From Screen to Page: How Anime Adaptations Influence Manga Sales

Abstract

Understanding audience engagement is central to effective marketing and media strategies. This study employs a regression discontinuity design (RDD) on weekly manga sales around key anime adaptation dates to estimate the causal impact of anime adaptations on manga sales. While anime premieres and finales show minimal direct effects, pre-release advertisements substantially boost manga sales approximately three weeks prior to airing, highlighting the power of marketing as a driver of consumer interest.

Introduction

Adaptations have long been pivotal in entertainment, transforming written stories into visual spectacles. Classic fairy tales such as *Cinderella* and *Snow White* began as literary works, evolved into animated films, and eventually inspired live-action remakes. Films like *The Wizard of Oz* (1939) and *Harry Potter* (2001) further demonstrate the central role adaptations play in media economics. Recently, video games like *League of Legends* have joined this trend with shows such as *Arcane* (2021).

However, studying adaptation effects can be challenging due to limited public data from private entertainment companies. To address this, accessible data from Japanese anime and manga were utilized to analyze how anime adaptations influence manga sales.

Anime traditionally involves meticulous frame-by-frame animation, often adapted directly from manga—Japan's popular graphic novels. While many anime series originate from manga, not every manga is adapted, nor are all anime adaptations faithful or successful.

This paper examines how anime adaptation events, specifically season premieres and finales, influence manga sales. Whether anime broadcasts trigger significant changes in manga consumption was analyzed, using regression discontinuity design on weekly manga sales data aligned with adaptation dates.

Institutional Context and Marketing Channels

Anime and manga operate within a tightly integrated media-mix ecosystem in Japan. Publishers often coordinate with animation studios and television networks months before broadcast, with promotional materials—including trailers (PVs), posters, and collaboration campaigns—dropping 2–4 weeks prior to the premiere. These campaigns often target existing manga readers and anime fans through digital platforms (YouTube, Twitter), print advertisements in *Weekly Shonen Jump*, and retail displays in stores like Tsutaya and Animate.

As such, manga sales prior to an anime's debut may reflect consumer response to advertising rather than new audience acquisition. Understanding this institutional pipeline contextualizes the observed three-week pre-release sales spike as a strategic marketing phenomenon, not a byproduct of the broadcast itself.

Genre Preferences in Anime Adaptations

Anime adaptations often favor visually compelling and narratively engaging genres. Analysis of genre proportions from the AniList database reveals distinct differences in adaptation likelihood based on genre characteristics. Specifically, genres such as **comedy** (56.5% adapted vs. 39.6% non-adapted, difference: +16.8%), **fantasy** (29.9% adapted vs. 22.8% non-adapted, difference: +7.1%), and **action** (32.8% adapted vs. 26.1% non-adapted, difference: +6.8%) are adapted into anime more frequently compared to their proportions among non-adapted manga series.

On the other hand, genres more reliant on intricate narratives rather than visual spectacle, such as **romance** (41.3% adapted vs. 48.1% non-adapted, difference: -6.8%) and **drama** (32.9% adapted vs. 39.5% non-adapted, difference: -6.6%), are slightly less represented among adaptations.

Genre	Adapted Proportion	Non-Adapted Proportion	Difference
Comedy	56.5%	39.6%	+16.8%
Fantasy	29.9%	22.8%	+7.1%
Action	32.8%	26.1%	+6.8%
Adventure	19.7%	13.1%	+6.6%
Slice of Life	28.2%	22.3%	+5.9%
Supernatural	18.3%	13.3%	+5.0%
Romance	41.3%	48.1%	-6.8%
Drama	32.9%	39.5%	-6.6%

These genre tendencies align narratively with the visual strengths of televised media: flashy action sequences, fantastical worlds, and comedic timing translate effectively to engaging visual storytelling. In contrast, the subtle emotional or narrative-driven storytelling in romance and drama might not translate as easily or immediately to visually captivating television content.

Data

The analysis relies on a comprehensive dataset combining weekly manga sales from MangaCodex.com with anime metadata from AniList.

Weekly Manga Sales Data

Weekly sales data were collected from MangaCodex, a repository of Oricon's manga sales rankings. Oricon is a renowned Japanese firm known for accurate entertainment market data.

- Web crawlers identified and collected URLs of weekly manga sales charts.
- Data from these URLs were scraped and stored in CSV files.
- CSV files were combined and extensively cleaned to correct inconsistencies, missing data, and typographical errors, ensuring accurate title matching.

Anime and Manga Metadata

Detailed anime adaptation metadata were obtained through the AniList API, which provides structured and comprehensive information about anime and manga, including adaptation status and broadcast dates.

- Queries to the AniList API retrieved titles, formats, and adaptation relationships.
- Official Romaji titles from AniList standardized the title matching process.

Title Matching

Merging MangaCodex and AniList data required fuzzy matching due to discrepancies in naming conventions:

- Typos and naming inconsistencies within MangaCodex listings.
- Non-standard naming practices, including serialization names and volume-specific identifiers.

A token-based fuzzy string matching algorithm aligned sales data with accurate AniList metadata. This merged dataset enabled precise tracking of manga sales relative to anime adaptation events.

Analysis

Anime premieres were utilized as proxies for heightened consumer visibility. The analysis was confined to TV-broadcast anime, the most prevalent and marketed adaptation form. Initial visualizations demonstrated manga sales trends around critical anime release windows:

A notable sales spike appears roughly three weeks before anime premieres, corresponding with peak advertising periods in Japan. This observation guided the subsequent regression discontinuity analysis.

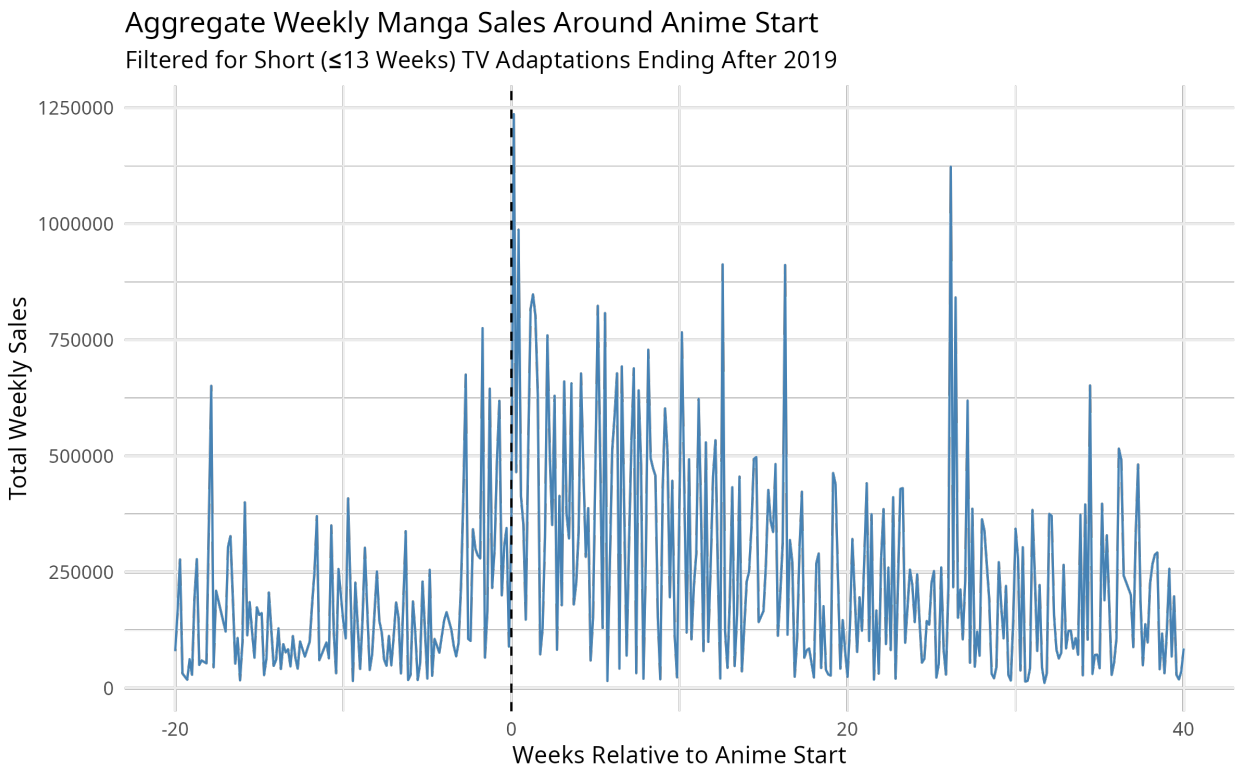

Figure 1: Aggregate Sales around Anime Premieres

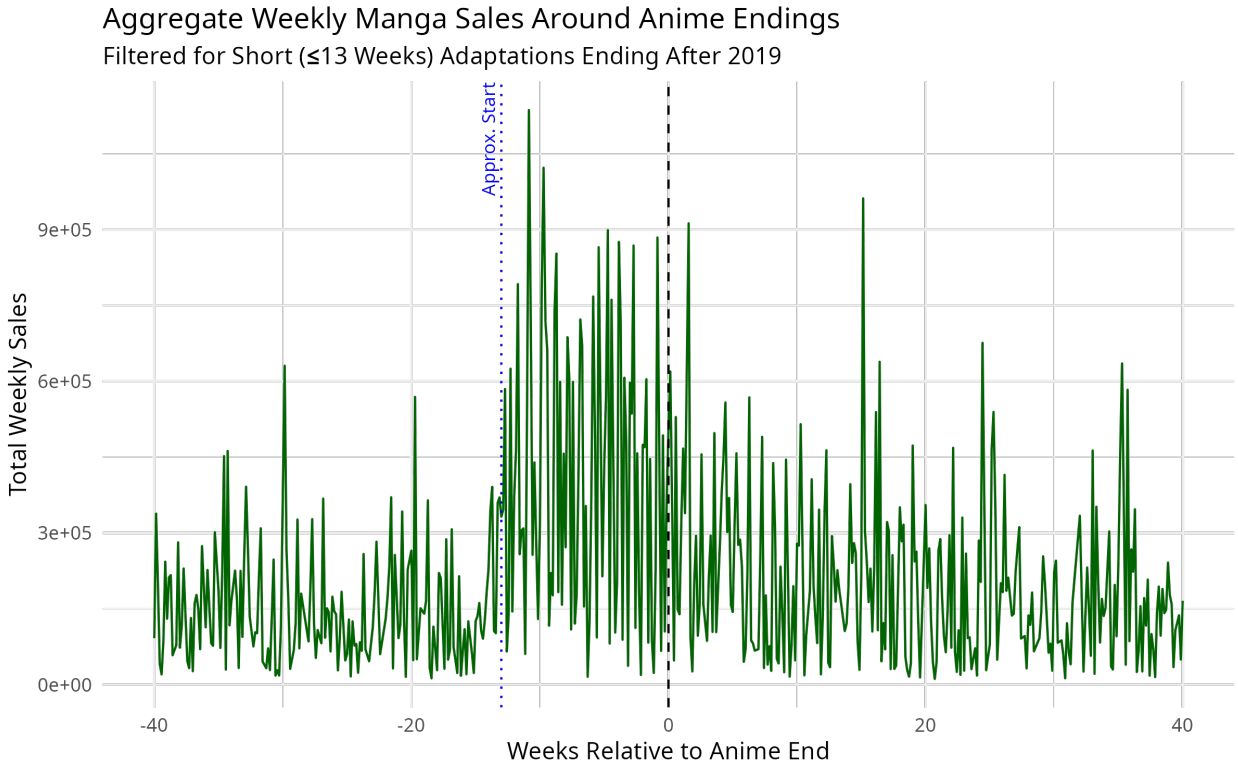

Figure 2: Aggregate Sales around Anime Finales

An RDD was applied using two-week bins around the estimated advertising window. Weekly manga sales were log-transformed to stabilize variance:

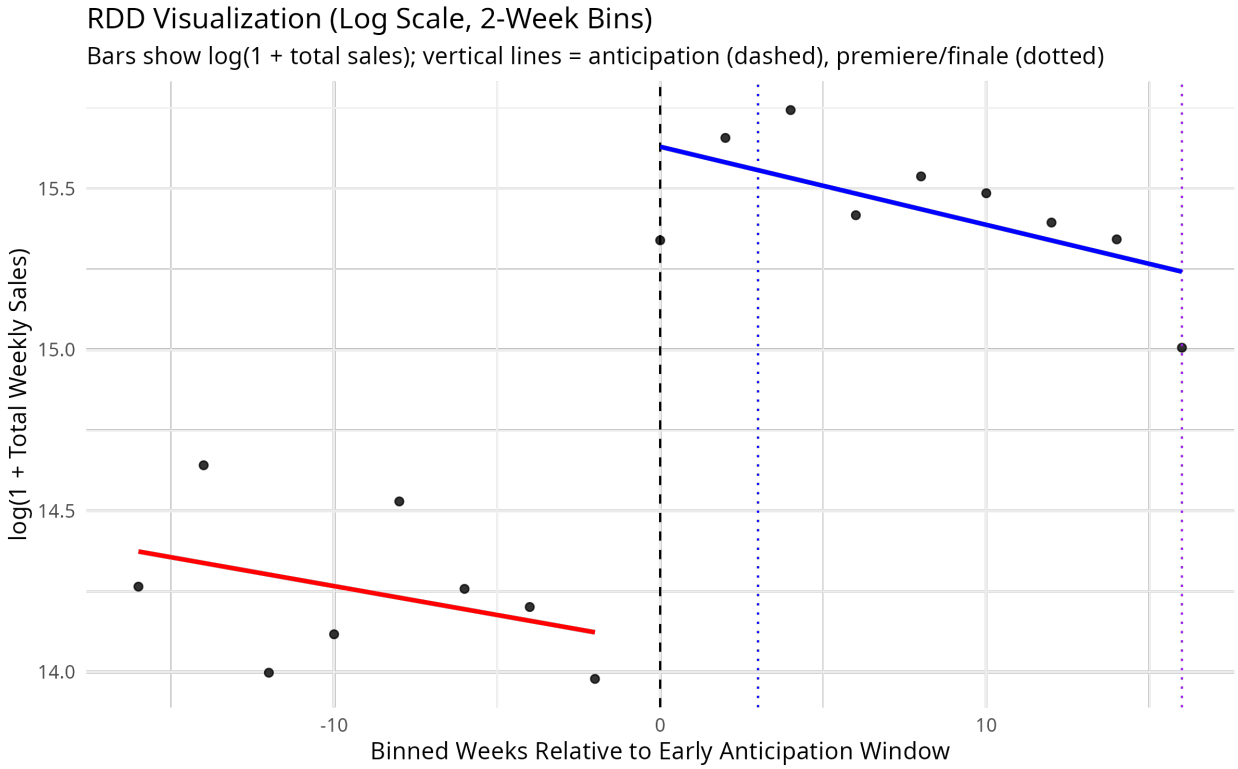

Figure 3: RDD around Anime Advertisement Period

RDD results confirmed a significant sales increase coinciding with pre-anime advertisements.

Genre-Specific Visibility and Advertising Effects

Directly attributing causal effects by genre is challenging due to the multi-genre nature of manga. However, genre-specific visibility patterns can still offer valuable insights. The table below highlights selected genres, illustrating the proportion of manga series appearing on sales charts **only after** anime-related advertising began:

Genre	Total Series	% Never on Chart Pre-Ads
Mecha	6	100.0%
Sci-Fi	20	70.0%
Horror	19	57.9%
Fantasy	76	53.9%
Action	79	53.2%
Comedy	143	49.7%
Romance	117	40.2%
Psychological	21	28.6%

Genres associated with visually striking content (**mecha**, **sci-fi**, **horror**, **fantasy**, and **action**) show higher proportions of manga gaining initial visibility only after advertising, suggesting a strong visual appeal in televised adaptations. Conversely, genres more reliant on narrative depth, such as **romance** and

psychological, show lower proportions, indicating either established readerships or less advertising-driven visibility gains.

This focused genre comparison underscores how the visual and narrative characteristics of manga genres influence their market response to anime adaptation marketing.

Results

Popularity and manga release dates primarily drive manga sales. The analysis supports a significant pre-premiere sales spike, attributed to heightened advertising and consumer anticipation. This spike underscores how anime advertisements effectively stimulate manga sales prior to broadcast.

Contrary to expectations, anime finales did not yield significant changes in manga sales, suggesting minimal direct migration from anime viewers to manga readers post-broadcast. This indicates either a balanced shift in consumer interest or negligible cross-media migration within the Japanese market.

The advertising-driven sales spike is robust even after controlling for visibility biases. Many manga series enter sales charts only after anime marketing begins:

Time Period	Count
Pre	262
Post	1415
Total	1677

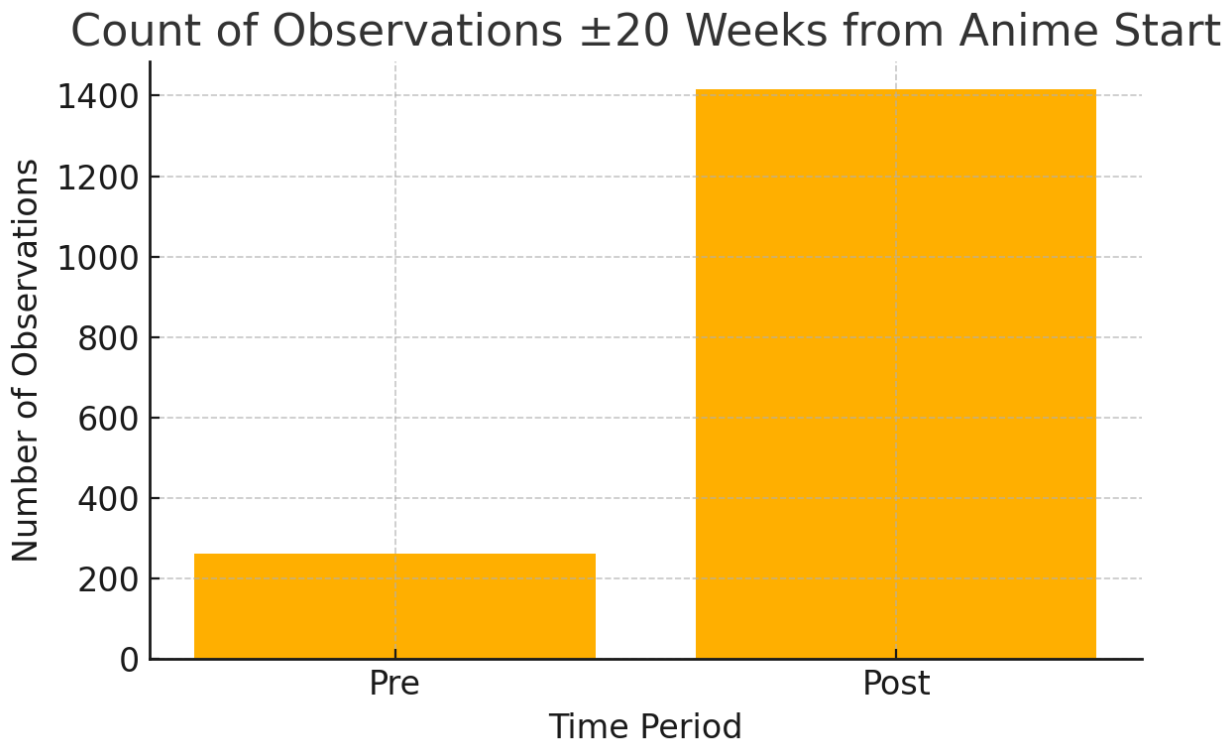

Figure 4: Chart Appearances Pre/Post Advertisement

Approximately 50% of manga series appearing post-advertisement had not charted previously, emphasizing advertising's role in elevating overlooked titles. Even after filtering to series present before advertisements, significant sales increases remain visible, affirming the advertising effect:

Time Period	Count
Pre	262
Post	904
Total	1171

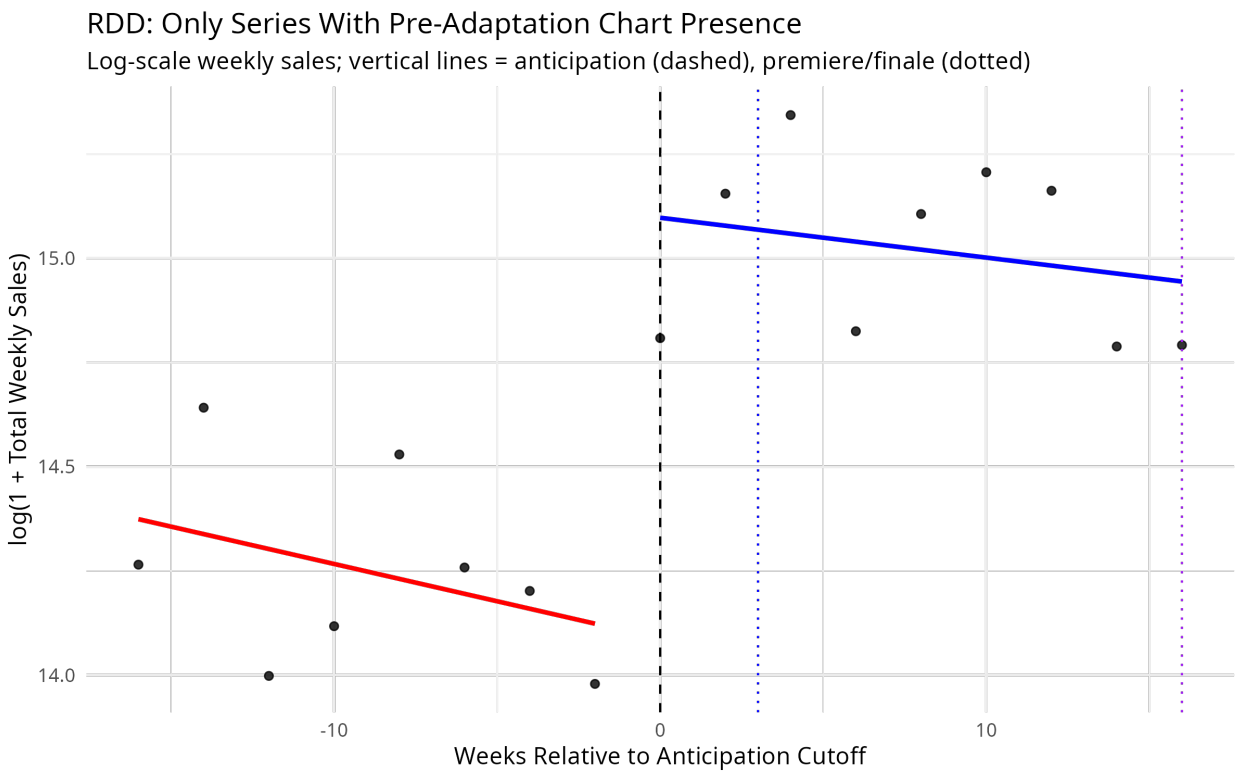

Figure 5: Filtered Pre-Advertisement Manga Sales

Thus, anime advertisements act primarily as initial visibility enhancers, driving sustained manga sales rather than immediate post-premiere spikes.

Conclusion

Anime adaptations primarily boost short-term manga visibility rather than long-term engagement. Manga sales significantly increase in anticipation of anime premieres due to effective pre-release advertising. Post-premiere effects are less clear, with minimal evidence suggesting sustained cross-media engagement. Thus, strategic marketing is critical for maximizing manga sales around anime adaptation events.

Appendix

A: Data Collection Procedure

The data collection combined web scraping, API querying, and database management techniques. Weekly manga sales data were gathered via web scraping from MangaCodex.com, an unofficial source for Oricon's manga rankings. The scraping employed Python libraries `requests` and `BeautifulSoup` to send HTTP requests, parse HTML, and systematically store extracted data in structured CSV files. Afterwards, all CSV files were merged into a single comprehensive dataset, covering weekly manga sales from 2009 to 2023.

Metadata detailing anime adaptations were acquired using the AniList API. Python scripts queried the API for comprehensive anime and manga information, such as adaptation relationships, broadcast formats, genres, and release dates. Responses from the AniList API were parsed and structured into CSV files, enabling efficient merging with manga sales data.

B: Fuzzy Matching Algorithm

To accurately merge manga sales data from MangaCodex with detailed metadata obtained from AniList, a fuzzy matching algorithm was implemented. This algorithm tackled discrepancies caused by different naming conventions, typos, serialization variants, and title language variations (Japanese Romaji versus English titles). Utilizing the `rapidfuzz` library, the matching procedure involved generating similarity scores through token-based matching techniques.

Each title from the sales dataset was systematically compared against an extensive list of official AniList titles, including both Romaji and English variations, ensuring comprehensive coverage. The algorithm selected matches based on a defined similarity threshold that was iteratively adjusted to optimize accuracy. Ambiguous or borderline cases, identified through moderate similarity scores, were manually reviewed and corrected to enhance dataset reliability further. Alternative similarity metrics such as Levenshtein distance were also tested.

C: GitHub Repository

The full analytical workflow, from data collection and cleaning to visualization and regression analysis, is publicly accessible via a GitHub repository. This repository includes Python scripts and R markdown files that document the entire analytical pipeline, clearly outlining steps for reproducing figures and tables. Comprehensive documentation within the repository provides clear instructions on setup, required packages, and execution order, facilitating transparency and replicability.

The repository can be accessed at GitHub Repo.

D: Data Sources

Weekly manga sales data were exclusively sourced from MangaCodex.com, which compiles authoritative manga sales rankings from Oricon. Metadata detailing anime adaptations and related manga series information was obtained via the AniList API, a structured resource that includes comprehensive records of anime titles, adaptation relationships, broadcast formats, and release dates.

E: Limitations

While the analysis is comprehensive, several limitations should be acknowledged. First, the dataset's coverage is constrained by publicly available sales data and AniList metadata, excluding less popular or niche manga series not captured in Oricon rankings. As manga become less popular, they fall off the charts, no longer recorded. This trend may lead to an underrepresentation of certain titles in the dataset. Second, although carefully implemented, the fuzzy matching process inherently carries a risk of minor inaccuracies due to ambiguous or incomplete title information. Finally, despite the robust statistical methods employed, unobserved confounding factors inherent in observational data may still impact the causal estimates, necessitating cautious interpretation of results.