

Investigating how the digital publishing industry influences print publishing industry in Japan during the period from 2014 to 2021 based on annual sale values

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# Introduction

Influence and popularity of digital publishing industry



whether the future publishing market will be dominated by digital publishing ?

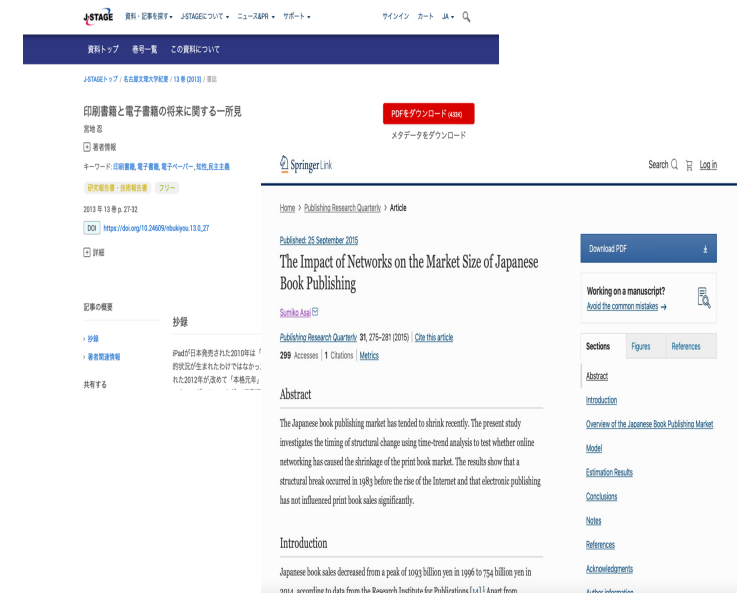
Research shown that in Japan

- market was dominated by printed publishing (Miyachi, 2003)
- digital publishing has not influenced the sale values of printed publishing (Asai, 2015)

However, these conclusions may not be valid in the current circumstances, as most studies were conducted before 2015



a gap in understanding the influence in recent years



## Reference

<https://design.tutsplus.com/articles/what-is-an-ebook--cms-37390>

MIYACHI, S. (2013) A Perspective about the Future of Print Books and Electronic Ones. *Journal of Nagoya Bunri University*. 13, 27–32. doi:10.24609/nbukiyou.13.0\_27.

Asai, S. (2015) The Impact of Networks on the Market Size of Japanese Book Publishing. *Publishing Research Quarterly*. 31 (4), 275–281. doi:10.1007/s12109-015-9426-3.

# Aim

The aim of this project was to investigate how the digital publishing industry has influenced the print publishing industry in Japan from 2014 to 2021, specifically focusing on the relationship between the sale values of the print and digital publishing industries

Our hypothesis was that the increase in the sale values of digital publishing will lead to a decrease in the sale values of print publishing in Japan

# Method

## Collection source

All data were collected from the publishing industry research page in Japan in Statista

(<https://www.statista.com/topics/9291/publishing-industry-in-japan/>)

## Collection type

Annual sale values of the print publishing industry and digital publishing industry in billion Japanese yen from 2014 to 2021 in Japan (include books, magazines, and comic books)

## Analysis method

Simple linear models and non-linear models using non-linear least squares

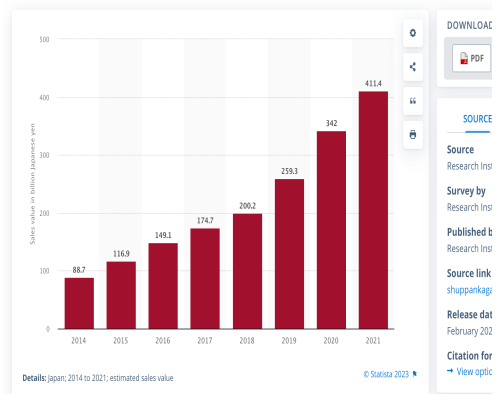
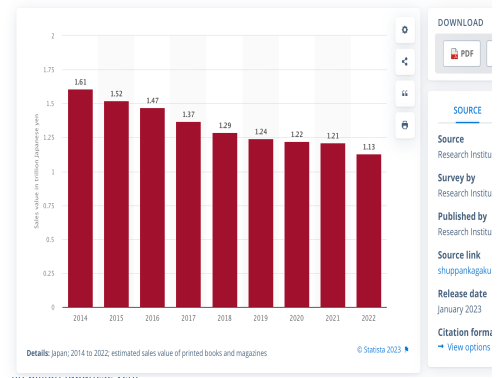
Explanatory variable → sale values of digital publishing

Response variable → sale values of printed publishing



Media > Books & Publishing

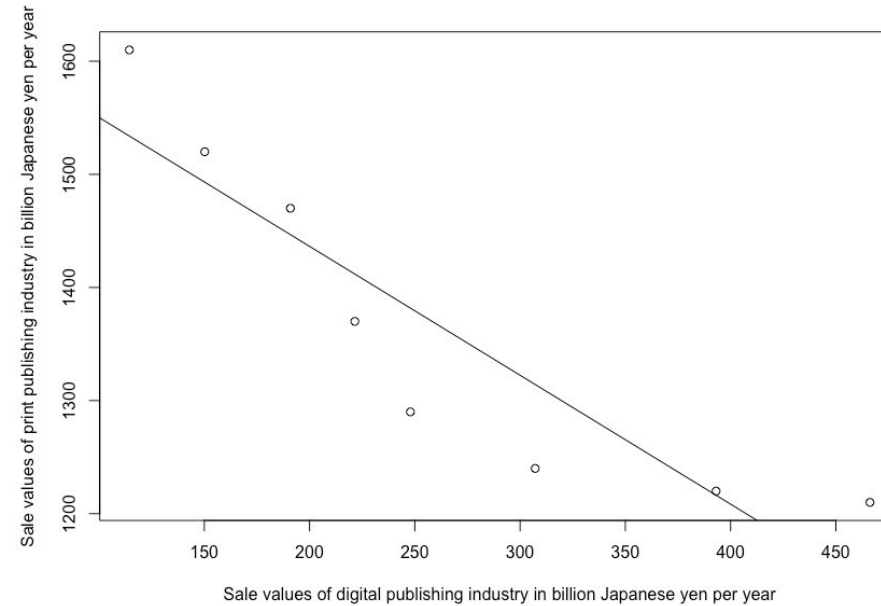
Sales value of the print publishing industry in Japan from 2014 to 2022  
(in trillion Japanese yen)



# Result

Digital and printed publishing industries

Simple linear model

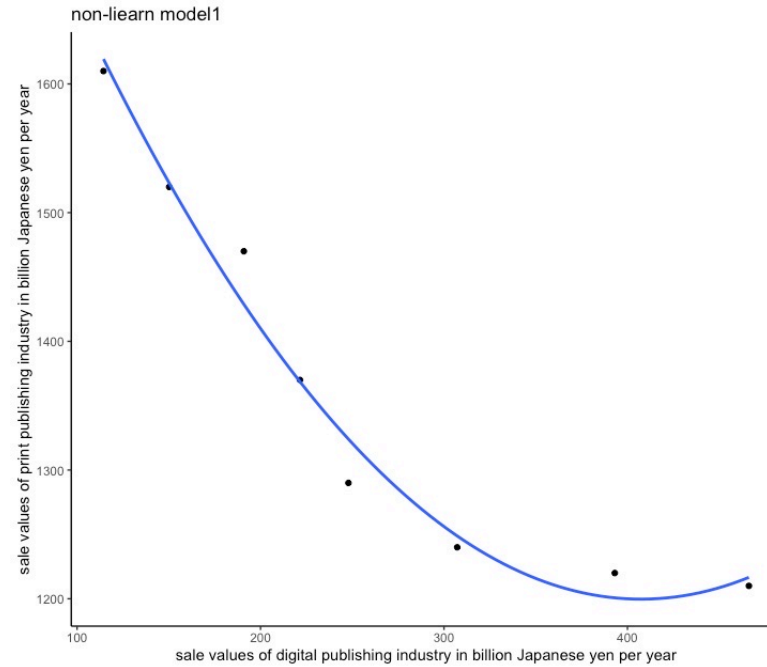


An increase of 1 billion Japanese yen in the digital publishing industry will lead to a decline of 1.14 billion Japanese yen in the printed publishing industry in Japan ( $p < 0.05$ ,  $R^2 = 0.79$ , F-statistic = 27.77, degree of freedom = 6)

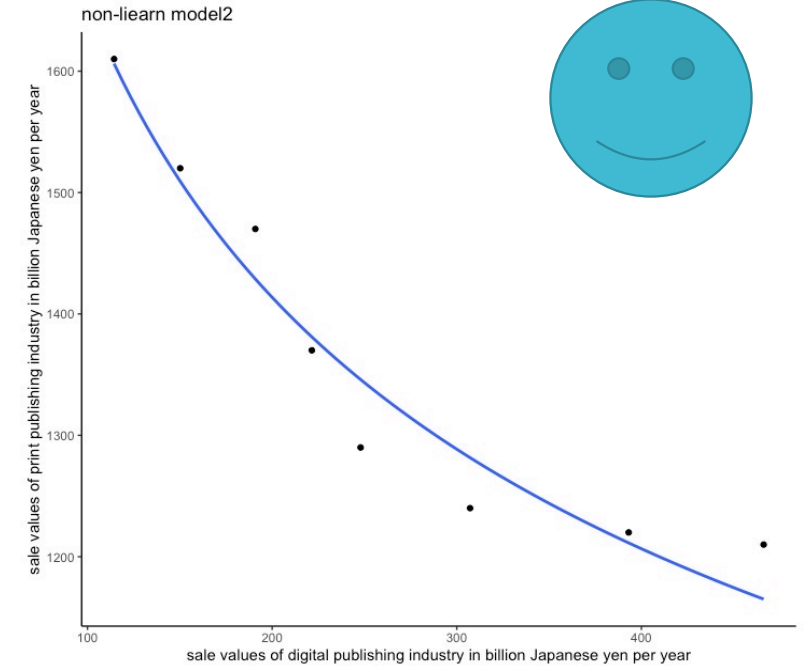
# Result

## Digital and printed publishing industries

### Non-linear models



$$y = 0.0049x^2 - 3.98x + 2011$$

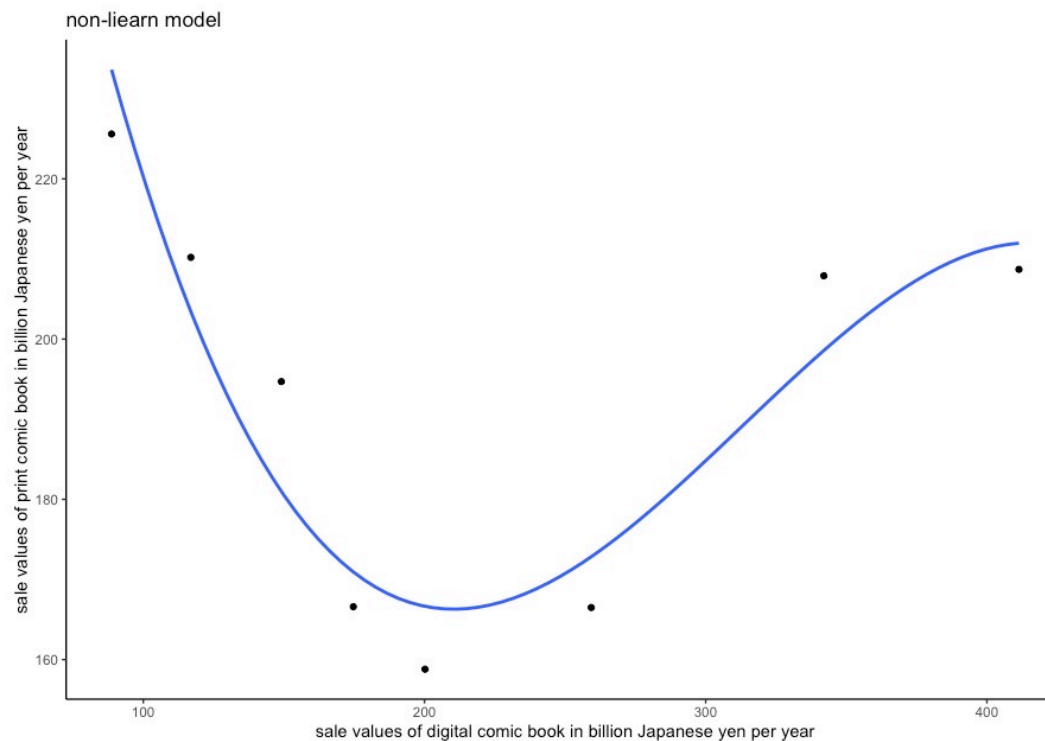


$$y = 4611.7x^{-0.223}$$

# Result

Digital and printed comic books

Non-linear models



$$y = -0.00001x^3 + 0.0099x^2 - 2.78x + 400$$

# Result

## Digital and printed publishing industries

- Annual sale values of the digital publishing industry growth could lead to a decrease in the annual sale values of the printed publishing industry across all three models
- However, despite this trend, the printed publishing industry still dominated a significant portion of the market, with annual sale values three times greater than that of the digital publishing industry in Japan in 2021

## Digital and printed comic books

- An increase in the annual sale values of digital comics initially decreased the annual sale values of printed comics
- But when digital comic sales exceeded 210 billion Japanese yen, the increase started to promote the annual sale values of printed comic books



# Discussion

Why sale values of printed publishing industry decrease?

- Increase in the second-hand market in Japan (Asai, 2015)

Why current market is still dominated by print publishing rather than digital publishing?

- Misunderstanding of adolescents' preferences
- No evidence to suggest that adolescents prefer digital publishing to print publishing (Merga, 2015).

Reading experience

- People have different preferences for reading on print paper or digital screens based on personal experiences (Bao et al., 2019)
- Comic books on a digital screen is better than on print paper ➡ increase in the sales of digital comic books
- Complex attitudes toward books and magazines ➡ why the annual sale values of print books and magazines are still higher than digital ones, even though the annual sale values of print books and magazines show a declining pattern

## Reference

- Asai, S. (2015) The Impact of Networks on the Market Size of Japanese Book Publishing. *Publishing Research Quarterly*. 31 (4), 275–281. doi:10.1007/s12109-015-9426-3.
- Merga, M. (2015) Do Adolescents Prefer Electronic Books to Paper Books? *Publications*. 3 (4), 237–247. doi:10.3390/publications3040237.
- Bao, S., Kuboki, R., Iijima, R., Minagawa, H., Yamanaka, K. & Mizuhiki, T. (2019) Printed Book or E-book, Which is Better? An Investigation using Manga and Magazine. *International Journal of Affective Engineering*. 18 (1), 9–16. doi:10.5057/ijae.IJAE-D-17-00038.

# Limitation

## Limited collected data

- 32 values of sale values
- Only in Japan

## Selection of data source

- Different sources could provide different values for the same data point

## Other factors


- Annual salaries
- Covid

# Conclusion

Analysis indicates that the digital publishing industry has led to a contraction of the print publishing industry in Japan between 2014 and 2021

However, due to limitations in data collection and source selection, the results are uncertain

Further research could explore the impact of additional factors, such as annual salaries and covid, on the interplay between print and digital publishing industries on a global scale

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Thanks for listening!

Questions?