

# From Multi-Platform to Multi-Spatial-Temporal: The Evolution Mechanism of Cross-Media Narratives in Open-World Games

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## ABSTRACT

Open-world games have revolutionized interactive storytelling, with cross-media narratives becoming a key feature. These narratives span multiple platforms, enhancing player engagement and deepening the narrative experience. While cross-media storytelling is well-explored in traditional media, its application in open-world games remains underexplored, particularly in how player agency and temporal-spatial dynamics influence narratives across platforms. This study uses case studies of *The Witcher 3* and *Red Dead Redemption 2*, applying qualitative methods including content analysis and comparative research to examine how these games evolve narratives across different media formats. The study finds that *The Witcher 3* uses branching narratives shaped by player choices, while *Red Dead Redemption 2* focuses on character development through episodic missions. Both games use time and space to influence the story, with *The Witcher 3* offering flexible timelines and *Red Dead Redemption 2* linking time to character arcs. This research advances the understanding of cross-media storytelling in open-world games, offering insights for both game developers and scholars interested in interactive narratives and media convergence.

## KEYWORDS

Cross-media storytelling; open-world games; player agency; narrative structure; temporal-spatial dynamics

## 1 Introduction

Open-world games have revolutionized the interactive entertainment industry, offering players expansive virtual worlds where narrative and gameplay are deeply intertwined. Unlike traditional linear narratives, these games often feature dynamic, non-linear storytelling that adapts to player choices and actions<sup>[1]</sup>. The evolution of these narratives across multiple platforms and temporal-spatial dimensions presents an exciting and complex challenge for both game developers and researchers<sup>[2]</sup>. Cross-media storytelling, where the same narrative unfolds across various platforms such as video games, films, comics, and interactive media, has become an essential component of modern open-world games<sup>[3]</sup>. This paper explores how these games utilize cross-media narrative mechanisms to enhance player engagement and narrative depth, particularly focusing on the evolution of these mechanisms within the context of open-world games.

While the concept of cross-media storytelling has been studied in the context of traditional media, there is limited research that specifically examines its application in open-world games. Most existing studies have concentrated on the linearity of narratives within video games or the impact of interactive elements on storytelling<sup>[4]</sup>. However, there remains a significant gap in understanding how these narratives evolve across different media formats and within various spatial-temporal contexts<sup>[5]</sup>. Traditional narrative theory, which primarily focuses on fixed plots and linear time, does not fully account for the complexities of open-world games, where the narrative can be influenced by player actions, real-time events, and multiple storylines occurring simultaneously<sup>[6]</sup>.

This study aims to fill this gap by investigating the mechanisms through which cross-media narratives are integrated into open-world games. The primary focus will be on how these games evolve in terms of storytelling across different platforms (e.g., console, mobile, and VR) and temporal-spatial dimensions (e.g., in-game time, the passage of time, and different spatial settings within the game world). By analyzing the narrative strategies used in games like *The Witcher 3* and *Red Dead Redemption 2*, this paper seeks to provide a comprehensive framework for understanding the role of cross-media storytelling in shaping modern open-world game narratives.

The research will explore how cross-media narrative mechanisms function in open-world games by examining key elements such as player agency, environmental storytelling, and narrative coherence across multiple platforms. It will focus on the ways these games blur the boundaries between different forms of media, creating a fluid narrative experience that adapts to both the virtual world and the real-world interactions of players. Additionally, this study will investigate how the integration of multi-temporal and multi-spatial dimensions contributes to the immersive experience of open-world games, offering players a unique narrative experience that unfolds over time and across various media.

This paper is organized into five chapters. Following this introduction, Chapter 2 provides a comprehensive literature review of existing studies on cross-media storytelling, open-world game narratives, and the theoretical frameworks related to spatial-temporal narrative analysis. Chapter 3 outlines the theoretical framework and methodology used in this study, detailing the case studies, research methods, and data analysis techniques. In Chapter 4, the findings from the case studies are presented, followed by a discussion of the results in the context of existing literature. Finally, Chapter 5

concludes the study by summarizing the research contributions and suggesting future directions for research in this area.

By examining the evolution of narrative mechanisms in open-world games, this research aims to contribute to the broader field of game studies, particularly in understanding the intersection of narrative theory, media convergence, and interactive storytelling. The findings will provide valuable insights for game developers seeking to create more immersive and engaging narrative experiences, while also advancing theoretical approaches to narrative in digital media.

## 2 Literature Review

### 2.1 Cross-Media Storytelling: Strengths and Contributions

Cross-media storytelling has gained prominence in digital media, extending a single narrative across platforms like television, film, and video games. Its strength lies in enhancing world-building, offering different perspectives and complementary storylines that engage audiences across media. Notable examples include <sup>[7]</sup> The Witcher franchise, which spans novels, games, and a television series, illustrating how cross-media narratives create cohesive, immersive experiences <sup>[8]</sup>. This approach allows for creative flexibility, where narratives are adapted to fit the characteristics of each medium, enriching the overall story.

In open-world games, cross-media storytelling also allows players to engage actively in the narrative. Rather than passively consuming content, players shape the story through their choices, making the experience more interactive and personalized <sup>[9]</sup>. This participatory nature adds depth to the narrative and enhances player investment.

### 2.2 Limitations and Criticisms of Cross-Media Storytelling

Despite its advantages, cross-media storytelling has notable limitations. A major issue is narrative fragmentation. Different platforms may present the same characters or events inconsistently, leading to confusion. In open-world games, where player choices diverge the narrative, this can exacerbate inconsistencies between game narratives and those in other media formats <sup>[10]</sup>.

Another limitation is maintaining narrative coherence across platforms. While individual media offer unique storytelling opportunities, integrating them into a unified narrative can be difficult. This challenge is amplified in open-world games, where the player's choices often lead to non-linear storylines that may not align with other media portrayals <sup>[11]</sup>. Moreover, cross-media storytelling can be exclusionary, as not all audiences have access to all the media formats, creating barriers to full narrative comprehension.

### 2.3 Comparative Analysis: Traditional Narrative Structures vs. Open-World Games

The key distinction between traditional narrative structures and open-world game narratives lies in player agency. Traditional narratives follow a fixed sequence, providing a cohesive and controlled experience, whereas open-world games offer players the freedom to shape the story [12]. While this enhances personalization, it introduces the risk of narrative disintegration, as the narrative diverges with each player choice.

Additionally, the spatial-temporal dimension differs. Traditional media rely on linear time and fixed settings, while open-world games offer fluid time and expansive environments, allowing for richer, more immersive experiences [13]. However, this flexibility makes it difficult to maintain coherence in cross-media narratives, especially when syncing game progression with other media formats.

### 2.4 The Research Gap: Cross-Media Storytelling in Open-World Games

Research on cross-media storytelling in open-world games remains underexplored. Most studies focus either on game narratives alone or on player agency, without analyzing how these narratives evolve across platforms [14]. Existing literature also lacks critical exploration of how narratives in open-world games align with those in other media forms. While interactive storytelling has been widely discussed, few studies address the challenges of integrating open-world game narratives with cross-media ecosystems [15].

The study of cross-media storytelling in open-world games, especially concerning temporal and spatial dimensions, is crucial for understanding how these narratives function across various platforms and time periods. This gap is significant, as it hinders a comprehensive view of how open-world games contribute to broader cross-media narrative frameworks.

### 2.5 Contribution of This Study

This paper addresses the research gap by critically examining the evolution of cross-media narrative mechanisms in

open-world games. By analyzing case studies like *The Witcher 3* and *Red Dead Redemption 2*, the study explores how narratives unfold across platforms and temporal spaces, offering insights into how cross-media storytelling can be integrated in games. The findings provide practical implications for game developers and offer a theoretical contribution to both media studies and game design. This research bridges traditional narrative theory with interactive storytelling, enhancing our understanding of narrative dynamics in modern gaming.

### **3 Theoretical Framework and Methodology**

This chapter outlines the theoretical framework guiding the study and the methodology used to explore the evolution of cross-media narratives in open-world games. The framework combines narrative theory, media convergence, and spatial-temporal analysis, offering a comprehensive approach to understanding how narratives function across multiple platforms and dimensions. The methodology involves case study analysis, focusing on two prominent open-world games, *The Witcher 3: Wild Hunt* and *Red Dead Redemption 2*, to investigate the implementation and evolution of cross-media storytelling in practice. Through this mixed-method approach, the study aims to bridge the gap between traditional narrative theory and interactive, player-driven storytelling.

#### **3.1 Theoretical Framework**

The theoretical framework for this study combines three key perspectives: Narrative Theory, Media Convergence, and Spatial-Temporal Analysis. These concepts provide a comprehensive understanding of how cross-media narratives operate within open-world games, focusing on narrative structure, player agency, and time-space dynamics.

##### **3.1.1 Narrative Theory**

Narrative theory serves as the foundation for analyzing how stories are structured and experienced in open-world games. Traditional narratives typically follow a fixed plot, with a predetermined sequence of events that guide the audience. However, open-world games present a departure from this linear storytelling approach, allowing for non-linear storytelling where player choices significantly affect the narrative's development. Narrative branching becomes essential, as players' decisions create divergent paths, leading to multiple storylines that differ from traditional linear plots. This dynamic form of storytelling challenges the fixed structures of classical narrative theory and requires a rethinking of how narratives can be experienced interactively.

##### **3.1.2 Media Convergence**

The convergence of multiple media platforms, such as video games, films, novels, and television, enables rich, interconnected storytelling. In games like *The Witcher 3: Wild Hunt*, narrative elements from the book series, video games, and a Netflix adaptation converge to provide a cohesive narrative experience across different media. Each medium contributes unique perspectives, characters, and plotlines that complement the overall story but are not identical, thereby enriching the narrative. This convergence allows for deeper immersion, as players encounter the story across different platforms, extending the world-building process and creating a more robust narrative experience. The interplay between media in open-world games helps to expand the narrative beyond the constraints of any single platform.

##### **3.1.3 Spatial-Temporal Analysis**

Open-world games introduce unique challenges and opportunities in terms of spatial and temporal dimensions. Unlike traditional narratives, which adhere to a set sequence of events within a fixed spatial and temporal framework, open-world games allow players to explore vast environments and experience time in a flexible manner. In games like *Red Dead Redemption 2*, time affects not only the game world but also the player's journey. Seasonal changes, character aging, and wildlife migration all impact the narrative. This fluidity of time and space is central to how open-world games develop narratives across multiple platforms. Understanding these temporal and spatial dynamics is crucial to comprehending how cross-media narratives evolve within the context of open-world games.

#### **3.2 Methodology**

This study employs a mixed methodology, combining case study analysis, qualitative research, and comparative techniques. The case studies of *The Witcher 3: Wild Hunt* and *Red Dead Redemption 2* provide a comprehensive view of how cross-media narratives evolve in open-world games. These games were chosen because of their significant narrative depth, their integration with multiple media platforms, and their innovative use of spatial-temporal dynamics.

##### **3.2.1 Case Study Analysis**

Case study analysis is an effective method for examining the practical application of cross-media storytelling in open-

world games. The Witcher 3, based on the book series by Andrzej Sapkowski, has expanded into a Netflix series, novels, and comics. Red Dead Redemption 2, although not based on other media forms, has expanded its narrative universe through its predecessor's storylines and associated media, such as books and extended universe materials. These case studies provide ample material to analyze how narratives extend beyond the gaming platform and maintain coherence across multiple media, offering a deep understanding of how cross-media storytelling is achieved.

### 3.2.2 Qualitative Research

Qualitative research methods, such as content analysis and thematic coding, are used to analyze the narratives in The Witcher 3 and Red Dead Redemption 2. Content analysis involves examining the in-game dialogue, character interactions, and environmental storytelling to identify how these narrative elements align with or differ from those in other media formats. Thematic coding is used to categorize key narrative strategies, including the role of side quests, environmental storytelling, and character development. This method helps identify how these strategies evolve across different platforms and media, offering insights into the narrative's transformation across space and time.

### 3.2.3 Comparative Analysis

Comparative analysis is employed to identify similarities and differences in the construction of cross-media narratives between The Witcher 3 and Red Dead Redemption 2. The comparison focuses on three key areas:

- (1) Narrative Structure: Examining how both games present their stories, whether through linear or non-linear paths.
- (2) Player Agency: Analyzing how player decisions shape the narrative in both games and their impact on the overall story.
- (3) Spatial-Temporal Elements: Comparing how each game uses time and space to create a dynamic world that affects narrative progression.

Additionally, the study explores how the narrative of The Witcher 3 evolves across platforms, from books to video games to the Netflix series. This comparative approach highlights the different methods of incorporating cross-media storytelling and uncovers common strategies and unique innovations that contribute to the evolving nature of game narratives.

As shown in Table 1, The Witcher 3 features branching narratives and strong player impact on outcomes, while Red Dead Redemption 2 uses an episodic structure with choices shaping character and world more subtly.

Table 1 Cross-Media Narrative Mechanisms in The Witcher 3 and Red Dead Redemption 2

Narrative Element	The Witcher 3	Red Dead Redemption 2
Primary Medium	Video game (adapted from books, Netflix series)	Video game (with books and extended universe)
Narrative Structure	Non-linear, branching paths	Non-linear, episodic with player-driven events
Player Agency	Significant impact on quests and story outcomes	Player choices influence world and character events
Temporal Dimensions	Dynamic in-game time (seasons, day/night cycle)	Passing of time affects events, world changes
Cross-Media Expansion	Expanded into a Netflix series, books, comics	Prequel books and spin-offs complement the narrative

## 3.3 Limitations of the Methodology

Although the case study approach provides valuable insights, there are limitations to this methodology. The study focuses on two games, which may not fully represent the diversity of open-world games. Each game is unique in its approach to narrative, and the methods used in these two cases may not apply universally to all open-world games. Additionally, the qualitative nature of content analysis and thematic coding may introduce subjectivity, as interpretations of the narrative may differ based on individual perspectives.

However, the chosen methodology offers a robust foundation for understanding cross-media narratives in open-world games. The case studies provide a deep dive into how narrative mechanisms evolve across platforms, while the comparative analysis highlights both the similarities and differences in how these games approach cross-media storytelling.

## 4 Findings and Discussion

### 4.1 Narrative Structure and Player Agency

One of the most significant findings from the case studies is the way in which both The Witcher 3 and Red Dead Redemption 2 utilize non-linear narrative structures. In traditional narrative forms, the plot follows a set sequence, but in these open-world games, player agency plays a central role in shaping the story. Both games allow players to influence the direction of the narrative, but they do so in different ways.

In The Witcher 3, the narrative branches based on player decisions, particularly in the main story arc and side quests.

For example, players' choices in interacting with characters such as Yennefer, Triss, or Ciri influence the storyline, leading to multiple endings. This branching narrative structure reflects the concept of narrative branching from narrative theory, where the story diverges depending on the choices made. The game also incorporates environmental storytelling, where players uncover details about the world through exploration and interactions with NPCs, further enhancing the non-linear experience.

Similarly, Red Dead Redemption 2 employs player-driven decision-making, particularly in how the protagonist Arthur Morgan engages with the world around him. However, the game's narrative is less dependent on branching paths and more focused on the evolution of the character through actions. The story progresses through episodic missions, but the player's choices impact the moral alignment of Arthur, influencing the game's ending. Unlike The Witcher 3, where player choices dramatically change the plot's direction, Red Dead Redemption 2 offers a more subtle approach, focusing on the character's development and how interactions with the world shape his fate.

As depicted in Figure 1, The Witcher 3 employs a branching narrative structure where player decisions dramatically alter the storyline, while Red Dead Redemption 2 uses an episodic narrative that emphasizes the protagonist's moral alignment and personal growth through player-driven choices.

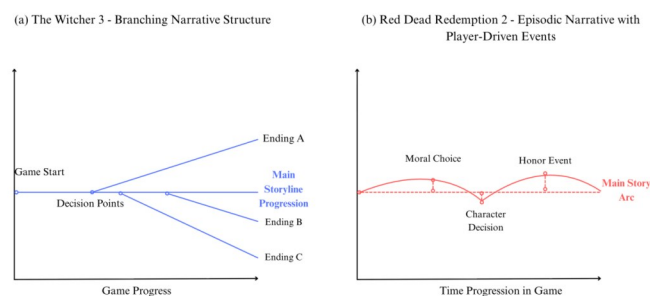


Figure 1 Branching Narrative Structure in The Witcher 3 vs. Episodic Narrative in Red Dead Redemption 2

Comparison of narrative structures in The Witcher 3 and Red Dead Redemption 2. The Witcher 3 employs branching narrative paths, while Red Dead Redemption 2 uses a more linear episodic structure with player choice influencing moral alignment.

Both games allow for a high degree of player agency, but The Witcher 3 offers more direct control over the plot's outcome, whereas Red Dead Redemption 2 places more emphasis on the protagonist's internal journey. This distinction highlights the diverse ways in which open-world games can utilize player choice within cross-media narratives. The difference in narrative approach also influences the type of stories that are suited to these games. The Witcher 3 is more suitable for epic narratives with multiple outcomes, while Red Dead Redemption 2 excels in intimate, character-driven stories that focus on moral choices and personal growth.

## 4.2 Spatial-Temporal Dimensions in Narrative Evolution

The integration of spatial and temporal elements plays a crucial role in both games, but they are utilized differently. In The Witcher 3, time is fluid and changes depending on the location within the game world. Seasons shift, the day-night cycle influences gameplay, and the story progresses within this dynamic temporal framework. This flexible use of time is essential for creating an immersive world where the environment reacts to the player's actions and the narrative unfolds based on the temporal context.

On the other hand, Red Dead Redemption 2 employs a more deliberate approach to time, where the passage of time is closely tied to the world's events. Seasonal changes, the aging of characters, and the environmental impact of the player's choices are all central to the story. Time in Red Dead Redemption 2 is not just a background element; it is intricately woven into the narrative, affecting both the world's state and the characters' relationships. For instance, the game's changing seasons reflect the shifting moods of the characters, with winter symbolizing a period of hardship and reflection, and spring representing new beginnings.

The integration of time and space within these games exemplifies spatial-temporal analysis, where both temporal and spatial dimensions are used to enhance the narrative experience. In The Witcher 3, the player's journey is shaped by the environment, with specific events triggered by changes in time, such as quests that can only be undertaken at night or during particular seasons. In contrast, Red Dead Redemption 2 uses time more strategically to highlight character development, with the temporal flow directly impacting how players perceive the protagonist's journey.

As shown in Figure 2, The Witcher 3 uses time dynamically for quest triggers, while Red Dead Redemption 2 ties time closely to character development and world changes.

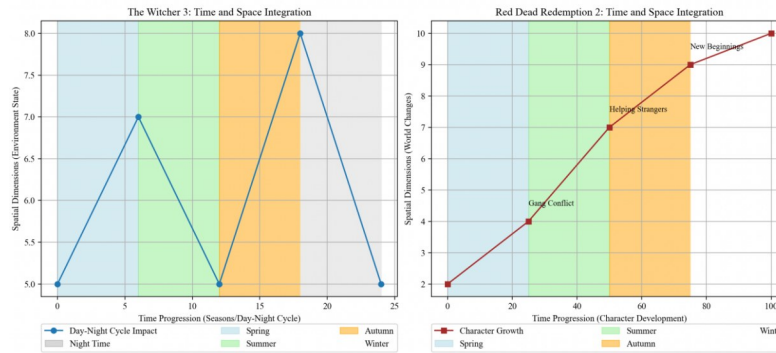


Figure 2 Temporal and Spatial Dynamics in The Witcher 3 vs. Red Dead Redemption 2

Comparison of how time and space are integrated into the narrative in *The Witcher 3* and *Red Dead Redemption 2*. *The Witcher 3* uses time dynamically within quests, while *Red Dead Redemption 2* ties time more closely to character and world development.

### 4.3 Cross-Media Expansion and Narrative Cohesion

Both *The Witcher 3* and *Red Dead Redemption 2* extend their narratives beyond the video game through other media, contributing to the cross-media storytelling experience. *The Witcher 3* is part of a broader franchise that includes novels, comics, and a Netflix series. The game's narrative remains largely consistent with the world presented in the novels, but it also expands the story by adding new characters and events that enrich the overarching plot. The TV series adapts the world of *The Witcher* for a different medium, introducing new storytelling techniques that differ from the game but still contribute to the same universe.

In contrast, *Red Dead Redemption 2* has expanded through official books and spin-offs that provide additional backstory for the characters and settings, though the game itself remains the core of the narrative. The game's narrative has a more self-contained structure, with the additional media offering complementary insights into the world and characters. While *The Witcher 3* offers a direct expansion across platforms, *Red Dead Redemption 2* opts for a more conservative approach, enhancing the narrative without altering the core experience.

Both approaches have their strengths. *The Witcher 3* benefits from a strong cross-media presence that enhances its world-building, while *Red Dead Redemption 2* maintains a more focused, game-centric narrative that is deepened by supplementary materials. The two strategies represent different approaches to cross-media storytelling, with *The Witcher 3* embracing a more expansive narrative universe and *Red Dead Redemption 2* focusing on a cohesive, player-driven experience.

### 4.4 Discussion: Innovative Cross-Media Storytelling Mechanisms

The comparison of *The Witcher 3* and *Red Dead Redemption 2* highlights key insights into the evolution of cross-media narratives in open-world games. Both games demonstrate how player agency shapes the narrative across platforms. *The Witcher 3* features branching paths where choices lead to different outcomes, while *Red Dead Redemption 2* focuses on subtle decisions that affect character development and the world.

The spatial-temporal elements in both games are crucial to their narrative experiences. *The Witcher 3* uses dynamic time (e.g., day-night cycle, seasons) to structure quests, while *Red Dead Redemption 2* ties time directly to character arcs and world events. This reflects different storytelling approaches: *Red Dead Redemption 2* emphasizes realism and personal growth, while *The Witcher 3* offers flexibility in time to create diverse narrative paths.

Both games also expand beyond the game itself. *The Witcher 3* extends its narrative through novels and a Netflix series, offering new perspectives, while *Red Dead Redemption 2* uses supplementary materials to deepen the story. These approaches highlight the importance of maintaining coherence while expanding across media.

In conclusion, these findings reveal the complexity of cross-media narratives in open-world games and how they evolve across platforms. The next chapter will summarize these insights and suggest future research directions in this dynamic field.

## 5 Conclusion

This study explored the evolution of cross-media storytelling mechanisms in open-world games, focusing on *The*

Witcher 3: Wild Hunt and Red Dead Redemption 2. The comparison revealed how these games utilize player agency, spatial-temporal dynamics, and cross-media expansion to create immersive and evolving narrative experiences.

First, the analysis highlighted how player choices shape not only the in-game experience but also the narrative's extension across platforms. The Witcher 3 employs branching storylines, allowing for different outcomes based on decisions, while Red Dead Redemption 2 uses more subtle, character-driven choices to influence the game's world and protagonist. Both games demonstrate the power of player agency in influencing the narrative direction, a key characteristic of open-world games.

Second, the spatial and temporal elements in both games play a crucial role in their storytelling. The Witcher 3 dynamically uses time to influence quest structures, while Red Dead Redemption 2 tightly integrates time with character arcs, emphasizing realism and growth. These distinct approaches illustrate how time and space can shape the narrative experience in open-world games, offering different layers of immersion for players.

Finally, the cross-media expansion of both games exemplifies how narratives can transcend the gaming platform. The Witcher 3 extends its narrative into novels and a Netflix series, while Red Dead Redemption 2 complements its story with supplementary materials. Both strategies show the importance of maintaining narrative coherence while expanding across multiple media formats.

In conclusion, this study underscores the innovative ways cross-media storytelling is employed in open-world games. The findings contribute to a deeper understanding of narrative evolution in interactive media and provide valuable insights for future research on the dynamic intersection of games, storytelling, and media convergence.

## About the Author

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