While these technologies offer new storytelling possibilities, they also raise fundamental questions about credibility, authorship, and transparency. In the context of journalism, where public trust is paramount, the potential for manipulated or misleading content demands careful oversight. Broadcasters are now seeking to balance innovation with accountability, adopting principles that promote responsible use of generative AI while safeguarding the integrity of news reporting. As institutions like the BBC have shown, these frameworks aim not only to regulate production practices but also to ensure that audiences remain informed and empowered in a rapidly evolving media landscape.

BBC's AI Principles

A leading example is the BBC's AI Principles, which articulate how artificial intelligence should be used responsibly across the organisation. These principles not only guide internal development but also set benchmarks for third-party collaborators, freelancers, and suppliers contributing to BBC content.

According to the BBC (2023), their six AI principles are:

1. Fairness – AI systems should be designed to avoid bias and treat all people equitably.
2. Accountability – The BBC takes responsibility for how AI is developed and used, with clear decision-making oversight.

3. Transparency – The use of AI must be explainable and understandable to audiences and stakeholders.
4. Interpretability – AI-driven decisions should be traceable and interpretable by human operators.
5. Privacy – The design and implementation of AI must protect personal data and adhere to privacy standards.
6. Human control – Final editorial decisions should always be made by humans, not algorithms.

These principles are particularly significant when applied to AI-enhanced visuals, such as synthetic news environments, virtual set extensions, or voice and face synthesis. The commitment to transparency and human oversight reinforces the distinction between assistive visualisation and deceptive fabrication, a boundary that synthetic media can easily blur without clear editorial controls.

For example, in contexts where virtual environments or AI-generated graphics are used to illustrate complex geopolitical scenarios or reconstruct inaccessible locations (e.g., war zones or climate-impacted regions), the BBC's framework would require that the intent and origin of such visuals be disclosed, either explicitly through on-screen text or implicitly through visual conventions that signal reconstruction (Kahn, 2025).

Importantly, the principle of human control ensures that final editorial authority remains with trained journalists and producers, not generative algorithms. This is crucial for maintaining public trust, especially as AI tools become more capable of producing persuasive, photo-realistic content. The emphasis on interpretability also means that the logic behind AI decisions, such as why a certain synthetic background or animation was chosen, must be documentable and reviewable by editorial teams.

By adopting these principles, the BBC sets an industry-leading example of proactive media governance. It recognises that AI in journalism is not merely a technical tool but a discursive force, one that can shape audience perceptions, narrative framing, and the epistemological boundaries of what counts as "real." For documentary filmmakers and journalists navigating these new terrains, such principles offer practical guidance and ethical clarity, enabling innovation without sacrificing credibility.

Ethical Oversight and Industry Response

In 2023 leading practitioners, including Stephanie Jenkins, Rachel Antell, and Jen Petrucelli, founded the Archival Producers Alliance (APA). APA emerged from discussions within the documentary community about the ethical challenges posed by generative AI. It

is a global collective of professional archival producers, individuals specialising in the acquisition, management, and ethical use of archival footage, photographs, audio, and related materials in documentary filmmaking (Howzell, 2024).

The APA began its work after encountering instances where AI-generated "archival" material was being introduced into documentaries with minimal transparency. This sparked industry-wide concerns over the potential misuse of synthetic media in genres that rely on historical authenticity (The Guardian, 2024). As a result, the APA developed and released its Best Practices for Use of Generative AI in Documentaries in September 2024, endorsed by over 30 production companies, academic institutions, and creators emphasising principles like transparency, legal clarity, respect for primary sources, and cautious application of human likenesses (Howzell, 2024).

Now guiding both independent filmmakers and major broadcasters, the APA functions not only as a professional network but also as an advocacy and policy-shaping body. Their resources, including a detailed toolkit for GenAI use, provide templates for cue sheets, internal communication protocols, and audience-facing disclosure methods, aiming to preserve public trust and documentary integrity in the face of emerging AI technologies

New APA Guidelines

The Archival Producers Alliance (APA) released a set of best practice guidelines in September 2024 (APA, 2024) to address the ethical, legal, and creative use of Generative AI in documentary filmmaking. These guidelines are designed to ensure that the truth-seeking mission of the documentary genre is preserved, even as filmmakers adopt new technologies that can simulate images, voices, and environments. While GenAI offers unprecedented creative potential, the APA cautions against its careless or deceptive use, especially when it substitutes genuine archival material or misleads audiences about what is real.

At the heart of the APA's framework is a commitment to the value of primary sources. Archival records such as photographs, audio, and footage carry contextual authenticity that cannot be replicated by synthetic content. GenAI-generated material, while potentially useful for illustrative or stylistic purposes, lacks the evidentiary status of real documentation. The APA warns that replacing archival sources with AI-generated alternatives could erode trust in documentary as a form, misrepresent historical truth, and embed algorithmic bias. For example, GenAI datasets often draw on culturally narrow or unvetted image banks, making them unsuitable as historical substitutes. When used, synthetic elements should be treated like traditional recreations, with care, intention, and transparency, not as shortcuts for authenticity.

The guidelines also emphasize transparency as a foundational principle. Within production teams, transparency requires the documentation of all GenAI elements, prompt inputs, software tools, versions, and creative intent, through production cue sheets. This internal record-keeping helps ensure accountability and traceability throughout the editorial process. For external transparency, filmmakers are urged to inform audiences whenever GenAI is used. This might include on-screen disclosures, verbal cues, watermarks, or distinctive visual styles that set synthetic media apart. The APA encourages producers to clearly list GenAI contributions and the tools used in end credits, promoting openness without disrupting the narrative experience.

Legal considerations form another core concern. The guidelines advise filmmakers to conduct due diligence regarding copyright, authorship, and licensing of GenAI tools and content. This includes understanding terms of use, clarifying ownership of AI-generated output, and evaluating the risk of misappropriating someone's likeness, voice, or identity. Filmmakers must also be mindful of union rules, insurance requirements, and international legal variations. Crucially, the APA recommends involving legal counsel and errors and omissions (E&O) insurers at an early stage to prevent conflicts or liabilities later in production.

A particularly sensitive area is the simulation of human likeness, especially in the case of deceased or historical figures. Ethical concerns include the potential for unintended deception, emotional manipulation, and posthumous misrepresentation. The APA stresses that informed consent (when possible), cultural sensitivity, and editorial judgment are essential when recreating or animating human subjects. Even if legal permissions are secured, ethical reflection remains necessary.

In conclusion, the APA GenAI Best Practices provide a thoughtful and balanced roadmap for integrating generative AI into documentary practice. Rather than rejecting innovation, the guidelines call for responsible, transparent, and ethically grounded use of AI tools, ensuring that the enduring credibility of the documentary form is not compromised in the pursuit of visual novelty or narrative convenience.

Other UK broadcasters' approach

Beyond the BBC, other UK broadcasters are beginning to shape their own ethical responses to the increasing presence of artificial intelligence in news and factual programming. These efforts, while varied in scope and transparency, reflect a broader shift toward institutional responsibility in the face of rapidly evolving generative technologies. In particular, Channel 4 has emerged as a leader in establishing a public framework for AI

governance, while Sky News and ITV are actively developing internal policies that reflect growing awareness of the ethical demands posed by synthetic media.

In May 2025, Channel 4 released a publicly available set of AI principles, developed by its internal AI Steering Group. These principles are built around four core commitments: that creativity must remain human-led; that transparency in the use of AI must be clear and understandable; that inclusivity must be upheld to prevent algorithmic bias; and that misinformation must be actively avoided (Channel 4, 2025). Of particular note is Channel 4's proposal for an "AI Trustmark", a visual indicator that could be used to label content enhanced or generated by artificial intelligence. This mechanism directly addresses concerns about audience deception, proposing instead a model of informed viewing. The Trustmark initiative also reflects Channel 4's status as a public service broadcaster, whose regulatory and ethical obligations place additional emphasis on public trust. In this respect, Channel 4 is not merely responding to the rise of AI but shaping a model for transparent, values-driven media practice.

Sky News, while less explicit in its public-facing commitments, has also begun experimenting with generative AI in the newsroom. A notable example includes the trial use of a ChatGPT-powered virtual reporter designed to assist with summarising and generating basic reports. Although Sky has yet to release a formal AI ethics policy, its partnership with ProRata.ai, an ethical AI auditing and consulting firm, signals a serious engagement with the responsible implementation of these tools (TVB Europe, 2024). Sky's approach is one of careful exploration: embracing innovation while laying the groundwork for editorial oversight. The network's leadership has indicated that any AI-generated content will remain under human supervision, and that key editorial decisions will not be delegated to machines. This hybrid strategy, combining experimentation with ethical guardrails, suggests a transitional phase in which editorial norms are being redefined to accommodate the new realities of generative media.

ITV, meanwhile, is currently in a preparatory phase. While it has not yet released an AI ethics policy to the public, the company's recent appointment of a "Head of Generative AI Innovation" indicates a clear institutional focus on integrating these technologies into its production ecosystem (CCN, 2024). This newly created role is expected to develop both internal workflows and future-facing guidelines for AI integration across genres. ITV's silence on public-facing commitments may reflect a strategy of internal consolidation: laying the infrastructural and strategic foundations before entering public debate. However, this also raises questions about the role of transparency in AI governance and the pace at which commercial broadcasters are expected to articulate ethical positions in the public domain.

Taken together, the approaches of Channel 4, Sky News, and ITV illustrate the diverse ways in which UK broadcasters are responding to the challenges posed by generative AI. Channel 4's proactive publication of principles and symbolic Trustmark demonstrates a clear commitment to public accountability, consistent with its regulatory remit. Sky News occupies a more experimental space, piloting tools while seeking external ethical validation. ITV, in contrast, appears to be consolidating internally before making external declarations. While all three organisations recognise the transformative potential of AI, their divergent strategies also reflect differing organisational cultures, risk appetites, and relationships with their audiences.

In this emerging landscape, ethical frameworks are not merely operational documents, they are also discursive tools that shape how viewers understand and evaluate the credibility of mediated reality. As generative AI tools become increasingly capable of producing photorealistic images, synthesised voices, and reconstructed environments, the burden of disclosure and trust-building grows. Whether through visual labels, editorial disclaimers, or production guidelines, broadcasters must now develop new grammars of transparency that can meaningfully signal the synthetic nature of certain content without undermining audience trust. The future of factual programming will depend not only on technological sophistication but also on institutional clarity, ethical foresight, and a sustained commitment to public service.

## 2.6 Synthesis and Research Gaps

The convergence of philosophical theories of perception, evolving documentary practice, and emerging synthetic media technologies reveals a profound shift in how truth is constructed and communicated in contemporary journalism. Classical epistemological frameworks, such as Plato's allegory of the cave and Descartes' emphasis on cognition over sensory data, underscore the notion that reality is always mediated, never perceived directly, but interpreted through internal or social filters. This idea is reinforced by the Interface Theory of Perception (Hoffman, Singh and Prakash, 2015) which proposes that what we perceive is not a faithful mirror of reality, but a useful illusion shaped by evolutionary advantage. Such philosophical insights resonate deeply with contemporary documentary theory, particularly in André Bazin's ontology of the photographic image and Bill Nichols' classification of documentary modes, which recognise the documentary form as a balance between indexical evidence and narrative construction.

Traditionally, the authority of documentary and news media has rested on indexical images, photographs, film, or eyewitness testimony that bear a physical or temporal trace of the events they depict. These traces underpin the perceived authenticity of non-fiction media, reinforcing the notion that the image is causally linked to a real-world referent.

However, the introduction of machine learning models such as GANs and diffusion models complicates this logic. These systems are capable of generating photorealistic but wholly synthetic imagery that mimics the visual grammar of reality without any indexical relationship to it. In doing so, they usher in a form of "non-indexical realism," where images claim truthfulness not through direct recording but through statistical inference and plausibility. This evolution challenges foundational assumptions about what it means for an image to be 'true.'

Indexicality and Extended Synthesis

If a real, indexical photograph is used as the initial input for a machine learning model, for example, to generate motion or expand into a video sequence, the final product may retain traces of indexicality, but it also becomes increasingly synthetic the further it diverges from the original source.

Philosophers and media theorists such as Philip Rosen (2001) argue that indexicality is not binary but gradational. A photograph taken with a camera is indexical in the traditional sense because it maintains a physical-chemical trace of a real-world referent. However, once machine learning models begin interpolating movement, hallucinating details, or generating in-between frames, that connection is no longer direct, it becomes probabilistic, not physical.

Several scholars have explored how realism functions in digital media, highlighting the shift from traditional, indexical representations to new, technologically mediated forms. William Uricchio describes digitally constructed realism as a form of *simulated realism*, where plausibility is achieved through stylistic and narrative coherence rather than physical traces. Similarly, Lev Manovich (2001) argues that computer-generated imagery operates as a form of simulated realism, replicating the visual aesthetics of reality without a direct link to actual events. Vivian Sobchack, in *The Address of the Eye* (1992), extends this discussion by emphasising that realism is not only visual but also bodily and affective shaped by the viewer's sensory and emotional engagement. She notes that digital imagery transforms how we perceive and relate to moving images. Building on this, Laura Mulvey (2006) reflects on how digital technologies alter the meaning of visual evidence and cinematic presence, suggesting that the shift from indexical to digital images marks what she calls the "death of the index." Together, these perspectives illustrate how digital realism is increasingly defined by perception, affect, and constructed coherence, rather than by direct photographic reference.

Augmented Indexicality

In some of the cases used for this research, where a real image is extended into video using AI tools, we are entering into a hybrid zone of representation that may be best described as *augmented indexicality*:

- The starting frame is indexical, grounded in a specific time and place.
- The additional frames are synthetic, constructed based on statistical inference and learned patterns, not on actual light exposure or physical causality.

The initial frame is indexical, captured through a camera in a specific time and place, preserving the traditional photographic bond between image and referent. This frame bears the evidentiary weight often associated with documentary photography or factual media.

However, the subsequent frames are not captured from reality but are synthetically generated by machine learning models trained on vast datasets. These models apply statistical inference and visual pattern recognition to predict plausible pixel transitions over time, thereby simulating motion and continuity. Unlike traditional animation or CGI, the generated frames are not purely fictional but derive their logic from real data. They produce what may be described as a form of inferred realism, or inferred truth, in which AI extrapolates from an indexical source to create a temporal extension of it. The result appears truthful, yet it lacks the direct causal link to real-world events that characterises traditional video footage.

This raises compelling ontological questions. While the overall sequence maintains visual continuity and perceptual coherence, only part of it is materially tied to the world through light exposure. The rest is a construction, plausible, persuasive, but fundamentally synthetic. Yet, because the transition from real to generated is often seamless, the audience may perceive the entire video as a coherent unit of truth, unless explicitly told otherwise. This ambiguity complicates longstanding definitions of documentary evidence, which rely on the indexical nature of the moving image.

Augmented indexicality therefore describes a new media condition in which the indexical is not replaced but extended, supplemented by inference rather than replication. It reflects a shift from a purely evidentiary model of realism toward a hybrid, layered model where truthfulness is based not solely on the physical origin of the image, but on its capacity to credibly represent or communicate a factual narrative. As synthetic media becomes more common in factual programming, understanding, and articulating the boundary between indexical capture and computational extension becomes crucial for both producers and audiences.

Sources for augmented indexicality are not limited to visual materials such as photographs or single frames; they also include audio clips and datasets. When ML models use these materials as indexical anchors, they are not fabricating content ex nihilo but instead inferring or reconstructing extensions from evidence-based traces. A dataset, in this context, refers to a structured collection of real-world information, for example, numerical measurements, archival records, survey responses, or scientific observations, that carries an evidentiary link to reality.

Within the framework of Augmented Indexicality, datasets function as anchors from which ML models can extrapolate new representations. These may take the form of visualisations, animations, or reconstructions that extend the evidentiary value of the original material without displacing it. For instance, a climate dataset could be transformed into visual simulations of historical weather patterns, while a demographic dataset might be used to reconstruct population trends in visual form. In both cases, the generative process remains tethered to indexical traces, ensuring that what is produced is not wholly invented but grounded in existing data.

Research Gaps

While much of the existing literature on synthetic media has focused on the dangers of misinformation and deepfakes, there remains a significant gap in research examining how audiences engage with AI-generated content when it is used ethically and transparently in factual formats such as journalism and documentary. Studies tend to emphasise deception and manipulation, rather than exploring how viewers interpret or emotionally respond to synthetic visuals that are clearly labelled and contextually appropriate.

The concept of *"inferred truth",* where AI-generated content is built upon real data but not always directly indexical, has yet to be robustly theorised in terms of its reception by audiences. A more refined articulation of this idea may be found in the emerging notion of augmented indexicality. This hybrid form of realism introduces ontological ambiguity that is largely unexamined in current audience research. There is little empirical work investigating how such augmented indexical visuals affect audience trust, comprehension, or emotional engagement, particularly in news environments where expectations of authenticity are high. This gap is especially important given the growing institutional embrace of synthetic media in public broadcasting, where transparency and trust remain core values.

Additionally, the visual grammar of AI-generated content in factual programming is underexplored. While broadcasters like the BBC and Channel 4 have introduced ethical guidelines and trustmarks, there is little research on how audiences interpret these signals

or whether they meaningfully influence perceptions of credibility. The semiotics of synthetic media, its textures, lighting, transitions, or labelling cues, may develop into a new visual language, yet this area remains largely unstudied. Likewise, few comparative studies have examined how different types of media organisations, such as public vs. commercial broadcasters, are adapting to generative AI, both in policy and production practices. Similarly, the broader implications of generative AI for documentary form itself, especially in hybrid genres like the mockumentary, are yet to be fully mapped.

Positioning the Research: Bridging Ethical AI, Audience Perception, and Documentary Practice

This research directly addresses these gaps by examining how AI-generated short video clips, constructed using machine learning models and embedded within factual storytelling, are received and interpreted by contemporary audiences. By focusing not on deception but on ethically signposted synthetic media used in news or documentary-style contexts, the project investigates the emerging relationship between technological inference, narrative credibility, and viewer trust.

In particular, the study interrogates the reception of augmented indexicality: situations in which part of a visual sequence (e.g., the first photographic frame) remains materially grounded in reality, while the rest is generated through AI inference. This hybrid construction complicates traditional notions of photographic truth and invites a re-evaluation of how audiences determine what is real, especially when visuals are labelled transparently. The project tests whether audiences perceive these AI-generated environments as informative, misleading, or somewhere in between, particularly when origin cues or visual trustmarks are not present.

The study further explores the emotional and cognitive impact of *inferred truth*, contributing new empirical data to debates around realism and authenticity. Through comparative analysis of broadcasters' evolving policies and production techniques, it contextualises these audience responses within broader institutional trends. Finally, the research situates itself within documentary theory and journalism by considering how GenAI tools challenge and expand the grammar of non-fiction visual storytelling.

By integrating philosophical, technical, and communicative dimensions, the thesis offers an original contribution to media studies, bridging conceptual theory and real-world practice in a rapidly evolving media landscape. It not only theorises a new mode of realism but also tests its implications for ethics, trust, and visual comprehension in public-facing media.

# Chapter III

# Mixed Methods Research Design

## 3.1 Introduction to Methodological Framework

The aim of this study is to investigate audience perceptions of realism, credibility, and ethical acceptability in AI-generated documentary footage. This investigation is situated at the intersection of emerging synthetic media technologies and evolving viewer expectations around authenticity in factual content. By creating two documentary-style films, one composed entirely of real footage, and the other featuring multiple AI-generated sequences, this research seeks to directly compare how viewers respond to different forms of visual realism in documentary storytelling.

The core methodological challenge lies in isolating and measuring the impact of synthetic visuals on viewer perception and trust. This study does not aim to trick or mislead its participants. Instead, it frames AI-generated content as a representational tool, used transparently and ethically within the context of factual programming. The purpose is to explore how viewers interpret, emotionally engage with, and cognitively process visuals that are visually plausible but not always indexically tied to the events they depict.

To achieve this, the project integrates three major strands of inquiry: technical creation, media theory, and empirical audience testing. From a technical perspective, state-of-the-art machine learning tools were used to generate synthetic visuals. This results in what this thesis terms "augmented indexicality": a hybrid form of realism in which visuals are rooted in a real photographic source but extended through algorithmic inference.

From a theoretical standpoint, the study is grounded in philosophical and media studies literature on perception, realism, and truth. Drawing on Plato's allegory of the cave, Descartes' scepticism about sensory data, and the Interface Theory of Perception, the

research foregrounds the idea that all media representations are inherently constructed. Within documentary studies, the works of André Bazin and Bill Nichols provide a foundation for understanding how traditional forms of indexicality and evidentiary imagery shape viewer expectations. With the rise of generative AI, these conventions are being disrupted, prompting a reassessment of what constitutes visual truth in the digital age.

Empirically, the study adopts a mixed methods approach to assess viewer perception. One group of participants watches the traditional documentary composed solely of real footage. Another group views the synthetically enhanced version, which includes AI-generated sequences derived from real photographic inputs. Each group completes a structured survey designed to measure perceived realism, trust, ethical comfort, and narrative credibility. The survey uses a mix of Likert-scale items and open-ended questions, allowing for both quantitative comparison and qualitative insight.

This structure enables the study to explore several key questions: Do viewers find AI-generated visuals believable or uncanny? How does disclosure of synthetic elements affect their trust in the content? Are there differences in emotional engagement depending on the visual source? These questions are vital as synthetic media becomes more prevalent in journalism, documentary, and educational formats.

The ethical dimension of this research cannot be overstated. In an era of deepfakes and disinformation, the use of synthetic visuals in factual storytelling demands rigorous scrutiny. This study treats ethics not only as a research compliance issue, but as a central analytical concern. Transparency, consent, and responsible disclosure of AI involvement are embedded in the research design. This ensures that the investigation contributes meaningfully to ongoing discussions around trust, representation, and audience agency in synthetic media environments.

This project is situated at a unique moment in the evolution of documentary and factual media. As visual effects and AI technologies become increasingly integrated into journalistic and educational content, there is a pressing need to understand how audiences interpret and respond to such content. By combining creative production, theoretical exploration, and empirical testing, this research provides a comprehensive framework for evaluating the impact of synthetic media on perceptions of truth, realism, and ethical responsibility in the contemporary media landscape.

## 3.2 Justification for Mixed Methods Approach

This research adopts a mixed methods approach to investigate how audiences perceive, interpret, and emotionally respond to AI-generated content in factual storytelling formats, particularly documentary-style short films. The decision to combine both quantitative and

qualitative methodologies stems from the complexity of the research questions, which concern not only observable patterns of viewer trust and emotional response, but also subjective meaning-making, ethical interpretation, and visual perception.

Mixed methods research is increasingly recognised as a robust approach for addressing complex, interdisciplinary problems that cannot be adequately explored using only qualitative or quantitative data. As Creswell and Plano Clark argue, "Mixed methods research provides a more complete understanding of research problems than either quantitative or qualitative approaches alone" (2018, p. 12). In this study, the use of numerical data from audience surveys allows for the identification of statistically relevant patterns in trust, empathy, confusion, and perceived realism across two film versions, one real, one synthetic, while open-ended questions provide insights into the subjective reasoning behind these reactions. This study is grounded in the pragmatic paradigm, which emphasises methodological flexibility and the value of using "what works" to address complex research problems (Creswell and Plano Clark, 2018). Pragmatism allows for the integration of both numerical and narrative data without privileging one over the other. In the context of emerging technologies such as AI-generated video, where the viewer's emotional, ethical, and cognitive reactions are interwoven, a pragmatic mixed methods approach supports both measurement and interpretation.

At its core, mixed methods research is grounded in the logic of triangulation, the idea that the combination of multiple forms of data strengthens the validity and reliability of findings. Denzin (2012, p. 80) defines triangulation as "the combination of methodologies in the study of the same phenomenon," noting that it "helps guard against the accusation that a study's findings are simply an artifact of a single method". In the context of this project, triangulation serves both an epistemological and practical function: it captures both the measurable effects of synthetic media and the nuanced, affective, and ethical responses that participants bring to their viewing experience.

Furthermore, the integration of methods allows for what Greene, Caracelli, and Graham (1989) term "complementarity," wherein qualitative and quantitative results are used to illuminate different facets of the same phenomenon. As they explain, mixed methods serve multiple purposes: "triangulation, complementarity, development, initiation, and expansion" (1989, p. 256). In this research, survey data helps identify general audience attitudes and responses across a broad sample, while the open-ended questions deepen our understanding of how and why viewers arrive at those positions.

Johnson, Onwuegbuzie, and Turner (2007) emphasise that "mixed methods combine the strengths of both qualitative and quantitative research to provide a better understanding of research problems than either approach alone" (2007, p. 113). This dual strength is critical

in media studies, particularly in emerging areas like AI-generated content, where audience perception is shaped by both affective and cognitive processes. Measuring emotional responses like affection, sadness, or confusion requires empirical breadth, while understanding why these responses occur, how viewers interpret synthetic realism, or how they define trustworthiness, necessitates interpretive depth.

Moreover, the combination of methods supports what Teddlie and Tashakkori (2009) describe as an "integrative logic" that allows researchers to explore phenomena at different levels of analysis. "Mixed methods allow researchers to explore different aspects of a phenomenon, capturing both breadth (quantitative) and depth (qualitative)" (2009, p. 28). In this case, breadth is achieved by surveying 100 participants (50 per film), allowing for comparisons across demographic variables, emotional reactions, and trust scores. Depth is added through participants' written reflections, which reveal interpretive processes not visible in numerical data alone.

This approach also aligns well with the research aim: to assess not just how audiences respond, but how they evaluate synthetic realism and ethical storytelling in nonfiction formats. Given the novelty of the subject, AI-generated moving images of deceased individuals and entirely constructed environments, audience reactions are likely to be nuanced, conflicted, and layered. A purely quantitative or qualitative approach would risk oversimplifying or missing these complexities. Scholars such as Ien Ang (1991) and David Morley (1992) have shown that media reception is shaped by emotional and cultural frameworks. Quantitative data might reveal *what* viewers think, but only qualitative responses can illuminate *why*. Mixed methods enable this dual insight, especially crucial in assessing responses to novel media forms like AI-generated imagery that evoke both curiosity and scepticism.

Finally, the mixed methods design provides a flexible, iterative framework that reflects the broader methodological trends in digital and media research. As Tashakkori and Teddlie (2010) observe, mixed methods are particularly suited to interdisciplinary research and to fields dealing with fast-evolving technologies, where traditional paradigms often fall short. In the rapidly shifting landscape of generative AI, this flexibility is essential to address both the empirical and normative dimensions of audience reception.

While the advantages of a mixed methods design are considerable, the approach also presents challenges. Combining large-scale quantitative data with nuanced qualitative analysis requires careful alignment of research questions, tools, and timing. There is also the challenge of integrating findings coherently balancing the weight of different types of evidence without skewing interpretation. Nonetheless, these challenges are outweighed

by the methodological richness and cross-validation that mixed methods afford, especially in the study of complex, hybrid media forms.

To summarise, the mixed methods approach is justified by:

- The need for both measurable patterns and contextual interpretation.
- The complementarity of numerical and narrative data in exploring complex emotional and ethical responses.
- The desire for triangulation and enhanced validity.
- The interdisciplinary nature of the research and the evolving technological context.
- In light of these considerations, mixed methods offer the most appropriate, nuanced, and comprehensive framework for examining how AI-generated visuals reshape audience perceptions of realism, trust, and authenticity in contemporary documentary storytelling.

To further clarify the alignment between research objectives, methodological approaches, and data collection tools, the study includes a visual framework (see Table 1). This matrix illustrates how each research aim is addressed through either quantitative, qualitative, or integrated methods, helping to ensure coherence across the design. It demonstrates how emotional responses (e.g., trust, empathy, confusion), ethical judgments, and perceptual interpretations are assessed through both numerical scaling and thematic analysis of open-ended responses.

Table 3.1: A visual framework showing how methods align with the research objectives.

| Research Aim | Method Type | Tool/Data |
|---|---|---|
| Compare emotional response to real vs. synthetic films | Quantitative | Likert-scale survey responses |
| Understand perceptions of realism and ethical comfort | Qualitative | Thematic analysis of open-text answers |
| Assess trust and credibility in AI-generated visuals | Mixed | Cross-tabulation and narrative coding |
| Identify patterns in emotional vs. cognitive response | Mixed | Descriptive stats + qualitative coding |
| Explore implications for documentary storytelling | Qualitative | Open-ended survey responses |

Table 3.1

## 3.3 Research Design Overview

This study adopts a comparative mixed methods design that integrates experimental media exposure with audience surveys. The central aim is to investigate how AI-generated content influences perceptions of *realism*, *credibility*, *ethical acceptability*, and *emotional engagement* in factual storytelling. Specifically, the project compares audience responses to two versions of the same short documentary, one composed entirely of traditional footage and sound, and the other constructed using a combination of generative AI tools and synthetic audio-visual materials. By holding narrative structure constant while varying the visual and audio inputs, the design isolates the effect of synthetic realism on audience reception.

Two short films were created as stimulus materials. Both documentaries tell the same story: a reflective, human-centred narrative about *life, loss, and survival* in Antarctica, as told through the voices of three scientists who had previously worked at the South Pole. Each film is approximately equal in length, follows the same chronological structure, and includes consistent narrative themes. However, their visual and audio compositions differ significantly in terms of indexicality and technical production.

The "real" version uses traditional filmmaking techniques. All footage was captured using conventional cameras. The soundtrack features music composed and performed by human musicians, and sound effects were recorded from real-life environments. All voices used in the film were those of real narrators, with no generative enhancement or manipulation.

The "synthetic" version, by contrast, was created using a suite of generative AI tools. Visual scenes were generated or extended using Runway Gen-4 Image, and Gen-3 Alpha, producing synthetic but photorealistic moving images based on real photographs. These photographs serve as the indexical "seed" for many scenes, which are then expanded using machine learning models that simulate motion, depth, and atmosphere. This process of combining real-world photographic input with AI-generated interpolation is referred to in this research as augmented indexicality, a hybrid media form that begins with documentary reference points but uses inference models to extend or animate them. The synthetic version also includes AI-generated music (via Soundraw and Suno).

Each film was shown to a different group of participants: 41 individuals watched the real version, and another 34 watched the synthetic version. These participants were randomly assigned, reducing potential bias in group composition. After viewing, all participants completed an identical survey. The survey covered multiple domains: emotional responses, ethical perceptions, sense of realism, levels of trust, and whether the film was perceived as suitable for educational purposes.

The mixed methods approach integrates both quantitative and qualitative data. Quantitative measures include 10-point Likert scale rankings of various emotional and cognitive responses, such as affection, sadness, confusion, trust, and empathy. This numerical data provides measurable insights into patterns across viewer groups. Qualitative data, collected through open-ended comment fields, offer depth and nuance enabling participants to explain their reasoning, reflect on their perceptions, and express ethical concerns. This dual approach aligns with mixed methods best practices, as it allows for triangulation between statistical trends and subjective interpretation (Creswell and Plano Clark, 2011; Johnson et al., 2007).

A visual research framework, developed during the design phase, maps specific research questions to the corresponding survey tools and media variables. For example, the framework clarifies how the dependent variables of emotional affect and trust are measured through Likert scales, while ethical perception and educational validity are probed through both fixed-response and open-comment formats.

Key dependent variables measured include emotional reactions (affection, sadness, surprise, fear, confusion, empathy, etc.), perceived credibility/trust, ethical acceptability, and educational value. The main independent variable is the type of film viewed: real versus synthetic. This experimental structure allows for direct comparison across conditions, illuminating the effect of synthetic visuals on how audiences process non-fiction storytelling.

The intent of the study is not to test deception or misinformation, but rather to examine the role of inferred truth and synthetic realism when used transparently and ethically in factual media. How do viewers emotionally and cognitively engage with content that looks and feels real but is technically constructed by algorithms? Can such media still foster trust? And how do ethical judgments shift when audiences recognise that realism no longer depends solely on indexical images?

Before the main survey phase, two rounds of pilot testing were conducted to refine the stimuli and survey instruments. The first test involved fellow PhD researchers, who provided feedback on the length, tone, and overall clarity of the films. The second involved MA students in Film, Animation, and Digital Arts, who helped assess the comprehensibility and usability of the survey, as well as early audience responses to both versions of the film. These pilots helped refine the structure and emotional pacing of the film, as well as the survey language and scale functionality.

The research design seeks to create a controlled environment to explore the emerging boundary between documentary realism and AI-mediated inference, between indexicality and simulation. By testing audience perceptions across matched but technically distinct

media experiences, the study contributes original empirical data to scholarly debates on post-indexical cinema, soft realism, and the evolving ethics of synthetic media in journalism and documentary.

## 3.4 Documentary Film Production: From Conception to Post-Production

Following the Research Design Overview, this section shifts focus to the creative and technical process behind producing the two short documentary films that served as the central stimulus materials for this study. The films were conceived not only as narrative artefacts but as methodological instruments purposefully designed to explore how machine learning generated content is perceived by audiences in the context of factual storytelling. Their construction was governed by both experimental logic and documentary ethics, seeking to balance emotional impact, narrative coherence, and realism while testing the implications of synthetic media within non-fiction formats.

Both films tell the same story: a reflective account of life and death in Antarctica, grounded in personal memories shared by three scientists who once worked on base. At the heart of the narrative is the real-life case of Rodney Marks, an Australian astrophysicist who died under mysterious circumstances at the Amundsen–Scott South Pole Station in 2000. His unexplained death, which is still unresolved, provides a focal point through which the films explore themes of isolation, risk, scientific endeavour, and loss in one of the most extreme environments on Earth.

While both versions retain identical voiceover content and narrative arcs, they differ radically in their visual and sonic construction. The first film (referred to as the "real film") uses traditional, indexical documentary materials: authentic photographic images, recorded interviews, ambient sounds captured on-site or through foley, and music composed and performed by human artists. The second film (the "synthetic film") employs a hybrid production pipeline that combines real photographs with machine-generated imagery and audio, including the use of generative adversarial networks, diffusion models, text-to-image tools, and AI voice synthesis platforms. This method, which is a fusion of indexical grounding and synthetic expansion, is described throughout this thesis as *augmented indexicality*.

This chapter provides a detailed account of the production journey, from conceptual development and previsualisation, through iterative testing of tools like MonoDepth2, Unity, Unreal Engine, and LiDAR terrain data, to final editing and rendering. Drawing from research diary entries over a four-year period, the section also reflects on evolving technical strategies, creative decisions, and ethical considerations that influenced the

films' development. It examines why certain tools were ultimately chosen over others, how different forms of realism were constructed or challenged, and what practical barriers arose in the use of generative AI for non-fictional storytelling.

In doing so, the chapter offers more than a production report. It positions documentary filmmaking itself as a site of critical inquiry, one where the boundaries between fact, reconstruction, simulation, and emotional truth are being actively redrawn. Through this lens, the production of the two films becomes part of the broader research into how new visual grammars and emerging technologies reshape audience perception, trust, and ethical engagement in contemporary documentary practice.

Planning and Pre-Production

The development of the documentary project began with a series of exploratory tests aimed at understanding how AI-generated visuals could be integrated into factual storytelling without compromising audience trust. The most substantial of these early experiments was a short conceptual film titled *Dungeness Beach*, created in the first and second years of doctoral research. The test project focused on simulating environmental imagery using a variety of tools and models, serving both as a technical prototype and a visual experiment.

In the *Dungeness Beach* film, actual LiDAR terrain data of the Kent coastline was imported and processed to create three-dimensional representations of the real landscape. Tools such as MonoDepth2 were applied to infer depth from static images, which were then used to simulate virtual camera movement. GauGAN2 was employed to generate synthetic textures and skies, while platforms like Blender, Unity, and Unreal Engine were used to experiment with dynamic lighting, environmental fog, and atmosphere. The *Dungeness Beach* project revealed both the potential and limitations of these tools. For example, rendering fog, dynamic environmental effects in real-time and natural camera movement proved to be more time-consuming and technically complex than anticipated.

The learnings from this project shaped the approach to the final documentary, provisionally titled *Frozen Truth*, which was planned in the following year. The main film tells the story of scientific life and research in Antarctica, interwoven with a real-life mystery: the unexplained death of astrophysicist Rodney Marks in 2000 at the South Pole. The story explores themes of isolation, life-and-death risk, climate science, and institutional transparency, aiming to evoke both emotional and intellectual engagement from viewers.

Pre-production for *Frozen Truth* began by identifying three key interviewees with significant Antarctic experience: Dr. John Dudeney, a former Director of British Antarctic Survey;

Robert Schwarz, a South Pole winter-over scientist with multiple deployments; and Josiah Horneman, a Physician Assistant and filmmaker. These individuals were selected based on their depth of experience, narrative capacity, and relevance to the documentary themes. All three provided testimony through filmed interviews, conducted either in person or remotely, depending on logistical feasibility.

Rather than using scripted dialogue, open-ended interviews allowed each contributor to reflect on their lived experiences, fostering organic narrative development. A preliminary storyboard was created during the planning phase to outline the narrative arc and identify thematic focal points, but no formal shot list was employed. This decision allowed the visual elements to evolve in response to the spoken testimonies, rather than dictating the story in advance.

During this planning stage, further GenAI model testing was conducted to assess which tools would offer the best balance between realism, ethical integrity, and production efficiency. Based on the outcomes of the *Dungeness Beach* test, the workflow was refined to focus on tools that allowed image expansion, frame generation, and style-matching to real-world visuals. The combination of indexical sources (e.g. still photographs) and synthetic video generation gave rise to the central visual approach of the *Frozen Truth* documentary: augmented indexicality. This concept, whereby real images form the basis for AI-animated visuals, was developed to simulate realism while maintaining ethical clarity and signposting.

Filming and Footage Collection

The filming stage of the *Frozen Truth* documentary involved a combination of in-person and remote interviews, conducted with three key contributors: Dr. John Dudeney, Robert Schwarz, and Josiah Horneman. These individuals were selected not only for their deep experience working in Antarctica but also for the diversity of perspectives they offer, ranging from astrophysics to station leadership and polar governance. The aim of the interviews was to build a rich, narrative backbone around which both traditional and synthetic visuals could be structured.

Dr. Robert Schwarz's interview took place in a professional studio located in Hamburg, Germany. The studio setting provided high-quality audiovisual recording conditions, allowing for strong visual clarity and clean sound capture, both essential for later integration with synthetic media. For parts of the interview, Dr. Schwarz wore his Antarctic cold-weather suit, replicating the gear he used during his deployments at the Amundsen-Scott South Pole Station. This was done to facilitate the production of AI-enhanced sequences that aimed to simulate his presence at the South Pole. Some of these visuals

were indeed created and included in the film, showing Schwarz against AI-generated backdrops resembling the exterior of the research station.

Dr. John Dudeney was interviewed on location at his former workplace: the British Antarctic Survey (BAS) headquarters in Cambridge. Like Schwarz, Dudeney was also filmed in Antarctic field gear for select segments. However, although synthetic visuals placing him in the field outside Halley Research Station were initially considered, they were ultimately not included in the final film due to narrative considerations and flow.

The third contributor, Josiah Horneman, who is based in the United States, participated via a recorded Zoom interview. While this method presented some limitations in terms of visual quality and camera control, the material gathered was invaluable in terms of content. Horneman's unique personal and professional experiences added depth to the story and illustrated the psychological challenges of long-term isolation in extreme environments. Despite the remote nature of his interview, his contribution was blended into the visual and emotional arc of the film through the careful selection of supporting visuals.

Real video clips and photographs used in the film were sourced from a variety of credible sources. Robert Schwarz and Josiah Horneman provided extensive personal archives of imagery taken during their time in Antarctica. These materials served both as standalone visual assets and as starting frames for synthetic augmentation. Additional imagery was sourced from Flickr under Creative Commons licenses and from NASA's publicly available datasets as well as a purchased animation of the world from Shutterstock. These included landscape shots of Antarctica, celestial timelapses, and satellite imagery, some of which were enhanced or extended using GenAI tools to create a seamless aesthetic experience between real and synthetic footage.

Footage selection was conducted after all interviews had been recorded. The choice of real versus synthetic imagery for each segment was based on narrative needs, emotional tone, and technical feasibility. Visual materials were picked to support the spoken narrative rather than the other way around. This approach ensured that the core story remained human and grounded while providing the opportunity to push the visual boundaries of traditional documentary with the integration of synthetic media.

Post-Production and Assembly

The post-production phase was critical in shaping the final structure and aesthetic of the two documentary films. This stage involved the careful assembly of interviews, supporting footage, both real and synthetic, and a complex layering of audio and visual elements to maintain a coherent and emotionally resonant narrative. Editing was carried out primarily

using Final Cut Pro, chosen for its timeline-based editing flexibility and robust media organisation capabilities. The editing process began with the logging and trimming of all interview content, creating a rough sequence guided by the natural rhythm and themes of the spoken material. In some scenes greenscreen or other background was removed.

As the interviews were unscripted and the supporting footage was chosen in response to the content of the narratives, post-production became a highly iterative process. Real and AI-generated imagery were matched with specific verbal segments to ensure visual consistency and narrative flow. RunwayML's Gen-4 Image was used extensively to expand real photographs into high-resolution vertical frames (1080x1920), while Gen-3 Alpha was employed to generate short, moving sequences that extended the static frames. Adobe After Effects for compositing and layering, for creation and placement of lower thirds and text animations as well as for colour adjustments. For the synthetic film, the audio environment was crafted using a combination of Soundraw and ElevenLabs for generative soundtracks and sound effects. Soundraw enabled the composition of ambient and cinematic music cues aligned with the emotional tone of each sequence. ElevenLabs was utilised to produce sound effects such as "footsteps in snow". Some of the real sound effects for the real films have been downloaded from YouTube and FreeSound. Additional voice editing and noise balancing were completed in Audacity, allowing for further refinement and clarity.

Technical and Conceptual Challenges

Several technical and conceptual challenges emerged throughout the production of both the real and synthetic versions of the documentary. One primary issue concerned the resolution and temporal coherence of AI-generated visuals. The real input images varied in quality, size, and resolution, and translating these into smooth, realistic motion using Gen-3 Alpha occasionally resulted in inconsistencies in depth, texture continuity, and frame-to-frame stability. Achieving a credible, usable short frame sequence often required four to five separate attempts per image, each with slightly adjusted prompts, seed settings, or composition tweaks. These imperfections raised conceptual questions about viewer perception: Would audiences interpret such visual glitches as signs of artificiality, as natural imperfections, or would they overlook them entirely in favour of the narrative?

Another major challenge involved maintaining ethical clarity while integrating synthetic visuals of deceased individuals. Although consent and transparency were secured through clear survey framing and Participant Information Sheets, the emotional implications of digitally animating real, deceased figures required constant sensitivity. The decision had to be made about which visuals were appropriate for inclusion and where the line between respectful reconstruction and emotional manipulation might lie. Ultimately, only two brief

shots were used where the deceased researcher, Rodney Marks, was "brought back to life." Both sequences were deliberately restrained: one featured a subtle turn toward the camera, and the other showed a simple eye blink. These minimal gestures were chosen to suggest presence without overstepping ethical boundaries.

Moreover, the disparity in access to cutting-edge machine learning models was a constant obstacle. As an independent academic project, this research did not benefit from enterprise-level computational resources. Many high-end tools were inaccessible due to cost or closed licensing models, making platforms like RunwayML crucial for providing usable APIs and creative control. However, limited model customisation constrained creative possibilities, sometimes requiring during editing to adapt the visual concept to fit the tool's output, rather than vice versa.

Lastly, the juxtaposition of real and AI-generated footage challenged traditional documentary storytelling. The editing process constantly negotiated between realism and abstraction, between truth and reconstruction. This hybrid aesthetic demanded a new visual grammar, what was coined earlier in the study as "augmented indexicality", in which a real photographic trace is algorithmically extended to suggest rather than depict, infer rather than document.

Use of Audio and Sound Design

Sound design played a central role in shaping the emotional tone and narrative rhythm of both the real and synthetic versions of the film. In the real version, audio was recorded and composed entirely by human contributors, using field recordings from Antarctica, interviews, and composed music performed by musicians. The audio elements were carefully edited and mixed in Audacity and Final Cut Pro to ensure a coherent and immersive experience, with emphasis on atmospheric realism and authenticity.

For the synthetic version, a more experimental audio approach was adopted. AI tools such as Soundraw were used to generate background music aligned with mood and pacing, while ElevenLabs created realistic sounds for specific atmospheric or expository segments. This approach contrasted with the real film's organic soundscape, enabling a comparative perspective on how synthetic versus natural audio may influence viewer perceptions of realism, immersion, and trust, though this dimension was not the primary focus of the research.

Real vs. Synthetic: Assembly of Two Parallel Films

The final phase of production involved assembling two parallel versions of the same documentary narrative: one fully based on real footage, and one integrating a significant number of AI-generated visuals and audio. Both versions followed the same underlying

structure and interview content, but differed in how visual and sonic elements were constructed.

The real film used indexical footage only: interviews, archival clips, and on-location recordings from the South Pole and surrounding environments. The synthetic version, however, substituted many of the location visuals with photorealistic AI-generated environments created using tools such as RunwayML's Gen-4 Image, Gen-3 Alpha, and Adobe After Effects. Where appropriate, historical or hard-to-access scenes were inferred using augmented indexicality, extending real photographs into animated sequences.

Each edit was approached with parity in mind. Scenes were mirrored in duration, structure, and narrative beats, ensuring that participants would evaluate comparable material with the only substantial difference being the visual (and in some cases, audio) source. This controlled setup enabled a meaningful investigation into how visual origin, indexical or synthetic, shaped audience responses to key themes such as emotional connection, ethical acceptability, trust, and educational value. Ultimately, the twin-film model became both a methodological innovation and a critical tool in isolating the effects of synthetic media within a documentary context.

## 3.5 Participants and Sampling

This study employed a mixed recruitment strategy to assemble a total sample of 75 participants, divided into two groups of 41 and 34. The aim was to investigate and compare audience responses to two short documentary films, one composed entirely of traditional footage and the other integrating AI-generated, synthetically rendered visual material. To ensure validity and to minimise bias, participants were randomly assigned to view either the real or the synthetic version of the film, followed by an identical post-viewing survey. This design allowed for a focused examination of how synthetic visual content affects viewer perceptions of trust, realism, emotional resonance, and ethical acceptability in non-fiction storytelling.

Recruitment Methods

The participant sampling strategy for this study evolved in response to unforeseen platform limitations and ethical considerations, while remaining anchored in the study's core aim: to gather comparative audience responses to two different versions of a short documentary film. Originally, the research design called for 100 participants to view each film version and then respond to an identical post-viewing survey. The intention was to recruit a balanced and demographically diverse participant pool via Survey Monkey's paid participant panel, ensuring anonymity, randomisation, and sufficient sample size for comparative analysis.

However, Survey Monkey's policy on paid surveys presented an unexpected limitation. The platform's guidelines restrict embedded video content in paid surveys to a maximum of 90 seconds in length. As both documentary films in this study exceeded that limit and being closer to traditional short-form documentary durations, Survey Monkey permitted only the first survey (associated with the "real" film) to be distributed through its paid audience system. Approximately 50 participants successfully completed this first survey before the platform's compliance team flagged the film length as incompatible with its policy. Despite attempts to negotiate or adapt the process, Survey Monkey's restriction led to the cancellation of the paid recruitment for the second survey.

Faced with this constraint, the conscious decision was made not to shorten the films to comply with the platform's video length restriction. Doing so would have significantly undermined the integrity and narrative pacing of the documentaries, distorting the realism and emotional arc crucial to the study's focus on viewer perception, affect, and trust. Instead, an alternative recruitment strategy was adopted for the second survey, prioritising reach, diversity, and transparency.

Participants for the second group (viewing the synthetic film) were primarily recruited via the researcher's professional network on LinkedIn, comprising over 500 contacts. This audience offered a rich and varied sample pool in terms of gender, age, and professional background, although it tended to skew toward a university-educated, middle-class demographic. Additional outreach was conducted through social media channels and email invitations. While this method lacks the blind randomisation afforded by paid panels, it enabled to preserve the films' original format and uphold the experimental conditions needed for authentic viewer engagement.

This dual-method sampling, one half using a structured panel provider and the other relying on targeted personal outreach, inevitably introduces limitations in terms of sample consistency and broader generalisability. Nonetheless, the combined pool of 75 participants allows for meaningful comparisons across key variables such as emotional response, perceived realism, ethical acceptability, and trust in non-fiction media. The differences in recruitment methods are taken into account during data analysis and interpretation, ensuring that any potential sampling bias is critically reflected upon.

In sum, the sampling process reveals a balance between methodological rigor and pragmatic adaptation, shaped by real-world constraints of platform policy and ethical research design. It also reflects a broader challenge in contemporary media research: how to study complex, time-based audiovisual materials within the limitations of digital survey tools.

## Demographic Characteristics

While demographic collection was not exhaustive in the current survey iteration, participants were screened to ensure they were adults fluent in English. Many respondents had some engagement with digital media, either through their profession or education. A future iteration of the study may incorporate more detailed demographic questions to allow for comparative subgroup analysis (e.g., by age, profession, or media literacy level).

## Random Assignment

Participants were randomly allocated to view either the traditional documentary film or the synthetic one. At a later stage, once Survey 1 was complete, LinkedIn contacts were invited to take part in Survey 2 only, to ensure that enough participants were collected for each survey. Both groups received the same post-viewing survey, ensuring that any differences in response could be attributed more confidently to the nature of the visual content rather than survey design or participant characteristics.

## Sample Size Justification

The sample size of 75 was chosen to balance logistical feasibility with the need for meaningful data. Given the resource constraints and the experimental nature of the project, this number provides a robust basis for exploratory analysis, while acknowledging that findings are indicative rather than generalisable to all viewer populations. Pilot testing with postgraduate students in related disciplines confirmed that the survey questions and film length were appropriate and that the responses provided useful qualitative and quantitative data.

## Ethical Considerations

All participants completed a consent form embedded in the survey (Questions Q1-Q8), confirming their understanding of the research, the voluntary nature of participation, and the data privacy policies in place. Ethical approval was obtained from the University of Surrey's Ethics Committee prior to recruitment. In accordance with research ethics requirements, the Participant Information Sheet informed respondents that the study involved visual content potentially generated using AI, but without specifying which film version was synthetic. This helped preserve the naturalistic response conditions necessary for the experiment.

## Inclusion and Exclusion Criteria

Participants had to be 18 years or older and fluent in English. They also needed a device capable of streaming short video content embedded in an online survey. Participants who failed to complete the survey, whose data was corrupted (e.g., due to technical playback issues), or who did not sign the consent form (Q1-8) were excluded from final analysis.

Limitations of Sampling

As with most online and convenience-based sampling methods, this study recognises several limitations. The participant pool, particularly those recruited through LinkedIn and social media, is not fully representative of the general population. It may skew toward individuals who are more media-literate, professionally engaged in creative or academic fields, or generally more aware of developments in digital and AI technologies. This may result in a sample that is more reflective, critical, or tech-savvy than a truly randomised or demographically balanced cohort.

However, given the focus of this study, this audience profile may offer certain advantages. Participants with a baseline familiarity with digital media or documentary conventions are arguably well-positioned to evaluate the nuances of realism, ethical transparency, and emotional resonance in synthetic visual environments. Their insights can provide an early indication of how more informed viewers interpret and respond to machine-generated content in documentary contexts.

Nevertheless, the limited generalisability of findings must be acknowledged. Results cannot be straightforwardly extrapolated to wider audiences, particularly those less familiar with documentary formats or emerging AI technologies. Instead, the findings should be understood as indicative of initial reception patterns among a digitally literate subset of the public, a group that is likely to be among the earliest to encounter and engage with such media forms in real-world contexts.

In summary, the sampling approach for this study was designed to combine reach with relevance, enabling a focused investigation into how synthetic media affects viewer perception, while adhering to ethical and methodological rigour. Despite the constraints, the study offers a valuable foundation for further research and highlights the need for follow-up studies with more demographically diverse and representative samples.

## 3.6 Data Collection Instruments and Process

To investigate audience perceptions of AI-generated versus traditionally filmed documentary content, this study employed a structured online survey as its primary data

collection instrument. Following the experimental exposure to one of two short documentary films, either the "real" version using conventional footage or the "synthetic" version enhanced with machine learning-generated visuals, participants were asked to complete a comprehensive questionnaire. The survey was designed to capture both quantitative and qualitative data, combining Likert-scale ratings, follow-up question and open-ended prompts. This mixed-format approach allowed for the assessment of emotional reactions, trust, perceived realism, ethical judgments, and educational value.

The questionnaire was constructed in alignment with the project's core research questions and drew upon established practices in audience studies and media psychology. It comprised 28 items in total, with the first eight fulfilling ethical consent requirements and the remaining twenty addressing specific dimensions of viewer response. In the subsections that follow, each question is unpacked with a justification of its inclusion and a discussion of how it contributes to the broader research aims.

Justification and Research Purpose for Q1–Q8: Consent and Ethics

Q1: I confirm that I have read and understood the Participant Information Sheet dated 24.01.2025 for the above study. I have had the opportunity to consider the information and asked questions which have been answered satisfactorily.

Justification: This question ensures informed consent by verifying that the participant has read and understood all necessary details about the study, including aims, methods, risks, and their rights.

Research Purpose: Establishes ethical compliance by documenting that participants are fully informed before taking part, in line with GDPR and University of Surrey guidelines.

Q2: I understand that my participation is voluntary and that I am free to withdraw until data submission.

Justification: Reinforces voluntary participation, emphasising that participants are not coerced or obligated.

Research Purpose: Protects participant autonomy and aligns with principles of respect and informed choice in human subject research.

Q3: I understand that information I provide may be subject to review by responsible individuals from the University of Surrey and/or regulators for monitoring and audit purposes.

Justification: Communicates institutional oversight and transparency regarding research governance.

Research Purpose: Ensures participants are aware that regulatory bodies may access their data for auditing or verification, in compliance with university policy.

Q4: I understand that information I provide will be used in various anonymised outputs, including reports, publications, presentations, websites, social media etc.

Justification: Clarifies how the anonymised data may be disseminated and publicly shared across multiple formats.

Research Purpose: Enables broader use of data in academic and public discourse, while maintaining participant anonymity.

Q5: I understand that my personal data, including this consent form, which link me to the research data, will be kept securely in accordance with data protection guidelines, and only be accessible to the immediate research team or responsible persons at the University.

Justification: Ensures compliance with the Data Protection Act and GDPR, especially concerning personal identifiers.

Research Purpose: Assures participants of secure handling and limited access to sensitive data, reducing the risk of privacy breaches.

Q6: I understand that the anonymous data I provide in this survey will be used in this research project and I cannot request the withdrawal of my data following submission.

Justification: Participants must acknowledge that once data is anonymised and submitted, it cannot be linked back to them or withdrawn.

Research Purpose: Clarifies ethical and logistical boundaries of data use, particularly where anonymity precludes re-identification for withdrawal.

Q7: I agree to take part in this study.

Justification: Captures formal consent from the participant to proceed.

Research Purpose: Serves as a legal and ethical affirmation that the individual is willingly participating.

Q8: I give permission for my de-identified data to be archived and shared anonymously with other researchers, in order to carry out future research.

Justification: Informs participants about the potential for secondary use of their data in future studies.

Research Purpose: Supports data reusability and academic collaboration, while maintaining de-identification and participant protection.

Justification and Research Purpose for Survey Questions Q9–Q28: Perception, Emotion, Ethics, and Realism

Q9
How engaging did you find the film on a scale of 1 to 10? One being least engaging, 10 being most engaging.
Justification: Measures participants' overall engagement response to the film.
Research Purpose: To capture a baseline emotional reaction, which may influence other affective ratings.

Q10
How informative was the film about life in Antarctica on a scale of 1 to 10?
Justification: Assesses the perceived educational content of the film.
Research Purpose: To evaluate how effectively the film communicates factual knowledge about Antarctica.

Q11
What were your initial impressions of the film's visual quality?
Justification: Captures first-level reactions to technical and aesthetic quality.
Research Purpose: To determine whether perceived production values affect trust and credibility judgments.

Q12

On a scale of 1 to 10, how credible do you think the visuals in the film were?

Justification: Probes perceived credibility of imagery.

Research Purpose: To examine how audiences link visual appearance to trust in nonfiction media.

Q13

Did anything in the film appear odd, unusual or unrealistic? If so, please describe.

Justification: Allows participants to articulate specific doubts or anomalies.

Research Purpose: To identify visual or narrative triggers of scepticism.

Q14

How would you rate the overall authenticity of the film on a scale of 1 to 10?

Justification: Tests audience perception of authenticity.

Research Purpose: To assess whether viewers accept the film as a genuine representation of reality.

Q15

Were there any moments where you questioned the accuracy of what was shown?

Justification: Distinguishes accuracy concerns from authenticity more broadly.

Research Purpose: To pinpoint the boundaries of credibility breakdown.

Q16

Was there anything in the visuals or editing that made you question the film's credibility?

Justification: Focuses specifically on film form as a source of doubt.

Research Purpose: To analyse whether editing or visual anomalies undermine credibility.

Q17

What emotions did the visuals in the film evoke for you?

Justification: Measures affective responses across a spectrum of emotions.

Research Purpose: To explore emotional impact as a dimension of audience reception.

Q18

Did you feel immersed in the environment portrayed in the film?

Justification: Assesses experiential immersion.

Research Purpose: To test whether viewers feel transported into the film's environment.

Q19

On a scale of 1 to 10, how would you rate the film's ability to make you feel as though you were experiencing Antarctica firsthand?

Justification: Quantifies immersion intensity.

Research Purpose: To evaluate how strongly the film stimulates a "being there" effect.

## Q20

Do you think this film could be used as a reliable educational resource?

Justification: Tests perceptions of the film's applicability to learning.

Research Purpose: To assess the pedagogical potential and credibility of the film.

## Q21

On a scale of 1 to 10, how believable was the overall story presented in the film?

Justification: Gauges story-level believability.

Research Purpose: To analyse narrative coherence as a driver of credibility.

## Q22

What would have helped you trust the story or visuals more?

Justification: Explores conditions under which trust could be increased.

Research Purpose: To identify disclosure, framing, or contextual strategies that could stabilise credibility.

## Q23

Do you have any additional thoughts or observations about the film you just watched?

Justification: Provides space for spontaneous, unprompted reflections.

Research Purpose: To capture emergent insights outside predefined categories.

## Q24

Would you feel differently about the film if you found out that some parts might have been created using machine learning models based on real images?

Justification: Probes audience perceptions of AI-generated content.

Research Purpose: To measure baseline ethical and trust-related attitudes toward synthetic media.

## Q25

Would knowing that some parts of scenes were created using AI change how much you trust the information although the material is based on real images?

Justification: Tests the effect of disclosure on trust.

Research Purpose: To evaluate whether transparency mitigates or exacerbates scepticism.

## Q26

Do you believe it is ethically acceptable to use machine learning models to digitally recreate or bring places to life?

Justification: Examines ethical boundaries in relation to spaces.
Research Purpose: To identify audience tolerance for AI-mediated place reconstruction.

Q27
Do you feel a story can be told more effectively if deceased individuals are digitally recreated using AI?
Justification: Investigates perceptions of narrative power gained from AI use with people.
Research Purpose: To assess how participants evaluate the narrative impact of digitally recreating people in nonfiction contexts.

Q28
Do you believe it is ethically acceptable to use machine learning models to bring back the likeness of deceased people in nonfiction media such as news and documentary films?
Justification: Tests ethical boundaries regarding human likeness and consent.
Research Purpose: To identify limits of acceptability and to compare with perceptions of place-based reconstruction.

Questions Q1 to Q8 form the ethical backbone of the research, ensuring that all participants have given informed consent in accordance with university guidelines and research integrity standards. These questions verify that participants understand the study's purpose, the use and handling of their data, their rights to withdraw, and how the anonymised data may be used in future research outputs. Their inclusion aligns with best practices in human subject research and data protection regulation (e.g., GDPR), and they establish a foundation of transparency and trust necessary for ethically collecting and interpreting participant responses.

Questions Q9 to Q28 are central to the study's research aims. They are designed to capture both quantitative and qualitative dimensions of audience response to AI-generated versus traditional documentary footage. These questions measure emotional engagement (e.g., sadness, affection, shock), cognitive perceptions (e.g., realism, confusion, informativeness), and ethical judgments (e.g., trust, acceptability of digital resurrection, educational suitability). This mixed set enables a holistic analysis of how machine-generated visuals affect viewer trust, empathy, and understanding, all key factors in assessing the evolving role of synthetic media in factual storytelling. The inclusion of open-ended responses also allows for rich qualitative insights that complement the structured data.

## 3.7 Visual Perception and ethical acceptability assessment

This section explores how participants interpreted the visual and ethical dimensions of the documentary films presented in the study. As the research focuses on the use of AI-generated content in factual storytelling, understanding how viewers perceive and evaluate the realism, credibility, and moral acceptability of such visuals is central to the investigation. The aim is not merely to assess whether viewers could distinguish between synthetic and indexical imagery, but to gauge the emotional and cognitive impact these images had, particularly in relation to trust, empathy, and ethical comfort.

To achieve this, the study incorporated a range of survey questions designed to capture both quantitative ratings and qualitative reflections on participants' viewing experiences. Visual perception was assessed through measures of emotional response, perceived realism, and credibility. Ethical acceptability was evaluated through targeted questions about the appropriateness of AI-generated reconstructions, especially in sensitive contexts such as portraying deceased individuals or locations that were never filmed.

This component of the data collection serves a dual purpose: first, to uncover how viewers respond to different types of visual realism, whether grounded in photographic indexicality or generated through machine learning; and second, to identify the ethical thresholds and trust markers audiences apply when confronted with synthetic content in documentary formats. Together, these insights contribute to a deeper understanding of how AI-generated visuals are reshaping audience expectations and norms around visual truth, affective realism, and ethical storytelling in non-fiction media.

Purpose of the Assessment

The purpose of this assessment is to explore how viewers cognitively and emotionally engage with different types of visual realism, particularly in the context of AI-generated or synthetically enhanced content in documentary formats. Given that the study compares two versions of the same film this part of the analysis aims to determine whether viewers experience differences in trust, realism, emotional connection, and ethical comfort.

More specifically, this assessment is designed to:

- Evaluate how participants perceive visual realism when confronted with AI-generated footage.
- Measure how such perceptions influence trust, affective response, and belief in the factual value of the content.
- Understand how ethically acceptable viewers find the use of synthetic media in non-fiction storytelling, especially in emotionally sensitive cases (e.g. deceased individuals, fabricated environments).

These insights provide valuable input for emerging ethical frameworks, broadcaster guidelines, and design of future visual grammars that involve synthetic media in journalism and documentary filmmaking.

Operational Definitions

To ensure clarity and analytical consistency, the following key terms have been operationally defined within the context of this study:

- Visual Perception of Realism: The degree to which participants believe the visual content looks believable, credible, and in line with expectations of realism in documentary footage. This includes subconscious aesthetic cues (e.g., lighting, motion, texture) and explicit judgments of whether something "feels real."
- Trust: The participant's confidence in the content's authenticity and their perception of the filmmaker's intention. This includes not only whether they believe the content is "true," but whether they feel manipulated or deceived.
- Ethical Acceptability: Participant judgment on whether the use of AI-generated or reconstructed visuals is morally appropriate, especially when used to represent people, places, or events that were not recorded in real life.
- Affective Response: Emotional reactions (e.g., affection, sadness, confusion, empathy) that indicate how deeply the content resonates with the viewer and whether realism, synthetic or photographic, has an emotional impact.
- Inferred Truth / Augmented Indexicality: Where a real, indexical image (e.g., a photograph) is used as the foundation, but extended or animated synthetically through machine learning. This hybrid realism blurs boundaries between factual and inferred content and forms a core part of the visual strategy in the "synthetic" film.

Relevant Survey Questions

The following survey items are central to this assessment:

- Q17 (Emotional Responses): This item uses Likert-scale ratings to assess a range of affective responses, including Affection, Empathy, Sadness, Confusion, and Trust. These responses are essential to understanding how the visuals influenced emotional perception and social presence.
- Q20: Asks participants directly whether they believe the film could be used as a reliable educational resource. This indirectly gauges their sense of the film's truthfulness and ethical appropriateness in formal contexts.

- Q27 and Q28: Asks about the participant's comfort with digitally recreating deceased individuals using machine learning. This is a critical ethical measure of acceptability and moral perception.
- Q23 (Open-ended reflections): These allow participants to elaborate on their emotional responses and perceptions of realism, offering qualitative insight into how and why synthetic visuals may or may not be accepted.

Together, these questions form the empirical basis for evaluating how participants visually and ethically perceive AI-generated imagery, helping to contextualise broader trends around inferred truth, augmented indexicality, and public trust in synthetic media.

Patterns and Contrasts in Perception Across Conditions

One of the most significant insights from the survey data is the differing audience responses to visual realism and ethical acceptability depending on whether the film was composed of traditional indexical footage or AI-generated visuals. By comparing the responses from Survey 1 (real film) and Survey 2 (synthetic film), the study reveals several key contrasts:

- Trust Divergence: While both groups showed a majority in the "medium trust" category, high trust dropped from 41% in the real film to 21% in the synthetic film. This suggests that even when participants are not aware of the synthetic nature of the visuals, something about the artificial aesthetic or inferred realism leads to diminished trust.
- Emotional Nuance: Synthetic visuals elicited slightly higher levels of medium-range emotions like *sadness* and *confusion*, but lower levels of *affection* compared to the real film. This pattern may indicate a subtle tension in how viewers interpret emotionally charged, but visually unfamiliar content.
- Ethical Comfort Levels: Responses to Q28 showed a notable drop in ethical approval for using ML to recreate deceased individuals in the synthetic film group, even when the visuals were based on real images. This points to an emotional-ethical dissonance: synthetic realism can evoke genuine affect, but not always moral comfort.

These contrasts reflect a growing need for clearer visual signposting, greater audience literacy about AI methods, and more research into how realism is now being cognitively and ethically processed.

Influence of Visual Cues and Labelling (or Lack Thereof)

Another key factor in perception is how much the film discloses, or withholds, about its visual construction. In this study, the Participant Information Sheet disclosed that the film may include synthetic content, but did not specify which parts were AI-generated. This allowed researchers to assess audience reactions to visuals based on appearance and affect alone, without bias from foreknowledge.

- Implied Visual Cues: Participants responded to perceived realism based on lighting, texture, motion, or camera movement, without being told what was real or fake. This tests how new forms of "augmented indexicality" are interpreted in the absence of explicit cues.
- Absence of Trustmarks: Because neither film included visual indicators like "reconstruction" labels or watermarks, trust was guided by visual plausibility and emotional resonance. The results suggest that even subtle cues, like uncanny movement or "too clean" aesthetics, can affect ethical perception and trust.

This has practical implications for journalism and documentary practices: audiences may not always need full transparency to "sense" the synthetic. However, visual conventions (e.g. grain, jitter, noise) may become increasingly important as trust-building cues.

Implications for Design of Synthetic Realism in Factual Media

Findings from the visual perception and ethical assessment highlight key takeaways for producers, journalists, and documentarians experimenting with synthetic content:

- Augmented Indexicality Must Be Handled Carefully: Even when based on real photographs, AI-animated visuals are not automatically seen as authentic. Audiences respond to the *look* and *feel* of realism, not just its factual basis. Designers must consider how to build affective realism without triggering distrust or ethical discomfort.
- Visual Grammar Is Still Evolving: There is currently no shared standard for how AI-generated content should "look" in factual formats. This creates uncertainty but also opportunity: producers can help shape a new visual vocabulary that balances clarity, emotional engagement, and integrity.
- Clear Ethical Boundaries Matter: Especially in emotionally sensitive contexts, such as representing deceased individuals, audiences are more cautious. This calls for strong ethical guidelines, careful narrative framing, and perhaps new consent models for synthetic representation.

Ultimately, the data suggest that synthetic media in factual storytelling can be both emotionally impactful and ethically precarious. Navigating this space requires thoughtful

design, audience awareness, and further research to refine emerging standards of visual and moral credibility.

## 3.8 Data Analysis Plan

Overview of Data Sources and Analysis Objectives

This study adopted a mixed-methods approach, integrating both quantitative and qualitative data to explore how AI-generated visuals in documentary storytelling influenced audience perceptions. The data stemmed from two parallel surveys, each completed by a separate group of participants who viewed one of two short documentary films. Each survey included 28 questions, spanning closed-ended Likert scale items and open-ended response fields.

The analysis assessed key dependent variables including perceived trust, realism, emotional response, and ethical acceptability. Quantitative data provided measurable insights into patterns of audience reception, while qualitative data offered contextual richness and allowed for exploration of how viewers articulated their experiences. This dual-layered structure produced both statistically significant patterns and thematic depth.

Quantitative Data Preparation and Descriptive Analysis

The closed-ended questions were subjected to descriptive and inferential statistical analysis. SurveyMonkey data provided means, percentages, and bar charts. Descriptive statistics calculated frequency distributions, means, and standard deviations across the measured variables.

To examine whether the two groups differed significantly in their responses, comparative statistical tests were employed. Independent samples of t-tests or, where distributional assumptions were not met, Mann-Whitney U tests compared group responses on emotional intensity, perceived credibility, and ethical acceptability. The analysis also generated visual representations to clearly communicate audience trends and perceptual divergences.

This quantitative approach helped answer core research questions about how trust, emotion, and perceived authenticity shifted when AI-generated elements were introduced into factual storytelling formats.

Qualitative Data Coding and NVivo Thematic Analysis

To complement the statistical findings, qualitative data from open-ended questions were analysed using thematic content analysis in NVivo. NVivo, widely used for qualitative data

analysis (Bazeley and Jackson, 2013), was well-suited to manage audience responses to AI-generated versus traditional documentary footage.

The comparative nature of the project required tools that efficiently sort and code responses from two distinct participant groups (real vs. synthetic film viewers). NVivo's case classification features allow for this kind of segmentation, enabling side-by-side thematic analysis. As Silver and Lewins (2014) noted, NVivo supported mapping cross-group patterns and relationships, which was central to this study's mixed-methods approach.

Participant responses often contained subtle references to emotions, realism, and ethical concerns. NVivo enabled close reading and in vivo coding of these expressions, linking responses back to core concepts such as "augmented indexicality" or "inferred truth." Its querying features facilitated comparison of themes across groups and helped identify recurring language of trust, scepticism, or affective engagement.

NVivo also strengthened methodological rigour by creating a transparent coding process and audit trail (Woolf and Silver, 2017). Visualisation tools such as word clouds, charts, and coding matrices supported interpretation and dissemination. This facilitated integration of qualitative insights with quantitative results, aligning with the goals of mixed methods research (Creswell and Plano Clark, 2018).

Cross-Condition Comparison and Group-Level Interpretation

A central goal of the study was to compare audience responses between those who viewed the real film and those who viewed the synthetic version. Once both quantitative and qualitative data were analysed, a cross-condition comparison was conducted.

For the quantitative data, side-by-side visualisations and statistical comparisons identified patterns and divergences. Variables such as trust, emotional response (e.g., sadness, fascination, confusion), ethical acceptability, and educational suitability were compared across groups.

On the qualitative side, NVivo's cross-tabulations and case classifications analysed how themes and codes differed between the groups. For example, one group expressed stronger scepticism, while another used more affective language. This comparative layer of analysis was central to understanding how different types of realism, indexical versus synthetic, were processed emotionally, cognitively, and ethically.

Integration of Quantitative and Qualitative Findings

As a mixed-methods study, integration of findings across the two data types was essential. This was achieved through side-by-side comparison and thematic synthesis. Results from

Likert-scale measures were contextualised and deepened using interpretative insights from open-ended responses.

For instance, if statistical analysis showed that viewers of the synthetic film rated trust lower than viewers of the real film, qualitative data were used to explore why. Were viewers responding to visual aesthetics, a sensed lack of authenticity, or ethical discomfort? Similarly, if empathy ranked higher for synthetic footage, open comments were mined for emotional cues such as references to motion or presence.

NVivo supported this integration by cross-referencing numerical Likert responses with participants' open-text entries, linked through respondent IDs. This enabled development of case studies for respondents whose survey scores showed ambivalence or contradiction, adding interpretive depth.

Reporting and Visualising Results

The analysis was reported in formats accessible to both academic and professional audiences. Results were visualised using:

- Bar charts and Likert-scale distributions to show quantitative differences in trust, emotion, and ethics.

- Comparative tables to display key divergences between conditions.

- Annotated excerpts to exemplify participants' reflections.

Where appropriate, intersections between trust, affect, and ethical judgment were mapped to suggest audience profiles (e.g., high-affect–low-trust viewers). Visualisations not only clarified data but also demonstrated the interpretive potential of mixed methods for understanding synthetic media.

This integrated reporting highlighted where assumptions about realism and truth were destabilised by AI-mediated imagery, and where audiences remained cautious or conflicted.

## 3.9 Research ethics and challenges

Informed Consent

Ensuring informed consent was a fundamental ethical requirement of this research, in line with the University of Surrey's ethics policies and the British Psychological Society's (BPS) guidelines for conducting research involving human participants (BPS, 2021). Participants were required to read the *Participant Information Sheet* (dated 24.01.2025) before taking part in the study. This document explained the aims of the project, the nature of

participation, potential risks and benefits, and the measures taken to ensure data confidentiality. It also provided contact details for the researcher and the University's ethics committee should participants have questions or concerns.

Consent was collected via the first eight compulsory questions in the online survey (Q1–Q8), which formed the official *Consent Form*. These items confirmed that participants:

1. Had read and understood the Participant Information Sheet (Q1).
2. Understood that participation was voluntary and that they could withdraw at any time before data submission (Q2).
3. Understood that their data might be reviewed by authorised University personnel or regulatory bodies for monitoring purposes (Q3).
4. Understood that anonymised findings could be disseminated in academic and public outputs such as reports, publications, and presentations (Q4).
5. Understood that personal data linking them to their responses would be stored securely and accessible only to the immediate research team or authorised University personnel (Q5).
6. Understood that once anonymous data was submitted, it could not be withdrawn (Q6).
7. Agreed to take part in the study (Q7).
8. Gave permission for their de-identified data to be archived and shared anonymously with other researchers for future studies (Q8).

While transparency is a core principle of informed consent, the study also had to address the methodological challenge of avoiding priming effects that could bias audience perceptions of AI-generated content. Participants were informed that the film they were about to watch *may* contain synthetic or AI-generated elements, but no details were given about which parts of the film were AI-generated or how such content was created. This approach was approved by the University's Ethics Committee as a form of *partial disclosure*, justified by the need to measure audience responses to synthetic realism without preconceptions influencing their perceptions of trust or authenticity.

Following completion of the survey, participants were offered the opportunity to receive a debrief containing further details about the research purpose, the differences between the two film versions, and the methods used to create AI-generated content. This ensured that the principle of informed consent was upheld in its entirety, with any temporary withholding of detail limited to what was necessary for valid experimental outcomes.

Data Handling and Privacy

All data collection and management procedures for this study complied with the UK General Data Protection Regulation (GDPR) and the University of Surrey's research data management policies. The approach was designed to ensure participant confidentiality, protect personal information, and maintain the integrity of the research dataset.

Data was collected via the online survey platform SurveyMonkey, which was chosen for its secure data storage infrastructure and compliance with GDPR standards. The platform encrypted data during transmission and stored it on secure servers. Once data collection for each survey was completed, all responses were downloaded and stored on an encrypted, password-protected drive accessible only to the lead researcher. No personal identifiers were collected within the survey responses themselves, ensuring that all data used for analysis remained fully anonymised.

The open-text qualitative responses and quantitative survey data were each assigned participant ID numbers to maintain anonymity while enabling cross-referencing between responses in different parts of the survey. These IDs allowed for mixed-methods analysis, linking Likert-scale scores with qualitative explanations without revealing participants' identities.

In line with Q8 of the consent form, participants agreed that their de-identified data could be archived and shared anonymously with other researchers for future studies. Any such sharing will occur only under conditions that uphold the same ethical standards, with the data hosted on secure research repositories approved by the University.

Ethical Sensitivities in Synthetic Media

The use of AI-generated content in factual contexts raises ethical considerations that extend beyond standard consent and data protection procedures. These sensitivities are particularly pronounced when recreating visual representations of deceased individuals, as was the case in this study.

In professional journalism and documentary practice, it is generally considered best practice, and in many editorial codes of conduct, an ethical obligation, to contact the family or next of kin of a deceased individual before including material about them. This serves not only to gain permission but also to ensure sensitivity to the emotional impact that such representations may have on those closest to the subject. In this research, however, no such contact was made because the material was created and used exclusively for the purposes of a controlled academic study, not for public distribution or broadcast.

The AI-generated recreations were integrated into one of the two experimental film versions to examine audience perceptions of trust, realism, and ethical acceptability. They

were not intended as literal reconstructions of a specific historical record, nor as a replacement for genuine documentary footage in a published work. The visual material was accessible only via the secure SurveyMonkey platform during the active data collection period. Once the survey closed, all participant access to the films was removed, ensuring that the content could not be shared or viewed outside the research context.

This restricted-access approach was designed to minimise any potential harm, both to the memory of the deceased and to the public perception of synthetic media. By ensuring the footage was used solely within the controlled setting of the survey, the study avoided the ethical risks associated with public misinterpretation or misuse of AI-generated recreations.

The project also acknowledges the emotional weight of digitally reanimating a deceased person, even in an academic context. Audience reactions were measured not only in terms of visual perception and trust but also in relation to ethical acceptability, recognising that emotional discomfort or moral objections are an important part of public discourse on synthetic media. This aligns with current media ethics frameworks, such as the BBC's AI Principles and the Archival Producers Alliance Best Practices, which stress the importance of transparency, accuracy, and sensitivity when creating and presenting such material.

In sum, the research took deliberate steps to handle this ethically sensitive area with care, limiting access, avoiding public release, and framing the use of synthetic content as a tool for academic inquiry rather than public storytelling, while still generating valuable insights into how audiences interpret AI-generated realism.

Reflexivity and Researcher Position

The researcher's dual role as a media practitioner experienced in documentary and synthetic media production, and as an academic investigating audience perception of such content, shaped both the strengths and potential biases of the study. This combined expertise provided the technical ability to design and produce AI-generated material to a high standard, as well as the critical framework to interrogate its ethical and perceptual implications. At the same time, such familiarity with generative tools may have predisposed the researcher to recognise their creative potential in factual storytelling, while also being attuned to ongoing debates around authenticity and trust in documentary practice.

Awareness of these positional influences informed the study's methodological design, which sought to minimise subjective bias. The survey structure avoided leading questions, thereby allowing participants to express attitudes and interpretations without direction.

Qualitative data were analysed in NVivo using a combined deductive–inductive coding approach. Deductive codes were derived from the theoretical framework of the study (e.g., "trust," "augmented indexicality," "realism," "ethical discomfort"), while inductive coding allowed for the emergence of unanticipated patterns and perspectives from the participant responses. This approach balanced theoretical expectations with findings grounded in the data.

Recruitment through LinkedIn and other professional networks introduced additional reflexive considerations, particularly the possibility that some participants might have prior familiarity with the researcher's work. To address this, all data collection was conducted anonymously via SurveyMonkey, ensuring that no identifying information was recorded, and no direct interaction occurred between researcher and participants during the viewing or survey completion.

The production of both film versions involved editorial choices that inevitably influenced the narrative and visual structure. Decisions about which images to animate, the duration of individual shots, and the integration of AI-generated material into the film shaped how the story was perceived emotionally and cognitively. This mirrors the editorial influence inherent in traditional documentary filmmaking, where framing, sequencing, and omission play a role in constructing reality claims. Recognising this influence reinforces the importance of interpreting audience responses as shaped by the specific creative treatment rather than as absolute indicators of attitudes toward synthetic media more broadly.

Rapid technological development and ML model challenges

The speed of development in machine learning and generative AI technologies presents unique opportunities for media research, but it also creates significant challenges, particularly for independent scholars or those working outside large technology companies. This study's production of AI-generated documentary footage which used tools such as Runway's Gen-3 Alpha and Gen-4 Image, was directly shaped by the availability, accessibility, and functionality of these platforms at the time of data collection.

Generative AI tools are evolving at unprecedented speed, with major model releases often occurring within months. Capabilities such as resolution fidelity, motion smoothness, and multimodal integration can change rapidly, meaning that the technical environment in which a research project begins may differ substantially by the time the project concludes. As Crawford (2021) observes, AI is not a fixed artefact but an evolving socio-technical system; this dynamism complicates academic replication and longitudinal comparison. In

practice, this means that a synthetic video sequence created with an earlier model version might be impossible to reproduce later, even with identical prompts and parameters.

Large technology companies and well-funded research laboratories maintain privileged access to state-of-the-art ML models and high-quality proprietary datasets. In contrast, independent or university-based researchers typically work with commercial APIs, subscription services, or open-source alternatives that may have reduced capabilities or lower quality outputs (Klinger and Svensson, 2023). This creates an inherent inequality of research capacity, not only in terms of model performance but also in the ability to fine-tune systems or modify training datasets to suit specific research needs.

Computational resources present an additional barrier. Training or fine-tuning large ML models requires substantial GPU capacity, often available only through high-performance computing clusters. Without such access, researchers are limited to inference-only use, outsourcing computation to paid cloud services, which can be prohibitively expensive when working with large datasets or high-resolution video outputs.

A further challenge lies in the opacity of training datasets for many commercial generative models. Proprietary datasets are rarely disclosed in full, limiting the researcher's ability to assess biases, gaps, or stylistic constraints embedded in the model's outputs. This is especially pertinent when studying realism, ethics, and audience trust, where the provenance of visual and audio material influences both authenticity and credibility. Without insight into the dataset composition, it is difficult to contextualise whether observed audience responses are shaped by the researcher's creative choices or by the model's underlying learned biases (Floridi, 2019).

For reproducibility, machine learning research faces a problem that differs from traditional experimental science: version drift. Commercial AI tools are routinely updated, sometimes without notice, altering model weights, inference logic, or pre- and post-processing steps. As a result, the same workflow applied at two different points in time may produce divergent results. Unless model versions are archived and accessible, the precise conditions under which a given output was generated cannot be reconstructed—posing challenges for peer review and for building cumulative knowledge in the field.

Rapid model development has also outpaced the evolution of legal and ethical frameworks. Intellectual property law, rights of publicity, and rules around synthetic representation of deceased individuals vary widely across jurisdictions, with little consensus on best practice (Pagallo, 2020).

Rapid technological change in generative AI offers unprecedented creative and analytical possibilities for non-fiction media research. However, unequal access to state-of-the-art

models, opacity in training data, version drift, and evolving ethical norms pose persistent methodological and ethical challenges. Addressing these issues requires not only technical strategies but also a reflexive awareness of the socio-technical systems in which these tools operate. For projects such as this one, which explore the intersection of synthetic realism, audience perception, and documentary ethics, these constraints are not peripheral, they actively shape the kinds of questions that can be asked, the methods that can be applied, and the interpretations that can be drawn.

# Chapter IV

# Presentation of Research Results

## 4.1 Introduction to Findings and Analysis

This chapter presents and interprets the data collected from the audience responses to the two versions of the documentary film *Frozen Truth*: one composed of entirely real footage and the other integrating synthetic visuals generated through machine learning tools. The core objective is to explore how participants perceive realism, emotional resonance, ethical acceptability, and trustworthiness in these contrasting visual contexts. Using a mixed methods approach, the chapter draws from both quantitative (Likert-scale) data and qualitative (open-ended) survey responses to provide a multidimensional view of audience perception.

As outlined in the Research Design Overview, 75 participants were divided into two groups. Each group viewed one version of the documentary and completed an identical online survey immediately afterward. The structure of the survey focused on a range of emotional responses (e.g., affection, confusion, empathy), perceived trustworthiness, ethical concerns, and educational value. By comparing responses between the real and synthetic versions, this chapter identifies key trends, contradictions, and emerging patterns in how audiences are beginning to engage with synthetic realism in factual storytelling.

The findings reveal notable differences in emotional reaction and perceived authenticity. While the synthetic version appeared to elicit higher emotional complexity in some areas, such as affection, sadness, and shock, it simultaneously encountered lower scores for trust and educational reliability. In contrast, the real version scored higher on traditional

metrics of trust and believability, suggesting that audiences continue to associate indexical footage with credibility, especially in nonfiction formats.

One of the most compelling insights concerns how viewers navigate emotional versus ethical reactions. For example, many participants responded emotionally to animated representations of the deceased in the synthetic film, yet simultaneously expressed ethical discomfort with the technique, even when transparently presented. This tension between emotional resonance and ethical unease suggests a new area of inquiry for both media scholars and content producers – the empathy-ethics paradox.

Audience confusion also emerged as a subtle but significant signal. While confusion did not dominate responses in either group, the slight elevation in the synthetic group (shifting from "low" to "medium") suggests that AI-generated visuals can produce a momentary disorientation. Importantly, this was not always negative; rather, it sometimes led to deeper cognitive engagement or reflective questioning, a finding aligned with existing research into productive ambiguity in documentary formats.

Another key aspect addressed in this chapter is trust. The synthetic version experienced a marked drop in high trust ratings and a doubling of low trust responses, indicating residual scepticism among viewers even when the use of generative AI was ethical and clearly signposted. The finding emphasises that transparency alone may not suffice to establish credibility; audiences continue to respond to visual grammar and symbolic cues of authenticity. The concept of "augmented indexicality", where a real image is used as a basis for synthetic video, emerges as a potentially helpful frame, as it blurs traditional boundaries without necessarily leading to deception.

This chapter is structured into thematic sections. It begins with an overview of key quantitative trends in emotional and ethical responses, followed by an in-depth comparison of trust and perceived realism across the two film versions. It then draws on open-text responses to unpack the nuances behind participants' judgments, how they made sense of what they saw, what they felt, and how they interpreted the presence of machine-generated imagery.

Through this multifaceted analysis, the chapter aims to contribute to emerging discussions on audience perception of AI in factual contexts, a field still in its early stages. These findings build on previous literature that has focused heavily on deepfakes and deception, offering an alternative lens: how viewers respond to synthetic media when it is not intended to mislead, but rather to enhance storytelling and fill documentary gaps. In doing so, it also lays the groundwork for future empirical studies, including more extensive

audience testing, eye-tracking experiments, or interviews, which could deepen our understanding of how realism is cognitively and emotionally constructed in a media environment increasingly populated by machine-generated imagery.

In sum, this chapter is not merely an exercise in data reporting. Rather, it is an interpretive synthesis that connects empirical results with theoretical debates around realism, indexicality, and the evolving nature of documentary truth. It critically examines how audiences navigate new visual grammars, and where their sense of authenticity, empathy, and credibility begins to shift in the face of synthetic aesthetics. These insights not only inform the concluding discussion of the thesis but also have practical implications for ethical design, transparency standards, and creative decision-making in factual media production.

Following the methodological overview presented in the introduction to Chapter 4, this section outlines the use of NVivo as the primary tool for qualitative data analysis. It details what NVivo is, how it functions, and why it was selected for this particular study, which investigates audience responses to synthetic and indexical documentary content. Given the mixed methods approach adopted in this research, NVivo offered an appropriate and rigorous solution for the systematic coding and interpretation of open-ended participant responses.

## 4.2 Understanding NVivo: Functions and Analytical Workflow

NVivo is a widely adopted computer-assisted qualitative data analysis software (CAQDAS) designed to support researchers in managing and interpreting large volumes of unstructured or semi-structured data. Developed by QSR International (now Lumivero), NVivo allows for the organisation, thematic coding, and visualisation of data types such as interview transcripts, textual responses, audio, video, and image files (Wong, 2008; Zamawe, 2015). Crucially, NVivo does not conduct analysis on behalf of the researcher, but facilitates and supports the manual, interpretive processes that underpin robust qualitative inquiry (Richards and Richards, 1995).

A central feature of NVivo is its system of *nodes*, which function as codes or categories into which data segments can be organised. These nodes can be structured hierarchically through parent-child relationships or exist as free-standing thematic codes. This structure enables researchers to identify both broad thematic trends and more nuanced, sub-category insights across multiple data sets (Bazeley and Jackson, 2013).

Importing and Organising Data

In this study, open-ended survey responses from two participant groups. The responses were initially reviewed in full to gain an overall sense of participant tone, focus, and key concerns. This familiarisation stage preceded the development of a formal coding framework, allowing themes to be derived both inductively and deductively.

The Coding Process

The coding process followed a hybrid approach, combining both top-down and bottom-up methods. Deductive codes were created in line with the study's core research questions (e.g., *trust*, *emotional realism*, *synthetic perception*, *ethical acceptability*), while inductive codes emerged organically during the review of responses. The flexibility of NVivo supported this dual approach, allowing for codes to evolve, be merged, or split during multiple rounds of coding, a process essential to iterative qualitative research (Gibbs, 2018).

Data segments were then coded to multiple relevant nodes, enabling cross-thematic comparisons and the capture of overlapping ideas. This was particularly important in responses that expressed both ethical unease and emotional connection to synthetic imagery, for example.

Querying and Visualising the Data

Once coding was complete, NVivo's analytical tools were employed to explore patterns and relationships within the data. Coding queries were used to determine whether participants who viewed the synthetic film were more likely to express distrust or emotional conflict compared to those who watched the indexical version. Other queries tested the co-occurrence of emotional language with concepts of realism and believability.

Justification for NVivo in This Study

NVivo was selected for this project due to its alignment with the epistemological and practical demands of the research. Thematic analysis of qualitative data is inherently interpretive, requiring a method that supports rigorous, transparent engagement with text. NVivo enabled a high level of organisation and traceability across datasets, which was particularly valuable given the dual-group design of the study.

From a practical standpoint, the use of NVivo significantly enhanced analytical efficiency. Managing large volumes of open-ended survey responses would have been prohibitively time-consuming using manual methods. NVivo's search, filter, and node comparison

functions accelerated the identification of relevant themes, inconsistencies, and noteworthy exceptions.

More importantly, the software contributed to analytic rigour. The ability to annotate, and document coding decisions as they were made allowed for a reflexive and transparent analysis process, essential in qualitative research dealing with subjective interpretation (Saldaña, 2021). This reflexivity was particularly important given the novel and ethically sensitive nature of the study topic.

Furthermore, NVivo's integration with survey platforms (e.g., SurveyMonkey) and its capacity to maintain case-level distinctions facilitated an analytical structure in which participant identity (in terms of viewing condition) was preserved while ensuring anonymity. This feature proved critical when exploring how different groups responded to the same research questions under varying film conditions.

Finally, NVivo is a widely used and academically endorsed tool, recognised for its reliability and support for methodological transparency (Allsop et al., 2022). Its use in this study aligns with established research practices in media studies, psychology, and digital humanities.

In summary, NVivo played a central role in the qualitative analysis phase of this research. It supported the management of complex textual data, enabled a flexible and iterative coding process, and provided tools for pattern recognition and allowed four six themes to derive. Its selection was not merely a matter of convenience, but a strategic choice aligned with the study's methodological commitments to transparency, reflexivity, and depth of insight. In examining a rapidly evolving and ethically complex media landscape, NVivo proved to be an indispensable tool in navigating and interpreting the emotional, cognitive, and ethical dimensions of audience engagement with synthetic documentary imagery.

## 4.3 Quantitative Data Analysis with Excel and SurveyMonkey

Following the qualitative analysis conducted using NVivo, this section focuses on the quantitative component of the mixed methods design and the use of Microsoft Excel as the primary tool for data analysis. While NVivo facilitated the thematic interpretation of open-ended responses, Excel enabled the statistical organisation, comparison, and visualisation of quantitative data derived from Likert-scale and multiple-choice survey questions. Together, these tools provided a holistic understanding of how participants responded to both the real and synthetic versions of the documentary films.

Overview of Excel in Research Contexts

Microsoft Excel is a widely used spreadsheet application that supports a broad range of data processing functions, including data entry, sorting, filtering, basic to advanced statistical functions, and the creation of visual outputs such as charts, graphs, and pivot tables. While Excel is not a dedicated statistical software package like SPSS or R, it is particularly suitable for small to medium-sized datasets and is accessible to researchers in a variety of disciplines (Blyth, 2018). Its familiarity, ease of use, and flexibility make it an appropriate choice for researchers without access to institutional licenses for more advanced tools.

In the context of this study, Excel was used to analyse participant responses to closed-format survey items (questions Q9–Q28), which were delivered through SurveyMonkey and later exported into spreadsheet format for further processing. These included Likert-scale evaluations of emotional responses, ethical perceptions, and judgments about realism, credibility, and educational suitability.

Data Import, Cleaning, and Structuring

Once the survey data was exported from SurveyMonkey as CSV files, the data were imported into Excel and organised into a structured workbook. Each participant was assigned a row, and each question (Q9–Q28) was allocated its own column. Demographic data and group assignment (real film vs. synthetic film) were maintained in additional columns, allowing for disaggregated analysis between the two viewer groups. The first step involved data cleaning, removing incomplete responses, checking for inconsistencies, and standardising data formats.

Descriptive Statistical Analysis

Excel's built-in functions were used to conduct descriptive analysis, including:

- Frequencies and percentages: Calculating how many participants selected each value on the Likert scale for a particular emotion or perception.
- Averages and medians: Identifying central tendencies for each variable across both real and synthetic groups.
- Standard deviation: Gauging the variability in emotional and ethical responses within and between the two groups.
- Cross-tabulation: Comparing variables such as "trust" against "perceived realism" to uncover correlations or patterns.

These basic statistical summaries were essential in detecting contrasts between the audience responses to the real versus synthetic documentaries. For example, Excel was

used to calculate that "high trust" responses dropped by 20 percentage points between the real and synthetic versions, while "low trust" responses increased significantly indicating a meaningful divergence in perception between the two conditions.

Justification for Using Excel

While tools such as SPSS or R offer more sophisticated statistical modelling capabilities, Excel was chosen for this project due to its appropriateness for descriptive and comparative analysis with modestly sized datasets. Given that the study was not seeking to conduct inferential statistical modelling (e.g., regression or hypothesis testing), Excel provided all necessary functionality for the intended scope of analysis.

The choice of Excel was also influenced by its integration with survey platforms like SurveyMonkey, which allow for smooth data exportation. Furthermore, Excel's transparency and auditability allowed for a clear chain of analytical steps, which could be reviewed or replicated during peer supervision or later stages of thesis development (Harvey, 2017).

In addition, Excel's accessibility was crucial. As a solo researcher without access to institutional statistical software licenses at all times, the use of Excel ensured that data could be processed consistently throughout different phases of the project regardless of working location or technical infrastructure. This aligns with recent discussions on equitable access to research tools and the value of low-barrier digital platforms in academic research (Fielding, 2021).

Excel's compatibility with NVivo was an added advantage. The ability to maintain aligned datasets across both tools, one for quantitative insights, the other for qualitative richness, ensured coherence and traceability across the mixed methods design.

In summary, Excel played a pivotal role in enabling the descriptive and comparative analysis of quantitative data in this study. Its ease of use, flexibility, and suitability for mid-sized datasets made it the ideal platform for exploring differences in trust, emotion, realism, and ethical perception between viewers of synthetic and real documentary content. While Excel has its limitations, particularly in terms of inferential statistics, it fulfilled the requirements of this research design and contributed to a clear, structured, and replicable analysis process. Combined with NVivo, Excel allowed the mixed methods approach to be implemented with precision, transparency, and efficiency.

## 4.4 NVivo Coding Framework and Justification

To systematically analyse the qualitative data collected from the two post-viewing surveys, a thematic coding framework was first developed to guide the use of NVivo. This framework was designed to capture recurring patterns, key themes, and relevant insights that emerged in the open-text responses, enabling both deductive and inductive analysis. The themes were informed by the research questions, the literature on documentary realism, synthetic media, and audience perception, as well as emergent issues identified during readings of the survey data.

Six overarching thematic categories were created, each representing a core area of interest within the study. These are: (1) Realism and Visual Impact, (2) Trust and Credibility, (3) Ethical Acceptability, (4) Emotional Engagement, (5) Audience Awareness and Interpretation, and (6) Storytelling and Narrative Clarity. Each theme contains sub-codes that reflect specific, often recurring, elements in participant responses. The following section outlines and justifies each theme and its respective codes.

1. Realism and Visual Impact

- This thematic area explores how participants interpreted the visual presentation of the documentary films, particularly focusing on the realism of what they saw and how those visuals shaped their emotional and cognitive engagement. Visual realism is central to the debate around synthetic media in factual storytelling. As previous scholarship has shown (Nichols, 2017; Manovich, 2001), perceived realism is often the key anchor for credibility in documentary formats.

The following codes were applied to responses reflecting these issues:

- Believability of environment: Captures responses indicating whether participants found the settings, natural landscapes, scientific stations, etc., credible and convincing.
- Lifelike movement: Focuses on how participants interpreted the motion within AI-generated sequences, especially in comparison to traditional footage. This includes mentions of unnatural movement, fluidity, or physical plausibility.
- Synthetic visuals cause emotional distance: This code captures audience responses indicating that the artificial or machine-generated nature of the visuals reduced their emotional involvement or identification with the story. Participants tagged under this code may have described a sense of detachment, distraction, or discomfort when viewing synthetic imagery, particularly in scenes involving human likeness, death, or emotionally resonant topics. This distance may stem from the "uncanny valley" effect, perceived lack of authenticity, or difficulty connecting to

visuals not grounded in actual photographic indexicality. This contrasts with the code "Synthetic visuals cause emotional connectedness," and highlights the dual, sometimes contradictory nature of audience engagement with synthetic media. Including both codes enables the analysis to reflect a spectrum of emotional responses to realism, ranging from empathetic engagement to sceptical detachment.

- Synthetic visuals cause emotional connectedness: This new code captures instances where participants explicitly or implicitly suggested that the visual style, despite being synthetic, triggered emotional closeness or empathy. This is especially important given that emotional realism may not always coincide with visual or factual authenticity, aligning with concepts like "affective realism" and "inferred truth" (Plantinga, 2009; Nabi and Green, 2015).

Each of these subcodes allows for a nuanced exploration of how audiences negotiate the line between synthetic construction and perceptual realism. By highlighting emotional reactions to lifelike visuals, this section contributes to understanding the broader theme of "augmented indexicality", where visual realism is achieved through AI without traditional photographic causality.

2. Trust and Credibility

Justification:
 Trust in the source and perceived credibility of content are essential components in how audiences interpret non-fiction media. In the context of this study, synthetic visuals, while increasingly realistic, may challenge traditional notions of veracity and viewer belief. Audience responses to these issues offer critical insight into the relationship between artificial media and trustworthiness. Previous research (e.g., Metzger and Flanagin, 2013) highlights that visual cues, context, and provenance strongly influence perceptions of credibility, especially in digital formats.

Codes and Descriptions:

- Distrust due to synthetic nature – Participants express scepticism or discomfort about the authenticity of the visuals because they were AI-generated.
- Trust enhanced by narrative coherence – Viewers note that the coherence or emotional truth of the story outweighs doubts about visual fidelity.
- Authenticity tied to provenance – Comments that link trust to indexicality or factual verification of visuals.

- Conflicted trust – Viewers express ambivalence: they find the content believable but remain unsure if they "should" trust it.

## 3. Ethical Concerns and Responsibility

Justification:
  As machine learning enables hyper realistic visuals, ethical lines are increasingly blurred, especially when depicting deceased individuals or emotionally charged events. Several scholars (e.g., Donnelly, 2021; APA, 2024) call for ethical guardrails in the use of generative media. This thematic area captures how viewers reflect on the morality of using synthetic images in documentary storytelling, especially when the emotional implications are significant.

Codes and Descriptions:

- Unethical to recreate deceased – Viewers express disapproval of digitally animating people who have passed away.
- Acceptable for educational purposes – Responses that permit synthetic visuals if used transparently and for learning.
- Ethics depend on disclosure – Comments highlighting that ethical judgment hinges on whether viewers are informed of what is synthetic.
- Emotional manipulation – Viewers feel the visuals are used to provoke emotion in a way that feels dishonest or inappropriate.

## 4. Emotional Resonance

Justification:
  The emotional impact of visuals plays a major role in shaping audience engagement, memory, and reflection. Recent work in media psychology (e.g., Plantinga, 2009) supports the idea that synthetic or stylised content can still provoke deep affective responses. Understanding how viewers emotionally relate to AI-generated versus real imagery helps clarify the difference between factual truth and perceived emotional truth.

Codes and Descriptions:

- Emotional intensity stronger with motion – Responses noting that AI-generated moving images felt more emotionally powerful than stills.
- Sadness despite synthetic origin – Viewers feel genuine sadness even when they know the visuals are generated.

- Emotional distancing due to artificiality – Some participants note a disconnect caused by the artificial nature of the visuals.
- Empathy through visual storytelling – Viewers describe moments of emotional identification with people or events shown.

5. Narrative Engagement and Comprehension

Justification:
  A central question in this research is whether synthetic visuals affect the audience's understanding or engagement with the story. Some worry that realism without factual basis may distort viewer interpretation. Others argue that compelling storytelling can transcend visual form. This category captures how viewers processed and engaged with the narrative across both film versions.

Codes and Descriptions:

- Synthetic visuals support narrative clarity – Participants note that the visuals helped them understand or follow the story.
- Distracted by visual inconsistencies – Comments describing loss of immersion or confusion due to strange or artificial visual elements.
- Narrative comprehension unaffected by visual source – Viewers indicate they followed and understood the film regardless of how the visuals were made.
- Story over visuals – Responses highlighting that the message or storytelling is more important than the image format.

6. Perceived Educational Value

Justification:
  One of the final survey questions explicitly asked whether the film could serve as an educational resource. However, additional open responses elaborated on why viewers did or did not feel the synthetic or real versions were suitable for educational use. The inclusion of this theme allows for mapping participants' perceptions of epistemic authority and educational reliability, particularly where factual storytelling intersects with AI-generated visuals.

Codes and Descriptions:

- Real version more trustworthy for education – Viewers clearly preferred real footage when judging suitability for learning contexts.
- Synthetic film lacks credibility for education – Comments that suggest visual realism alone is insufficient for educational trust.
- Content more important than medium – Some participants note that accuracy of facts and narrative integrity matter more than visual type.
- Synthetic media appropriate if transparent – Viewers conditionally approve synthetic visuals in education if clearly labelled and contextualised.

This coding framework, with its six thematic areas and corresponding codes, was developed to enable a comprehensive and nuanced analysis of the open-ended survey responses. It reflects the conceptual priorities of the study of realism, trust, ethics, emotion, narrative, and education, and aligns with scholarly concerns around synthetic media's growing role in documentary and factual storytelling. The framework enables structured exploration within NVivo, guiding thematic analysis and supporting comparative insights between participants' responses to the real and synthetic film versions.

## 4.5 Coding Process in NVivo: Steps and Examples

Once the qualitative data had been imported into NVivo from the two completed surveys, a structured, multi-step coding process was implemented to ensure consistency, analytical depth, and transparency. The process followed standard qualitative analysis procedures, as suggested by Braun and Clarke (2006) and further supported by Richards (2015), and it aimed to link recurring patterns in participant responses to the study's broader research questions on realism, trust, and ethical perception in AI-generated documentary content.

Step 1: Data Familiarisation

The first step involved thoroughly reading all open-ended responses across both surveys. This stage allowed the researcher to become immersed in the language, tone, and concerns expressed by participants. Initial notes were taken to identify recurring themes such as mentions of "realness," "emotional impact," "unease," or "uncertainty."


Step 2: Initial Open Coding

Each response was then broken into smaller meaning units, sentences or phrases, and assigned open codes reflecting the content. At this stage, the coding was descriptive, not interpretive, and codes were numerous and often granular.

Step 3: Development of Coding Framework

Once open coding was complete across both datasets, the codes were compared, grouped, and refined into broader thematic areas. This led to the finalised coding framework, which consists of six overarching categories:

1. Educational value and perceived reliability
2. Emotional response and empathy
3. Perception of ethical boundaries
4. Realism and visual impact
5. Trust and credibility
6. Viewer awareness and interpretative frames

Each thematic area includes a number of more specific codes. For example, under *Realism and Visual Impact*, both "Synthetic visuals cause emotional connectedness" and "Synthetic visuals cause emotional distance" were used to capture divergent responses.

Step 4: Axial Coding and Thematic Grouping

Codes were then revisited and refined by clustering them around core concepts. Where codes overlapped or described similar phenomena, they were either merged or nested hierarchically within broader nodes. NVivo's tree node system allowed for sub-coding under each main theme.

Step 5: Querying and Comparison

NVivo's query functions were used to compare how often certain themes appeared across Survey 1 (real film) and Survey 2 (synthetic film). Word frequency queries and matrix coding queries allowed for exploration of thematic density and cross-tabulation with other variables such as trust ratings or educational acceptability.

Step 6: Interpretation and Thematic Analysis

The coded data were then synthesised through thematic analysis, identifying recurring ideas, contradictions, and the overall narrative patterns in participant feedback. Selected quotes were exported with their associated codes and are used in the findings chapter to illustrate nuanced audience responses.

This systematic process ensured that the qualitative insights were not only grounded in participant data but also linked clearly to the research questions. By using NVivo to

structure and document the analytical steps, the study enhances the transparency, replicability, and rigour of its qualitative methodology.

## 4.6 Data Received and Inclusion Criteria

In total, two separate surveys were distributed to two different participant groups in order to evaluate responses to the two versions of the documentary film. Each survey was designed to collect both quantitative and qualitative data relating to emotional response, perceived realism, trust, ethical acceptability, and educational value.

Survey 1, which presented the real film version (constructed entirely with indexical footage), was distributed via the paid participant recruitment system of SurveyMonkey and social media channels. A total of 57 participants began the survey. However, only 41 completed responses were included in the final data analysis. Exclusion criteria were applied based on two key factors: non-completion and failure to consent to the required data protection terms. Specifically, 11 participants did not complete the full survey, and 5 participants did not affirm the data protection agreement outlined in the consent section (Q1–Q8). As per the ethics guidelines approved by the University of Surrey's Ethics Committee, any responses lacking explicit agreement to these consent terms had to be excluded.

Survey 2, which presented the synthetic version of the film, was distributed manually via professional and academic networks. This method was employed after the SurveyMonkey paid service declined continued distribution of the survey due to its violation of the platform's video policy, which restricts videos in paid surveys to a maximum of 90 seconds. Given the longer film duration, it was necessary to pivot to alternative recruitment methods. A total of 44 participants began Survey 2, of whom 34 provided usable data. Again, 5 participants did not complete the survey, and 5 did not provide informed consent under the approved ethics protocol, resulting in their exclusion.

Thus, for the final data analysis, a total of 70 valid responses were included: 41 for the real film and 29 for the synthetic film. While the target sample size had originally aimed for 100 responses per film version, platform constraints and ethical compliance requirements necessitated this reduction. Importantly, the final sample still yielded sufficient qualitative and quantitative data to identify emergent themes, participant trends, and comparative insights.

Only those participant responses that were fully completed and ethically approved (i.e., all eight consent questions signed) were included in the analysis. This ensured that all data

used in the study adhered strictly to the standards of ethical research conduct, particularly concerning transparency, informed participation, and GDPR-compliant data handling. The resulting dataset, though smaller than originally planned, provided a rich and diverse range of insights that formed the basis for both the thematic and statistical analyses in the following sections.

Coding Examples and Analytical Process

To systematically interpret the open-ended qualitative responses gathered through the surveys, a rigorous manual coding process was implemented in NVivo. This followed the creation of a bespoke coding framework (see previous section), grounded in both the research questions and emergent themes in the data. In line with the study's focus on participant perception, the analysis used in vivo coding exclusively (Saldaña, 2013). This method, which takes participants' own words as codes, was chosen to retain a close connection to their language and perspectives, particularly important in a study where emotions, perceptions of realism, and ethical boundaries were at stake.

The full qualitative datasets from both surveys, which can be found in the Appendix, were reviewed multiple times before coding commenced. Responses were coded line by line, using participants' phrasing as the foundation, and then organised into the six overarching thematic areas: Educational Value and Perceived Reliability, Emotional Response and Empathy, Perception of Ethical Boundaries, Realism and Visual Impact, Trust and Credibility, and Viewer Awareness and Interpretive Frames.

The following subsections illustrate the coding process with examples from both Survey 1 (real film) and Survey 2 (synthetic film). These demonstrate how raw text responses were converted into analytical categories while preserving linguistic nuance.

**Example: Emotional Response and Empathy**

One subcode under this theme was *"Did not feel immersed"*, capturing viewer detachment.

Survey 1:

"I was interested, but wasn't immersed."

Survey 2:

"The pictures seemed somewhat unreal."

NVivo grouped these together, revealing that while Survey 1's detachment often stemmed from technical flatness, Survey 2's detachment was linked to perceptions of synthetic imagery.

**Example: Trust and Credibility**

Trust was coded as a nuanced, often contested theme.

Survey 1:

"AI can disguise things."

Survey 2:

"All AI is trained on real images."

These excerpts were coded under *trust scepticism*, showing how explicit reference to AI in Survey 2 amplified doubts.

**Example: Realism and Visual Impact**

Participants in both surveys noticed anomalies.

Survey 1:

"Occasional freeze frames odd."
"Sea scene seemed blurred."

Survey 2:

"The Aurora borealis seemed faked or altered digitally."
"Australian flag had its stars incorrectly on it."

The contrast illustrates how Survey 1 anomalies were read as technical flaws of filming, while Survey 2 anomalies triggered suspicion of artificiality.

**Example: Perception of Ethical Boundaries**

Ethical considerations featured strongly, especially in Survey 2.

Survey 1:

"The deceased person is not there to give consent".

Survey 2:

"Does not feel right."

In vivo codes were clustered to reflect recurring themes of *consent*, *respect*, and *deception*. NVivo's query tools highlighted frequent co-occurrence between ethical concerns and trust judgements.


**Example: Educational Value and Perceived Reliability**

The extent to which the films could function as educational resources was frequently debated.

Survey 1:

"The film seems unreal and therefore I question the reliability of the story told."

Survey 2:

"The fakery is to be condemned and not brought out again".

This dual coding revealed that *disclosure* was a recurrent factor in how reliability was judged in the synthetic film, but not in the real film.


**Example: Viewer Awareness and Interpretive Frames**

This theme captured reflexivity in audience interpretations.

Survey 1:

"Not sure the auroras were real."

Survey 2:

"Sea scenes seemed a bit blurred."

Here, participants actively positioned themselves as interpreters. The codes suggest that disclosure framed their judgments more strongly in Survey 2.

The NVivo process enabled a structured but participant-centred approach, retaining the language of respondents while grouping them into broader analytical categories. Survey 1 responses typically framed anomalies as *technical* issues, while Survey 2 responses framed them as *ontological* or *ethical* concerns. By coding in vivo across both datasets, patterns emerged that informed the comparative analysis without erasing nuance.

Reflections on the Analytical Process

NVivo's ability to organise, cross-reference, and visualise qualitative data was instrumental in identifying patterns across the six thematic areas. The absence of hierarchical or automated coding meant that each code was deliberately and reflectively applied. This ensured that subtleties in language were retained, particularly where participant views were ambivalent or contradictory.

Furthermore, memoing functions in NVivo were used to annotate emerging interpretations during the coding process. These were later revisited and integrated into the thematic narrative, supporting a grounded theory approach to the analysis (Charmaz, 2014).

## 4.7 Key Findings – Survey 1

This section presents the main qualitative findings of Survey 1, which gathered responses after participants viewed the real film in the *Frozen Truth* study. The analysis is structured around the six thematic areas identified in the NVivo coding framework:

1. Educational Value and Perceived Reliability
2. Emotional Response and Empathy
3. Perception of Ethical Boundaries
4. Realism and Visual Impact
5. Trust and Credibility
6. Viewer Awareness and Interpretive Frames

Each theme is analysed based on the coding frequencies, participant sentiments, and selected illustrative quotes. The aim is to understand how viewers experienced and interpreted the real documentary, particularly in relation to their trust in the content, emotional engagement, perceived realism, and ethical considerations.

## 4.7.1 Key Quantitative Findings – Survey 1 (Real Film)

This section presents the key findings derived from the quantitative data in Survey 1, which evaluated participant responses to the real (non-synthetic) version of the documentary film. The analysis focuses on survey items Q9, Q10, Q11, Q12, Q14, Q17, Q19, Q21, and Q27. These questions explored areas such as audience engagement, perceived informativeness, visual quality and credibility, overall authenticity, emotional responses, immersion, narrative believability, and ethical attitudes toward the use of artificial intelligence. In total, forty-one valid responses were included in the analysis, following the removal of incomplete surveys and participants who had not signed the data protection agreement.

**Q9 — Engagement (Rating scale 1–10)**

Ratings were strongly positive (mean 8.15). 73.2% of respondents scored 8–10 (10 = 34.1%, 9 = 14.6%, 8 = 24.4%), with very few low scores (≤4 = 7.3%).



**Q9: How engaging did you find the film on a scale of 1 to 10? One being least engaging, 10 being most engaging.**

Answered: 41  Skipped: 0
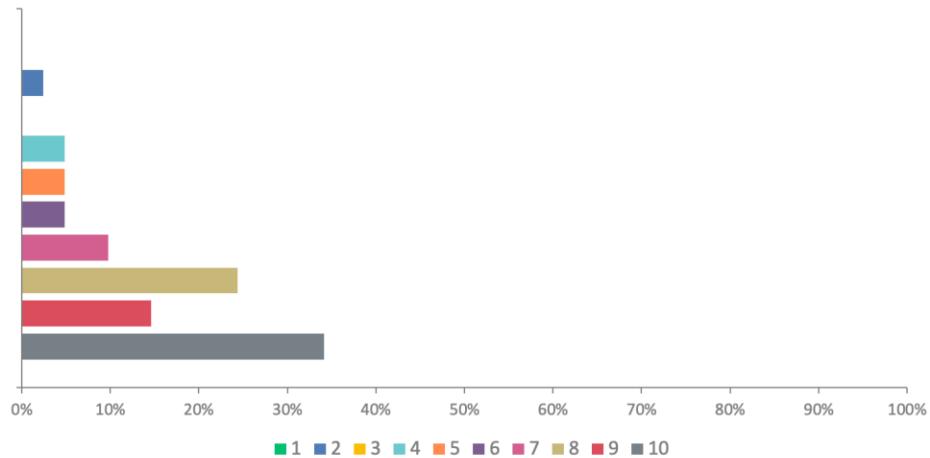
Figure 4.1

**Q10 — Informative Value (Rating scale 1–10)**

Perceived informativeness was high (mean 8.41). 80.5% rated 8–10 (10 = 34.1%, 9 = 19.5%, 8 = 26.8%).

**Q10: How informative was the film about life in Antarctica on a scale of 1 to 10? One being least informative, 10 being most informative.**

Answered: 41   Skipped: 0
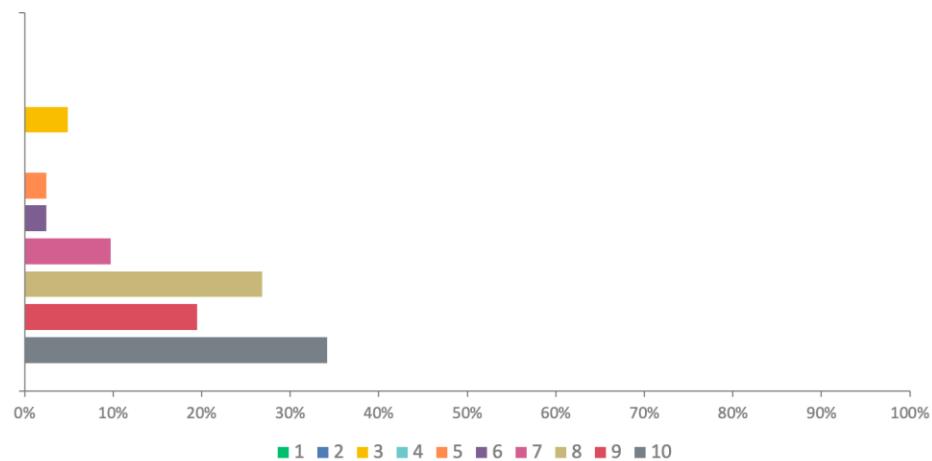


Figure 4.2

## Q11 — Initial Visual Quality (categorical)

Visual quality skewed positive but acknowledged limitations:

- High quality: 39.0% (n=16)
- Very high quality: 29.3% (n=12)
- Somewhat high: 12.2% (n=5)
- Neither high nor low: 19.5% (n=8)
- Somewhat low: 9.8% (n=4)
- Low / Very low: 0%.

## Q11: What were your initial impressions of the film's visual quality?

Answered: 41   Skipped: 0
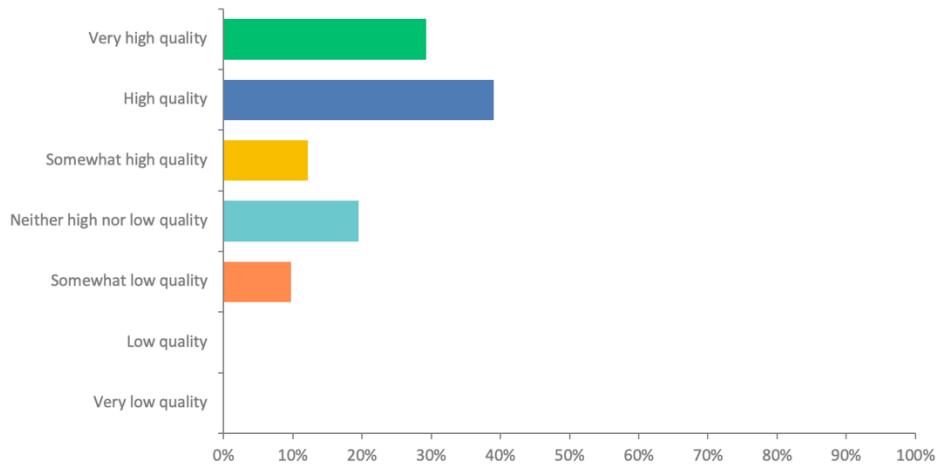


Figure 4.3

## Q12 — Visual Credibility (Rating scale 1–10)

Credibility was rated highly (mean 8.34), with 75.6% at 8–10 (10 = 34.1%, 9 = 14.6%, 8 = 26.8%).

## Q12: On a scale of 1 to 10, how credible do you think the visuals in the film were? One being least credible to 10 being most credible.

Answered: 41   Skipped: 0
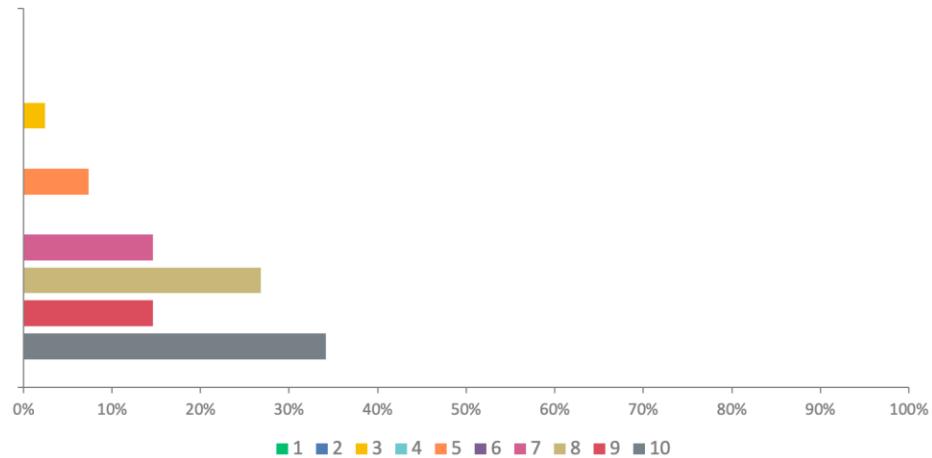


Figure 4.4

**Q14 — Overall Authenticity (1–10)**

Authenticity was the strongest metric (mean 8.46). 80.5% scored 8–10 (10 = 41.5%, 9 = 12.2%, 8 = 26.8%).



**Q14: How would you rate the overall authenticity of the film on a scale of 1 to 10? One being least authentic, 10 being most authentic.**

Answered: 41   Skipped: 0

Legend: 1  2  3  4  5  6  7  8  9  10
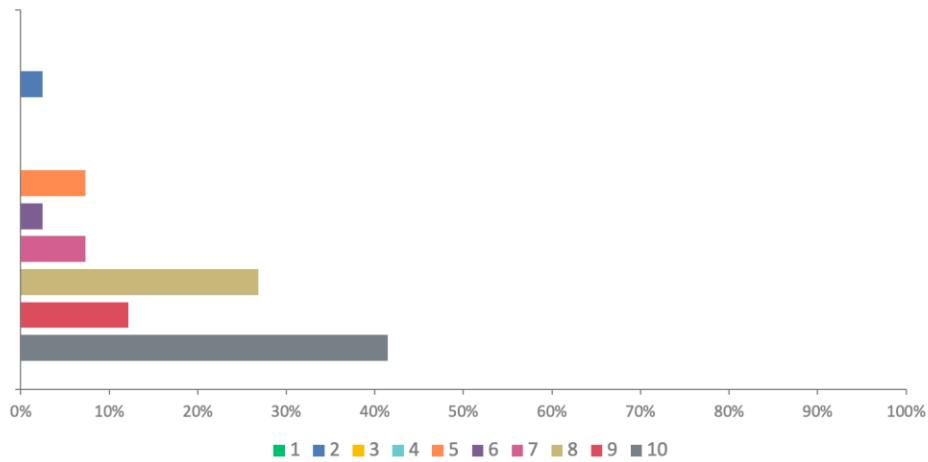
Figure 4.5

**Q17 — Emotions (selected emotions with intensity 1–10)**

Participants could select multiple emotions and rate intensity. The most intense positive emotions were:

- Fascination: mean intensity 6.48, selected by 97.6% (n=40)
- Trust: 6.18, 82.9% (n=34)
- Amusement: 5.69, 85.4% (n=35)
- Surprise: 5.54, 90.2% (n=37)
- Contentment: 5.50, 87.8% (n=36)
- Empathy: 5.00, 87.8% (n=36)

Negative emotions were generally low-to-moderate intensity: Disgust 2.62 (n=34), Disappointment 2.71 (n=35), Anger 2.92 (n=36), Sadness 3.20 (n=35), Fear 3.36 (n=33), Shock 3. 37 (n=35), Boredom 3.75 (n=36).

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Affection | 8.57%<br>3 | 14.29%<br>5 | 11.43%<br>4 | 5.71%<br>2 | 8.57%<br>3 | 5.71%<br>2 | 14.29%<br>5 | 8.57%<br>3 | 8.57%<br>3 | 14.29%<br>5 |
| Amusement | 17.14%<br>6 | 11.43%<br>4 | 2.86%<br>1 | 2.86%<br>1 | 14.29%<br>5 | 2.86%<br>1 | 11.43%<br>4 | 11.43%<br>4 | 8.57%<br>3 | 17.14%<br>6 |
| Anger | 50.00%<br>17 | 17.65%<br>6 | 8.82%<br>3 | 11.76%<br>4 | 0.00%<br>0 | 0.00%<br>0 | 2.94%<br>1 | 5.88%<br>2 | 5.88%<br>2 | 2.94%<br>1 |
| Boredom | 37.14%<br>13 | 17.14%<br>6 | 5.71%<br>2 | 5.71%<br>2 | 11.43%<br>4 | 2.86%<br>1 | 5.71%<br>2 | 2.86%<br>1 | 5.71%<br>2 | 8.57%<br>3 |
| Confusion | 36.11%<br>13 | 19.44%<br>7 | 8.33%<br>3 | 11.11%<br>4 | 8.33%<br>3 | 8.33%<br>3 | 2.78%<br>1 | 2.78%<br>1 | 2.78%<br>1 | 2.78%<br>1 |
| Contentment | 8.57%<br>3 | 8.57%<br>3 | 2.86%<br>1 | 11.43%<br>4 | 20.00%<br>7 | 17.14%<br>6 | 14.29%<br>5 | 8.57%<br>3 | 0.00%<br>0 | 11.43%<br>4 |
| Disappointment | 42.86%<br>15 | 17.14%<br>6 | 11.43%<br>4 | 14.29%<br>5 | 5.71%<br>2 | 0.00%<br>0 | 2.86%<br>1 | 0.00%<br>0 | 2.86%<br>1 | 2.86%<br>1 |
| Disgust | 58.82%<br>20 | 5.88%<br>2 | 11.76%<br>4 | 2.94%<br>1 | 5.88%<br>2 | 2.94%<br>1 | 2.94%<br>1 | 5.88%<br>2 | 0.00%<br>0 | 2.94%<br>1 |
| Empathy | 13.89%<br>5 | 11.11%<br>4 | 5.56%<br>2 | 16.67%<br>6 | 16.67%<br>6 | 5.56%<br>2 | 5.56%<br>2 | 11.11%<br>4 | 2.78%<br>1 | 11.11%<br>4 |
| Fascination | 7.50%<br>3 | 7.50%<br>3 | 5.00%<br>2 | 2.50%<br>1 | 17.50%<br>7 | 2.50%<br>1 | 7.50%<br>3 | 25.00%<br>10 | 5.00%<br>2 | 20.00%<br>8 |
| Fear | 36.36%<br>12 | 15.15%<br>5 | 15.15%<br>5 | 6.06%<br>2 | 6.06%<br>2 | 3.03%<br>1 | 3.03%<br>1 | 9.09%<br>3 | 3.03%<br>1 | 3.03%<br>1 |
| Sadness | 41.18%<br>14 | 8.82%<br>3 | 20.59%<br>7 | 11.76%<br>4 | 2.94%<br>1 | 0.00%<br>0 | 5.88%<br>2 | 5.88%<br>2 | 0.00%<br>0 | 5.88%<br>2 |
| Shock | 42.86%<br>15 | 17.14%<br>6 | 2.86%<br>1 | 5.71%<br>2 | 5.71%<br>2 | 8.57%<br>3 | 2.86%<br>1 | 2.86%<br>1 | 8.57%<br>3 | 2.86%<br>1 |
| Surprise | 8.11%<br>3 | 10.81%<br>4 | 2.70%<br>1 | 10.81%<br>4 | 18.92%<br>7 | 13.51%<br>5 | 10.81%<br>4 | 8.11%<br>3 | 5.41%<br>2 | 10.81%<br>4 |
| Trust | 6.06%<br>2 | 6.06%<br>2 | 6.06%<br>2 | 9.09%<br>3 | 21.21%<br>7 | 9.09%<br>3 | 9.09%<br>3 | 9.09%<br>3 | 6.06%<br>2 | 21.21%<br>7 |

Figure 4.6

Q17: What emotions did the visuals in the film evoke for you? Only choose the emotion(s) evoked and select at which intensity from 1 being the lowest to 10 being the highest.

Answered: 41   Skipped: 0
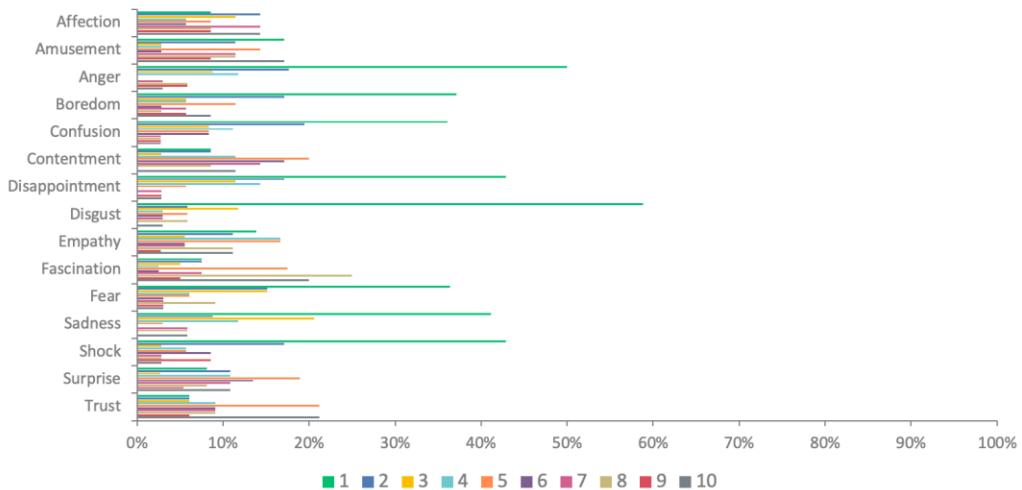
Figure 4.7

## Q19 — Immersion (1–10)

Immersion was more variable (mean 7.51), with 58.5% at 8–10 (10 = 21.9%, 9 = 12.2%, 8 = 24.4%). Mid-range scores (5–7) were common (43.9%).



Q19: On a scale of 1 to 10, how would you rate the film's ability to make you feel as though you were experiencing Antarctica firsthand?

Answered: 41   Skipped: 0
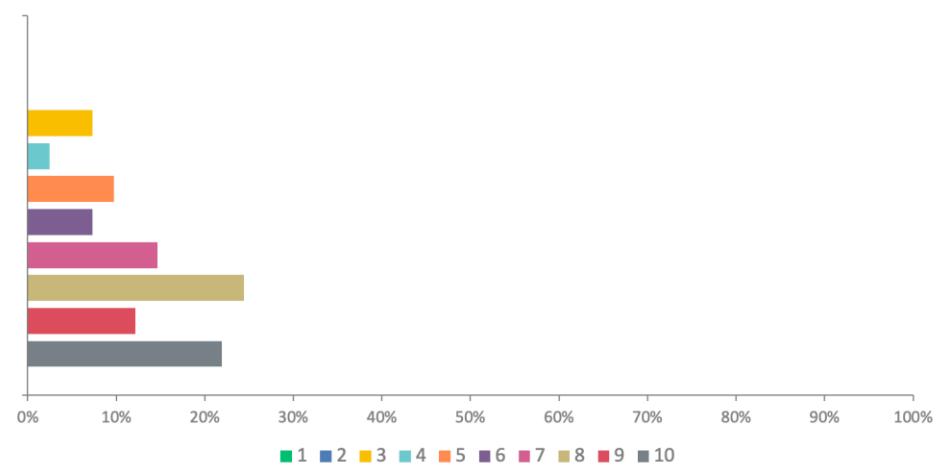
Figure 4.8

**Q21 — Believability of the Story (1–10)**

Believability was high (mean 8.05). 68.3% rated 8–10 (10 = 36.6%, 9 = 14.6%, 8 = 17.1%); only 4.9% rated 3 and no ratings at 1–2.



Q21: On a scale of 1 to 10, how believable was the overall story presented in the film? One being the least and 10 being the most believable.

Answered: 41   Skipped: 0
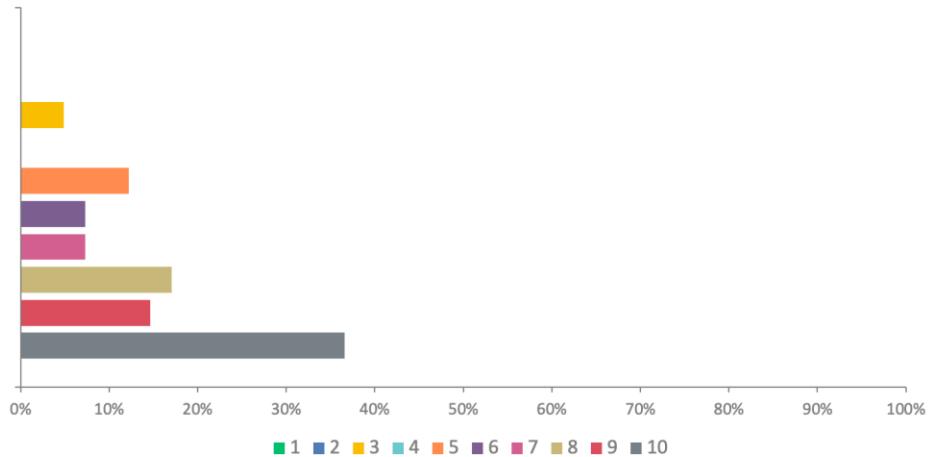
Figure 4.9

**Q27 — "A story can be told more effectively if deceased individuals are digitally recreated using ML" (7-point scale)**

Responses skewed sceptical (one skip; n=40; weighted mean 3.45/6). Distribution:

- Not at all: 20.0% (n=8)
- Very little: 12.5% (n=5)
- Slightly: 25.0% (n=10)
- Moderately: 15.0% (n=6)
- Fairly well: 10.0% (n=4)
- Quite a bit: 7.5% (n=3)
- Very much so: 10.0% (n=4)

**Q27: Do you feel a story can be told more effectively if deceased individuals are digitally recreated using machine learning?**

Answered: 40   Skipped: 1
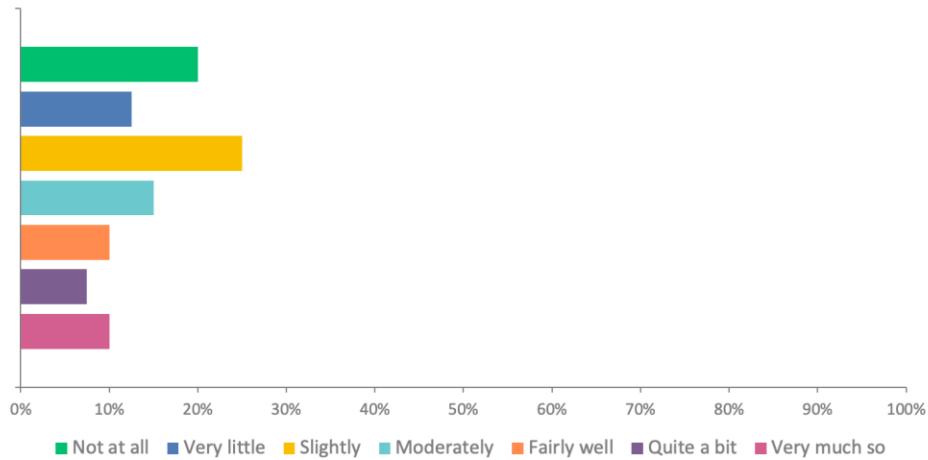


Figure 4.10

## Overall Thematic Patterns – Quantitative Findings

The quantitative results reveal several consistent patterns across survey measures. Ratings for engagement (Q9), informativeness (Q10), credibility (Q12), authenticity (Q14), and believability of story (Q21) were uniformly high, with mean scores clustering between 8.0 and 8.5 on the 10-point scale. Visual quality (Q11) showed greater variability, with most participants selecting "high" or "very high," but a notable minority reporting "somewhat high" or "neither high nor low."

Immersion (Q19) produced more dispersed scores than other measures, averaging 7.5, with substantial proportions at both mid-range and high ratings. Emotional responses (Q17) were dominated by positive categories such as fascination, trust, surprise, contentment, and empathy, while negative emotions such as anger, disgust, boredom, and fear were less frequently selected and scored lower in intensity.

The responses to Q27 showed the lowest overall support, with a mean of 3.45/6. The distribution was spread across all six options, with nearly half of respondents selecting the lowest two categories.

## 4.7.2 Key Qualitative Findings – Survey 1

The qualitative responses to Q13, Q15, Q16, Q18, Q20, Q22, Q23, Q24, Q25, Q26, and Q28 provide a rich account of how participants assessed the real (non-synthetic) version of the documentary film. These reflections span issues of realism and accuracy, immersion and educational potential, and the ethical boundaries associated with artificial intelligence in nonfiction media. The analysis combined NVivo qualitative coding with additional synthesis supported by ChatGPT-5.0, which was used to identify thematic patterns and summarise illustrative responses. By integrating these approaches, the findings are presented question by question, with representative participant quotes included to evidence each theme. This dual-method analysis allows for a nuanced understanding of how audiences engaged with and evaluated the film, highlighting both the strengths of the traditional documentary format and the conditional trust placed in emerging AI-driven practices.

**Q13 – Odd, Unusual, or Unrealistic Elements**

- Most participants answered "No", saying nothing seemed odd or unrealistic.
- A minority noted specific technical or visual aspects:
    - Brightness/intensity of colours and sky effects.
    - Freeze frames, shaky shots, or blurred scenes.
    - Minor anomalies flagged: *"Occasional freeze frames odd"*, *"Poisoned researcher story odd"*, *"Opening scene at sea odd"*.

**Q15 – Accuracy Questioned**

- Most participants expressed trust, with 83% answering 'No' to whether they questioned the accuracy of what was shown. A minority flagged inconsistencies that undermined factual accuracy:
  - Scepticism about media sources: *"Do not trust magazine reporting about Rodney Marks' death."*
  - Visual doubts: *"Iceberg scene unrealistic."*; *"Sea scene seemed blurred."*
  - Technical details noted: *"Plane engine sound on ground does not reflect real noise level.*
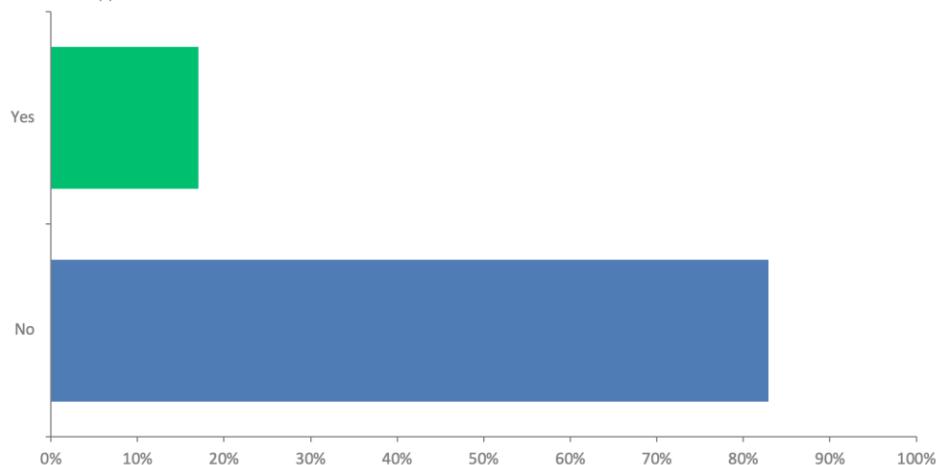


Figure 4.11

**Q16 – Visuals/Editing Credibility**

- Trust in visuals was high overall with 80% answering "no" to whether anything in the visuals or editing made them question the film's credibility, but a few respondents flagged potential over-manipulation of natural phenomena in select cases:

o   Some thought aurora displays and sunset skies might have been digitally enhanced.
o   Others questioned the penguin scene or building shots: *"Penguin scene felt random"*; *"Filming of building seemed off."*

**Q16: Was there anything in the visuals or editing that made you question the film's credibility?**

Answered: 41   Skipped: 0
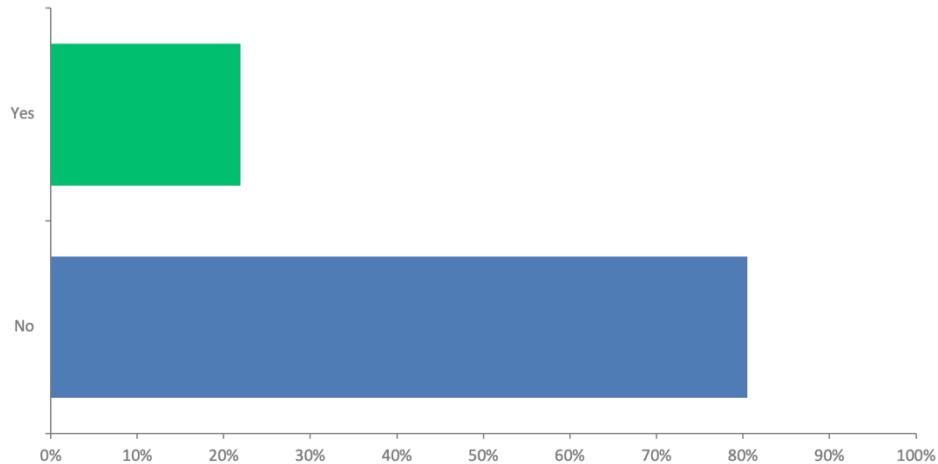


Figure 4.12

## Q18 – Immersion

- 78% answered 'Yes' to whether they felt immersed in the environment portrayed, but some responses were mixed:
    o   Some said it was *hard to imagine being there*, *boring*, or *not immersive*.
    o   Others reported partial immersion, particularly in the *lab and surrounding area: "Felt immersed at times with regards to lab and surrounding area."*
    o   Several noted *non-immersions in sea and penguin scenes: "Did not feel immersed with regards to the scene at sea or the penguin scene"*; *"Got bored watching it."*

## Q18: Did you feel immersed in the environment portrayed in the film?

Answered: 41   Skipped: 0
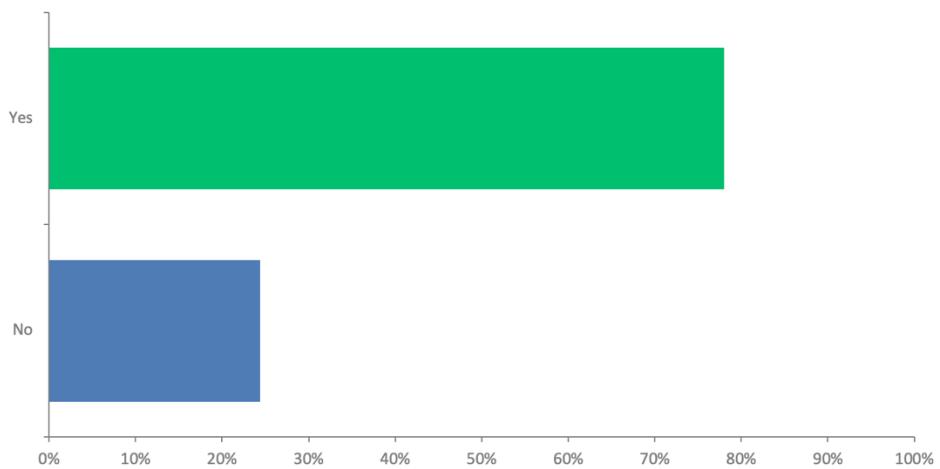


Figure 4.13

## Q20 – Educational Use

- The vast majority of 88% answered 'Yes' to whether the film could be used as a reliable educational resource. A few concerns:
  - Some felt it could work educationally if expanded with detail: *"Not many facts"*; *"Needs more information in other areas for education."*
  - Some concerns about narrative device: *"The way the crime scene element is introduced does not make it seem reliable."*

**Q20: Do you think this film could be used as a reliable educational resource?**

Answered: 41  Skipped: 0
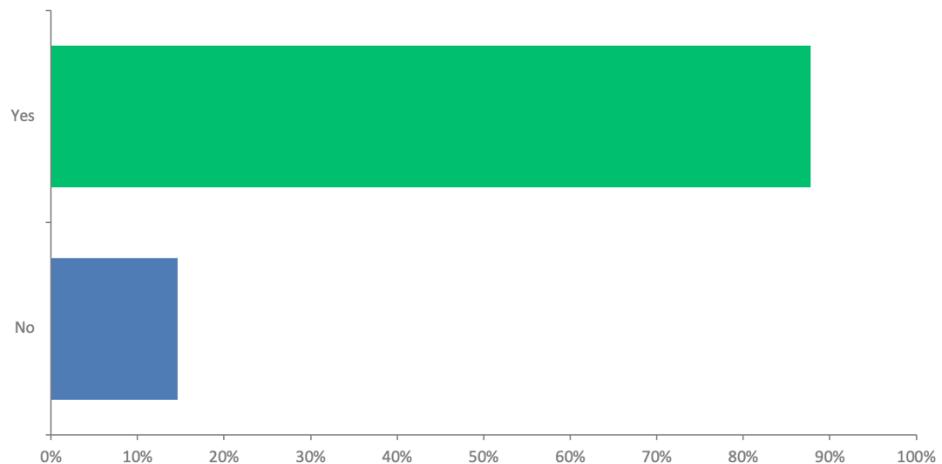


Figure 4.14

## Q22 – What Would Help Build Trust

- Many respondents trusted the story and visuals. Suggestions clustered around context and detail:
  - Requests for more context: *"More information about the victim"*; *"More proven evidence."*
  - On-site credibility cues: *"Filming interview in station"*; *"Explicitly saying what is shown is real."*
  - Narrative/technical improvements: *"Story could have been shorter"*; *"Quicker visuals."*
  - More interviews and perspectives (including women, environmental context).

## Q23 – Additional Thoughts

1. Overall reception was positive, with minor technical and pacing criticisms:
   - Positive feedback: *"very well put together," "fascinating," "kept me glued to the screen", "Good or really good"; "Interesting"; "It was different."*
   - Some critiques: *"Low quality visuals made film dull"*; *"Some of the interview was hard to hear"*; *"Too long."*
   - Some noted technical issues: *interview audio hard to hear, low-quality visuals*.

147

- A few felt it was too long for a "short film."
- Several explicitly reflected on the research design itself: *"Would be fascinated to know whether what I watched was AI generated or not."*

**Q24 – Reaction if AI Had Been Used**

- Most participants, 44%, answered that they would feel more negative if they found out that some parts of scenes might have been created using machine learning models based on real images; 36% answered that it does not matter to them; 20% answered that they would feel more positive.
- The participants who answered that they would feel more negative stated:
  - That *"It would've been less authentic"*; *"AI is dangerous"*; *"so is not real so can't be trusted."*
  - Disappointment: *"I will feel disappointed."*
  - Conditional acceptance: *"There should not be AI used in documentaries unless it is expressly stated."*
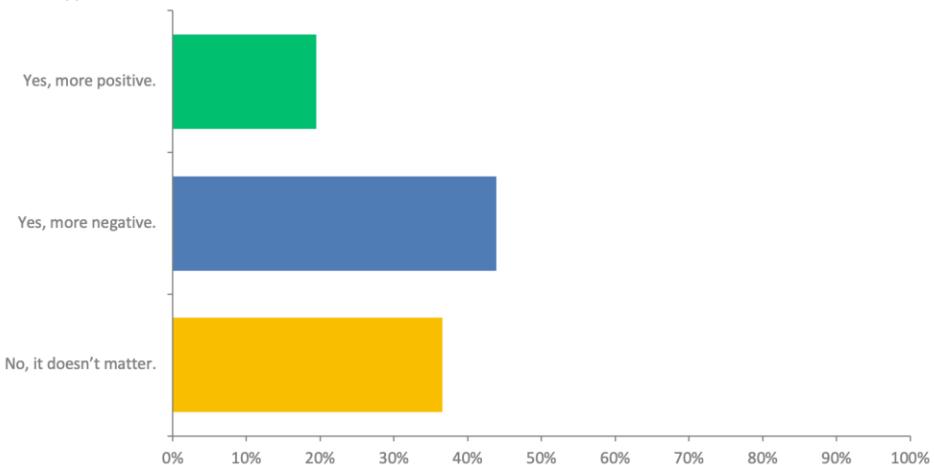


Figure 4.15

**Q25 – Impact of Knowing AI Was Used**

- Responses were split:

- o Many said it would reduce trust: *"I'd trust it less"*; *"it will reduce the level of my trust", "Yes, trust less"*; *"It makes you doubt."*.
- o Some said it does not matter as long as the information is accurate.
- o A few said it might even add value or interest, provided it was minimal and factual.
- o Preference for real: *"Prefer real images."*
- o Call for disclosure: *"Yes, viewers should be made aware."*
- o Some flexibility: *"Depends"*; *"Details are essential."*

## Q26 – Ethical Acceptability of AI for Recreating Places

- The majority of respondents, 70%, said that it is ethically acceptable to use ML models in non-fiction to digitally bring places to life.
- Many expressed a cautious acceptance: *"Yes, if results are accurate"*; *"Yes, if used fairly", "if the results are accurate and trustworthy."*
- Some saw benefits: cost reduction, more appealing visuals, creative enhancement.
- Others were firmly opposed: *"news and documentary are supposed to chart real life only"*, *"AI tools in wrong hands catastrophic effects"*, *"No, news and doc for real life and events only"*, *"Only real images should be used."*



**Q26: Do you believe it is ethically acceptable to use machine learning models in non-fiction media such as news or documentary films to digitally recreate or bring places to life?**

Answered: 41   Skipped: 0
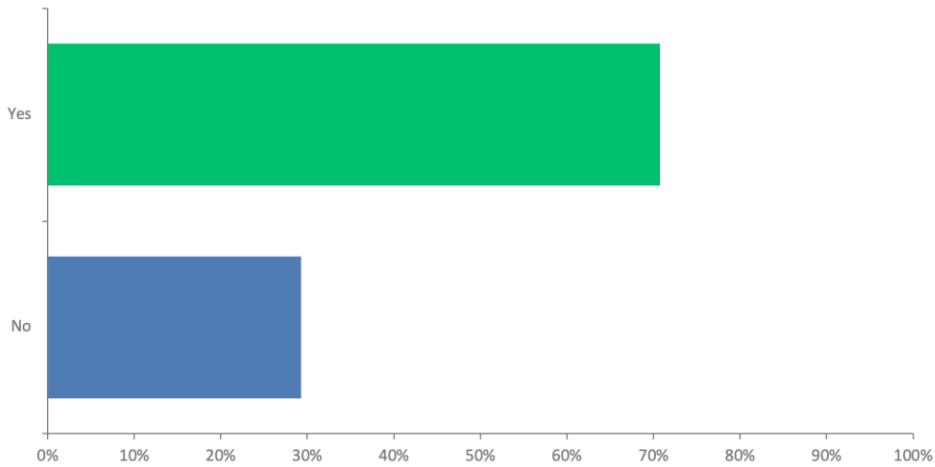
Figure 4.16

## Q28 – Ethical Acceptability of AI for Recreating Deceased People

149

- Responses were highly divided with 55% saying 'No' to whether it is ethically acceptable to use ML models to bring back the likeness of deceased people, and 45% of respondent 'Yes'.
  - ο Opposition quotes: *"disrespectful", "fake," "horrible", "wrong", "No, it will be horrible and scary", "No, not without the deceased's consent", "No, the line between fact and fiction should stay firm."*
  - ο Conditional acceptance: *"respectfully," "with disclaimers," "Yes, if with permission of relatives", "Yes, as long as it is done carefully and empathetically".*
  - ο Supporters: A minority saw potential benefits (*"helps them come back to life," "more interesting"*), especially in educational or historical contexts.
  - ο Support: *"Yes, it will help them come back to life"; "Yes, if for educational purposes."*

**Q28: Do you believe it is ethically acceptable to use machine learning models to bring back the likeness of deceased people in non-fiction media such as news and documentary films?**

Answered: 40  Skipped: 1
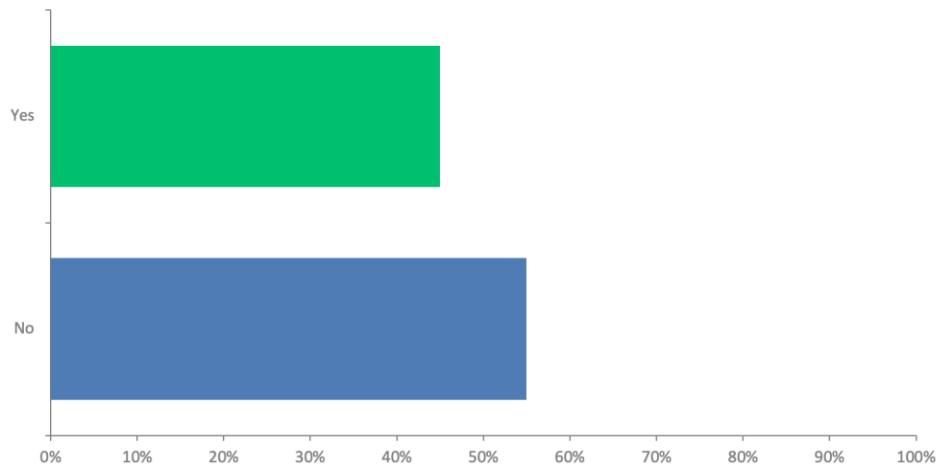


Figure 4.17

Overall Thematic Patterns – Qualitative Findings

Across the qualitative responses (Q13–Q28), several clear patterns emerged. Most participants reported that nothing appeared odd or unrealistic, and the majority did not question accuracy or credibility. A smaller group identified specific technical details or narrative elements that stood out as unusual. Responses to immersion were mixed: many

described feeling engaged in certain sequences, while others noted scenes that were less immersive.

Educational potential was widely acknowledged, with most participants considering the film suitable as a learning resource, though some requested more factual content. Suggestions for building trust frequently centred on providing additional context, on-site interviews, and explicit statements about authenticity.

General feedback on the film was positive, with participants often describing it as interesting or well put together, though minor criticisms related to audio quality, visuals, and pacing were common.

When asked about artificial intelligence, participants distinguished between applications. AI involvement was often linked to reduced authenticity or trust unless clearly disclosed. Recreating places with AI was broadly acceptable under conditions of accuracy and transparency, while recreating deceased individuals was more divisive, with many rejecting it on ethical grounds and others allowing conditional acceptance.

4.7.3 Summary of Key Findings – Survey 1 by NVivo Thematic Area

1. Educational Value and Perceived Reliability

- Q10 (Quant): Mean informativeness 8.41/10; 81% rated 8–10.
- Q20 (Qual): 88% said the film could be used as an educational resource. Some asked for more facts and detail; others questioned the "crime scene" device.
- Q14 (Quant): Overall authenticity mean 8.46/10; 81% rated 8–10.
- Q21 (Quant): Believability of the story mean 8.05/10; 68% rated 8–10.
- Q15 (Qual): 83% did not question accuracy; a minority noted issues with media sources, iceberg/sea visuals, and technical details.

2. Emotional Response and Empathy

- Q17 (Quant): Most common emotions were fascination (98%, mean intensity 6.5), surprise (90%, 5.5), contentment (88%, 5.5), empathy (88%, 5.0), and trust (83%, 6.2). Negative emotions were rarely selected and rated low (disgust 2.6, anger 2.9, boredom 3.8).
- Q23 (Qual): Positive feedback included "fascinating," "very well put together," and "kept me glued to the screen." Critiques noted low-quality visuals, poor audio, and pacing.

3. Perception of Ethical Boundaries

- Q24 (Qual): If AI had been used: 44% would feel more negative, 36% said it would not matter, 20% more positive. Concerns included loss of authenticity and trust.
- Q25 (Qual): Disclosure of AI use split opinions. Many said trust would reduce, others said accuracy mattered more, and some saw potential value if minimal.
- Q26 (Qual): 70% said AI use to recreate places is ethically acceptable, with conditions of accuracy and disclosure. Some opposed any use in documentary.
- Q28 (Qual): Opinions divided on AI recreating deceased people (55% "No," 45% "Yes"). Objections cited disrespect and lack of consent; conditional acceptance required disclaimers or family approval; some saw educational or historical value.
- Q27 (Quant): AI recreating deceased people rated 3.45/6. Distribution: not at all 20%, very little 13%, slightly 25%, moderately 15%, fairly well 10%, very much 10%.

4. Realism and Visual Impact

- Q9 (Quant): Engagement mean 8.15/10; 73% rated 8–10.
- Q11 (Quant): Visual quality: very high 29%, high 39%, somewhat high 12%, neutral 20%, somewhat low 10%.
- Q12 (Quant): Visual credibility mean 8.34/10; 76% rated 8–10.
- Q13 (Qual): Most said nothing odd; minority flagged bright colours, aurora displays, freeze frames, shaky/blurred shots, poisoned researcher story, or opening sea scene.
- Q16 (Qual): 80% saw no issues; some mentioned aurora/sunset skies possibly enhanced, penguin scene feeling random, or buildings filmed strangely.

5. Trust and Credibility

- Q14 (Quant): Overall authenticity mean 8.46/10.
- Q21 (Quant): Believability mean 8.05/10.
- Q22 (Qual): Suggestions to build trust included more information about the poisoning case, more perspectives, on-site interviews, explicit authenticity statements, and shorter pacing.
- Q15 (Qual): A minority questioned accuracy (Rodney Marks coverage, iceberg and sea scenes, technical sound mismatches).

6. Viewer Awareness and Interpretive Frames

- Q18 (Qual): 78% felt immersed; some reported boredom or lack of immersion, especially in sea/penguin scenes. Lab/station sequences were more immersive.
- Q19 (Quant): Immersion mean 7.51/10; 59% rated 8–10, with many mid-range scores (5–7).
- Q23 (Qual): Some participants reflected explicitly on the research, e.g., *"Would be fascinated to know whether what I watched was AI generated or not."*

4.7.4 Comparison of Qualitative and Quantitative Findings – Survey 1

To provide a clearer picture of how participants responded to the real (non-synthetic) documentary, the qualitative and quantitative findings from Survey 1 are compared side by side. This comparison highlights where the two data types align, where qualitative comments add nuance to scaled responses, and where unexpected details or variations appear.

| Thematic Area | Quantitative Findings | Qualitative Findings | Alignment / Differences |
|---|---|---|---|
| Engagement & Informativeness (Q9, Q10, Q20, Q23) | High ratings: Engagement mean 8.15, Informativeness mean 8.41; >70% rated 8–10. | Participants described the film as *"fascinating," "interesting," "well put together"*. Some noted limited factual depth and pacing issues. | Broadly consistent. Scaled data shows high scores; comments support this but add detail on factual gaps. |
| Visual Quality & Credibility (Q11, Q12, Q13, Q16) | Visual credibility mean 8.34. Visual quality mixed: 29% very high, 39% high, 20% neutral, 10% somewhat low. | Most saw nothing odd. A minority flagged *freeze frames, colour intensity, aurora displays, penguin scenes*. | Consistent. Quant data shows mixed polish; qual data highlights specific issues. |
| Authenticity & Believability (Q14, Q15, Q21, Q22) | Authenticity mean 8.46; Believability mean 8.05. Majority scored 8–10. | 83% did not question accuracy. Minority raised concerns about *media sources, technical realism, narrative choices*. Trust-building suggestions: more context, diverse interviews, explicit assurances. | Consistent. Both show strong authenticity and believability; qualitative data adds suggestions. |
| Immersion (Q18, Q19) | Immersion mean 7.51. 59% scored 8–10, but many mid-range ratings. | Mixed comments: immersion stronger in lab/station scenes, weaker in sea/penguin scenes. Some noted boredom. | Aligned. Both datasets show immersion as more variable than other measures. |

| | | | |
|---|---|---|---|
| Emotional Responses (Q17, Q23) | Top emotions: Fascination (98%, mean 6.5), Trust (83%, 6.2), Surprise (90%, 5.5), Contentment (88%, 5.5), Empathy (88%, 5.0). Negative emotions low intensity. | Positive remarks: *"fascinating," "kept me glued to the screen."* Critiques: *poor audio, long pacing, dull visuals*. | Consistent. Quant data shows positive emotional profile; qualitative data reinforces but adds minor frustrations. |
| Ethical Boundaries & AI (Q24–Q28, Q27) | Q27: Mean 3.45/6 on AI recreating deceased people. 45% chose "not at all" or "very little." | Q24–Q28: 44% negative about AI use, 36% neutral, 20% positive. 70% said AI for places acceptable if accurate. 55% rejected AI for deceased; 45% allowed conditional/positive use. | Consistent. Both datasets show scepticism, especially about deceased individuals. Qualitative adds nuance (consent, disclosure, respect). |

Table 4.7.4

Overall, the comparison shows strong consistency between qualitative comments and quantitative scores, with both sets of data emphasising high engagement, informativeness, authenticity, and credibility, while also capturing mixed experiences of immersion and scepticism around the use of AI to recreate people. Qualitative findings added depth by revealing specific scene-level concerns and detailed conditions under which AI might be acceptable.

The next section turns to Survey 2, which evaluated participant responses to the synthetic version of the film, allowing for a direct comparison of perceptions across the two documentary formats.

## 4.8 Key Findings – Survey 2

This section presents the findings from Survey 2, which examined audience responses to the synthetic version of the short nonfiction film. Out of an initial pool of 44 participants, 10 were excluded, five due to incomplete surveys and five due to lack of consent for data use, leaving 34 valid responses for analysis. The survey combined quantitative rating scales with qualitative open-text questions, enabling a mixed-methods exploration of how viewers evaluated the film's engagement, realism, credibility, emotional impact, and ethical acceptability. Results are presented question by question, with quantitative outcomes reported first and qualitative insights used to add depth and nuance.

4.8.1 Key Quantitative Findings – Survey 2 (Synthetic Film)

This section presents the key findings derived from the quantitative data in Survey 2, which evaluated participant responses to the synthetic (AI-generated) version of the documentary film. A total of 44 participants initially took part in the survey. Of these, five surveys were incomplete and a further five participants did not sign the data usage consent form, leaving 34 valid responses for analysis. The results summarised here focus on questions Q9, Q10, Q11, Q12, Q14, Q17, Q19, Q21, and Q27. These items covered domains such as audience engagement, perceived informativeness, visual quality and credibility, overall authenticity, emotional responses, immersion, narrative believability, and attitudes toward the use of AI in recreating deceased individuals.

**Q9 – Engagement**

Engagement ratings ranged from 3 to 10. The most frequent ratings were 7 (23.5%), 8 (14.7%), 9 (11.8%), and 10 (14.7%). The mean score was 7.18/10 (n = 34). The percentage rating 8–10: 41.2%.

Distribution (count; %):
 1: 0 (0.0%), 2: 0 (0.0%), 3: 1 (2.9%), 4: 2 (5.9%), 5: 3 (8.8%), 6: 6 (17.6%), 7: 8 (23.5%), 8: 5 (14.7%), 9: 4 (11.8%), 10: 5 (14.7%).

**Q9: How engaging did you find the film on a scale of 1 to 10? One being least engaging, 10 being most engaging.**

Answered: 34  Skipped: 0
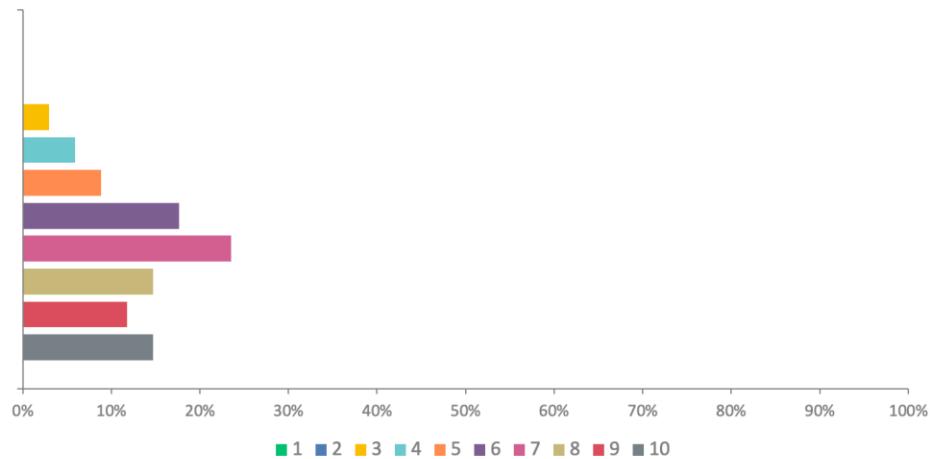
Figure 4.18

## Q10 – Informative Value

Informative value was rated from 4 to 10, with the highest frequency at 7 (32.4%) and 8 (17.7%). The mean score was 7.59/10 (n = 34). The percentage rating 8–10: 50.0%

Distribution (count; %):
 1: 0 (0.0%), 2: 0 (0.0%), 3: 0 (0.0%), 4: 1 (2.9%), 5: 2 (5.9%), 6: 3 (8.8%), 7: 11 (32.35%), 8: 6 (17.65%), 9: 9 (26.47%), 10: 2 (5.88%).

156

**Q10: How informative was the film about life in Antarctica on a scale of 1 to 10? One being least informative, 10 being most informative.**

Answered: 34   Skipped: 0
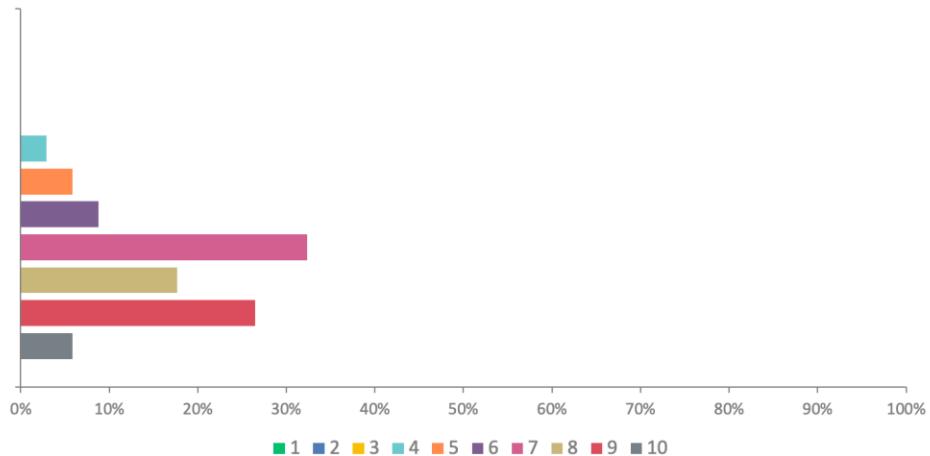


Figure 4.19

## Q11 – Visual Quality

Perceptions of visual quality were mixed.

- Very high quality: 14.7% (n = 5)
- High quality: 14.7% (n = 5)
- Somewhat high quality: 26.5% (n = 9)
- Neither high nor low quality: 23.5% (n = 8)
- Somewhat low quality: 14.7% (n = 5)
- Low quality: 5.9% (n = 2)
- Very low quality: 0%
  n = 34

## Q11: What were your initial impressions of the film's visual quality?

Answered: 34   Skipped: 0
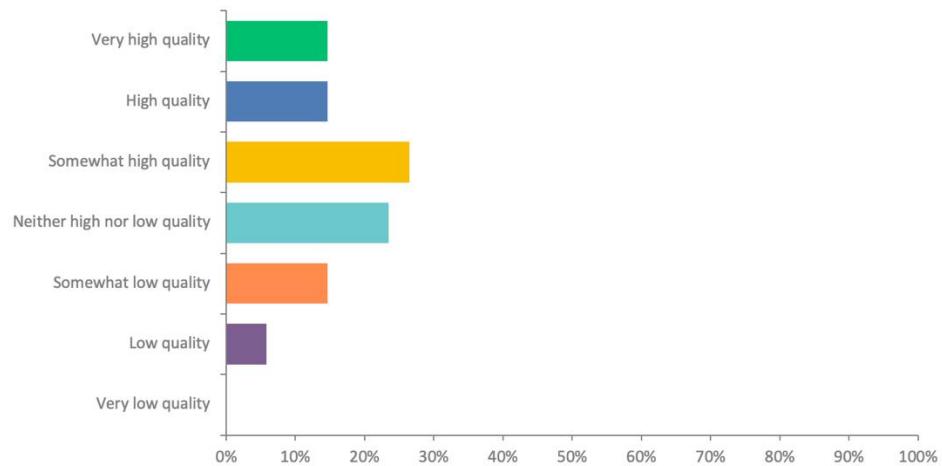


Figure 4.20

## Q12 – Visual Credibility

Visual credibility ratings extended across the scale, with responses at both high and low ends. The most frequent scores were 8 (26.5%) and 7 (17.7%). The mean score was 6.62/10 (n = 34). The percentage rating 8–10: 41.2%.

Distribution (count; %):
 1: 0 (0.0%), 2: 3 (8.8%), 3: 1 (2.9%), 4: 2 (5.88%), 5: 3 (8.82%), 6: 5 (14.71%), 7: 6 (17.65%), 8: 9 (26.47%), 9: 1 (2.94%), 10: 4 (11.76%).

**Q12: On a scale of 1 to 10, how credible do you think the visuals in the film were? One being least credible to 10 being most credible.**

Answered: 34   Skipped: 0



Legend: 1  2  3  4  5  6  7  8  9  10
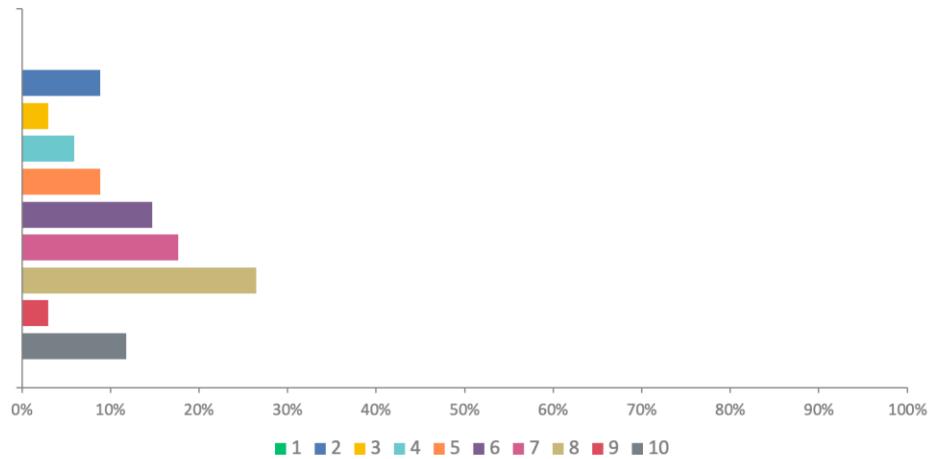
Figure 4.21

## Q14 – Overall Authenticity

Authenticity ratings also ranged widely, with 8 (29.4%) and 10 (11.8%) the most common. The mean score was 6.88/10 (n = 34). Percentage rating 8–10: 50.0%.

Distribution (count; %):
 1: 0 (0.0%), 2: 3 (8.8%), 3: 0 (0.0%), 4: 3 (8.82%), 5: 2 (5.9%), 6: 4 (11.76%), 7: 5 (14.71%), 8: 10 (29.41%), 9: 3 (8.82%), 10: 4 (11.76%).

**Q14: How would you rate the overall authenticity of the film on a scale of 1 to 10? One being least authentic, 10 being most authentic.**

Answered: 34   Skipped: 0
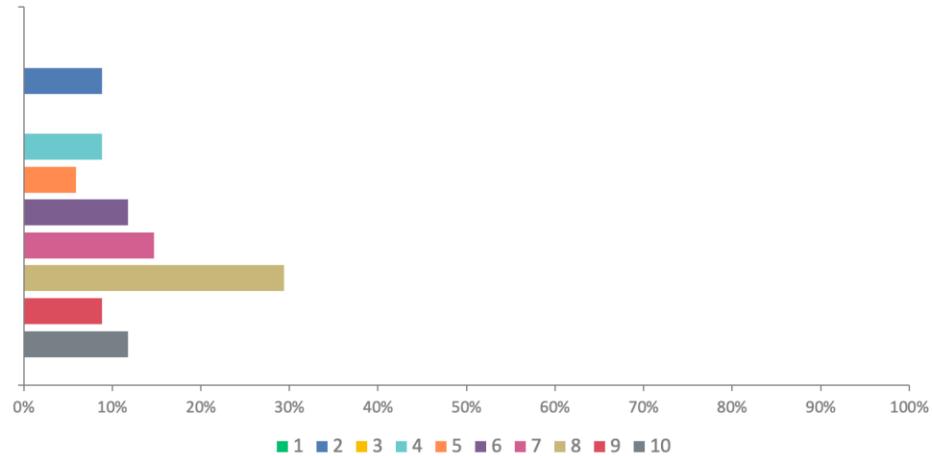


Figure 4.22

## Q17 – Emotional Responses

Participants selected multiple emotions and rated intensity from 1 to 10.

- Most frequent positive emotions: Fascination (97.1%, mean 7.03), Empathy (79.4%, mean 6.52), Surprise (73.5%, mean 5.08), Amusement (73.5%, mean 5.00), Confusion (70.6%, mean 5.33), Affection (64.7%, mean 5.27).
- Other emotions: Trust (61.8%, mean 5.00), Contentment (55.9%, mean 4.47).
- Negative emotions also reported: Boredom (64.7%, mean 4.09), Sadness (64.7%, mean 3.77), Shock (64.7%, mean 3.59), Fear (61.8%, mean 3.57), Disappointment (55.9%, mean 3.63), Anger (55.9%, mean 2.05), Disgust (50.0%, mean 2.41).

**Q17: What emotions did the visuals in the film evoke for you? Only choose the emotion(s) evoked and select at which intensity from 1 being the lowest to 10 being the highest.**

Answered: 34   Skipped: 0
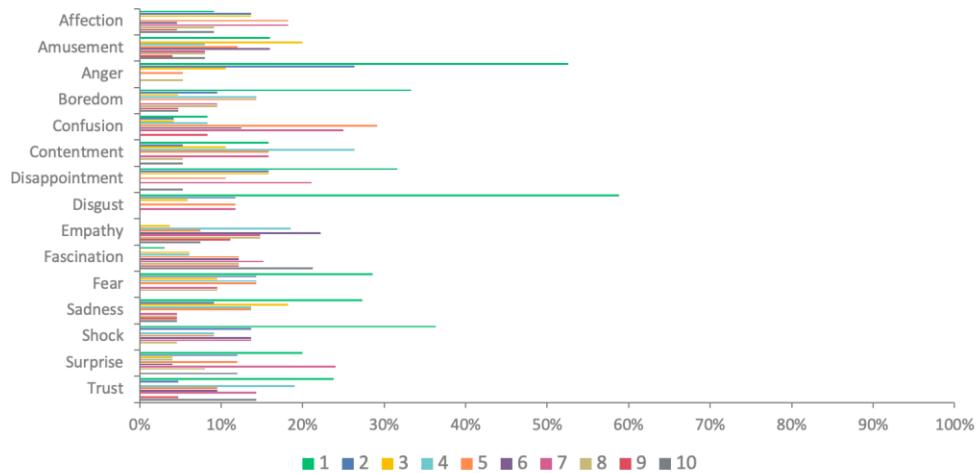
Figure 4.23

| Emotion | Selected (n) | Selection rate % | Mean intensity |
|---|---|---|---|
| Fascination | 33 | 97.1% | 7.03 |
| Empathy | 27 | 79.4% | 6.52 |
| Surprise | 25 | 73.5% | 5.08 |
| Amusement | 25 | 73.5% | 5.00 |
| Confusion | 24 | 70.6% | 5.33 |
| Affection | 22 | 64.7% | 5.27 |
| Boredom | 22 | 64.7% | 4.09 |
| Shock | 22 | 64.7% | 3.59 |
| Sadness | 22 | 64.7% | 3.77 |
| Fear | 21 | 61.8% | 3.57 |
| Trust | 21 | 61.8% | 5.00 |
| Contentment | 19 | 55.9% | 4.47 |
| Disappointment | 19 | 55.9% | 3.63 |
| Anger | 19 | 55.9% | 2.05 |
| Disgust | 17 | 50.0% | 2.41 |

Table 4.24

**Q19 – Immersion**

Immersion ratings spanned the full scale, with 7 (23.5%) and 8 (14.7%) the most common scores. The mean rating was 5.74/10 (n = 34). The percentage rating 8–10: 23.5%.

Distribution (count; %):
  1: 1 (2.94%), 2: 2 (5.9%), 3: 6 (17.65%), 4: 2 (5.9%), 5: 3 (8.22%), 6: 4 (11.8%), 7: 8 (23.53%), 8: 5 (14.71%), 9: 1 (2.94%), 10: 2 (5.88%).



**Q19: On a scale of 1 to 10, how would you rate the film's ability to make you feel as though you were experiencing Antarctica firsthand?**

Answered: 34   Skipped: 0
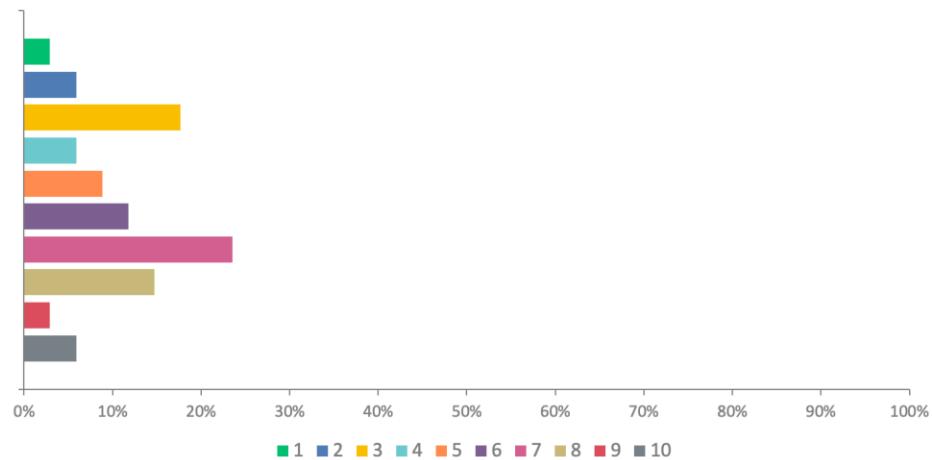
Figure 4.25

**Q21 – Believability of the Story**

Believability ratings showed variation across the scale, with 7 (29.4%) the most frequent, followed by 10 (17.6%) and 8 (11.8%). The mean score was 6.94/10 (n = 34). The percentage rating 8–10: 35.3%.

Distribution (count; %):

1: 0 (0.0%), 2: 0 (0.0%), 3: 2 (5.9%), 4: 4 (11.8%), 5: 2 (5.9%), 6: 4 (11.8%), 7: 10 (29.4%), 8: 4 (11.8%), 9: 2 (5.9%), 10: 6 (17.6%).



**Q21: On a scale of 1 to 10, how believable was the overall story presented in the film? One being the least and 10 being the most believable.**
Answered: 34   Skipped: 0
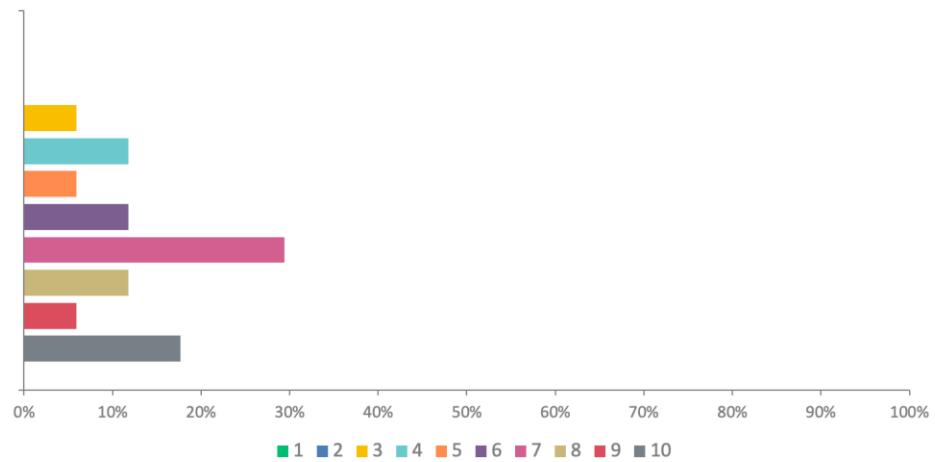
Figure 4.26

## Q27 – AI Recreating Deceased Individuals

When asked whether a story can be told more effectively if deceased individuals are digitally recreated using machine learning, responses were distributed across all six categories.

- Not at all: 41.2% (n = 14)
- Very little: 17.6% (n = 6)
- Slightly: 11.8% (n = 4)
- Moderately: 20.6% (n = 7)
- Fairly well: 8.8% (n = 3)
- Quite a bit: 0 (0.0%)
- Very much so: 0 (0.0%)

The weighted average was 2.38/6 (n = 34).

**Q27: Do you feel a story can be told more effectively if deceased individuals are digitally recreated using machine learning?**

Answered: 34   Skipped: 0



■ Not at all  ■ Very little  ■ Slightly  ■ Moderately  ■ Fairly well  ■ Quite a bit  ■ Very much so
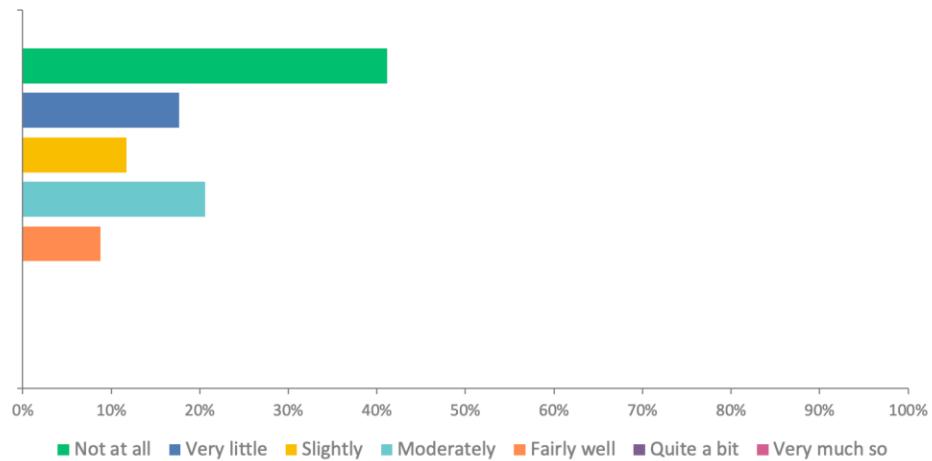
Figure 4.27

Overall Thematic Patterns – Quantitative Findings (Survey 2)

The quantitative responses to Survey 2 show several clear patterns across the nine questions analysed. Engagement (Q9) and informativeness (Q10) were rated positively, with mean scores of 7.18 and 7.59 respectively. While scores were distributed across the scale, most responses clustered in the mid-to-upper ranges, with 41.2% rating engagement and 50.0% rating informativeness at 8–10.

Visual quality (Q11) produced a broad spread of responses. A majority placed their ratings between "somewhat high quality" (26.5%) and "neither high nor low" (23.5%), while fewer selected the highest categories ("very high quality" 14.7%, "high quality" 14.7%).

Visual credibility (Q12) and overall authenticity (Q14) both averaged mid-to-high ratings, with mean scores of 6.62 and 6.88. However, responses ranged across the full 1–10 scale, with some participants scoring at the lower end and others selecting 8–10.

Emotional responses (Q17) showed strong selection of fascination (97.1%, mean intensity 7.03) and empathy (79.4%, 6.52), alongside other positive responses such as surprise, amusement, confusion, and affection. Negative emotions including boredom, sadness, shock, disappointment, fear, anger, and disgust were also present, though generally at lower mean intensity values.

Immersion (Q19) received a mean score of 5.74, with responses distributed widely across the scale. Only 23.5% of participants rated immersion at 8–10.

Believability of the story (Q21) produced a mean score of 6.94, with the most frequent rating at 7 (29.4%), followed by 10 (17.6%) and 8 (11.8%). Responses were otherwise spread across the scale.

AI recreating deceased individuals (Q27) generated the lowest level of support, with a weighted average of 2.38 on the 7-point scale. The most common responses were "not at all" (41.2%) and "very little" (17.6%), with smaller numbers selecting "slightly" (11.8%), "moderately" (20.6%), or "fairly well" (8.8%). No participants selected "quite a bit" or "very much so."

4.8.2 Key Qualitative Findings – Survey 2

The qualitative responses from Q13–Q28 reveal how participants assessed the synthetic version of the documentary film. Several of these items were mixed questions, combining a scaled or categorical response with a follow-up open-text prompt. In those cases, quantitative results are presented first, followed by qualitative themes with illustrative quotes.

### Q13 – Odd, Unusual, or Unrealistic Elements

Many participants identified unrealistic or unsettling features in the visuals. The most frequent comments focused on penguin sequences, with remarks such as *"penguins at minute three look unreal"* and *"a penguin swimming underwater looked more like a cartoon."* Other anomalies included mismatched shadows (*"the person in front of the Southern Lights had a shadow, the flags beside him didn't"*), distorted text on signs, misspelled words, or odd background details (*"interview of a guy on a green screen with weird background"*). Several described the film as lacking cohesion, noting that *"it didn't follow a clear structure."*

### Q15 – Accuracy Questioned

Quantitative results: 64.7% (n = 22) answered "Yes," they questioned the accuracy; 35.3% (n = 12) answered "No."

Qualitative responses: Participants who said "Yes" pointed to technical errors (auroras, shifting text, continuity mistakes) and narrative credibility concerns. For example: *"For some clips, especially those with signs and written text in, the text would shift and letters would change, which showed that it was generated."* Others doubted the handling of the Rodney Marks story: *"The very brief mention of Rodney Marks's death... made the man's*

*death feel not very real."* Awareness of AI itself also shaped responses: *"Questioned the accuracy because I knew from the information sheet that there could be AI images."*

**Q15: Were there any moments where you questioned the accuracy of what was shown?**

Answered: 34   Skipped: 0
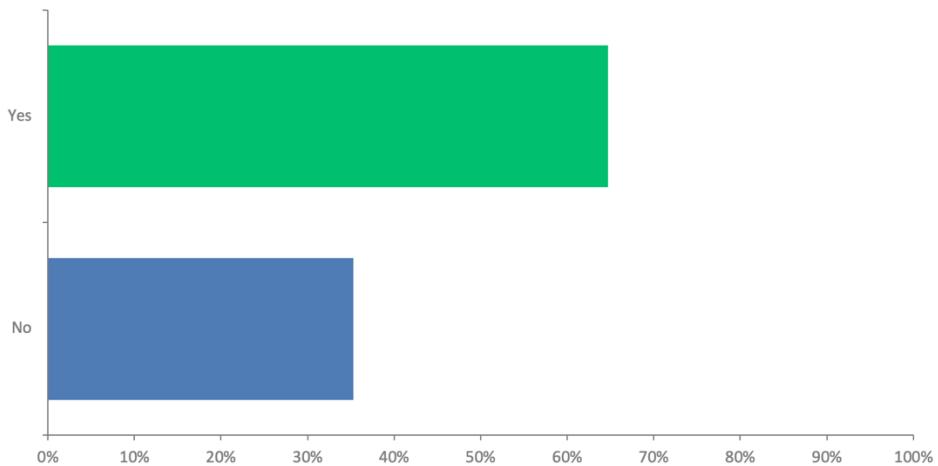


Figure 4.28

## Q16 – Visuals/Editing Credibility

Quantitative results: 47.1% (n = 16) answered "Yes," the visuals/editing made them question credibility; 52.9% (n = 18) answered "No."

Qualitative responses: Concerns included mismatched shadows and abrupt lighting shifts: *"His shadow was long and dark, whilst the flags were pale, short and in another direction."* Others described distracting insertions: *"There were what seemed to be stock images that took me out of the story."* The film was also described as *"too refined"* or resembling *"poor-quality photoshop work."*

**Q16: Was there anything in the visuals or editing that made you question the film's credibility?**

Answered: 34   Skipped: 0
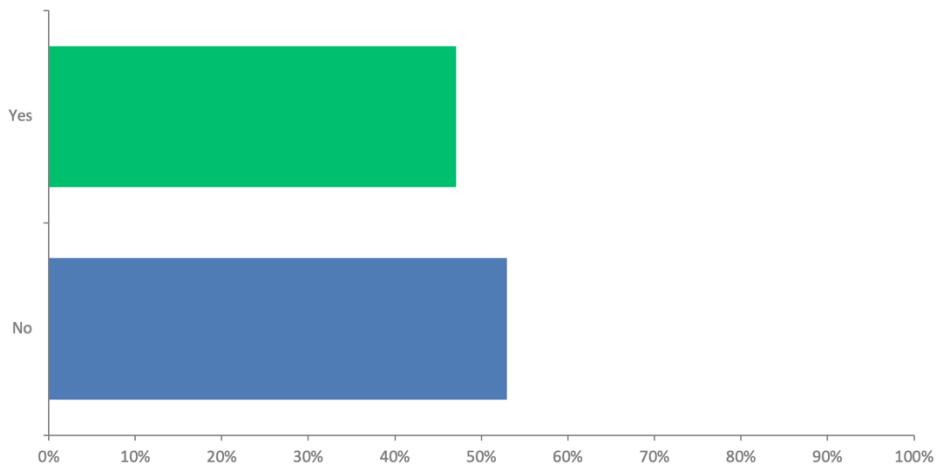


Figure 4.29

## Q18 – Immersion

Quantitative results: 67.7% (n = 23) reported feeling immersed; 35.3% (n = 12) did not.

Qualitative responses: Immersion was often described as partial or disrupted. One participant noted: *"At times I felt immersed, but the film was quite short and there was a lot of jumping between images... so there was not enough time with any one image to really feel immersed."* Others remarked on artificial-looking scenes: *"The scenery, in particular the southern lights / sky, did not look right interacting with the ground."* Some found immersion impossible: *"Many visuals were clearly artificial... immersion was impossible."*

**Q18: Did you feel immersed in the environment portrayed in the film?**

Answered: 34   Skipped: 0
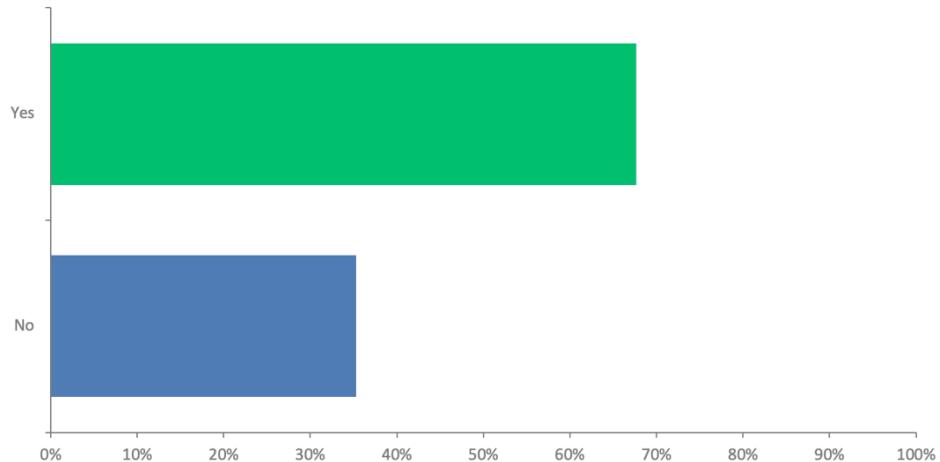


Figure 4.30

## Q20 – Educational Use

Quantitative results: 55.9% (n = 19) said the film could be used as a reliable educational resource; 44.1% (n = 15) said it could not.

Qualitative responses: Supporters often qualified their answers: *"Yes, but it could be used if the AI-generated scenes are verified and marked."* Those who said "No" criticised the lack of clarity and coherence: *"Considering the uninterpretable plot at points… I don't believe that this video can successfully be used in an educational setting."* Others focused on poor credibility: *"The fakery is to be condemned, and not brought out again."*

**Q20: Do you think this film could be used as a reliable educational resource?**

Answered: 34   Skipped: 0
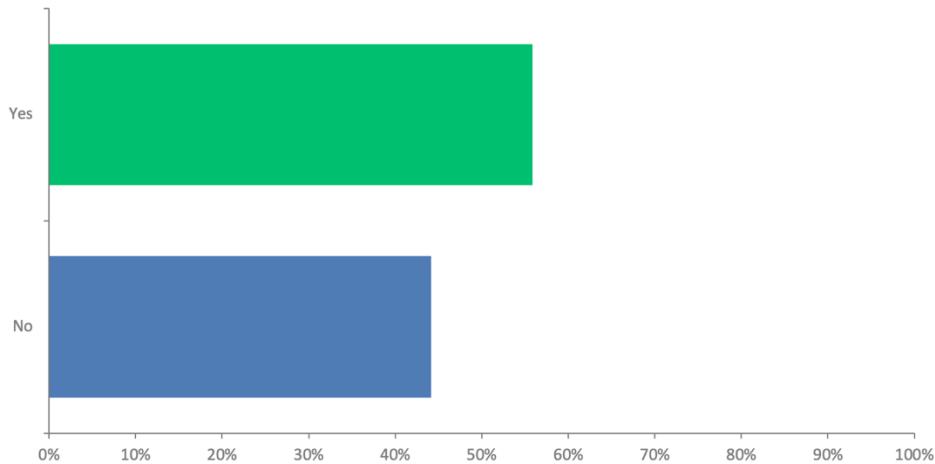


Figure 4.31

## Q22 – What Would Help Build Trust

Suggestions focused on transparency and detail. Respondents asked for clear sources (*"A clear indication of image sources"*), more context about the death case, and on-site credibility cues (*"Images of the people being interviewed while at the research station"*). Others wanted smoother AI rendering and narrative clarity: *"The mystery murder appeared quite unexpectedly… the connection should have been made clearer*.

## Q23 – Additional Thoughts

Overall impressions were mixed. Some praised the film as *"very nice and informative"* or *"the story was interesting and the visuals were engaging."* Others described it as confusing or disjointed: *"It wasn't introduced properly and didn't follow a clear sequence."* The murder subplot was noted as surprising: *"I wasn't expecting it to divert into a story about potential murder… the purpose of the film was a little confusing."* Several commented directly on AI: *"Disconcerting to watch something knowing that it could be AI… I started to question everything."*

## Q24 – Reaction if AI Had Been Used

Quantitative results: Most respondents (64.7%, n = 22) said they would feel more negative if they discovered that some scenes were AI-generated. A third (32.4%, n = 11) said it would not matter, while only one participant (2.9%) said they would feel more positive.

Qualitative responses: Negative reactions emphasised feelings of betrayal and loss of trust: *"I would feel betrayed"*; *"it makes the entire narrative untrustworthy."* Others linked AI to a breach of documentary conventions: *"If it is a scientific film, show a real thing, so people are educated on the truth"*; *"ruins the core fundamental of trust with journalism."* A few allowed conditional acceptance if AI were clearly framed as reconstruction: *"I would be happy to accept AI images in something presented as a reconstruction of an event."*



**Q24: Would you feel differently about the film if you found out that some parts of scenes might have been created using machine learning models (AI) based on real images?**

Answered: 34   Skipped: 0
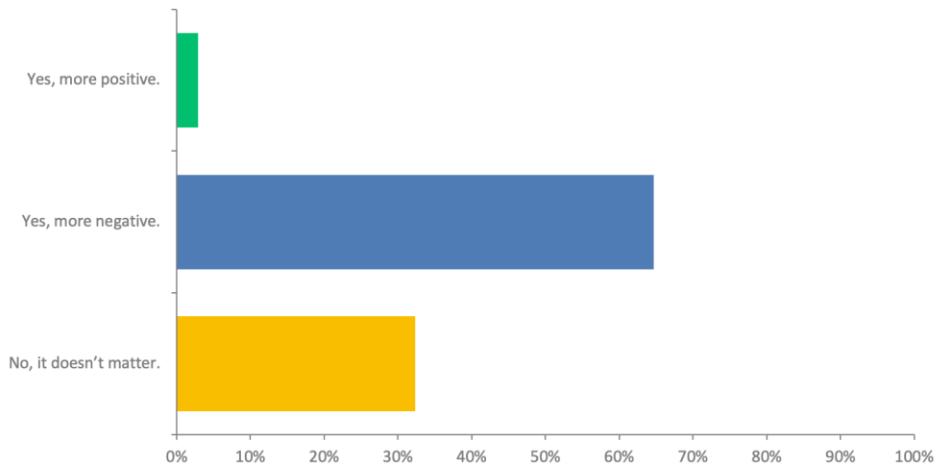
Figure 4.32

## Q25 – Impact of Knowing AI Was Used

Qualitative-only follow-up: Responses were mixed. Many participants said AI use would reduce their trust: *"Yes, unless it was made clear which visuals were generated by AI, I would trust the credibility of the film less"*; *"Being based on real images isn't the same as being a real image."* Others expressed indifference if the factual content remained accurate: *"No, as long as the information is factually accurate, I think the visual impact affects my perception of the quality, not whether the story is real."* A smaller group saw AI as potentially useful if transparently integrated: *"I would still trust the information, but it would feel less authentic... as long as there is a reason to use AI and it is explained or highlighted."*

**Q26 – Ethical Acceptability of AI for Recreating Places**

Quantitative results: 57.6% (n = 19) said yes, it is ethically acceptable; 42.4% (n = 14) said no.

Qualitative responses: Supporters often emphasised conditions of transparency: *"Yes, AI can help illustrate content. However, it should be made clear that the footage is artificially generated."* Others called for disclaimers: *"If there is no disclaimer, I would expect everything to be real footage and be disappointed if it was not."* Positive comments noted potential benefits: *"It can bring a big change in the visualisation."* Those opposed stressed erosion of trust: *"It isn't ethically acceptable... it erodes trust and the core fundamental ethics of journalism"*; *"It feels like deceiving people by creating something which is not original."*

**Q26: Do you believe it is ethically acceptable to use machine learning models in non-fiction media such as news or documentary films to digitally recreate or bring places to life?**

Answered: 33   Skipped: 1
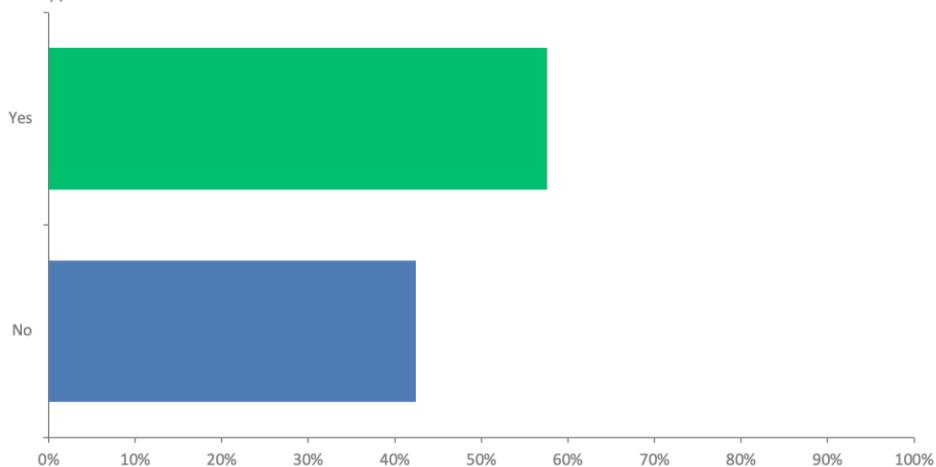


Figure 4.33

**Q28 – Ethical Acceptability of AI for Recreating Deceased People**

Quantitative results: 65.6% (n = 21) said no, it is not ethically acceptable; 34.4% (n = 11) said yes.

Qualitative responses: Opposition was strong, with comments such as *"It does not feel right"*; *"Dead people should be left to rest"*; *"If someone can't speak for themselves anymore, we shouldn't put words in their mouth."* Many mentioned the absence of consent as a central issue: *"Unless the deceased individual has willingly consented... it feels wrong*

*to do so."* Conditional acceptance appeared in a minority of responses: *"Yes, but only if the family members accept"*; *"Acceptable if it is to illustrate a story from a time when there was no film footage."* Some drew parallels with reconstructions: *"Equivalent to using an actor in a reconstruction – no problem, but it should be clear that is what is happening."*

**Q28: Do you believe it is ethically acceptable to use machine learning models to bring back the likeness of deceased people in non-fiction media such as news and documentary films?**

Answered: 32  Skipped: 2
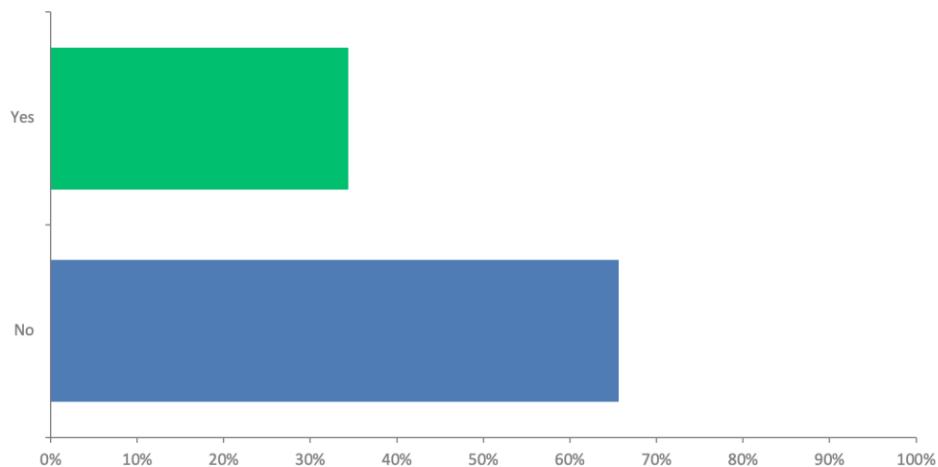


Figure 4.34

Overall Thematic Patterns – Qualitative Findings

The qualitative responses to Survey 2 highlight recurring patterns across questions Q13–Q28. Realism and Visual Impact were frequently questioned. Participants pointed to penguin sequences, mismatched shadows, distorted text, and inconsistent lighting as indicators of artificiality. Accuracy concerns were widespread, with 64.7% reporting they questioned what was shown, often citing visual artefacts and continuity errors.

Credibility and Trust were central issues. Almost half of participants (47.1%) felt the visuals or editing undermined credibility, and qualitative comments reinforced this, noting that awareness of AI use heightened scepticism. Requests for clearer sourcing, transparency, and disclosure were common.

Immersion and Emotional Response were uneven. While 67.7% reported feeling immersed, many described immersion as partial or easily broken by artificial visuals and abrupt shifts. Emotional reactions were dominated by fascination and empathy, but also included confusion, surprise, and occasional boredom, sadness, and distrust.

Educational Value and Reliability drew mixed responses. 55.9% agreed the film could be used as a reliable educational resource, while 44.1% disagreed. Support was often conditional on verifying AI use, whereas critics emphasised the lack of clarity, coherence, and trustworthiness.

Ethical Boundaries were a recurring theme in later questions. The majority (64.7%) said they would feel more negative if AI use was disclosed, and 65.6% rejected the use of AI to recreate deceased individuals. By contrast, recreating places was more acceptable (57.6% in favour), though most added caveats about transparency and disclaimers.

Viewer Awareness and Interpretive Frames shaped responses. Several participants explicitly linked their experience of the film to prior knowledge that AI may have been used, with some stating that it made them question everything they saw.

4.8.3 Summary of Key Findings – Survey 2 by NVivo Thematic Area

1. Educational Value and Perceived Reliability

- Mixed results on reliability: 55.9% said the film could be used educationally, but many qualified this with conditions (e.g., only if AI scenes were disclosed and verified).
- Concerns: Participants flagged poor clarity, confusing structure, and questionable credibility as barriers. Examples included: *"The film seems unreal and therefore I question the reliability of the story told"* and *"Considering the uninterpretable plot... I don't believe this can successfully be used in an educational setting."*
- Improvement requests: More context, information about Rodney Marks, on-site interviews, and source transparency were frequently cited as necessary to build reliability.

2. Emotional Response and Empathy

- Quantitative emotions: Fascination (97%) and empathy (79%) were the strongest emotional responses, with high mean intensities. Surprise, amusement, and confusion also featured prominently, while negative emotions (boredom, sadness, shock, distrust) were present but generally less intense.
- Immersion (Q18): Two-thirds reported immersion, though many noted it was partial or disrupted by artificial visuals: *"Immersion was impossible, many visuals were clearly artificial."*

- Tone and atmosphere: Some respondents described the film as "fascinating" or "informative," while others felt disengaged, bored, or uneasy, particularly when reminded that AI was used.

## 3. Perception of Ethical Boundaries

- AI disclosure (Q24): 64.7% said they would feel more negative if told AI was used, with comments about betrayal and loss of authenticity (*"I would feel betrayed"*). Only one respondent said they would feel more positive.
- AI for recreating places (Q26): 57.6% found this ethically acceptable, but typically with disclaimers or transparency requirements. Opponents framed it as deception (*"It erodes trust and the core ethics of journalism"*).
- AI for recreating deceased (Q28): 65.6% said it was not ethically acceptable. Concerns centred on respect, consent, and authenticity: *"Dead people should be left to rest."* Conditional acceptance (e.g., with family permission, for education) was a minority position.

## 4. Realism and Visual Impact

- Odd/unrealistic elements (Q13): Many flagged penguin sequences (*"looked like a cartoon"*), auroras, mismatched shadows, and distorted text.
- Accuracy questioned (Q15): 64.7% reported accuracy doubts, citing artificial skies, continuity errors, and scepticism about the Rodney Marks narrative.
- Visual credibility (Q16): 47.1% said editing/visuals made them doubt credibility, citing poor compositing and overly "refined" images resembling Photoshop.

## 5. Trust and Credibility

- Credibility under pressure: Participants repeatedly linked AI artefacts and narrative discontinuity with reduced trust. Statements such as *"It makes the entire narrative untrustworthy"* highlight this theme.
- Disclosure as trust-builder: Respondents emphasised explicit labelling, contextualisation, and improved story flow as key to rebuilding trust.
- Mixed awareness (Q25): Some said knowing AI was used would automatically reduce trust, while others said it would not matter as long as factual content was accurate.

6. Viewer Awareness and Interpretive Frames

- AI awareness: Several respondents said awareness of AI shaped their viewing: *"Disconcerting to watch something knowing that it could be AI... I started to question everything."*
- Interpretive shifts: For some, AI presence reclassified the film as reconstruction rather than documentary.
- Audience vigilance: Respondents described scrutinising visuals more closely due to prior awareness that AI might have been involved.

4.8.4 Comparison of Qualitative and Quantitative Findings – Survey 2

The following table compares the quantitative and qualitative findings from Survey 2, which evaluated the synthetic version of the documentary. For each question, scaled responses are set against the open-ended reflections to assess alignment between numerical trends and participant commentary. This allows patterns of convergence and divergence to be identified across engagement, informativeness, credibility, authenticity, emotional response, immersion, educational value, and ethical considerations.

| Question | Quantitative Findings | Qualitative Findings | Alignment / Differences |
|---|---|---|---|
| Q9 – Engagement | Mean 7.18; 41.2% rated 8–10 | Not directly asked qualitatively; Q23 shows some described it as "engaging," others as confusing. | Generally aligned: engagement recognised, but qualitative responses reveal more variation than scale scores. |
| Q10 – Informativeness | Mean 7.59; 50.0% rated 8–10 | Q20/Q23 comments mixed: some found it informative, others criticised lack of clarity or reliability. | Aligned: overall positive, but qualitative adds detail on perceived gaps. |
| Q11 – Visual Quality | Clustered around "somewhat high" (26.5%) and "neither" (23.5%); fewer extremes | Q13/Q16 cited unrealistic penguins, mismatched shadows, "too refined" imagery. | Consistent: mid-level ratings reflect mixed views; qualitative specifies faults. |
| Q12 – Visual Credibility | Mean 6.62; 41.2% rated 8–10 | Nearly half said visuals/editing undermined credibility; artefacts (shadows, lighting, stock-like images) cited. | Consistent: quantitative shows middling trust; qualitative explains reasons. |
| Q14 – Overall Authenticity | Mean 6.88; 50.0% rated 8–10 | Q15 stressed doubts due to shifting text, unrealistic skies, weak narrative. | Aligned: both show divided perceptions of authenticity. |

| | | | |
|---|---|---|---|
| Q15 – Accuracy Questioned | 64.7% "Yes," 35.3% "No" | Artefacts and narrative implausibility noted: *"letters would change," "death felt not very real."* | Strong alignment: majority questioned accuracy, both quantitatively and qualitatively. |
| Q16 – Credibility of Visuals/Editing | 47.1% "Yes," 52.9% "No" | Concerns about mismatched shadows, poor compositing, abrupt lighting changes. | Aligned: quantitative split reflects qualitative division between sceptics and accepters. |
| Q17 – Emotions | Fascination (97%), Empathy (79%), Surprise (74%); negative emotions lower | Q18/Q23 echoed fascination and engagement, but also confusion, unease, boredom. | Consistent: positive emotions dominate but mixed with negatives qualitatively. |
| Q18 – Immersion | 67.7% "Yes," 35.3% "No" | Many described immersion as partial or undermined by artificial visuals. | Aligned: quantitative majority immersive, but qualitative highlights fragility of immersion. |
| Q19 – Immersion (scale) | Mean 5.74; 23.5% rated 8–10 | Q18 noted immersion disrupted by AI artefacts and rapid scene changes. | Consistent: quantitative shows modest immersion; qualitative clarifies why. |
| Q20 – Educational Use | 55.9% "Yes," 44.1% "No" | Support conditional on disclosure; others said unreliable or "fakery." | Aligned: quantitative split matches nuanced qualitative positions. |
| Q21 – Believability | Mean 6.94; 35.3% rated 8–10 | Not directly asked; overlaps with Q15/Q16 doubts about accuracy and coherence. | Generally consistent: middling believability scores match qualitative scepticism. |
| Q22 – Building Trust | No quantitative | Requests for sourcing, disclaimers, more interviews, clearer narrative. | Expands on quantitative gaps: provides detail absent from scale measures. |
| Q23 – Additional Thoughts | No quantitative | Positive remarks ("engaging," "informative") contrasted with confusion and unease. | Adds nuance beyond quantitative scores. |
| Q24 – Reaction to AI disclosure | 64.7% more negative; 32.4% indifferent; 2.9% more positive | Negative respondents stressed betrayal; a few accepted AI if labelled reconstruction. | Strong alignment: quant majority negative, qual explains distrust. |
| Q25 – Knowing AI was used | No quantitative | Most said trust would decrease; some indifferent if facts accurate; few saw potential if transparent. | Consistent with Q24 pattern: reduced trust dominant. |
| Q26 – Ethical acceptability (places) | 57.6% "Yes," 42.4% "No" | Support conditional (disclaimers, transparency); opponents said deceptive. | Aligned: quantitative split mirrors conditional qualitative acceptance. |

| Q27 – AI recreating deceased (scale) | Weighted mean 2.38/6; 41.2% "not at all" | Reinforced in Q28: strong resistance, linked to respect and consent. | Consistent: low quantitative mean matches strong qualitative opposition. |
|---|---|---|---|
| Q28 – Ethical acceptability (deceased) | 65.6% "No"; 34.4% "Yes" | Strong opposition: *"Dead people should be left to rest."* Minority conditional acceptance with consent/education. | Strong alignment: both show majority opposition with small conditional support. |

Table 4.8.4

Across the dataset, qualitative responses generally reinforced the patterns seen in the quantitative results. Engagement, informativeness, and believability received moderate ratings, which were echoed in comments that praised fascination and empathy while also noting confusion and unease. Issues of realism, accuracy, and credibility were consistently raised in both quantitative scales and open-text remarks, often citing AI artefacts as the cause. Educational value was split, with survey percentages and narrative responses showing a balance between conditional acceptance and outright rejection. Ethical questions produced the strongest alignment: quantitative results showed majorities reacting negatively to AI disclosure and opposing the recreation of deceased individuals, a stance elaborated in qualitative reflections about betrayal, disrespect, and lack of consent.

Taken together, the side-by-side comparison confirms that participant commentary largely supported the numerical patterns, while adding important nuance and detail about the reasons behind the ratings. This provides a comprehensive view of audience responses to the synthetic version of the film and sets the stage for cross-survey comparisons.

## 4.9 Reflections on the Analysis Process

The analysis of Survey 1 and Survey 2 drew on a combination of tools, including NVivo for qualitative coding, Excel for quantitative calculations, SurveyMonkey for initial data collection and export, and ChatGPT 5.0 to assist in structuring and synthesising findings. This integrated toolkit supported a mixed-methods approach in which statistical summaries and open-ended responses could be cross-referenced, allowing both numerical trends and narrative accounts to be explored systematically (Creswell and Plano Clark, 2018).

Use of NVivo, Excel, and SurveyMonkey
NVivo proved effective for managing and coding large volumes of qualitative text, enabling responses to be organised within a structured framework of six thematic areas (Bazeley

and Jackson, 2013). The software's node structure allowed for nuanced clustering of themes such as realism, trust, and ethical boundaries. Excel was valuable for calculating distributions, mean scores, and percentages, which were essential for comparing results across questions and surveys (Pallant, 2020). SurveyMonkey provided an efficient means of gathering and exporting responses, ensuring clean data for import into analysis tools as well as for graphics usage. Together, these platforms made it possible to track patterns consistently while retaining flexibility to explore emergent codes.

Role of ChatGPT 5.0

ChatGPT 5.0 was used as a complementary tool to find clustering and support data interpretation. While NVivo facilitated coding, ChatGPT 5.0 for checking consistency in reporting, and refining drafts into coherent, thesis-ready sections. Its role was not to replace coding but to enhance the clarity and cohesion of outputs once codes and themes were established (Floridi and Chiriatti, 2020; Kasneci et al., 2023).

Challenges in Coding and Interpretation

One challenge lay in coding emotion-based responses, particularly for Q17. Participants often used terms that overlapped categories (e.g., "confusion" blending cognitive and affective elements), making precise classification complex. In some cases, numerical ratings of emotional intensity did not fully align with the tone of participants' written explanations, requiring careful cross-checking. This reflects wider challenges in coding affective data, where emotions are often layered and context-dependent (Saldaña, 2021). Coding references to AI posed similar issues: while some participants explicitly mentioned "AI," others referred indirectly to artefacts (e.g., "distorted text" or "penguins looked cartoonish"), requiring interpretive decisions about whether these belonged under realism, trust, or ethical categories. More broadly, distinguishing between mild scepticism and deep distrust necessitated iterative coding passes to ensure reliability (Miles, Huberman, and Saldaña, 2019).

Nuance and Complexity from Participant Comments

The qualitative data consistently added depth and complexity to quantitative findings, reinforcing the value of mixed-methods approaches in social research (Creswell and Plano Clark, 2018). Open-text responses often explained why engagement or authenticity scores were moderate rather than high. For instance, realism ratings were clarified by detailed accounts of specific artefacts such as mismatched shadows or implausible aurora effects. In other cases, participants expressed contradictions: some rated immersion highly yet

178

described their immersion as fragile or partial, highlighting the difference between scale scores and experiential nuance (Tracy, 2010). Ethical questions in particular revealed complexity. While many rejected AI outright in certain contexts, others proposed conditions under which it might be acceptable, such as explicit disclaimers, family consent, or use in educational reconstructions. Finally, some participants reflected on the study itself, noting their awareness of AI as a research variable and acknowledging how this shaped their interpretive frame, a layer of reflexivity that scale data alone could not capture (Lincoln and Guba, 1985).

The preceding chapters have presented the quantitative and qualitative findings from Survey 1 and Survey 2, highlighting patterns in participant responses to both the real and synthetic versions of the documentary. The final chapter now turns to a discussion of these results, examining their broader outcomes and implications for documentary practice, journalism, audience trust, and the ethical use of AI in non-fiction media.

# Chapter V

# Discussions, Outcomes, and Implications

## 5.1 Introduction

This chapter draws together the findings from the two surveys in order to interpret their significance, answer the research questions, and situate the results within wider debates in documentary studies, journalism, and media ethics. The preceding chapters presented the key quantitative and qualitative results of Survey 1, which evaluated the real (non-synthetic) version of the film, and Survey 2, which evaluated the synthetic version constructed with AI-generated visuals. In both cases, the data were analysed using a mixed-methods approach that combined scaled survey responses with qualitative commentary, supported by the use of NVivo for coding, Excel for statistical calculations, SurveyMonkey for data collection and export, and ChatGPT 5.0 for synthesis and consistency checking.

The central purpose of this chapter is to move beyond descriptive reporting of the results to consider what they mean for the research questions, for theories of documentary realism and audience trust, and for the ethics of AI in non-fiction media. While the findings chapters outlined the participants' views in detail, this chapter interprets those results in the light of existing scholarship and considers their implications for practice and theory. The goal is not only to account for how audiences responded to both versions of the film, but also to identify broader lessons about the changing conditions of credibility, authenticity, and representation in contemporary visual culture.

The analysis is organised thematically around the six NVivo coding areas that structured the qualitative data: (1) educational value and perceived reliability; (2) emotional response and empathy; (3) perception of ethical boundaries; (4) realism and visual impact; (5) trust and credibility; and (6) viewer awareness and interpretive frames. These themes also

provide a framework for comparing the two surveys and linking them back to theoretical debates on the epistemology of documentary (Nichols, 2017; Winston, 2000), the role of affect in nonfiction storytelling (Plantinga, 2005; Aufderheide, 2007), and the ethics of AI and synthetic media (Floridi and Cowls, 2019; Pavlik, 2020).

In addition to thematic interpretation, the chapter is structured to address the research questions directly. Section 3 provides a conclusion by research question, synthesising evidence from both surveys to give clear answers to each. Section 4 moves outward to consider the implications for professional fields, particularly journalism and documentary filmmaking, where questions of trust and transparency are central. Section 5 turns to theoretical contributions, identifying how this study adds to debates on indexicality, audience trust, and the ethics of representation. Section 6 reflects on methodological lessons, including the use of NVivo, Excel, SurveyMonkey, and ChatGPT 5.0, and the challenges of coding affective data. Section 7 outlines the limitations of the study, such as sample size and the constraints of survey-based designs, and Section 8 suggests directions for future research.

By combining interpretation, outcomes, and implications, this chapter provides the bridge between empirical findings and the overall contribution of the thesis. It demonstrates how the two films, one grounded in indexical footage, the other in synthetic visuals, were received by audiences, and what these responses suggest about the conditions under which nonfiction media is trusted, accepted, or rejected. Ultimately, this chapter positions the study within the broader discourse of documentary theory, media ethics, and digital culture, highlighting both the opportunities and the challenges posed by the integration of AI in factual storytelling.

## 5.2 Interpretation of Results

The interpretation of findings is structured around the six NVivo thematic areas that guided both the analysis and organisation of the data. The first of these, *Educational Value and Perceived Reliability*, addresses how participants judged the films' capacity to convey knowledge and their confidence in the reliability of what was shown.

### 5.2.1 Educational Value and Perceived Reliability

One of the central themes to emerge from both surveys concerned the perceived educational value of the films and the degree to which they could be regarded as reliable resources. This theme is significant because the authority of documentary has historically rested not only on its aesthetic strategies but also on its epistemic role as a source of knowledge and evidence (Renov, 2004; Nichols, 2017). By comparing audience evaluations of the real and synthetic films, it becomes possible to observe how confidence in

documentary's educational potential is sustained, challenged, or reconfigured when AI-generated imagery is introduced.

Survey 1: Strong Confidence in the Real Film

Quantitative findings from Survey 1 indicated broad confidence in the real film as an educational resource. When asked directly whether the film could be used reliably in an educational context, 88% of participants responded "yes." Scaled ratings of informativeness were also high, with a mean score of 8.4, suggesting that viewers believed the film conveyed meaningful and accurate information about Antarctica. Ratings of authenticity and credibility reinforced this perception: 83% of respondents did not question the accuracy of what was shown, and many highlighted the film's indexical imagery as aligning with their expectations of truthfulness.

Qualitative feedback reinforced these results. While a small number of participants noted limitations such as *"Not many facts"* and *"Needs more information in other areas for education"*, the dominant tone was one of confidence. Even when participants pointed to flaws, these were framed as correctable details rather than disqualifying weaknesses. On balance, the majority of responses aligned with the high quantitative endorsement, emphasising that the real film was seen as both informative and appropriate for educational use.

Taken together, these responses illustrate what Nichols (2017) has described as the "epistemic contract" of documentary: audiences approach nonfiction films with an expectation of factual reliability, and the presence of indexical imagery underpins that trust. In Survey 1, this contract appeared largely intact, with most respondents expressing comfort with the idea of the film functioning as a trustworthy educational resource.

Survey 2: Divided Views and Conditional Support

The results from Survey 2 stand in contrast. When asked the same question, only 55.9% of participants agreed that the synthetic version could serve as a reliable educational resource, while 44.1% disagreed. Informativeness ratings were moderately positive (mean = 7.6), but qualitative responses reveal that trust was more fragile.

Participants who rejected the film's educational value expressed concerns about unreality and misrepresentation. One remarked: *"The film seems unreal and therefore I question the reliability of the story told."* Another explicitly highlighted the risks for younger audiences: *"If kids watch documentaries, I would like them to give a true representation so there are no misconceptions. Especially if it is science-related."* For these viewers, AI-generated

imagery was incompatible with educational reliability, regardless of the factual claims made.

Even among those who endorsed the film, support was often conditional. Typical responses included: *"Yes, if verified and marked"* and *"I believe with some editing and developing of the narrative, this film could really shine."* Such comments show that audiences were willing to accept synthetic media in an educational context only if transparency and quality standards were maintained. The demand for disclosure echoes Floridi and Cowls' (2019) emphasis on transparency as an ethical requirement in AI-driven communication.

Nuances and Patterns

The contrast between the two surveys highlights a significant shift in audience confidence. Whereas the real film was overwhelmingly endorsed, the synthetic film produced divided evaluations, with nearly half of participants withholding acceptance. The qualitative data suggest that this divergence was driven not by the subject matter itself, but by questions of reliability tied to visual form. Artefacts such as "unreal" looking sequences weakened the sense of trust, which in turn undermined the film's perceived educational value.

Another nuance is that participants often evaluated the film's educational reliability in relation to imagined learners. The reference to "kids" in Survey 2 highlights a concern for the social consequences of unreliable or misleading material in educational contexts. By contrast, Survey 1 responses focused less on risk and more on completeness of information, suggesting that indexicality underpinned a baseline trust that participants were comfortable extending to classrooms or public learning environments.

Framing within Documentary Theory

These patterns can be situated within broader theoretical debates on the epistemic authority of documentary. Renov (2004) has argued that the genre carries an "instructional" dimension, functioning as a medium through which knowledge is disseminated. Survey 1 demonstrates that this authority remains intact when audiences encounter indexical footage, even if the film is short or stylistically unpolished. In Survey 2, however, this authority was destabilised by the introduction of AI-generated visuals. Nichols' (2017) concept of the documentary contract helps explain this outcome: audiences grant nonfiction films a provisional trust, but once signs of fabrication emerge, that trust can be withdrawn or made conditional.

In summary, Survey 1 participants expressed strong confidence in the real film's educational value, endorsing it overwhelmingly as reliable despite minor reservations about depth of information. Survey 2 participants were divided, with many rejecting the

synthetic film as unreliable and others granting only conditional acceptance dependent on verification and disclosure. These findings demonstrate that educational value is closely tied to perceptions of reliability, and that the presence of AI imagery complicates audience willingness to grant documentaries their traditional epistemic authority.

## 5.2.2 Emotional Response and Empathy

Emotional engagement is a central component of how audiences respond to documentary film. Plantinga (2005) has argued that nonfiction appeals both to cognition and affect, while Nash (2014) emphasises that immersion and empathy are fragile but vital aspects of audience experience. Across both surveys, fascination, empathy, sadness, and surprise were prominent, but the balance of these emotions differed depending on whether participants viewed the real (Survey 1) or synthetic (Survey 2) film.

### Survey 1: Real Film

Quantitative results
The real film elicited consistently positive, if moderate, emotional responses. *Fascination* and *empathy* scored highest, with mean ratings of approximately 7.8 and 7.4, respectively. *Surprise* was also present but at lower levels, while negative emotions such as *boredom*, *sadness*, *shock*, and *disgust* were given very low ratings. Both *trust* and *amusement* received very high intensity scores. The *empathy* distribution illustrates a variation: nine participants reported very low empathy (scores 1–2), nine reported strong empathy (scores 8–10), and the remainder clustered around the middle of the scale (3–7). This suggests a polarisation of responses, with some viewers feeling little connection while others reported strong affective engagement.

Qualitative results
Open-text responses reinforce this pattern. Many participants described the film positively, using terms such as *"Good or really good"* and *"Interesting"*. Another described it simply as *"It was different."* At the same time, some participants expressed disengagement, reporting *"Not really my thing"* or stating that the *"Low quality visuals made film dull."*

Overall, the emotional tone of Survey 1 was characterised by fascination and amusement, moderated by occasional sadness and a small number of disengaged responses. The wide spread of empathy ratings underscores that while many viewers connected with the human story, others remained detached or distracted by the film's modest technical quality.

### Survey 2: Synthetic Film

Quantitative results

The synthetic film produced a more complex emotional profile. *Fascination* was the most frequently reported emotion, selected by 97% of participants with high intensity scores. *Empathy* was also prominent, with 79% selecting it, and *surprise* was chosen by 74%. Negative emotions such as *boredom, disappointment, disgust, fear, sadness,* and *shock*, received low intensity scores, and almost a quarter of the participants gave *trust* a very low intensity score rating.

The empathy distribution reveals an important shift compared to Survey 1. No participants rated empathy at 1 or 2, indicating that complete disengagement was rare. Most clustered in the mid-range (4–7), with 17 participants in this band, while nine reported high empathy (8–10). Compared to the polarised distribution of Survey 1, empathy in Survey 2 was moderate to high: few felt nothing and a third reported very strong empathetic intensity.

Qualitative results

Participants' comments highlight both engagement and ambivalence. Positive reactions included: *"Very nice and informative"* and *"I enjoyed the film, the story was interesting and the visuals were engaging"*. Another participant remarked: *"I like the penguins,"* suggesting light-hearted fascination.

Yet alongside this engagement, many respondents flagged unease and disrupted immersion. One admitted: *"Disconcerting to watch something knowing that it could be AI. I was very vigilant and started to question everything."* Another explained: *"Immersion was impossible, many visuals were clearly artificial."* A third noted: *"At times I felt immersed, but the film was quite short and there was a lot of jumping between images, not enough time to really feel immersed."* Negative emotions also surfaced in boredom: *"Got bored watching it."*

Some participants linked empathy directly to performance and delivery. One suggested: *"A bit more emotions shown by the actors. I can empathise more if there is [sic] more emotions involved. Some of the actors spoke very monotone."* Here, affective connection was not only shaped by AI imagery but also by the style of narration and presentation.

Comparison Across Surveys

Taken together, the results show that both films elicited fascination and empathy, but with different emotional textures.

- Fascination: In both surveys, fascination was a strong response, though Survey 2 recorded near-universal selection of this emotion. In Survey 1, fascination was described in measured terms (*"Interesting," "Good or really good"*), while in Survey

2 it often coexisted with scepticism or unease (*"Disconcerting to watch something knowing that it could be AI"*).

- Empathy: Survey 1 displayed a polarised empathy distribution, with some participants feeling little connection and others reporting strong empathy. Survey 2 produced more consistently moderate to high empathy. Quotes such as *"sad but informative"* (Survey 1) and *"I can empathise more if there [are] more emotions involved"* (Survey 2) illustrate this difference.

- Negative emotions: In Survey 1, boredom was rare but present (*"Not really my thing"*). In Survey 2, confusion appeared more prominently (*"it was hard to feel immersed in the environment, scenery did not look right interacting with the ground", "The pictures seemed somewhat unreal"*).

- Immersion: Stable immersion was reported in Survey 1, with three quarters of the participants positively reflecting on the film overall. In Survey 2, immersion was fragile and easily disrupted by suspected artificial visuals, but two thirds felt immersed.

These contrasts resonate with Nash's (2014) observation that immersion in nonfiction is contingent and easily broken when credibility is questioned. The synthetic film demonstrates how even when fascination and empathy are present, they can be destabilised by awareness or suspicion of AI artefacts.

The findings across both surveys highlight the role of emotional response and empathy in shaping audience reception of nonfiction. The real film (Survey 1) elicited fascination and empathy that, while unevenly distributed, were broadly stable and supported by perceptions of authenticity. The synthetic film (Survey 2) generated near-universal fascination and consistent moderate to high empathy, but these emotions were interwoven with suspicion and uncertainty reflecting a fragile immersion. Plantinga's (2005) account of affective engagement in nonfiction and Nash's (2014) work on immersion help frame these results: while audiences seek both to know and to feel, their capacity for immersion depends heavily on the credibility of what they are shown.

5.2.3 Perception of Ethical Boundaries

This section examines how participants in Survey 1 (real film) and Survey 2 (synthetic film) evaluated the ethical acceptability of the films. Ethical considerations were explicitly probed in questions about accuracy, credibility, disclosure, and the use of AI to recreate places or deceased individuals. The analysis combines quantitative survey results with qualitative responses, enabling a layered account of how viewers framed ethical issues such as authenticity, deception, consent, and the moral status of AI-enhanced media.

Survey 1: Real Film

Quantitative results

In Survey 1, which evaluated the real film, participants expressed very little ethical concern. Trust in the factual accuracy of what they saw was high, with 83% reporting that they did not question the accuracy of the film, and 80% stating that nothing in the visuals or editing made them doubt its credibility. This suggests that the real film largely met audience expectations for reliability and transparency. When the questions turned more generally to the ethical use of AI in nonfiction, however, participants revealed a more nuanced stance. A large majority, more than 70%, agreed that it would be ethically acceptable to use machine learning models to recreate or bring places to life, provided accuracy was maintained. Acceptance was much lower when the same principle was applied to deceased individuals. In response to whether storytelling could be improved if a deceased person were brought back to life, most participants felt it would make only a slight difference or very little difference, while 20% believed it would not improve the story at all. The most direct question on the issue, which asked about the ethical acceptability of bringing the deceased back to life using AI, split the sample: 55% answered "No," while 45% said "Yes."

Qualitative results

Most participants stated there was "nothing odd" or ethically troubling. Typical responses included: *"Nothing odd"* (Q13) and *"No"* to whether accuracy was questioned (Q15). When minor issues were raised, they focused on technical details rather than ethical concerns, e.g. *"Plane engine sound on ground does not reflect real noise level"* or *"Sea scene seemed blurred."* Ethical unease was rarely mentioned, and when it appeared, it concerned narrative framing rather than manipulation: *"The way the crime scene element is introduced does not make it seem reliable."*

Together, these findings point to a consensus that the real film did not breach ethical norms. While audiences were comfortable with the indexical imagery of the documentary itself, their answers to more general questions about AI use suggest that acceptance is conditional: recreating places was broadly endorsed, while recreating deceased individuals divided opinion more sharply.

Survey 2: Synthetic Film

Quantitative results

In Survey 2, ethical boundaries were much more contested than in the case of the real film. A majority of participants, 64.7%, reported that they had questioned the accuracy of what

was shown, and nearly half (47.1%) said that something in the visuals or editing had made them doubt the film's credibility. Disclosure was also a critical issue: almost two-thirds (64.7%) stated that they would feel more negative if they learned AI had been used, while only one participant indicated that they would feel more positive.

When asked about specific applications of AI, participants distinguished between recreating places and recreating people. Just over half (57.6%) considered it acceptable to use AI models to digitally bring places to life, while a substantial minority (42.4%) opposed this use. Acceptance dropped further when the focus shifted to the deceased. On the question of whether storytelling would be improved by bringing deceased individuals back to life, over 40% selected "Not at all," indicating strong scepticism. Similarly, when asked directly about the ethical acceptability of recreating deceased individuals, nearly two-thirds (65.6%) answered "No," compared to only one-third (34.4%) who said "Yes."

Qualitative results

Qualitative responses help explain the divides. Many saw AI as undermining trust: *"The film seems unreal and therefore I question the reliability of the story told"*. Others stressed that when watching a documentary film they expect to see indexical footage: *"I expect to see an authentic report from that region - not something computer generated", "when you are watching a documentary you are willing to watch real scenes", "I expect the statements to be based on truth and visually supported by real images"*.

When asked about AI recreations, opposition was strongest for deceased individuals. Comments included: *"Disrespectful"* and *"No, not without the deceased's consent"*. Even those who allowed conditional acceptance emphasised disclosure and care: *"Yes, if with permission of relatives"*.

By contrast, recreating places was often seen as permissible: *"AI can help to illustrate content", "If it helps to provide context"* and *"If told AI is being used"*. Supporters mentioned benefits such as cost or clarity, but critics warned: *"certain scepticism remains, i.e., the images always appear as an interpretation of the past, which may have looked different."*

Nuances and Patterns

Looking across both surveys, several patterns become clear. In Survey 1, ethical concern was minimal for the real film itself, and participants largely trusted the imagery they were shown. Even when asked more general questions about AI, they distinguished between places and people: recreating landscapes was seen as permissible, while recreating deceased individuals produced a divided response.

In Survey 2, by contrast, ethical unease was much more pronounced. A majority questioned the accuracy and credibility of the synthetic film, and disclosure emerged as a central concern, with most saying they would feel more negative if AI was involved without acknowledgement. Here too, recreating places was cautiously accepted by a majority, but recreating the deceased was strongly rejected by nearly two-thirds.

Together, these findings show that while acceptance of AI use in nonfiction is conditional and depends on context, the ethical line is drawn most clearly at the representation of deceased individuals. Trust, disclosure, and consent emerged as the dominant frames through which participants judged these practices.

Framing within Journalism and Ethics

The findings from both surveys can be situated within broader debates on the ethics of documentary and journalism, where issues of truth-telling, transparency, and respect for subjects remain central. Nichols (2017) describes documentary as operating under a "contract of trust," in which audiences provisionally accept what they see as truthful unless there is evidence of manipulation or deception. Survey 1 illustrates this dynamic: participants readily trusted the real film and reported few ethical concerns, reflecting the authority of indexical imagery to anchor documentary credibility.

Survey 2, by contrast, highlights the fragility of this trust when synthetic visuals are introduced. The sharp rise in participants questioning accuracy (64.7%) and credibility (47.1%) reflects Winston's (2000) observation that audiences are quick to reassess trust once they suspect fabrication. Ethical unease here was not simply about technical quality but about perceived betrayal of the documentary contract: several participants insisted *"I expect to see an authentic report from that region – not something computer generated"* or *"when you are watching a documentary you are willing to watch real scenes."* These comments frame AI not merely as a tool but as a violation of genre expectations.

Disclosure emerged as a particularly strong ethical demand, with nearly two-thirds of Survey 2 participants stating they would feel more negative if they discovered AI was used without being told. This aligns with Floridi and Cowls' (2019) principles of AI ethics, which highlight transparency and accountability as core requirements. For many participants, the

absence of disclosure constituted deception, a form of ethical breach that undermined credibility even when the informational content itself might still be accurate.

The stark rejection of AI for resurrecting deceased individuals further reflects the enduring role of dignity and consent in nonfiction ethics. While recreating places was conditionally accepted, *"AI can help to illustrate content",* the use of AI to simulate the likeness of the dead was widely described as *"Disrespectful"* or as requiring explicit *"permission of relatives."* This recalls Winston's (2000) caution that documentary practice must operate within ethical limits as well as technical possibilities. The responses suggest that audiences see the line between ethical and unethical practice as resting not only on accuracy but also on respect for subjects and the boundaries of life and death.

Together, these findings position AI-generated imagery within established frameworks of media ethics, but also highlight new complexities. While the authority of indexical footage continues to underpin trust, participants are willing to renegotiate the documentary contract under conditions of disclosure and transparency. Yet certain practices, especially the recreation of deceased individuals, are widely seen as exceeding acceptable boundaries, raising questions about consent, authenticity, and the moral responsibilities of nonfiction media.

## 5. 2.4 Realism and Visual Impact

This section explores how participants in Survey 1 (real film) and Survey 2 (synthetic film) evaluated the realism and visual impact of the films. These dimensions are central to documentary reception: realism has long been tied to the genre's claim to truth, while visual quality shapes immersion, credibility, and audience engagement (Aufderheide, 2007). By combining quantitative and qualitative responses, it is possible to see how indexical and synthetic images differently influenced perceptions of authenticity, clarity, and visual persuasiveness.

Survey 1: Real Film

In Survey 1, participants generally rated the visuals of the real film as both credible and of high quality. For visual quality, scores clustered toward the higher end of the scale, with many describing the imagery as high or very high. When asked about visual credibility, the majority of responses fell between 8 and 10, with a mode of 8, indicating that although the footage was not cinematic in style, it was nonetheless trusted by viewers. This confidence was further reinforced in Q16, where 80% of respondents reported that nothing in the visuals or editing made them question the film's credibility.

Qualitative results

Open-text responses reveal that participants were sensitive to visual limitations but rarely saw them as undermining credibility. Some participants noted *"Sea scene seemed blurred"* or *"Plane engine sound on ground does not reflect real noise level."* Others commented on visual anomalies such as brightness or intensity of colour, or mentioned *"occasional freeze frames"*. Despite these critiques, most participants concluded there was *"Nothing odd"*.

Where criticisms appeared, they were framed in technical rather than ethical terms: low resolution, shaky camera, or dull visuals. These issues occasionally disrupted immersion, with one participant admitting: *"Got bored watching it."* However, other viewers reported stronger engagement, noting that despite modest production values, the film still appeared authentic and convincing.

Together, these results suggest that Survey 1 participants accepted the real film as realistic, with technical imperfections noted but rarely interpreted as evidence of manipulation.

Survey 2: Synthetic Film

Quantitative results

In Survey 2, evaluations of realism and visual impact were more contested than in the case of the real film. For visual quality (Q11), ratings were evenly distributed: some participants judged the imagery highly, around half placed it in the middle range as somewhat high or neither high nor low, while others scored it very low. A similar pattern appeared in the assessment of visual credibility (Q12). Here, just over 41% of participants gave high ratings of 8–10, nearly half (47%) placed their responses in the medium band of 4–7, and the remainder rated credibility at the very low end of 1–3. Responses to immersion (Q17) reflected this same sense of division. While 67.7% reported feeling immersed in the environment of the film, around one-third answered "No," pointing to a more fragile form of immersion than was observed in Survey 1.

Qualitative results

Participant comments reveal that many viewers recognised the synthetic quality of certain images. Several pointed to specific sequences as appearing digitally altered or inauthentic, with remarks such as: *"The Aurora borealis seemed faked or altered digitally,"* *"Australian flag had its stars incorrectly on it,"* and *"Some of the images of the planet and the sea with a penguin jumping in it seemed a bit too beautiful and clear."* Another observed: *"Some of the flags and the man standing outside in the polar lights looked generated."*

191

Other participants suspected unusual features in the handling of water and light. They described *"Sometimes clips with water looked unrealistic, maybe the light didn't look like it was reflecting right,"* while others flagged *"Underwater icebergs odd"* and *"Water shots were odd."* The opening sequence with the penguin jumping into the sea drew particular attention: roughly half of the respondents mentioned it as looking unrealistic or unnatural. Yet this same sequence was also a source of enjoyment for some, with one participant writing simply: *"I like the penguins."* For these viewers, aesthetic appeal, or the contribution of visuals to narrative flow outweighed concerns about strict realism.

It is notable that the penguin clip was unique among the generated material. Unlike other scenes, which were created using a real Antarctic photograph as a starting frame, the penguin sequence was generated solely from a descriptive text prompt. This may help explain why it stood out so strongly in audience feedback as both striking and unrealistic.

Patterns and Nuances

A clear set of contrasts emerges between the two surveys. In Survey 1, visual limitations were often noted, blurred scenes, colour intensity, shaky footage, or low resolution, but these were almost always framed as technical imperfections rather than evidence of manipulation. Participants continued to perceive the real film as authentic and realistic, even when they admitted moments of disengagement, such as *"Got bored watching it."* Trust in indexical imagery helped stabilise their evaluations, ensuring that modest production values did not undermine credibility.

In Survey 2, by contrast, imperfections and anomalies were much more likely to be interpreted as signs of artificiality. Synthetic features such as *"The Aurora borealis seemed faked or altered digitally"* or *"Australian flag had its stars incorrectly on it"* encouraged participants to question the reliability of the visuals. Water and ice sequences were especially scrutinised, with viewers noting that *"Water shots were odd"* or that reflections *"didn't look like it was reflecting right."* The penguin sequence stood out as the most widely discussed example: while many judged it unnatural, others enjoyed it for its aesthetic qualities. This ambivalence highlights how realism and enjoyment could coexist uneasily within the synthetic material.

Overall, Survey 1 participants accepted technical flaws without questioning authenticity, while Survey 2 participants interpreted anomalies as evidence of unreality. The difference underscores the stabilising effect of indexical reference in the real film and the fragility of immersion in the synthetic version.

Framing within Documentary and Visual Communication Theory

These patterns reflect central debates in documentary and visual communication scholarship. Nichols (2017) argues that realism in nonfiction is anchored by the indexical link between the image and the world, a contract that audiences rely on to grant trust. In Survey 1, this contract remained intact: participants acknowledged flaws but saw them as natural artefacts of real footage. In Survey 2, however, the absence of a secure indexical anchor opened space for suspicion, with viewers repeatedly identifying signs of generation and alteration.

Winston (2000) describes trust in nonfiction as provisional, easily destabilised when audiences suspect fabrication. The polarisation in Survey 2—between those who praised the visuals and those who dismissed them as artificial—illustrates this conditional trust in practice. Plantinga (2005) and Nash (2014) further emphasise that immersion depends not only on aesthetic quality but also on credibility. Participant remarks such as *"Immersion was impossible, many visuals were clearly artificial"* show how synthetic imagery can disrupt the very affective engagement it seeks to create.

These findings also resonate with contemporary debates on AI and media ethics. Floridi and Cowls (2019) stress the importance of transparency and accountability in AI design. Here, participants' remarks reveal a strong expectation of disclosure and a demand that visuals "look real" in order to fulfil documentary conventions. The comments on the penguin clip, which was created from a text prompt rather than a photographic starting frame, highlight the fine line between creativity and credibility: while aesthetically appealing, it stood out as unrealistic precisely because it lacked an indexical foundation.

In sum, perceptions of realism and visual impact diverged sharply between the two surveys. The real film was judged technically imperfect but fundamentally credible, with its flaws accepted as part of authentic documentary practice. The synthetic film, by contrast, produced contested reactions: some viewers appreciated the visuals as engaging or attractive, while others found them artificial, unreliable, or disruptive to immersion. Anomalies that were tolerated in the real film as signs of modest production were interpreted in the synthetic film as indicators of unreality.

Together, these results demonstrate that the perception of realism in nonfiction rests not only on technical execution but also on audience assumptions about indexicality. Where that anchor is present, as in the real film, trust is maintained despite imperfections. Where it is absent, as in the synthetic film, even minor visual oddities can trigger doubt, fracture immersion, and reshape audience judgments of authenticity.

5.2.5 Trust and Credibility

Trust and credibility are central to how audiences evaluate nonfiction media. Hall (2003) demonstrates that viewers assess the "reality" of media texts by drawing on familiar cues, from the plausibility of content to the coherence of visual style. Credibility, in this sense, is not an inherent property of a film but a judgment made by audiences in relation to expectations of authenticity and truthfulness. These judgments are particularly critical in documentary, where credibility underpins what Winston (2000) calls the genre's provisional claim to truth. For participants in this study, questions of trust and credibility were directly linked to how they perceived both the real and synthetic films, with their responses shaped by accuracy, authenticity, and the perceived integrity of the visuals. This section explores these dynamics across Survey 1 and Survey 2, using quantitative and qualitative evidence to show how audiences negotiated credibility in both indexical and AI-generated contexts.

Survey 1: Quantitative Results

In Survey 1, participants expressed consistently high levels of trust in the real film. When asked about the credibility of the visuals (Q12), most responses clustered between 8 and 10, with a mode of 8 and more than a third of participants giving the highest rating. This suggests that the imagery was widely seen as credible, even though the production quality was relatively modest. Ratings of overall authenticity (Q14) were similarly strong, with over 80% placing their responses in the 8–10 range, reflecting broad confidence in the film's truthfulness. Few participants questioned the accuracy of the material: 83% answered "No" to Q15, indicating that factual reliability was rarely in doubt. Likewise, 80% reported that nothing in the visuals or editing made them question the film's credibility (Q16). Finally, ratings of believability (Q21) were high, with most participants scoring above 7. Taken together, these results demonstrate that Survey 1 audiences viewed the real film as both trustworthy and authentic, with credibility and ethical soundness reinforcing one another.

Survey 1: Qualitative Results

Open-ended responses reinforce this pattern of trust. The vast majority of participants commented "No" or "Nothing " on anything appearing odd or suspicious in the film. One participant remarked simply: *"All seemed fine and believable. Very interesting"* (Q13). Where issues were raised, they were minor and framed as technical: *"The little freeze frames occasionally when people were on screen; it could have been my connection"* or *"Some part of the film seem[s] a bit shaky, making you feeling dizzy"*.

Even when participants expressed doubt, it rarely translated into distrust of the narrative. A small number flagged anomalies, such as the *"opening scene at sea didn't seem correct or*

*was of poor quality"*. But these were treated more as unusual stylistic choices than as breaches of credibility. Overall, Survey 1 responses suggest that participants largely accepted the film's trustworthiness, with technical flaws interpreted as artefacts of production rather than signs of deception.

Survey 2: Quantitative Results

In Survey 2, where participants viewed the synthetic film, trust proved to be far more fragile. Evaluations of visual credibility (Q12) were sharply divided: 41% of respondents gave high scores of 8–10, 47% placed their ratings in the medium range of 4–7, and 12% scored the visuals at the very low end of 1–3. Assessments of overall authenticity (Q14) showed a similar pattern, with responses spread across the scale and a clear decline in the highest ratings compared to Survey 1, dropping from over 80% to 50%. Doubts about factual reliability were prominent: 64.7% of participants answered "Yes" when asked if they questioned the accuracy of what was shown (Q15). Concerns also extended to editing and visual presentation, with 47.1% reporting that something in the visuals or editing made them doubt the film's credibility (Q16). Disclosure emerged as another important issue: nearly two-thirds (64.7%) said they would feel more negative if they learned that AI had been used, suggesting that awareness of synthetic production could further weaken trust (Q24).

Survey 2: Qualitative Results

Qualitative comments illustrate how synthetic qualities disrupted trust. Several participants described the parts of the film as *"unreal"* or *"generated."* One wrote: *"The film seems unreal and therefore I question the reliability of the story told."* Others emphasised their expectations of nonfiction: *"I expect to see an authentic report from that region – not something computer generated."* Another added: *"When you are watching a documentary you are willing to watch real scenes."*

Credibility concerns often arose from specific visual cues. Participants noted *"The Aurora borealis seemed faked or altered digitally"* and *"Australian flag had its stars incorrectly on it."* For some, these anomalies weakened confidence in the entire narrative. Others linked trust to disclosure, suggesting that synthetic methods could be acceptable if openly acknowledged: *"If told AI is being used."*

Despite these doubts, not all responses were negative. A minority praised the visuals as *"very nice and informative"* or *"engaging."* These respondents appeared more willing to accept the synthetic material if it contributed to understanding, even while recognising its artificiality.

Nuances and Patterns

195

A clear divergence emerges between the two surveys in how participants approached trust and credibility. In Survey 1, trust was consistently high. Technical imperfections such as blur, low resolution, or shaky footage were largely tolerated and even interpreted as natural signs of authentic fieldwork. Credibility was stabilised by the underlying assumption that the imagery was indexical and therefore anchored in reality.

In Survey 2, by contrast, trust was fractured. Participants divided sharply in their evaluations, with many interpreting anomalies as evidence of unreality rather than authenticity. Here, disclosure and authenticity became central to how credibility was judged. Flaws that in Survey 1 enhanced the impression of realism were, in Survey 2, treated as indicators of artificiality and unreliability. Likewise, disclosure functioned differently across the two contexts: in Survey 1 it was unnecessary, but in Survey 2 its absence was widely seen as a form of deception.

Framing within Journalism and Media Trust Theory

The results of both surveys can be situated within wider scholarship on trust, credibility, and realism in nonfiction media. Winston's (2000) observation that documentary trust is provisional and collapses under suspicion of fabrication is also borne out by the findings. Once participants in Survey 2 detected inconsistencies, credibility faltered. This reflects Roscoe and Hight's (2001) analysis of *faking* in mock-documentary: the moment when audiences perceive manipulation, the implicit pact of nonfiction is disrupted.

Other work stresses that credibility is shaped not only by truth claims but also by style and performance. Corner (2002) highlights that documentary constructs the "real" through performance and conventions. Survey 1 participants accepted blurred or shaky imagery as fitting these conventions, while Survey 2 participants judged AI artefacts as outside them. Kilborn (2010) similarly shows that factual programming depends on aligning form with audience expectations of realism. The divergence between the two surveys illustrates how these expectations are unsettled when visual strategies deviate from familiar norms.

Research on media credibility more broadly offers further insight. Karlsson (2010) emphasises transparency as a credibility ritual in journalism, which resonates with Survey 2 participants' insistence on disclosure of AI use. Metzger, Flanagin, and Medders (2010) show that audiences rely on heuristics when evaluating credibility online, often defaulting to cues like visual consistency. This helps explain why Survey 1 anomalies were tolerated, they matched familiar "low-budget" cue, whereas Survey 2 anomalies triggered scepticism.

From a media psychology perspective, Hall (2003) and Bilandzic and Busselle (2008) demonstrate that perceived realism underpins immersion and credibility. When

participants in Survey 2 noted *"Immersion was impossible, many visuals were clearly artificial,"* this reflected the breakdown of both realism and trust. Potter (2012) reinforces that realism functions as a key mediator in audience judgments: once the sense of reality is undermined, broader credibility judgments follow.

Finally, debates on AI and media ethics (Floridi & Cowls, 2019; Pavlik, 2020) underscore the importance of transparency and accountability in sustaining credibility. Survey 2 participants explicitly demanded disclosure (*"If told AI is being used"*), aligning with this principle. The expectation of honesty was less salient in Survey 1, where indexical imagery carried credibility without explanation.

Taken together, these theoretical perspectives suggest that trust and credibility in nonfiction are not inherent qualities of images but relational effects, negotiated through visual cues, conventions, and ethical framing. Survey 1 shows the resilience of indexicality in stabilising these negotiations, while Survey 2 reveals their fragility when synthetic elements are suspected.

Hall's (2003) work on audience evaluations of realism helps explain this divergence: viewers rely on familiar cues when deciding whether media texts are credible. In the real film, imperfections matched expectations for authentic documentary practice; in the synthetic film, anomalies like oddly rendered water or an incorrect flag signalled artificiality. Research on heuristic credibility judgments (Metzger et al., 2010) further clarifies how participants drew on these cues as quick indicators of trustworthiness.

The findings also align with Corner's (2002) and Kilborn's (2010) arguments that factual credibility is performed through conventions as much as through truth claims. Survey 1 conformed to these conventions, while Survey 2 unsettled them. The emphasis on disclosure in Survey 2 responses reflects Karlsson's (2010) point that transparency has become a central credibility ritual in contemporary media environments.

Taken together, the surveys demonstrate that credibility is not simply a matter of factual correctness, but a relational judgment negotiated between visual cues, audience expectations, and ethical framing. Where indexicality was assumed, as in Survey 1, credibility held firm; where it was absent or contested, as in Survey 2, trust fractured.

5.2.6 Viewer Awareness and Interpretive Frames

Viewer awareness and interpretive frames describe the ways in which audiences position themselves in relation to nonfiction films. Rather than receiving content passively, viewers bring their own assumptions, expectations, and prior knowledge, which shape how they interpret what they see. In both surveys, participants' awareness extended beyond simple evaluations of the film to broader reflections on the role of documentary, the use of

technology, and their own criteria for trust. The quantitative and qualitative findings across Surveys 1 and 2 demonstrate important contrasts in how viewers framed their experience, particularly around expectations of authenticity, disclosure, and ethical limits.

Survey 1: Real Film

Quantitative findings

Although no single question was explicitly designed to measure interpretive frames in Survey 1, several responses provide insight into how participants positioned themselves as viewers. For instance, questions relating to accuracy (Q15), credibility (Q16), and ethical acceptability (Q21, Q24, Q26–28) implicitly captured whether respondents saw themselves as passive receivers or as active evaluators of truth claims. The data show that in Survey 1, the majority of respondents accepted the film at face value, rarely questioning its accuracy (83% answered "No" in Q15) or its visual credibility (80% answered "No" in Q16). High authenticity ratings (over 80% in Q14) indicate that most participants did not adopt a suspicious interpretive stance.

Qualitative findings

Qualitative comments in Survey 1 reinforce this picture of relatively stable trust and limited interpretive resistance. When concerns were expressed, they tended to focus on technical anomalies rather than larger questions of manipulation: *"Plane engine sound on ground does not reflect real noise level"*; *"Sea scene seemed blurred"*. Such remarks suggest that interpretive frames were largely grounded in expectations of documentary fieldwork: flaws were acknowledged, but they were not seen as evidence of deception.

Some participants revealed a more reflexive awareness of documentary conventions. For example, in response to Q20 about educational value, a few emphasised the limits of short-form nonfiction: *"Needs more information in other areas for education."* Another remarked on narrative framing: *"The way the crime scene element is introduced does not make it seem reliable."* These comments show that while trust was broadly high, a minority applied more critical interpretive frames, considering how style and framing influenced meaning. Survey 1 suggests that the interpretive frame for most participants was relatively straightforward: they assumed the film's indexicality and responded to it as a truthful documentary, with only occasional critical remarks.

Survey 2: Synthetic Film

Quantitative findings

In Survey 2, patterns of viewer awareness and interpretive framing were far more contested. Quantitative results reveal a divided audience. A majority (64.7%) questioned

the accuracy of the material (Q15), and nearly half (47.1%) reported that the visuals or editing undermined credibility (Q16). Disclosure (Q24) played a central role: 64.7% said they would feel more negative if they learned that AI was used, with only 2.9% saying "more positive." These results demonstrate that participants were actively engaging with the possibility that the film had been artificially manipulated and framed their responses accordingly.

Qualitative findings

Qualitative responses deepen this picture of active interpretive positioning. Many participants explicitly reflected on what they expect from a documentary and how the synthetic film failed to meet those expectations. Comments included: *"I expect to see an authentic report from that region – not something computer generated"*, and *"When you are watching a documentary you are willing to watch real scenes"*. Others directly linked their interpretive stance to genre conventions: *"I expect the statements to be based on truth and visually supported by real images"*.

The absence of disclosure heightened this critical awareness. One participant noted: *"The film seems unreal and therefore I question the reliability of the story told"* (Q15). Another wrote: *"If told AI is being used"* (Q26), highlighting how transparency could shape their interpretive frame. These responses show that participants were not only evaluating the synthetic film on its own terms but also reflecting on their own role as viewers and on the conditions under which they would extend trust.

Interestingly, some participants also expressed interpretive flexibility. While sceptical of AI's role in recreating people, they were more open to its use in recreating places, provided disclosure was offered: *"AI can help to illustrate content"* (Q26); *"If it helps to provide context"* (Q26). Others acknowledged their own interpretive uncertainty: *"Details are essential"* (Q25). These comments reveal that viewer awareness was not monolithic; for some, it was negotiable and dependent on context.

Nuances and Patterns

Comparing the two surveys highlights distinct interpretive patterns. In Survey 1, participants largely accepted the real film within the stable interpretive frame of indexical documentary. Imperfections in the footage were explained as natural artefacts of field production and did not disrupt trust. In Survey 2, however, participants adopted a much more critical interpretive stance. Anomalies in the visuals triggered suspicion, disclosure became a key marker of credibility, and expectations of authenticity were explicitly articulated.

The tolerance of flaws provides a useful contrast: in Survey 1, flaws reinforced realism, while in Survey 2, they undermined it. Likewise, disclosure functioned differently across contexts. In Survey 1, it was unnecessary, as trust was already secured by indexical assumptions. In Survey 2, its absence was framed as deception, with disclosure demanded as a condition for trust.

Framing within Documentary and Media Theory

These findings resonate with broader discussions in documentary and media studies. Hall (2003) shows that audiences evaluate realism by drawing on familiar cues. In Survey 1, flaws such as shaky footage matched expectations of real documentary, while in Survey 2 anomalies signalled artificiality. Corner's (2002) and Kilborn's (2010) analyses of factual programming underline that credibility is performed through conventions: Survey 1 conformed to these conventions, while Survey 2 unsettled them.

From a journalism perspective, Karlsson (2010) stresses the importance of transparency as a "credibility ritual," echoed by participants' insistence on disclosure in Survey 2. Similarly, Metzger et al. (2010) emphasise heuristic evaluation: viewers apply quick cues, such as consistency or plausibility, to decide whether to extend trust.

These findings align with Floridi and Cowls' (2019) ethical emphasis on transparency in AI contexts. The fact that Survey 2 participants explicitly called for disclosure illustrates how interpretive frames are now shaped by awareness of emerging technologies and their risks.

Survey 1 and Survey 2 together show that viewer awareness and interpretive frames are critical in shaping how credibility and authenticity are judged. In Survey 1, participants largely accepted the film as an authentic record, tolerating flaws as part of its realism. In Survey 2, participants were more reflexive, questioning accuracy, demanding disclosure, and positioning themselves as active evaluators of trust. These contrasting interpretive frames highlight how audiences negotiate nonfiction media in different contexts, particularly when AI-generated material is involved.

## 5.3 Results by Research Question

This section brings together the findings of Surveys 1 and 2 by directly addressing the six research questions set out in Chapter I. Each question is answered with reference to both the quantitative and qualitative results, highlighting similarities and contrasts between the two groups of participants, one exposed to the real, indexical film and the other to the synthetic, AI-generated version. By structuring the analysis around the research questions, this section provides a systematic overview of how audiences assessed educational value, emotional response, ethical boundaries, realism, trust, and interpretive awareness.

Together, these conclusions synthesise the empirical findings into a coherent account of how documentary reception shifts when indexical imagery is replaced by synthetic visuals.

5.3.1 RQ1: Educational Potential and Perceived Reliability

The first research question asked: *How do participants exposed to the real film assess its educational potential and perceived reliability, and how do these assessments compare with those of participants who viewed the synthetic film?* This question was designed to test the extent to which audiences regard documentary films as trustworthy educational resources, and whether AI-generated visuals alter those judgments.

Survey 1: Real Film

Participants who viewed the real, indexical film expressed strong confidence in its educational potential. Quantitative results from Q20 showed that 88% answered "Yes" when asked if the film could be used as a reliable educational resource. Ratings of informativeness (Q10) also supported this conclusion, with a mean score of approximately 8.4 out of 10. These results suggest that viewers largely perceived the film as both credible and informative.

Qualitative data reinforced these findings. Many participants responded affirmatively without qualification, describing the film as "reliable" or "educational." A few noted limits in scope, however. One participant observed that the film contained *"not many facts"*, while another commented that it *"needs more information in other areas for education."* Others expressed caution about the framing of specific elements, such as the introduction of the crime narrative, which one participant said, *"does not make it seem reliable."* Overall, the qualitative evidence suggests that the film was widely accepted as educational, but that reliability could be undermined when narrative strategies seemed to conflict with factual presentation.

Survey 2: Synthetic Film

In contrast, responses from participants who viewed the synthetic film were more divided. Quantitative findings showed that 55.9% agreed the film could be used as an educational resource, while 44.1% disagreed (Q20). This represents a marked decline compared to Survey 1. Informativeness ratings (Q10) were also lower, with more variability across responses.

Qualitative feedback provides insight into this division. Supporters of the film's educational potential saw value in its ability to present information visually. One participant commented: *"It helps to provide context"*, while another observed: *"AI can help to illustrate content."* However, many others questioned its reliability precisely because of

the synthetic imagery. Typical responses included: *"The film seems unreal and therefore I question the reliability of the story told"* and *"I expect the statements to be based on truth and visually supported by real images."* Several participants made disclosure a condition of educational value, emphasising that synthetic elements would be acceptable only if clearly identified.

Comparative Assessment

The comparison between the two surveys reveals a significant divergence in how participants assessed educational potential and reliability. For viewers of the real film, educational value was taken almost for granted, with only occasional calls for more depth or factual detail. By contrast, participants who viewed the synthetic film were split, with nearly half rejecting its suitability as an educational resource.

The key factor underlying this difference appears to be the role of indexicality. In the real film, visual imperfections such as blur or shaky footage were tolerated as signs of authenticity and did not undermine perceptions of reliability. In the synthetic film, by contrast, visual anomalies, such as mis-rendered flags or overly "perfect" landscapes, were interpreted as indicators of unreality. These anomalies disrupted the assumption that the film could function as a trustworthy source of knowledge.

Taken together, these findings demonstrate that while indexical imagery stabilises educational authority, synthetic visuals introduce scepticism that directly affects perceived reliability. Where the real film was overwhelmingly seen as a reliable educational resource, the synthetic film provoked divided judgments, with many participants insisting on disclosure and transparency as conditions for trust.

5.3.2 RQ2: Emotional Response and Empathy

The second research question asked: *What emotional responses (e.g., empathy, fascination, shock, boredom) do participants report after viewing the real film, and how do these differ from those expressed by participants who viewed the synthetic film?* This question explored how audiences engaged affectively with the films and the broader range of emotions that shaped their reception.

Survey 1: Real Film

Quantitative results show that emotional responses to the real film were generally positive but moderate in intensity. A range of emotions were reported and the empathy scale

produced a broad distribution across the 1–10 range, but with clustering around the lower-middle values, with only four participants assigning the maximum score of 10. This distribution indicates that while some viewers felt strongly empathetic, the overall emotional impact was restrained.

Qualitative responses reinforce this picture of modest but meaningful affect. Several highlighted sequences that evoked curiosity or engagement, such as footage of the Antarctic environment or the research station. A minority expressed limited engagement, with one remarking: *"Got bored watching it."* Overall, the emotional tenor of Survey 1 was one of steady attention, moderate to high fascination, and occasional empathy.


Survey 2: Synthetic Film

In contrast, participants who viewed the synthetic film reported more varied and polarised emotions. The empathy scale shows a shift upward in intensity compared to Survey 1. Very few participants rated at the low end (none at 1 or 2, and only one at 3). Most responses clustered between 6 and 9, with a third of the participants assigning high scores. This distribution suggests that the synthetic film evoked stronger empathy for many viewers than the real film.

At the same time, qualitative feedback reveals a greater range of emotional responses, including discomfort, unease, and confusion. Some participants described specific sequences as unsettling or implausible. The diversity of comments indicates that affective engagement with the synthetic film was more fragile and inconsistent than with the real film, alternating between moments of fascination and moments of suspicion or disengagement.

Comparative Assessment

Comparing the two surveys reveals both similarities and contrasts. In both cases, participants reported fascination with certain sequences and a sense of curiosity about life in Antarctica. However, the overall emotional profile of the real film was steadier and more moderate, with empathy ratings spread across the scale and qualitative comments reflecting mild but positive affect. The synthetic film, by contrast, provoked stronger empathy for some viewers but also more frequent expressions of discomfort, unease, or boredom.

This divergence highlights how visual cues shaped affective reception. In the real film, flaws such as blur or shaky shots were absorbed into the interpretive frame of authenticity and did not prevent emotional engagement. In the synthetic film, anomalies disrupted

immersion and reframed affective responses. For some, this heightened empathy by creating striking or aesthetically pleasing visuals; for others, it diminished empathy by making the images feel less real.

One important difference that may help explain why stronger empathy was reported in the synthetic film concerns the way the deceased was represented. In the real film, only still photographs of him were included, creating a respectful but relatively static portrayal. By contrast, the synthetic version transformed real photographs into moving sequences, such as an eye blinking or a head turning away from the camera. These subtle physical movements may have amplified the sense of presence, drawing viewers closer to the deceased and making the representation feel more immediate. Such animation of indexical material shifts the affective register: while still images invite reflection, moving depictions foster a stronger sense of relational closeness, which may account for the higher empathy ratings in Survey 2.

Taken together, the findings show that emotional response and empathy were more stable in the real film group and more volatile in the synthetic film group. While both films generated engagement, the synthetic version produced sharper contrasts between fascination and detachment, reflecting the fragility of affective immersion when indexical cues are absent.

### 5.3.3 RQ3: Perception of Ethical Boundaries

The third research question asked: *Where do participants in each group draw ethical boundaries regarding the use of AI in nonfiction, particularly in relation to recreating places versus representing deceased individuals?* This question explored how participants negotiated the moral terrain of new technologies in factual storytelling.

Survey 1: Real Film

Participants who viewed the real, indexical film reported minimal ethical concerns. Quantitative results reinforce this picture. When asked if they questioned the accuracy of what was shown, 83% answered "No." Similarly, 80% said that nothing in the visuals or editing made them doubt the film's credibility. Ethical unease was almost absent, where believability ratings were consistently high.

When presented with more general questions about AI, however, boundaries became clearer. In Q26, more than 70% of participants said it was ethically acceptable to use AI to bring places to life. Yet this acceptance weakened when the deceased were involved. In Q27, most participants said that digitally recreating the deceased would make storytelling only "slightly" or "very little" better, and 20% said it would not improve it at all. Finally, in

Q28, responses were split: 55% said "No" to the ethical acceptability of recreating the deceased, while 45% said "Yes."

Qualitative feedback supports these results. Most respondents insisted there was "nothing odd" or answered "No" when asked about accuracy. When concerns were raised, they focused on technical details. Ethical issues were rarely mentioned, and when they did appear, they referred to narrative framing.

Survey 2: Synthetic Film

For participants who viewed the synthetic film, ethical boundaries were more actively contested. Quantitative data shows that 64.7% answered "Yes" when asked if they questioned accuracy, and 47.1% said the visuals or editing made them doubt credibility. Disclosure proved crucial: in Q24, 64.7% reported they would feel "more negative" if they learned AI had been used, compared to only 2.9% who would feel "more positive."

When asked about specific applications, participants drew sharp distinctions. In Q26, 57.6% accepted the ethical use of AI for recreating places, while 42.4% rejected it. But in Q28, 65.6% said "No" to recreating the deceased, with only 34.4% answering "Yes." These results suggest that while AI use for environmental representation was tolerated by many, resurrecting individuals was viewed as a clear ethical breach.

Qualitative responses underscore these quantitative findings. Many linked AI directly to deception, writing: *"The film seems unreal and therefore I question the reliability of the story told"*. Strong opposition to recreating deceased individuals was expressed with terms like *"Disrespectful"* and *"No, not without the deceased's consent."*

Comparative Assessment

Across both groups, recreating places was judged more acceptable than recreating the deceased, but the real/synthetic distinction shaped the intensity of ethical concern. Survey 1 participants, who watched the real film, showed little immediate ethical discomfort and only articulated boundaries when asked hypothetically. Survey 2 participants, who viewed the synthetic film, expressed more immediate suspicion and were more emphatic in rejecting the digital resurrection of deceased individuals.

Together, the findings reveal a clear hierarchy of ethical acceptability: places could be digitally recreated under certain conditions, but representing deceased individuals was seen as crossing a moral line, particularly when the film already appeared artificial.

5.3.4 RQ4: Realism and Visual Impact

The fourth research question asked: *How do participants in each group evaluate visual quality, anomalies, and stylistic choices in the film they viewed, and how do these evaluations shape perceptions of realism across the two groups?* This question examined how audiences responded to both technical and aesthetic elements of the films, and how these responses informed judgments about realism.

Survey 1: Real Film

Quantitative results indicate that participants generally rated the real film's visuals as credible and of acceptable quality. Ratings clustered toward the higher end of the scale, with most describing the imagery as high or very high in quality. Q12 (Visual Credibility) produced similar outcomes, with the majority of responses between 8 and 10, and a mode of 8. In Q16, 80% reported that nothing in the visuals or editing made them doubt credibility. These findings suggest that while the footage was modest in its cinematic polish, it was widely trusted as realistic.

Qualitative comments reinforce this impression. Most respondents explicitly stated there was *"nothing odd"*, and many accepted technical imperfections as expected in documentary filmmaking. Where criticisms appeared, they focused on minor technical anomalies. Some viewers noted these flaws disrupted immersion, but others reported being absorbed despite them. Technical issues were framed as limitations of production rather than signs of manipulation, allowing the real film to maintain its perceived realism.

Survey 2: Synthetic Film

In Survey 2, evaluations of realism and visual impact were far more contested. Quantitative data show a more even distribution of ratings. For Q11 (Visual Quality), responses were spread across the scale, with some scoring the imagery highly, around half placing it in the middle, and others rating it very low. Q12 (Visual Credibility) reflected this division: 41% gave high ratings (8–10), 47% rated in the middle band (4–7), and 12% gave low scores (1–3). Q18 (Immersion) further highlighted the split: while 67.7% reported feeling immersed, one-third said "No," suggesting that immersion was more fragile than in Survey 1.

Qualitative responses provide insight into this divergence. Many participants detected or suspected artificiality. Several pointed to sequences that looked digitally generated, such as the auroras or Australian flag. The opening clip with the penguin jumping into the sea attracted particular scrutiny, with many calling it unrealistic or unnatural. Yet some viewers expressed enjoyment, with one remarking: *"I like the penguins."*

This penguin sequence was unique: unlike other synthetic clips, which were generated from real Antarctic photographs, it was created solely from a text prompt. Its prominence

in participant responses suggests that entirely generated visuals, without an indexical anchor, were more likely to trigger scepticism.

Comparative Assessment

The comparative findings reveal a striking difference between the two surveys. For participants in Survey 1, flaws such as blur, low resolution, or shaky shots were interpreted as hallmarks of realism rather than indicators of manipulation. These flaws were tolerated because they aligned with expectations of documentary fieldwork. For participants in Survey 2, however, anomalies were more often read as evidence of unreality. The same kinds of visual imperfections that supported realism in the real film undermined it in the synthetic version.

In both surveys, certain sequences drew attention: in Survey 1, blurred or shaky footage; in Survey 2, digitally generated or overly perfect images. Yet the interpretive frame shifted: in the real film, flaws anchored realism; in the synthetic film, they destabilised it. These findings demonstrate how realism in nonfiction depends not only on visual quality but also on audience expectations of indexicality.

5.3.5 RQ5: Trust and Credibility

The fifth research question asked: *How do participants who viewed the real film judge its trustworthiness and credibility, and how do these judgments compare to those of participants who viewed the synthetic film, particularly when disclosure of AI involvement is considered?*


Survey 1: Real Film

Participants who watched the real film expressed consistently high levels of trust and credibility. Quantitative results show this clearly. In Q12 (Visual Credibility), most responses clustered between 8 and 10, with a mode of 8 and over one-third awarding the maximum score. In Q14 (Overall Authenticity), more than 80% rated the film in the top range of 8–10, indicating strong confidence in its truthfulness. Responses to Q15 (Accuracy Questioned) further underline this trend, with 83% answering "No" when asked if they doubted the accuracy of what was shown. Similarly, in Q16 (Visual/Editing Credibility), 80% said that nothing in the editing or visuals caused them to question the film's reliability. Believability ratings (Q21) were also high, with most participants scoring above 7.

Qualitative responses reinforce these patterns. Many wrote simply "No" when asked if they questioned accuracy or credibility. When issues were mentioned, they were framed in

technical rather than ethical terms. Such remarks highlight how participants continued to regard the film as credible despite noticing imperfections. Overall, Survey 1 participants trusted the real film, grounding their confidence in the assumption that its images were indexical and therefore authentic.

Survey 2: Synthetic Film

In Survey 2, where participants viewed the synthetic film, trust was far more fragile. The quantitative data reflects this division. In Q12 (Visual Credibility), 41% rated the film highly (8–10), 47% gave mid-range scores (4–7), and 12% assigned very low scores (1–3). Ratings of overall authenticity (Q14) were lower than in Survey 1, with only about half in the highest band compared to more than 80% previously. In Q15 (Accuracy Questioned), 64.7% answered "Yes," indicating that most doubted factual reliability. In Q16 (Visual/Editing Credibility), 47.1% reported that aspects of the visuals or editing made them question the film. Finally, disclosure was a decisive factor: in Q24, 64.7% said they would feel "more negative" if they discovered AI had been used, compared to only 2.9% who would feel "more positive."

Qualitative responses show how these doubts were articulated. Some participants explicitly equated synthetic imagery with deception. The comments demonstrate how disclosure (or its absence) became a central credibility frame. AI involvement was acceptable to a small number only if viewers were informed.

Comparative Assessment

The comparison between the two surveys reveals a fundamental divergence. In Survey 1, trust and credibility were stabilised by assumptions of indexicality. Participants interpreted imperfections as natural artefacts of field production and did not see them as undermining authenticity. In Survey 2, by contrast, credibility was fractured. Many participants read anomalies as evidence of unreality, and the absence of disclosure heightened this sense of deception. Taken together, the findings highlight a key asymmetry: disclosure was largely irrelevant to viewers of the real film, but decisive for viewers of the synthetic one. Trust was assumed in the former and contested in the latter.

5.3.6 RQ6: Viewer Awareness and Interpretive Frames

The sixth research question asked: *In what ways do participants position themselves as interpreters of the film they viewed, and how do interpretive frames differ between those exposed to indexical imagery and those exposed to synthetic visuals?* This question examined not only how participants assessed the films but also how they reflected on their own role as viewers in interpreting them.

Survey 1: Real Film

For participants in Survey 1, awareness of interpretive positioning was relatively muted. Quantitative results already indicated a strong baseline of trust: 83% reported not questioning accuracy (Q15), and 80% said nothing in the editing or visuals undermined credibility (Q16). These responses suggest that many participants did not feel compelled to scrutinise their interpretive stance.

Qualitative comments support this impression. Many wrote simply *"Nothing odd"* or *"No"* when prompted to describe anomalies, while others highlighted technical imperfections without treating them as evidence of manipulation. A few noted narrative choices, such as: *"The way the crime scene element is introduced does not make it seem reliable,"* showing that interpretive awareness surfaced mainly in relation to story structure rather than visual authenticity. Overall, viewers of the real film positioned themselves as relatively passive interpreters.

Survey 2: Synthetic Film

Participants in Survey 2 demonstrated much greater reflexivity in their interpretive frames. Quantitatively, trust indicators were lower: 64.7% reported questioning accuracy (Q15), and nearly half (47.1%) identified issues in the editing or visuals (Q16). Disclosure also emerged as a central interpretive concern, with 64.7% stating they would feel "more negative" if told AI had been used (Q24). These results suggest a heightened awareness of mediation and the conditions under which images could or could not be trusted.

Qualitative feedback makes this heightened awareness explicit. Many respondents invoked expectations about documentary as a genre: *"I expect to see an authentic report from that region – not something computer generated"*. Such remarks reveal that participants not only judged the film's content but also reflected on their interpretive role as viewers holding normative assumptions about nonfiction. Others stressed the importance of transparency highlighting disclosure as a condition for interpretive trust.

A particularly striking aspect of Survey 2 responses was the degree to which participants problematised their own act of viewing. Some admitted confusion or scepticism: *"The film seems unreal and therefore I question the reliability of the story told."* This indicates a more active interpretive stance, in which anomalies triggered self-reflection about what kind of film was being watched and what truth claims it could legitimately make.

Comparative Assessment

The comparison shows a sharp contrast between the two groups. Participants in Survey 1 tended to adopt a stable interpretive frame anchored in assumptions of indexicality, rarely

questioning the authenticity of what they saw. Those in Survey 2, by contrast, engaged more reflexively, situating themselves as evaluators of the film's truth claims and explicitly invoking expectations about the documentary contract.

In short, the real film encouraged interpretive trust and relative passivity, while the synthetic film prompted more critical and self-conscious viewing. This contrast highlights how audience awareness of their own interpretive position shifts when indexical cues are absent and when AI-generated imagery is suspected.

Closing Synthesis

The six research questions reveal a consistent pattern across the surveys. Participants who viewed the real film expressed high levels of trust, relatively stable emotions, and broad acceptance of the film as an educational resource, with only occasional criticism of technical or narrative choices. Ethical concerns were minimal, and interpretive frames tended to assume authenticity unless strongly challenged.

By contrast, participants who viewed the synthetic film responded in more divided and reflexive ways. Empathy was sometimes stronger, but it was accompanied by more frequent expressions of unease or scepticism. Ethical boundaries were sharply drawn, particularly around the representation of deceased individuals. Visual anomalies were not tolerated as production artefacts but interpreted as signs of unreality. Trust was fractured, and disclosure emerged as a central condition for credibility. Participants positioned themselves more actively as evaluators of the film, explicitly invoking expectations about documentary truth.

Together, the answers to RQ1–RQ6 show that while both films engaged viewers, their reception was shaped by fundamentally different interpretive frames. Indexical imagery stabilised perceptions of credibility and authenticity, while synthetic imagery unsettled them, prompting more critical reflection but also generating fragility in trust and immersion. These contrasting responses set the stage for the next sections of the chapter, which consider the broader implications of these findings for documentary practice, journalism, and media ethics.

## 5.4 Summary of Key Findings and Theoretical Contributions

This thesis explored how audiences respond to nonfiction films created either with traditional indexical footage or synthetic AI-generated visuals. By comparing responses to two short films the study investigated how viewers evaluate trust, empathy, ethics, and realism in an era where the indexical anchor of photographic evidence is no longer guaranteed.

Three overarching findings emerged:

1. Indexical Anchors Remain Central to Trust
2. Empathy and Trust Pull in Opposite Directions
3. Ethical Boundaries Are Firm Around People, Flexible Around Places

Each of these findings has theoretical implications, contributing to debates on indexicality, the documentary contract, affective engagement, media ethics, and media literacy.

Indexical Anchors Remain Central to Trust

The first finding is that audiences continue to depend on indexical anchors as the basis for credibility. In Survey 1, where participants viewed the real film, technical imperfections such as blur, shaky footage, or uneven audio were tolerated and often interpreted as signs of authentic, on-location capture. In fact, such "documentary noise" (Bruzzi, 2006) reinforced rather than weakened trust, situating the film within the familiar conventions of nonfiction practice.

In Survey 2, however, when participants viewed the synthetic film, anomalies were judged entirely differently. Odd reflections, overly smooth surfaces, hyper-clear icebergs, and even the misrepresentation of the Australian flag were treated not as artefacts of difficult filming conditions but as evidence of unreality. Here, the absence of an indexical anchor meant that flaws were not stabilising but destabilising.

The originality of this finding lies in showing how the same kinds of imperfections are interpreted in opposite ways depending on whether audiences believe an indexical trace is present. This extends long-standing theories of indexicality (Barthes, 1981; Doane, 2007) and the "documentary contract" (Nichols, 2017), demonstrating that in the age of AI, technical flaws are no longer neutral but act as diagnostic cues. They anchor authenticity only when audiences assume a photographic base; without that, they are reclassified as signs of fakery.

Empathy and Trust Pull in Opposite Directions

The second key finding reveals a paradox at the heart of audience engagement with synthetic nonfiction: empathy and trust do not rise together but instead pull in opposite directions.

Survey 2 produced stronger reports of empathy than Survey 1. Although participants were not able to make direct comparisons between the two films, having viewed only one version, the empathy ratings nevertheless suggest that the animated movement of the deceased individual in the synthetic film had a measurable emotional impact. While

viewers did not explicitly articulate feeling closer to the deceased, the higher empathy scores associated with the synthetic version indicate that features such as blinking or subtle head movement likely contributed to increased emotional engagement. Such sequences created an impression of presence and vitality that still photographs could not convey. This emotional intensity was unique to the synthetic film and points to AI's capacity to generate a more affective form of immersion.

| Q 17 | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Real film | Empathy | 13.89% | 11.11% | 5.56% | 16.67% | 16.67% | 5.56% | 5.56% | 11.11% | 2.78% | 11.11% |
| | | 5 | 4 | 2 | 6 | 6 | 2 | 2 | 4 | 1 | 4 |
| Synthetic film | Empathy | 0.00% | 0.00% | 3.70% | 18.52% | 7.41% | 22.22% | 14.81% | 14.81% | 11.11% | 7.41% |
| | | 0 | 0 | 1 | 5 | 2 | 6 | 4 | 4 | 3 | 2 |
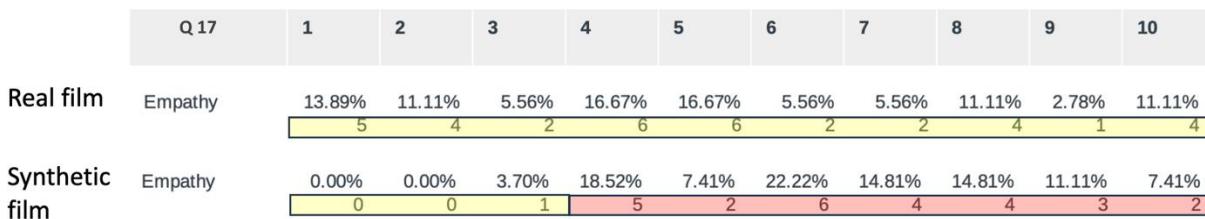
Figure 5.4

Yet, the very sequences that heightened empathy simultaneously triggered unease. Movement of the deceased was widely described as disturbing, disrespectful, or untrustworthy. What brought viewers emotionally closer also made them ethically uncomfortable. This is the "empathy–ethics paradox" revealed by the study: AI-generated movement intensified emotional engagement but fractured credibility at the same time.

This finding contributes to affect theory in nonfiction (Plantinga, 2005; Nash, 2014) by demonstrating that empathy is not always aligned with trust. It shows how AI complicates the assumed relationship between affective involvement and epistemic confidence. The novelty here lies in identifying this dissonance empirically, through a design that compared indexical and synthetic films of the same subject.

Ethical Boundaries Are Firm Around People, Flexible Around Places

The third major finding is that audiences draw ethical lines unevenly depending on the object of AI's application. Across both surveys, participants expressed relatively high acceptance of using AI to recreate places, provided that accuracy and disclosure were maintained. In Survey 1, more than 70% of respondents judged this acceptable, and in Survey 2, 57.6% did so.

The situation changed dramatically when questions turned to the recreation of deceased individuals. In Survey 1, 55% rejected such practices; in Survey 2, opposition rose to 65.6%. Participants described the prospect as "disrespectful," "fake," "horrible," and unacceptable without consent. Even those who allowed conditional acceptance did so cautiously, stressing permissions from relatives or the need for explicit disclaimers.

The contribution here is twofold. First, the study demonstrates that ethical acceptability is not generalisable across domains: it diverges sharply between environments and human subjects. Second, it grounds abstract ethical debates (Floridi and Cowls, 2019; Pavlik, 2020) in empirical audience perspectives, showing how lay viewers operationalise concepts such as respect, consent, and deception when evaluating AI-mediated realism.

Theoretical Contributions

Together, these three findings contribute to several strands of theoretical debate.

First, the study advances theories of indexicality and the documentary contract. It demonstrates that the interpretive weight placed on technical imperfections shifts depending on whether an indexical anchor is assumed. What once stabilised trust can now destabilise it, depending on context. This reframes indexicality not as a binary presence or absence but as an interpretive horizon against which audiences judge authenticity.

Second, the research contributes to scholarship on audience trust in the age of synthetic media. It confirms Winston's (2000) argument that documentary trust is provisional, but updates it for the AI era by showing how audiences recalibrate trust in response to perceived anomalies and to disclosure practices. Trust is no longer a default but must be actively maintained.

Third, the findings enrich debates on the ethics of representation and AI-mediated realism. By empirically distinguishing between acceptance of place-based reconstructions and rejection of human likenesses, the study provides the nuance that current theoretical work often lacks. Ethical acceptability is domain-specific, and this insight should inform professional guidelines.

Finally, the study contributes to discussions of media literacy and interpretive flexibility. Audience members did not passively consume the films but actively applied cultural heuristics to assess authenticity. As Livingstone (2004) notes, media literacy involves critical sense-making; here, viewers mobilised their awareness of digital culture to interpret cues of realism and unreality. This aligns with Nash's (2014) observation that nonfiction immersion is fragile and easily disrupted, especially when anomalies clash with expectations of indexical capture.

In conclusion, this thesis makes three original contributions. It demonstrates, first, that indexical anchors remain central to audience trust, even in a media environment saturated with synthetic imagery. Second, it reveals that empathy and trust do not necessarily coincide, identifying an empathy–ethics paradox where AI-driven emotional closeness undermines credibility. Third, it shows that ethical boundaries are firm around people but flexible around places, highlighting the domain-specific nature of ethical acceptability.

These contributions extend existing theory on indexicality, audience trust, and documentary ethics while also engaging with contemporary debates on AI, realism, and media literacy. In doing so, the study offers new insights into how nonfiction audiences navigate authenticity in an era when the visual anchor of the photograph can no longer be taken for granted.

The next chapter turns from findings to implications, considering what these results mean for documentary filmmakers, journalists, educators, and media professionals in a future where AI will increasingly shape nonfiction practice.

## 5.5. Implications for Journalism and Visual Media

Within the broader implications for journalism and visual media, distinct considerations arise for different professional domains. For documentary filmmakers, the findings underscore the particular challenges of maintaining transparency, making decisions about disclosure, and framing ethical responsibilities when incorporating AI-generated material. The following subsection explores these implications in detail.

### 5.5.1 Implications for Documentary Filmmakers: Transparency, Disclosure, and Ethical Framing

The findings from this study underline the need for documentary filmmakers to carefully consider how transparency and disclosure shape audience trust when working with synthetic media. Participants in Survey 1, who viewed the real film, did not demand disclosure because they assumed authenticity; minor flaws were read as evidence of fieldwork. By contrast, participants in Survey 2 interpreted anomalies as signals of unreality, and disclosure became a central condition for credibility. Almost two-thirds of respondents said they would feel more negative if they discovered AI had been used. This asymmetry suggests that disclosure functions differently depending on context: it is unnecessary when indexicality is assumed, but crucial when images are suspected of being generated.

For filmmakers, this means that transparency is not only an ethical requirement but also a pragmatic strategy to preserve trust. Aufderheide (2007) has long argued that documentary ethics centre on a "relationship of trust" between filmmaker and audience. In the age of AI, that relationship risks erosion unless disclosure is built into the text itself. Scholars such as Plaisance and Deppa (2009) emphasise that disclosure must go beyond technical notes and be woven into the narrative frame, for instance through captions, voiceover, or reflexive commentary. This aligns with calls in visual media studies for "reflexive

documentary practice" (Nichols, 2017), in which the conditions of representation are made visible to the viewer.

Ethical framing is equally important. Corner (2002) argues that documentaries are persuasive not only through images but also through the ethical positioning of their subjects. In Survey 2, opposition to AI-generated depictions of deceased individuals often invoked moral concepts such as respect, consent, and dignity. Comments such as *"Disrespectful"* or *"No, not without the deceased's consent"* reveal that audiences evaluate ethical acceptability not only in terms of factual truth but also relational obligations to subjects. Filmmakers must therefore ensure that any use of AI respects ethical principles of consent, especially when dealing with deceased individuals.

At the same time, innovation is not necessarily incompatible with trust. Some participants acknowledged that AI could be valuable for recreating environments if disclosure was maintained. This opens up possibilities for "augmented documentary" (Bruzzi, 2006), in which AI-generated visuals supplement rather than replace indexical footage. The challenge for filmmakers will be to integrate these tools in ways that preserve transparency and foreground ethical framing, rather than obscure it.

In short, the implication for documentary filmmakers is that AI tools must be deployed within a framework of disclosure and ethical accountability. Failure to do so risks undermining audience trust and damaging the genre's epistemic authority.

5.5.2 Implications for Journalism: Audience Scepticism, Credibility, and Trust

The findings also carry significant implications for journalism, particularly as news organisations experiment with AI tools for content production. Journalism has long been grounded in credibility and public trust (Kovach and Rosenstiel, 2014). However, Survey 2 results demonstrate how fragile trust becomes when audiences encounter synthetic visuals. Nearly two-thirds of participants said they would feel more negative if AI use were revealed, and many explicitly framed synthetic media as deceptive. Such scepticism reflects wider concerns documented by Tandoc et al. (2020), who note that misinformation and "deepfake" technologies have already strained the credibility of news. These concerns are reinforced by recent large-scale audience research. Simon et al. (2025) report that public trust in news is highly sensitive to the use of generative AI, with respondents emphasising the importance of disclosure, editorial accountability, and clear separation between AI-generated material and recorded evidence. The present study's findings, particularly the sharp decline in trust when potential AI use is revealed, closely mirror

these broader public attitudes, grounding abstract policy debates in concrete audience experience.

Audience scepticism is not inherently damaging; indeed, it can encourage critical media literacy. But when scepticism becomes synonymous with distrust, journalism's authority is compromised. Metzger and Flanagin (2013) argue that credibility judgments are based on heuristics such as visual authenticity and perceived expertise. In Survey 1, these heuristics stabilised trust in the real film; in Survey 2, the absence of indexical cues destabilised them. For journalists, the implication is clear: audiences may withhold trust when visual evidence does not align with their expectations of realism.

The challenge is heightened by the fact that journalism, unlike documentary, often operates under tight deadlines. Hermida (2015) stresses that digital news already faces pressures to deliver immediacy at the expense of verification. Integrating AI-generated visuals risks intensifying these pressures, as synthetic material can be produced quickly but may not withstand scrutiny. If audiences detect anomalies, as they did in Survey 2, credibility may collapse.

Newsrooms will therefore need to adopt new verification and disclosure strategies. Ward (2019) suggests that "transparent journalism", by openly communicating how information is produced, is essential for maintaining trust in the digital era. Applied to AI, this would mean flagging any use of synthetic visuals at the point of publication, explaining why they were used, and ensuring they are distinguishable from indexical images. Without such measures, audiences may interpret anomalies as deception and disengage from news altogether.

In sum, the findings highlight the vulnerability of journalistic credibility in the age of AI. Trust remains possible, but it requires active management through verification, disclosure, and transparency.

### 5.5.3 Inference Journalism: A Proposed Professional Genre

The findings of this study point toward the necessity of developing new professional categories for nonfiction media in order to stabilise audience expectations in the age of AI. One of the clearest insights is that audiences interpret visual flaws differently depending on whether they appear in indexical or synthetic material. In Survey 1, blur, shaky footage, or dull visuals were treated as artefacts of real-world capture, stabilising trust through what Corner (1996) called "documentary noise." By contrast, in Survey 2, anomalies such as incorrect flags, hyper-clear icebergs, or unusual water reflections were read as signs of

unreality. In both cases, participants were applying the *documentary contract* (Nichols, 2017). When that contract was violated, credibility collapsed.

To address this tension, this thesis proposes *Inference Journalism* as a new professional genre term. Inference Journalism refers to the practice of transparently using inference techniques, including machine learning and generative AI, to reconstruct places, events, humans, or data from an anchoring element when direct indexical capture is limited or incomplete. The key principle is transparency: such material would be presented openly as an inferred reconstruction rather than as a direct record.

Crucially, Inference Journalism builds on the concept of *Augmented Indexicality* developed earlier in this thesis. Augmented Indexicality describes how AI/ML models extrapolate from an existing indexical anchor, such as a photograph, audio recording, or dataset, to generate material that extends the evidentiary trace without replacing it. Unlike fabricated content, which severs ties to reality, augmented indexical inference maintains continuity with the real while acknowledging the mediating role of generative processes. For example, in Survey 2 most generated clips began from an authentic Antarctic photograph, with machine learning models extending or animating what the frame could not fully show. This is precisely the logic of Augmented Indexicality: the anchor grounds credibility, while AI inference supplies continuity and visualisation.

This framing situates AI inference within a longer tradition of journalistic reconstruction. Courtroom sketches, police composites, or docudrama re-enactments also build on partial anchors: an eyewitness account, a memory, or a photograph. Their acceptance relies on disclosure and framing: audiences know they are approximations rather than direct records (Paget, 2009; Winston, 2000). Inference Journalism extends this logic, using AI tools to "fill in the gaps" left by incomplete documentation. In this sense, Inference Journalism does not abandon the concerns of classical film theory but extends them. Where Bazin and Barthes located realism in the photograph's physical trace, contemporary media theory locates it within socio-technical systems of computation, data, and inference (Chun, 2016; Manovich, 2020; Couldry & Mejias, 2019). Inference Journalism thus updates the documentary contract for a post-photographic, algorithmic media environment.

The stabilising function of this genre is clear in light of the survey data. When participants were not told that AI had been used, anomalies provoked suspicion: 64.7% of Survey 2 respondents said they would feel "more negative" if they discovered AI involvement, largely because they perceived its absence as deception. By contrast, when asked in general about AI applied to places, more than half (57.6%) considered it ethically

acceptable, often framing it as contextual illustration. This suggests that audiences are open to generative reconstruction if it is disclosed and anchored.

Inference Journalism, therefore, offers a professional and conceptual framework for this practice. It reassures audiences that while they are not seeing a raw indexical record, the reconstruction is still grounded in real anchors and is transparently presented as such. This reframing could help preserve the authority of nonfiction while enabling innovation. Journalists and filmmakers could, for example, recreate inaccessible environments or visualise historical moments without undermining trust, provided they label these sequences as "inferred."

Inference Journalism both extends and protects nonfiction practice. It situates AI-generated content within the tradition of reconstructive journalism, but makes explicit what is inferred and from what anchor. By distinguishing between indexical record and inferred reconstruction, the genre stabilises expectations: audiences know what they are seeing and on what grounds they are invited to believe it.

The proposal of Inference Journalism also supports recent calls for greater AI literacy in journalism. Beckett and Deuze (2022) argue that AI literacy involves not only understanding how AI works, but recognising when it is used, when it should be avoided, and how its implications can be communicated transparently. In this context, Inference Journalism functions as a genre-level aid to AI literacy, providing both journalists and audiences with a clear interpretive category for AI-based reconstruction grounded in indexical evidence. By making inference explicit rather than implicit, the genre helps render AI use more visible, discussable, and ethically accountable without assuming widespread industry adoption.

It is important to note that this thesis does not assume, nor does it require, widespread industry adoption of Inference Journalism as a standard model of production. The proposal of Inference Journalism is not a prescription for routine practice, nor a claim that news organisations or documentary producers will, in general, adopt such an ethically informed approach. Rather, the genre is offered as a conceptual and professional category whose primary function is to create clarity for both audiences and producers when AI-based reconstruction is used. Its value lies less in transforming industry behaviour wholesale than in stabilising interpretation in specific cases where inference is occurring. By naming and framing such practices, Inference Journalism seeks to reduce the risk of misinterpretation, ethical confusion, and unintended deception, even in contexts where commercial, political, or institutional pressures may limit ethical idealism.

5.5.4 Implications for Educational Use: Balancing Innovation with Epistemic Reliability

Both surveys reveal that participants regard educational use as a key benchmark of a film's value, but that AI complicates this assessment. In Survey 1, 88% agreed the real film could serve as a reliable educational resource, while in Survey 2 only 55.9% did so, with the remainder rejecting it. Qualitative comments reinforce this divide. While viewers of the real film described it as "reliable" and "educational," those who saw the synthetic version frequently questioned its reliability, with remarks such as *"The film seems unreal and therefore I question the reliability of the story told."*

For educators, this poses a dilemma. On the one hand, AI-generated visuals may offer pedagogical benefits by illustrating concepts or recreating inaccessible environments. On the other, if students perceive these images as unreliable, the film's epistemic authority is weakened. Buckingham (2003) argues that educational media must balance engagement with accuracy, while Hobbs (2010) stresses the importance of teaching students to critically evaluate media messages. The Survey 2 findings suggest that without disclosure, AI-generated documentaries risk undermining this balance. The implication is that educators should treat AI-enhanced films as tools for critical discussion rather than unquestioned sources of knowledge. For example, showing both indexical and synthetic versions of a sequence could spark classroom debate about authenticity, realism, and ethics. Such practices align with Buckingham's (2007) call for "media literacy education" that equips learners to navigate complex media environments.

Furthermore, educational institutions will need to establish standards for acceptable use of AI-generated visuals. As Metzger et al. (2010) note, credibility assessments are shaped by institutional trust as much as by content. If schools and universities endorse AI-enhanced films without transparency, they risk eroding their own epistemic authority. Conversely, framing such films as case studies in media literacy could turn a potential liability into a learning opportunity.

In short, the implication for educational use is that AI-generated documentaries can be valuable, but only if their limitations are made explicit and if they are framed as objects of critical inquiry rather than straightforward educational resources.

5.5.5 Professional Practices: Ethical Guidelines for AI Use in News and Documentary Contexts

Finally, the findings point to an urgent need for professional guidelines governing the use of AI in nonfiction contexts. Existing documentary codes of ethics (e.g., the Documentary Filmmakers' Statement of Best Practices, Aufderheide et al., 2009) emphasise principles such as honesty, accountability, and respect for subjects. Journalism ethics frameworks

(Ward, 2019; Kovach and Rosenstiel, 2014) similarly stress transparency and truth-telling. However, these codes were not designed with AI-generated media in mind.

Survey 2 responses illustrate the risks of this gap. Many participants equated AI use with deception, while others demanded clear disclosure. The strong rejection of recreating deceased individuals points to a widely held ethical boundary grounded in respect and consent. These findings resonate with Floridi and Cowls (2019), who call for AI ethics to prioritise transparency, accountability, and human dignity.

Professional practices will need to evolve in several directions. First, guidelines should require disclosure whenever synthetic visuals are used, specifying both the extent of AI involvement and the source material. Second, standards should distinguish between acceptable and unacceptable uses: recreating places may be permissible if accuracy is preserved, but recreating individuals without consent should be avoided. Third, training for journalists and filmmakers should include ethical literacy in AI, ensuring that practitioners understand both the technical capabilities and the ethical stakes of the tools they use.

Industry bodies are beginning to respond. The European Broadcasting Union (2023), for example, has proposed principles for responsible AI in journalism, stressing transparency and audience trust. However, much work remains to be done to embed these guidelines into everyday practice. As Tandoc and Maitra (2018) argue, ethical codes are effective only if they are internalised by practitioners and enforced by institutions.

In conclusion, the findings of this study underline the necessity of updating professional practices to meet the challenges posed by AI. Without clear ethical guidelines, filmmakers and journalists risk eroding the trust that underpins their work. With them, AI tools can be integrated responsibly, balancing innovation with accountability.

## 5.6 Methodological Reflections

Methodological reflection is an important part of any research project, particularly when the subject matter concerns emergent media forms where established protocols are still in flux. This thesis examined audience responses to nonfiction films produced with either traditional indexical footage or synthetic AI-generated visuals, employing a mixed-methods design that combined quantitative survey data with qualitative coding of open-text responses. In addition to standard research tools such as Excel for data management and NVivo for thematic coding, the study also integrated SurveyMonkey as a delivery platform and ChatGPT 5.0 as an analytic aid. This section reflects on the strengths and challenges

of this methodological approach and considers its wider implications for studying emerging media technologies.

The Mixed-Methods Approach

The choice to adopt a mixed-methods design was deliberate. Quantitative survey questions provided structured measures of engagement, immersion, credibility, empathy, and ethical acceptability, allowing for direct comparison between the two audience groups. At the same time, qualitative open-text questions invited participants to articulate their reasoning, perceptions, and feelings in their own words. This combination was essential given the exploratory nature of the study.

The mixed-methods strategy generated several advantages. Quantitative results revealed broad patterns: for example, 83% of Survey 1 participants reported no doubts about accuracy, compared to 64.7% in Survey 2. Qualitative data then illuminated how participants interpreted flaws, with some treating blur as evidence of authenticity and others viewing odd lighting as evidence of unreality. Without qualitative detail, the empathy–ethics paradox could not have been identified; without quantitative measures, the scale of differences between the two surveys would have been unclear.

However, the mixed-methods approach also introduced challenges. Integrating findings from numerical ratings with nuanced textual comments required constant cross-checking and interpretive caution. At times, qualitative remarks appeared to contradict scaled answers, highlighting the complexity of audience response and the difficulty of collapsing multifaceted reactions into single measures. This was particularly evident in responses about empathy, where some participants rated their emotional intensity highly but simultaneously described feelings of unease. Such contradictions are not methodological failures but inherent features of affective engagement with media.

Use of Digital Tools

NVivo

NVivo proved invaluable for organising and analysing the large body of qualitative responses. By applying a structured codebook, it was possible to systematise participant comments under thematic headings such as *Realism and Visual Impact*, *Trust and Credibility*, and *Perception of Ethical Boundaries*. NVivo's ability to manage overlapping

codes and to visualise data facilitated a more reflexive reading of the material. The software's flexibility was particularly important when coding subtle emotional reactions, such as distinguishing between fascination and unease, or when identifying recurring references to specific visual anomalies (e.g., penguin sequences, aurora borealis).

At the same time, the coding process highlighted the interpretive responsibility borne by the researcher. While NVivo structures data, it does not resolve ambiguities. Coding emotions remained challenging because participants' phrasing was often indirect, ironic, or minimal. Decisions about whether to categorise a comment as "empathy" or "curiosity," or as "ethical discomfort" rather than "aesthetic critique," were interpretive choices requiring reflexivity.

Excel

Excel functioned primarily as a tool for managing quantitative survey outputs. Mean values, modes, and distributions were calculated for each scaled question, and cross-tabulations were created to identify trends. While Excel lacks the sophistication of specialist statistical packages, its accessibility made it well suited to this project, where the focus was on identifying broad patterns rather than conducting complex inferential tests. The ability to move seamlessly between numerical outputs and qualitative notes within Excel also supported integration across data types.

SurveyMonkey

SurveyMonkey was chosen as the platform for participant recruitment and data collection. Its interface allowed for the integration of quantitative and qualitative items within a single flow, minimising drop-off and ensuring consistency across the two surveys. Automated export functions simplified the process of moving data into Excel and NVivo. The limitation of SurveyMonkey, however, was its restricted video length.

ChatGPT 5.0

The use of ChatGPT 5.0 in the analysis process was experimental but proved illuminating. The tool was used primarily for drafting summaries, identifying emerging patterns, and testing the clarity of thematic distinctions. Its value lay not in replacing researcher judgement but in prompting reflection: when ChatGPT flagged contradictions or generated alternative phrasings, these moments encouraged closer inspection of the data.

Nevertheless, the integration of AI into analysis raises important methodological questions. ChatGPT cannot interpret context, irony, or cultural nuance in the way a human researcher can. Some suggestions risk flattening complexity into generalisations.

Reflexivity was therefore central: AI assistance was treated as heuristic, not authoritative, and all final coding decisions were made by the researcher.

Strengths of the Approach

The methodological approach adopted here offered several strengths. First, it enabled systematic coding of a complex dataset, ensuring that both quantitative and qualitative insights were represented. Second, it allowed integration across data types: numerical ratings contextualised participant comments, while open-text responses gave depth to quantitative distributions. Third, the use of digital tools facilitated efficiency and transparency in handling data. Finally, reflexivity was foregrounded throughout, recognising that methodological decisions inevitably shape findings.

Challenges and Ambiguities

The main challenges arose in coding emotions, handling contradictions, and interpreting ambiguity. Emotions are notoriously difficult to measure, and while scaled ratings offered one dimension, open-text comments often revealed conflicting or layered reactions. For example, empathy could co-exist with distrust, fascination with discomfort. These tensions reflect the complexity of audience engagement with nonfiction and highlight the limits of both survey scales and coding frameworks.

Another challenge was dealing with interpretive ambiguity. Comments such as "odd," "strange," or "off" could refer to technical, aesthetic, or ethical concerns. Coding required careful judgement to avoid imposing overly rigid categories on participants' own words. This challenge underscores the need for methodological humility when studying emerging media phenomena, where existing categories may not adequately capture audience experience.

Contribution to Methodology

The methodological contribution of this thesis lies not only in its findings but in its demonstration of how mixed-methods, supported by digital tools, can be used to study emerging media technologies. First, it shows the value of comparative survey design for isolating the effects of indexical versus synthetic imagery. Second, it demonstrates how systematic coding frameworks can manage the complexity of affective and ethical responses. Third, it illustrates both the potential and the limits of integrating AI tools like ChatGPT into academic research.

More broadly, the study highlights the importance of reflexivity in researching audiences of new media forms. Methodology is not neutral: tools, scales, and coding decisions shape outcomes. By reflecting on these processes openly, this thesis contributes to a growing

body of scholarship seeking to adapt media research methods to the challenges of AI, machine learning, and synthetic media.

The methodological approach taken in this study successfully combined the strengths of quantitative and qualitative methods, supported by a suite of digital tools. While challenges remained, particularly around coding emotions and interpreting contradictions, the mixed-methods design was essential for uncovering the nuanced ways audiences negotiate trust, empathy, and ethics in nonfiction films. By extending established methods with reflexive use of new analytic tools, the study not only generated substantive findings but also offered insights into how media researchers might continue to adapt methodologies for the analysis of emerging technologies.

## 5.7 Limitations of the Study

Every research project is shaped by methodological and practical constraints that place boundaries on the claims that can be made. Acknowledging these limitations is essential for clarifying the scope of the findings and identifying opportunities for future work. The present study, which compared audience responses to a real documentary film and a synthetic AI-generated equivalent, is no exception. The following limitations are particularly salient: issues of sample size and demographic representativeness; the use of short-form films as stimuli; reliance on self-reported survey data; challenges of generalising from an experimental survey design; and the possible influence of research framing, given that participants were aware that artificial intelligence might be involved.

Sample Size and Demographic Representativeness

The first limitation concerns the relatively modest size of the participant groups. Survey 1 (real film) produced 41 valid responses after incomplete surveys and those without data usage consent were removed, while Survey 2 (synthetic film) produced 34. While these samples are sufficient to identify patterns and draw provisional comparisons, they fall short of the scale necessary for generalisable statistical inference. The proportions reported (e.g., 83% not questioning accuracy in Survey 1, 64.7% questioning accuracy in Survey 2) are meaningful in context but cannot be assumed to reflect wider populations without caution.

In addition, the demographic composition of the sample was not designed to be fully representative. Although participants varied in terms of age, educational background, and professional experience, they were recruited primarily from Western, English-speaking contexts. This inevitably restricts the cultural generalisability of the findings. Audience expectations of nonfiction vary internationally, shaped by local documentary traditions, news media credibility, and cultural attitudes towards technology. The ethical unease

voiced about the resurrection of the deceased, for example, may be inflected differently in cultural contexts with other memorial traditions or religious frameworks. The findings therefore speak most directly to audiences situated within similar cultural conditions to those of the sample.

Limitations of Short-Form Film Stimuli

The films used as stimuli were intentionally short, designed to fit the constraints of an online survey environment while still conveying a coherent narrative. This brevity was an asset in terms of participation rates and consistency across conditions, but it also imposes limitations.

Short-form nonfiction cannot reproduce the depth, complexity, or affective arcs of feature-length documentaries or extended news programming. The participants' evaluations of engagement, immersion, and empathy were therefore shaped by exposure to a condensed form of storytelling. It remains uncertain whether the same patterns, particularly the empathy–ethics paradox identified in the synthetic film, would emerge as strongly in longer works, where audience involvement deepens over time. Similarly, judgments of educational potential may have been constrained by the limited amount of factual information conveyed within a short runtime.

Thus, while the use of short films was methodologically appropriate, it inevitably narrows the interpretive frame. The findings should be understood as indicative of responses to short-form nonfiction, not exhaustive of the wider field of documentary and news production.

Constraints of Self-Reported Survey Data

A further limitation arises from the reliance on self-reported survey data. Participants were asked to rate their levels of engagement, empathy, immersion, and trust using numerical scales and to elaborate through open-text comments. While this approach generates valuable insights, it is subject to the well-documented limitations of self-report methods (Bryman, 2016).

Participants may have over- or under-reported their emotional responses due to social desirability bias, misunderstanding of scale anchors, or difficulty articulating affective reactions in textual form. For instance, empathy is a complex emotional construct that may not be easily reducible to a single numerical score. Similarly, reported levels of trust or scepticism may not perfectly align with behavioural responses that could be observed in real-world settings, such as decisions to share or endorse a documentary.

The qualitative data provided nuance and depth, but it too remains shaped by what participants chose to disclose in writing. Nuances of tone, hesitation, or embodied reaction, features that might be captured in interviews or ethnographic observation, were necessarily absent.

Challenges of Generalising from Experimental Survey Design

The comparative survey design, in which one group watched the real film and another the synthetic version, allowed for a clear analysis of differences in audience perception. However, this design also imposes constraints on generalisability.

First, participants were not randomly sampled from the general population, which limits the representativeness of the findings. Second, the between-groups design means that each participant viewed only one version of the film. While this avoided direct comparison effects, it also prevented within-subject assessment of how the same viewer might have evaluated both films. The observed differences therefore reflect group-level patterns rather than individual-level contrasts.

Furthermore, the experimental nature of the survey context may have heightened participants' sensitivity to the research questions. Watching a film in an online survey environment differs markedly from encountering nonfiction in everyday life, where attention is more diffuse and contextual factors such as platform credibility, prior knowledge, and social interaction shape interpretation. This means that while the findings identify important perceptual and ethical tendencies, caution must be exercised in extrapolating them directly to real-world media consumption.

Possible Influence of Research Framing

A final limitation concerns the influence of research framing. Participants were recruited into a study that explicitly concerned nonfiction films and artificial intelligence. While the specific allocation of real versus synthetic films was concealed, participants were aware that AI might be involved in the materials they were viewing.

This awareness may have primed participants to adopt a more sceptical interpretive stance than they would have in a naturalistic viewing context. In Survey 2, for instance, participants frequently flagged anomalies such as unnatural water reflections or unusual penguin movements as signs of unreality. While these perceptions align with broader cultural frames around synthetic media, it is possible that heightened attentiveness to AI cues exaggerated the level of scrutiny.

At the same time, the framing may have constrained responses in Survey 1. Knowing that AI could be involved, participants may have looked for signs of manipulation even when

watching the real film, though most ultimately judged it authentic. This possibility highlights the difficulty of designing experiments where disclosure of research focus is ethically necessary but may itself shape responses.

Taken together, these limitations do not undermine the validity of the study but rather contextualise its scope. The relatively small and demographically narrow sample restricts representativeness; the short-form films limit narrative complexity; self-report methods capture only part of the emotional and cognitive response; the experimental survey context differs from naturalistic media use; and research framing may have heightened sensitivity to anomalies.

Recognising these constraints clarifies the boundaries within which the findings should be interpreted. The patterns observed, the centrality of indexical anchors, the empathy–ethics paradox, and the divergence between places and people, are robust within the study's design, but further work is needed to confirm their generalisability. As outlined in the following section, future research can address these limitations by expanding sample size and diversity, exploring cross-cultural contexts, conducting longitudinal and genre-based studies, and paying closer attention to generational and media literacy differences.

## 5.8 Suggestions for Future Research

The findings of this thesis open a number of avenues for further research into how audiences perceive nonfiction in an era increasingly shaped by synthetic media. While the present study provides one of the first systematic comparisons of audience responses to real versus AI-generated documentary material, its design also imposes limits that subsequent work should seek to overcome. Building on the evidence presented here, future research could extend knowledge in at least five key directions: sample diversity, cross-cultural comparison, longitudinal tracking, genre-specific experiments, and generational/media literacy differences.

Larger and More Diverse Participant Samples

The present study drew on two groups of participants who viewed either the real or synthetic version of the film. While this design enabled clear comparisons between indexical and non-indexical imagery, the sample sizes, 41 participants for Survey 1 and 34 for Survey 2, inevitably limit the generalisability of findings.

Future research would benefit from expanding both the scale and diversity of participation. A larger sample could allow for more robust statistical analyses of patterns in trust, empathy, and ethical judgement (Bryman, 2016). It could also reveal whether the three key findings identified here, the centrality of indexical anchors, the empathy–ethics paradox,

and the divergence between places and people, hold consistently across broader populations. Greater demographic diversity would also enable exploration of whether age, gender, education, or professional background systematically influence how audiences interpret anomalies, disclosure, or ethical boundaries (Krippendorff, 2019).

Cross-Cultural Comparisons

Another significant extension would be to investigate how responses vary across different cultural contexts. This thesis drew its participants primarily from a Western, English-speaking background, which may shape assumptions about documentary form, realism, and ethics. Documentary traditions and media practices differ globally, and so too may audience expectations (Aufderheide, 2007).

Cross-cultural studies could, for instance, compare audiences in regions with strong traditions of state-controlled media against those with more pluralistic systems (Hallin and Mancini, 2004). Would scepticism about synthetic imagery be heightened in contexts where trust in media is already fragile? Conversely, might audiences in societies with high exposure to remix and visual experimentation be more accepting of AI-mediated nonfiction? Comparative research of this kind could refine our understanding of whether the findings reported here reflect universal tendencies or culturally specific interpretive frames.

Longitudinal Studies of Evolving Audience Attitudes

The rapid pace of technological change suggests the need for longitudinal research. Public exposure to synthetic imagery is expanding through entertainment, advertising, and social media (Lister et al., 2009), and it is likely that audience familiarity with AI-generated content will increase dramatically over the coming decade. What currently registers as a suspicious anomaly may soon become normalised as a visual convention.

Future studies should therefore track audience responses over time. Repeating the kind of comparative design used in this thesis at intervals of five or ten years could reveal how trust, empathy, and ethical concerns evolve. Longitudinal research has been crucial in media studies to capture shifting cultural practices (Livingstone, 2004), and the case of synthetic media is no exception. Such studies would clarify whether the empathy–ethics paradox identified here persists as synthetic representations become more familiar, or whether audiences adapt by recalibrating the weight they assign to indexical anchors.

Experiments with Different Genres

While this study focused on the short documentary form, future research could expand the scope to other nonfiction genres, each of which carries distinct conventions and audience

expectations. News, for example, has traditionally demanded higher standards of immediacy, accuracy, and transparency than creative documentary (Carlson, 2017). It remains an open question whether audiences would tolerate any synthetic imagery in news reporting, or whether the use of AI in this context would trigger near-universal rejection.

Conversely, creative documentary and essay films have historically allowed greater latitude for aesthetic experimentation (Renov, 2004). Audiences encountering synthetic imagery in these genres might evaluate them differently, perhaps treating them as metaphorical or symbolic rather than literal. Systematic genre-based experiments would therefore clarify how far the findings of this thesis apply beyond the specific case of a short documentary and would contribute to wider debates about the boundaries of nonfiction practice (Bruzzi, 2006).

Generational and Media Literacy Differences

Finally, the findings of this thesis invite closer examination of generational and media literacy differences in audience response. While the present dataset does not allow for detailed analysis by age group, anecdotal responses suggested that younger participants may have been quicker to identify synthetic anomalies, perhaps reflecting greater exposure to remix cultures, gaming environments, and online AI-generated content (Jenkins, 2006).

Future research could design studies specifically to compare generational cohorts, asking whether digital natives differ systematically from older viewers in their evaluation of authenticity, empathy, and ethics. Such work would intersect with debates on media literacy, which Livingstone (2004) defines as the ability to access, analyse, and critically evaluate media texts. Exploring whether younger audiences demonstrate heightened scepticism, more flexible interpretive strategies, or even greater acceptance of AI-mediated realism would help educators and media practitioners tailor disclosure and transparency practices to the needs of different groups.

## 5.9 Conclusion

This thesis has demonstrated three central findings: that audience trust in nonfiction remains bound to indexical anchors; that empathy and trust diverge when AI-generated movement animates human subjects, producing what may be called an empathy–ethics paradox; and that ethical boundaries are drawn firmly around the digital recreation of humans while remaining more flexible for places and environments. Together, these dynamics reveal how nonfiction practice is shifting toward a regime of inferred truth, where audiences negotiate between evidentiary anchors and machine-generated reconstruction.

The findings also extend contemporary journalism research on AI and public trust (Newman et al., 2023; Simon et al., 2025) by providing rare experimental evidence of how audiences interpret AI-generated visual material in nonfiction contexts. This thesis does not predict universal industry adoption of such practices, but argues that the availability of a clear genre distinction is itself a critical resource for both ethical reflection and audience understanding.

Yet the work presented here also points beyond itself. To consolidate and extend these findings, future research must broaden the empirical base. Larger and more diverse participant samples would test the robustness of the results. Cross-cultural comparisons would assess whether interpretations of synthetic and indexical material hold across different media traditions. Longitudinal research would capture how attitudes evolve as synthetic media becomes increasingly ubiquitous. Experimental work across different nonfiction genres, from news to creative documentary, would situate audience responses within a broader ecology of forms. Generational and media literacy comparisons would illuminate whether familiarity with AI shapes perceptual thresholds of trust and realism.

These directions outline a clear programme for future research into nonfiction and synthetic media. They also signal that the questions raised in this thesis are not confined to academic debate, but touch directly on the future of journalism, documentary, and the broader public sphere. Trust in nonfiction will not vanish with AI, so long as audiences know what is anchored, what is inferred, and why it matters. Nonfiction without an anchor risks losing its trust, but with transparency and inference, its stories need not lose their truth.

# Bibliography

@mz\_storymakers, Twitter (2022) *#RTL-reporterin @SusannaOhlen macht sich vor ihrem live-einstieg schmutzig - anstatt anzupacken: @RTLde #hochwasserhilfe #hochwasser #flutkatastrophe*. Accessed: 10/10/2022. Online: https://twitter.com/mz_storymakers/status/1418179614661304322?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1418179614661304322%7Ctwgr%5E7b54f254b65d6bb8da2a9c4ab7fe0c2c31651f2f%7Ctwcon%5Es1_&ref_url=https%3A%2F%2Fwww.bbc.co.uk%2Fnews%2Fworld- europe-57946430.

Aldana Vales (2019) *An introduction to synthetic media and journalism*. Accessed: 21/10/2022. Online: https://medium.com/the-wall-street-journal/an-introduction-to-synthetic-media-and-journalism-cbbd70d915cd.

Aleksander Holynski, Brian Curless, Steven M. Seitz, and Richard Szeliski (2020) *Animating pictures with eulerian motion fields*. Accessed: 15/01/2022. Online: https://eulerian.cs.washington.edu/animating_pictures_2020.pdf.

Allsop, D. B., Chelladurai, J. M., Kimball, E. R., Marks, L. D., and Hendricks, J. J. (2022) *Qualitative Methods with NVivo Software: A Practical Guide for Analyzing Qualitative Data*. *Psych*, 4(2), 142–159.

Ang, I. (1991). *Desperately seeking the audience*. Routledge.

Archival Producers Alliance (2024) *Best Practices for Use of Generative AI in Documentaries*. Accessed on 10.062025. Available at: https://drive.google.com/file/d/1WS4iZ2Wi_wft5x54RG-hYb45sf10W8nV/view.

arm (2022) *AI inference*. Accessed: 15/12/2022. Online: https://www.arm.com/glossary/ai-inference.

Aufderheide, P. (2007) *Documentary Film: A Very Short Introduction*. Oxford: Oxford University Press.

Barrett, L. F., and Bar, M. (2009) *See it with feeling: Affective predictions during object perception,* in *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364(1521), 1325–1334.

Barthes, R. (1981) *Camera Lucida*. Hill and Wang.

Bazeley, P., and Jackson, K. (2013) *Qualitative Data Analysis with NVivo* (2nd ed.). Sage.

BBC News (2022) *German TV apologises for smearing mud on clothes at flood site*. Accessed: 10/10/2022. Online: https://www.bbc.co.uk/news/world-europe-57946430.

BBC. (2023) *AI Principles*. BBC. Retrieved from https://www.bbc.co.uk/supplying/working-with-us/ai-principles/

Bernt Engelmann, Alfred Horne, Stephan Lohr, and Eckart Spoo (1981) *Anspruch auf Wahrheit*. Göttingen: Steidl Verlag.

Blyth, C. (2018) *Using Microsoft Excel for Social Research: A Practical Guide*. SAGE.

Braun, V., and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.

Bruzzi, S. (2006) *New Documentary: A Critical Introduction*. Routledge.

Bryman, A. (2016) *Social Research Methods* (5th ed.). Oxford University Press.

Bulger, M., and Davison, P. (2018) *The Promises, Challenges, and Futures of Media Literacy*. Journal of Media Literacy Education.

Caleb Ward (2022) *Incredible matte painting inspiration*. Accessed: 26/10/2022. Online: https://www.schoolofmotion.com/blog/matte-painting-inspiration.

Carlson, M. (2017) *Journalism as Practice: MacIntyre, Virtue Ethics and the Press*. Routledge.

CCN (2024) *ITV's AI Innovation Role — Is AGI Leaving Human Creators Behind? Accessed 23.06.2025. Available at: https://www.ccn.com/news/technology/itv-head-of-generative-ai-innovation-role-leaving-human-creators-behind*.

Chan, Stanley (2025) *Tutorial on Diffusion Models for Imaging and Vision*. Accessed 10.06.2025. Available at: https://arxiv.org/pdf/2403.18103.

Channel 4 (2025) *Channel 4's AI Principles.* Accessed on 18.0.6.2025. Available at: https://assets-corporate.channel4.com/_flysystem/s3/documents/2025-05/Channel4AIPrinciples.pdf.

Charmaz, K. (2014) *Constructing Grounded Theory*. Sage.

Chesney, R., and Citron, D. K. (2019) *Deep fakes: A looming challenge for privacy, democracy, and national security.* California Law Review, 107(6), 1753–1820.

Chouliaraki, L. (2010) The mediation of suffering: Cosmopolitanism, journalism and the public. *Media, Culture & Society*, 32(2), 323–339.

Christy Hobart (2008) *The 'speed racer' time warp*. Accessed: 26/10/2022. Online: https://www.latimes.com/archives/la-xpm-2008-may-08-hm-speed8-story.html.

Chun, Wendy Hui Kyong (2016). *Updating to Remain the Same*. MIT Press.

Cools, Hannes and Diakopoulos, Nicholas (2024) *Uses of Generative AI in the Newsroom: Mapping Journalists' Perceptions of Peril and Possibilities*, in Journalism Practice, Volume 20. Routledge & Taylor & Francis.

Coren, S., and Girgus, J. S. (1978) *Seeing is deceiving: The psychology of visual illusions*. Lawrence Erlbaum.

Corner, J. (1996) *The Art of Record: A Critical Introduction to Documentary*. Manchester University Press.

Couldry, Nick and Mejias, Ulises (2019). *The Costs of Connection*. Stanford University Press.

Couldry, N., and Hepp, A. (2017) *The mediated construction of reality*. Polity Press.

Crawford, K. (2021) *The Atlas of AI*. Yale University Press.

Creswell, J. W., and Plano Clark, V. L. (2018) *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Creswell, J. W., and Creswell, J. D. (2018) *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE.

Creswell, J. W., and Plano Clark, V. L. (2017) *Designing and Conducting Mixed Methods Research*. Sage.

Cubitt, Sean (2014) *The Practice of Light: A Genealogy of Visual Technologies.* MIT Press.

D. R. Ford (2018) *Politics and Pedagogy in the "Post-Truth" Era: Insurgent Philosophy and Praxis.* Bloomsbury Publishing.

Deck, Andrew (2024) *Documentary filmmakers publish new AI ethics guidelines. Are news broadcasters next.* Accessed on 10.06.2025. Available at: https://www.niemanlab.org/2024/09/documentary-filmmaker-alliance-sets-ai-ethics-guidelines-a-lesson-for-news-broadcasters/.

Denzin, N. K. (2012) *The research act: A theoretical introduction to sociological methods*. Transaction Publishers.

Deutsch, Eliot (1986) *Advaita Vedānta: A Philosophical Reconstruction*. University of Hawaii Press.

Deuze, Mark and Beckett, Charlie (2022) *Imagination, Algorithms and News: Developing AI Literacy for News*, in Digital Journalism, Volume 10, Number 10, p. 1913-1918. Routledge & Taylor & Francis.

Dhariwal, Prufalla and Nichol, Alex (2021) *Diffusion Models Beat GANs on Image Synthesis*. Accessed 12.06.2025. Available at: *https://arxiv.org/abs/2105.05233*.

Diakopoulos, N. (2019) *Automating the News: How Algorithms are Rewriting the Media*. Harvard University Press.

Doane, Mary Ann (2007) *The Emergence of Cinematic Time*. Harvard University Press.

Doane, M. A. (2007) *The Indexical and the Concept of Medium Specificity*. Differences, 18(1), 128–152.

Dobber, T., Ó Fathaigh, R., and Zuiderveen Borgesius, F. (2021) *The regulation of deepfakes: A critical assessment*. European Journal of Law and Technology, 12(3).

*Documentary*, in Oxford Reference. Accessed: 22/05/2023. Online: https://www.oxfordreference.com/display/10.1093/oi/authority.20110803095724407;jsessionid= 939CC24241EB52A9A4E8A591F03BD206.

Dr. Sahar Khamis and Katherine Vaughn (2011) *Cyberactivism in the Egyptian revolution: How civic engagement and citizen journalism tilted the balance*, in *Arab Media & Society*. Accessed: 10/10/2022. Online: https://www.arabmediasociety.com/cyberactivism-in-the-egyptian-revolution-how-civic-engagement-and-citizen-journalism-tilted-the-balance/

Du, K.-L., Zhang, R., Jiang, B., Zeng, J., and Lu, J. (2025) *Understanding Machine Learning Principles: Learning, Inference, Generalization, and Computational Learning Theory*. *Mathematics*, *13*(3), 451. https://doi.org/10.3390/math13030451

Ducasse, C.J., (1942) *Moore's Refutation of Idealism*, in P. Schilpp (ed.) The Philosophy of G.E. Moore, 223–52, Chicago: Northwestern University Press.

Dunning, D. and Balcetis, E. (2006) *See What You Want to See: Motivational Influences on Visual Perception*, in *Journal of Personality and Social Psychology,* 91(4):612-25.

Eagleman, D. M., and Sejnowski, T. J. (2007) *Motion integration and postdiction* in *visual awareness*. *Science*, 287(5460), 2036–2038.

Elisa Shearer (2021) *More than eight-in-ten Americans get news from digital devices*. Accessed: 19/10/2022. Online: https://www.pewresearch.org/fact-tank/2021/01/12/more-than-eight-in-ten-americans-get-news-from-digital-devices/.

Environmental Agency National (2022) *National LIDAR programme*. Accessed: 21/11/2022. Online: https://www.data.gov.uk/dataset/f0db0249-f17b-4036-9e65-309148c97ce4/national-lidar-programme.

Fielding, N. (2021) Digital social research tools: Ethical and equitable access. *International Journal of Social Research Methodology*, 24(3), 345–360.

Film-TV-Video.de (2021) *ZDF studio image*. Accessed: 27/10/2022. Online: https://www.film-tv-video.de/productions/2021/07/21/zdf-nachrichten-in-neuem-design/.

Floridi, L. (2019) *The Logic of Information: A Theory of Philosophy as Conceptual Design*. Oxford University Press.

Floridi, L. (2020). *AI transparency: An ethical requirement for trustworthiness.* Philosophy & Technology, 33(4), 543–550.

Floridi, L., and Chiriatti, M. (2020) GPT-3: Its nature, scope, limits, and consequences. *Minds and Machines, 30*(4), 681–694.

Floridi, L., and Cowls, J. (2019) *A Unified Framework of Five Principles for AI in Society*. Harvard Data Science Review.

Friston, Karl (2010) *The free-energy principle: a unified brain theory?* In *Nature Reviews Neuroscience,* volume 11, pages127–138.

Gibbs, G. (2018) *Analyzing Qualitative Data*. Sage.

Goodfellow, I., Pouget-Abadie, J., Mirza, M., Xu, B., Warde-Farley, D., Ozair, S., Courville, A., and Bengio, Y. (2014) Generative adversarial nets. In *Z. Ghahramani, M. Welling, C. Cortes, N. D. Lawrence,* and *K. Q. Weinberger* (Eds.), *Advances in neural information processing systems* (Vol. 27). Curran Associates, Inc.: https://papers.nips.cc/paper_files/paper/2014/file/5ca3e9b122f61f8f06494c97b1afccf3-Paper.pdf

Greene, J. C., Caracelli, V. J., and Graham, W. F. (1989) Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(3), 255–274. https://doi.org/10.3102/01623737011003255

Grierson, J. (1933) *First principles of documentary*. Cinema Quarterly, 2(1), 7–9. Accessed 09/06/2025. Online: https://torch.web.ox.ac.uk/sitefiles/grierson-first-principles-of-documentary.pdf.

Gunning, Tom (2018) *The Indexical and the Concept of Medium Specificity*. Differences.

H. J. Gans (1979) *Deciding What's News.* New York: Random House.

Hallin, D., and Mancini, P. (2004) *Comparing Media Systems: Three Models of Media and Politics*. Cambridge University Press.

Harvey, L. (2017) Data management in social research: Enhancing transparency and replicability. *Social Research Update*, 66(1), 1–6.

Heath, S. (1990) Representing Television. In *Logics of Television*, ed. P. Mellencamp. Indiana University Press.

Hirsch, A. (2019) *Sketching Justice: Courtroom Illustration and Visual Evidence*. Visual Studies.

Hoffman, Donald D., Singh, Manish, and Prakash, Chetan (2015) *The Interface Theory of Perception,* in *Psychonomic Bulletin & Review,* Volume 22, pages 1480–1506.

Hornyak, Tim (2025) *Japan's NHK is putting an AI-powered cartoon anime on air to read you the news.* Accessed: 10.06.2025. Available at: https://splicemedia.com/stories/nhk-anime-virtual-newscaster.

Howzell, Ryan (2024) *Archival Producers Alliance: Best Practices for Use of Generative AI in Documentaries*. Accessed 17.06.2025. Available at: https://ethicsandjournalism.org/2024/10/11/archival-producers-alliance-best-practices-for-use-of-generative-ai-in-documentaries.

Hoxha, Abit and Hanitzsch, Thomas (2017) *How conflict news comes into being: Re-constructing 'reality' through telling stories,* in *Media, War and Conflict*. Volume 11(1).

J. L. Austin (1961) *Performative utterances*, pages 220–239. Accessed: 13/10/2022. Online: https://philpapers.org/rec/AUSPU.

James Owen Hearns-Branaman (2016) *Journalism and the Philosophy of Truth*. Routledge: Taylor & Francis Group.

Jane Roscoe and Craig Hight (2001) *Faking it: Mock-documentary and subversion of factuality*. Manchester, UK: Manchester University Press.

Jeffrey Ghannam (2012) *Digital media in the Arab world one year after the revolutions*, in *A Report to the Center for International Media Assistance*. Accessed: 10/10/2022. Online: https://ciaotest.cc.columbia.edu/wps/ned/0024586/f_0024586_20082.pdf.

Jeffrey Gottfried and Alisa Shearer (2016) *News use across social media platforms 2016*. Accessed: 19/10/2022. Online: https://www.pewresearch.org/journalism/2016/05/26/news-use-across-social-media-platforms-2016/.

Jeffrey T. Nealon (2017) *Jokes and the performative in Austin and Derrida; or, the truth is a joke?* in *Cultural critique,* Volume 95: pp. 1–24. Accessed: 13/10/2022. Online: https://www.jstor.org/stable/pdf/10.5749/Culturalcritique.95.2017.0001.pdf.

Jenkins, H. (2006) *Convergence Culture: Where Old and New Media Collide*. NYU Press.

Johnson, R. B., Onwuegbuzie, A. J., and Turner, L. A. (2007) Toward a definition of mixed methods research. *Journal of Mixed Methods Research, 1*(2), 112–133. https://doi.org/10.1177/1558689806298224

Juju et al. Chang (2016) *When fake news stories make real news headlines*. Accessed: 19/10/2022. Online: https://abcnews.go.com/Technology/fake-news-stories-make-real-news-headlines/story?id=43845383.

Kahn, Ellie (2025) *7 things you need to know about the BBC's AI guidance.* Accessed on 17.06.2025. Available at: https://www.broadcastnow.co.uk/production-and-post/7-things-you-need-to-know-about-the-bbcs-ai-guidance/5200901.article.

Kasneci, E., et al. (2023) *ChatGPT for good? On opportunities and challenges of large language models for education*. Learning and Individual Differences, 103, 102274.

Kilborn, R., and Izod, J. (1997). *An Introduction to Television Documentary: Confronting Reality*. Manchester University Press.

Kirsten Acuna (2020) *The 'Star Wars' team describes the challenge of bringing Carrie Fisher back to the screen one more time: 'it was a gigantic puzzle'*. Accessed: 21/10/2022. Online: https://www.insider.com/how-carrie-fisher-was-in-star-wars-the-rise-of-skywalker-2020-1".

Klinger, J., and Svensson, J. (2023) AI research infrastructures and the politics of access. *Big Data & Society*, 10(1), 1–12.

Krippendorff, K. (2019) *Content Analysis: An Introduction to Its Methodology*. Sage.

L. B. et al. Becker (2004) *The impact of newsroom philosophy on story ideation and story narration,* in *Midwest Association for Public Opinion Research*.

Lazer, D. M., et al. (2018) *The Science of Fake News*. Science, 359(6380), 1094–1096.

Lim, Merlyna (2005) *Islamic radicalism and anti-Americanism in Indonesia: The role of the internet*, in *Policy Studies*.

Lincoln, Y. S., and Guba, E. G. (1985) *Naturalistic Inquiry*. SAGE.

Lister, M., Dovey, J., Giddings, S., Grant, I., and Kelly, K. (2009) *The New Media: A Critical Introduction*. Routledge.

Livingstone, S. (2004) The Challenge of Changing Audiences: Or, What is the Researcher to Do in the Age of the Internet? *European Journal of Communication*, 19(1), 75–86.

Luo, Calvin (2022) *Understanding Diffusion Models: A Unified Perspective. Accessed 14.06.2025. Available at: https://arxiv.org/abs/2208.11970*.

Lupton, D. (2021) *Data Selves: More-than-Human Perspectives*. Polity.

Madeline Schiappa (2019) *Recognizing Depth in Autonomous Driving*, in *Towards Data Science*. Accessed: 04/11/2022. Online: https:// towardsdatascience.com/depth-prediction-autonomous-driving-18d05ff25dd6.

Manovich, L. (2001) *The language of new media*. Cambridge, MA: MIT Press.

Manovich, L. (2020) *AI Aesthetics*. Strelka Press.

Manovich, Lev (2020) *Cultural Analytics*. MIT Press.

Maria A. Ressa (2016) *Propaganda war: Weaponizing the Internet*. Accessed: 21/10/2022. Online: https://www.rappler.com/nation/148007-propaganda-war-weaponizing-internet

Matt Viser (2010) *Conservative groups used tweet strategy against Coakley,* in *The Boston Globe*. Accessed: 24/10/2022. Online: http://archive.boston.com/news/nation/articles/2010/05/04/conservative_group_used_tweet_strategy_against_coakley/.

McBride, K., and Rosenstiel, T. (2013) *The New Ethics of Journalism*. CQ Press.

McCosker, Anthony and Wilken, Rowan (2020). *Automating Vision*. Routledge.

Metzger, M. J., and Flanagin, A. J. (2013) *Credibility and trust of information in online environments: The use of cognitive heuristics*, in *Journal of Pragmatics*, 59, 210–220.

Mihailidis, P., and Viotty, S. (2017) *Spreadable Spectacle in Digital Culture*. American Behavioral Scientist.

Miles, M. B., Huberman, A. M., and Saldaña, J. (2019) *Qualitative Data Analysis: A Methods Sourcebook* (4th ed.). SAGE.

Mishra, Akshat (2023) *Unlocking the Potential of Runway ML: A Comprehensive Guide.* Accessed 16.06.2025. Available at: https://medium.com/%40mishra1995akshat/unlocking-the-potential-of-runway-ml-a-comprehensive-guide-f91e43bc81f2.

Morley, D. (1992) *Television, audiences and cultural studies*. Routledge.

Mulvey, L. (2006) *Death 24x a Second: Stillness and the Moving Image*. London: Reaktion Books.

Nash, K. (2014) "Documentary-for-the-Other: Relationships, Ethics and (Observational) Documentary." *Journal of Mass Media Ethics,* 29(4), 224–239.

Nash, K. (2021) *Documentary and New Digital Platforms: Investigating Viewers' Responses to Interactive Documentary*. Palgrave Macmillan.

Nea Ehrlich (2021) *Animating Truth: Documentary and Visual Culture in the 21st Century*. Edinburgh University Press.

Newman, N., Fletcher, R., Robertson, C. T., Eddy, K., & Nielsen, R. K. (2023) *Journalism, Media, and Technology Trends and Predictions 2023*. Reuters Institute.

New York Film Academy (2015) *Cinema Verite vs. Direct Cinema: An Introduction*. Accessed 09.06.2025. Online: https://www.nyfa.edu/student-resources/cinema-verite-vs-direct-cinema-an-introduction/.

*News*, in Cambridge Dictionary (2022) Accessed: 10/10/2022. Online: https://dictionary.cambridge.org/dictionary/english/news.

Nichols, B. (2017) *Introduction to documentary* (3rd ed.). Indiana University Press. Accessed 09.06.2025. Online: https://www.kufunda.net/publicdocs/Bill_Nichols___Introduction_to_documentary-1-3and6.pdf.

Nichols, Bill (1991) *Representing Reality: Issues and Concepts in Documentary*. Indiana University Press.

Nichols, Bill (2008) *Documentary Film*. Accessed 10.06.2025. Available at: https://doi.org/10.1002/9781405186407.wbiecd063

Nietzsche, Friedrich (1883) *Thus Spoke Zarathustra.* Chemnitz, Germany: Ernst Schmeitzner.

OpenAI (2022) *Introducing ChatGPT*. Accessed 11.06.2025. Available at: https://openai.com/index/chatgpt/

Pagallo, U. (2020) The legal challenges of artificial intelligence: Towards a research agenda. *Philosophy & Technology*, 33, 369–380.

Paget, D. (2011) *No Other Way to Tell It: Dramadoc/Docudrama on Television*. 2nd ed. Manchester: Manchester University Press.

Paget, D. (2009) *No Other Way to Tell It: Docudrama on Film and Television* (2nd ed.). Manchester University Press.

Pallant, J. (2020) *SPSS Survival Manual* (7th ed.). McGraw-Hill.

Patrik Fridlund (2020) *Post-truth politics, performatives and the force*. Accessed: 13/10/2022. Online: https: //link.springer.com/article/10.1007/s42439-020-00029-8#Fn35.

Pavlik, J. (2020) *New Media and the Future of Journalism*, in Journalism Studies, 21(9), 1264–1279.

Pavlik, J. (2020) *Journalism in the Age of Virtual Reality and Artificial Intelligence: The Ethics of Immersive Journalism*, in Journalism Studies, 21(10), 1384–1395.

Philip N. Howard (2011) *The digital origins of dictatorship and democracy: Information technology and political Islam*. Oxford University Press.

*Philosophy and Praxis*. Bloomsbury Publishing.

Plantinga, C. (2005) *What a Documentary Is, After All*. The Journal of Aesthetics and Art Criticism, 63(2), 105–117.

*Post-truth*, in Oxford Learner's Dictionaries (2022) Accessed: 12/10/2022. Online: https://www.oxfordlearnersdictionaries.com/definition/english/post-truth?q=post+truth.

Pratamesh Ingle (2021) *NVIDIA introduces GauGAN2: An AI model that converts text into images*. Online available at: https://www.marktechpost.com/2021/11/25/nvidia-introduces-gaugan2-an-ai-model-that-converts-text-into-images/.

Prince, Stephen (2012). *Digital Visual Effects in Cinema*. Rutgers University Press.

Renov, M. (2004) *The Subject of Documentary*. University of Minnesota Press.

Richard Kilborn and John Izod (1997) *An Introduction to Television Documentary*, p. 36-37. Manchester University Press.

Richards, L. (2015) *Handling Qualitative Data: A Practical Guide* (3rd ed.). Sage Publications.

Richards, T., and Richards, L. (1995) *Using hierarchical categories in qualitative data analysis*. In Handbook of Qualitative Research (pp. 445–471). Sage.

Rodowick, D. N. (2007). *The Virtual Life of Film*. Harvard University Press.

Roland Barthes (1981) *Camera Lucida: Reflections on Photography.* New York, NY: Hill and Wang.

Rosen, P. (2001) *Change Mummified: Cinema, Historicity, Theory*. Minneapolis: University of Minnesota Press.

Russell, Bertrand (1912), *The Problems of Philosophy*. London: Williams & Norgate.

Saldaña, J. (2013) *The Coding Manual for Qualitative Researchers* (2nd ed.). Sage.

Saldaña, J. (2021) *The Coding Manual for Qualitative Researchers* (4th ed.). Sage.

Samantha Bradshaw and Philip N. Howard (2017) *Troop, trolls and troublemakers: A global inventory of organised social media manipulation*, in *Computational Propaganda Research Project*. Accessed: 21/10/2022. Online: https://ora.ox.ac.uk/objects/uuid:cef7e8d9-27bf-4ea5-9fd6-855209b3e1f6/download_file?file_format=pdf&hyrax_fileset_id=m3ca8c455852611e82d0b182445a471f&s afe_filename= Troops-Trolls-and-Troublemakers.pdf&type_of_work=Report.

Samuel Woolley (2020) *The reality game: How the next wave of technology will break the truth and what we can do about it*. London: Hachette.

Saul Newman (2019) *Post-truth and the crisis of the political*, in *Soft Power*, Volume 6. 2. Accessed: 13.10.2022. Online: https://editorial.ucatolica.edu.co/index.php/SoftP/article/view/ 3564.

Schudson, M. (1995) *The Power of News*. Cambridge, MA: Harvard University Press.

Silver, C., and Lewins, A. (2014). *Using Software in Qualitative Research: A Step-by-Step Guide*. Sage.

Simon, F., et al. (2025) *Generative AI and News Report 2025: How People Think About AI's Role in Journalism and Society*. Reuters Institute.

Smith, Helena (2015) *Shocking images of drowned Syrian boy show tragic plight of refugees*. The Guardian. Accessed: 19/10/2022. Online: https://www.theguardian.com/world/2015/sep/02/shocking-image-of-drowned-syrian-boy-shows-tragic-plight-of-refugees.

Smith, M. (2020) *Film, Art, and the Third Culture*. Oxford University Press.

Smith, M. (1995) *Engaging Characters: Fiction, Emotion, and the Cinema*. Oxford University Press.

Snowdon, P.F. (1980–81) *Perception, Vision and Causation*, Proceedings of the Aristotelian Society (New Series), 81: 175–92.

Sobchack, V. (1992) *The Address of the Eye: A Phenomenology of Film Experience*. Princeton, NJ: Princeton University Press.

Stafford, Andy (2013) *Bazin and Photography in the Twenty-First Century: Poverty of Ontology?* In Paragraph, Vol. 36, No. 1, Revisiting André Bazin (March 2013), pp. 50-67

Stephen Davis (2019) *Truthteller - An investigative reporter's journey through the world of truth prevention, fake news and conspiracy theories*. Exile Publishing.

Tandoc, E. C., Lim, Z. W., and Ling, R. (2019) *Defining "Fake News"*. Digital Journalism.

Teddlie, C., and Tashakkori, A. (2009) *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioural sciences*. SAGE Publications.

The Guardian (2024) *Documentary producers release new ethical AI guidelines for filmmakers*. Accessed 17.06.2025. Available at: *https://www.theguardian.com/film/2024/sep/13/documentary-ai-guidelines*.

The Independent (2018) *China creates AI newsreaders who can work 24 hours a day and read whatever editors type*. Accessed on 10.06.2025. Available at: https://www.independent.co.uk/tech/china-ai-newsreaders-xinhua-news-agency-robot-presenters-24-hours-a8625091.html

Tracy, S. J. (2010) Qualitative quality: Eight "big-tent" criteria for excellent qualitative research. *Qualitative Inquiry, 16*(10), 837–851.

TVB Europe (2024) *UK's Sky News partners with 'ethical AI' firm*. Accessed 23.06.2025. Available at: https://www.tvbeurope.com/artificial-intelligence/uks-sky-news-partners-with-ethical-ai-firm.

Uricchio, W. (2009) Mapping the Interface: Documentary, Database and the Digital. *Journal of Film and Video, 61*(1), 62–70.

Uricchio, W. (2011) The Algorithmic Turn: Photosynth, Augmented Reality and the Re-Conditioning of Space. Visual Studies, 26(1), 25–35.

Vaccari, C., and Chadwick, A. (2020) *Deepfakes and disinformation: Exploring the impact of synthetic political video on deception, uncertainty, and trust in news*. Social Media + Society, 6(1), 1–13.

Tangcay, Jazz (2021) *Anthony Bourdain's AI-faked voice in new documentary sparks backlash, V*ariety. Accessed: 21/10/2022. Online: https://variety.com/2021/artisans/news/anthony-bourdain-fake-voice-roadrunner-documentary-backlash-1235020878/.

Vertov, D. (1984) *Kino-Eye: The writings of Dziga Vertov.* Edited by A. Michelson, translated by Kevin O'Brien. University of California Press. Accessed 09.06.2025. Online: https://monoskop.org/images/2/2f/Vertov_Dziga_Kino-Eye_The_Writings_of_Dziga_Vertov.pdf.

Victoria A. Banks et al. *(2020) Using the perceptual cycle model and schema world action research method to generate design requirements for new avionic systems.* Accessed: 24/11/2022. Online: https://onlinelibrary.wiley.com/doi/full/10.1002/hfm.20869.

Ward, S. J. A. (2015) *Ethics and the Media: An Introduction*. Cambridge University Press.

Ward, S. J. A. (2018) *Disrupting Journalism Ethics*. Routledge.

Whittaker, M., et al. (2022) *The role of social science in responsible AI development*. Daedalus, 151(2), 116–134.

Winston, B. (2000) *Lies, Damn Lies and Documentaries*. London: BFI.

Wong, L. P. (2008) Data analysis in qualitative research: A brief guide. *Malaysian Family Physician*, 3(1), 14–20.

Woolf, N. H., and Silver, C. (2017) *Qualitative Analysis Using NVivo*. Routledge.

Yang, Maya (2021) *Anthony Bourdain documentary sparks backlash for using AI to fake voice*. Published: 16/07/2021. Accessed: 21/10/2022. Online: https://www.theguardian.com/food/2021/jul/16/anthony-bourdain-documentary-ai-voiceover-roadrunner.

Yin, R. K. (2014) *Case study research: Design and methods* (5th ed.). SAGE.

Zamawe, F. C. (2015) *The implication of using NVivo software in qualitative data analysis: Evidence-based reflections*. Malawi Medical Journal, 27(1), 13–15.

# Appendix

**Appendix A**: Survey 1 – Full Responses

**Appendix B**: Survey 1 – NVivo Codebook

**Appendix C**: Survey 1 – NVivo Coded Responses

**Appendix D**: Survey 2 – Full Responses

**Appendix E**: Survey 2 – NVivo Codebook

**Appendix F**: Survey 2 – NVivo Coded Responses