uc3m | Universidad Carlos III de Madrid

# Research Collaboration Network

Coauthorship network between STEM and HSS disciplinary areas


**Computation Social Sicnece**

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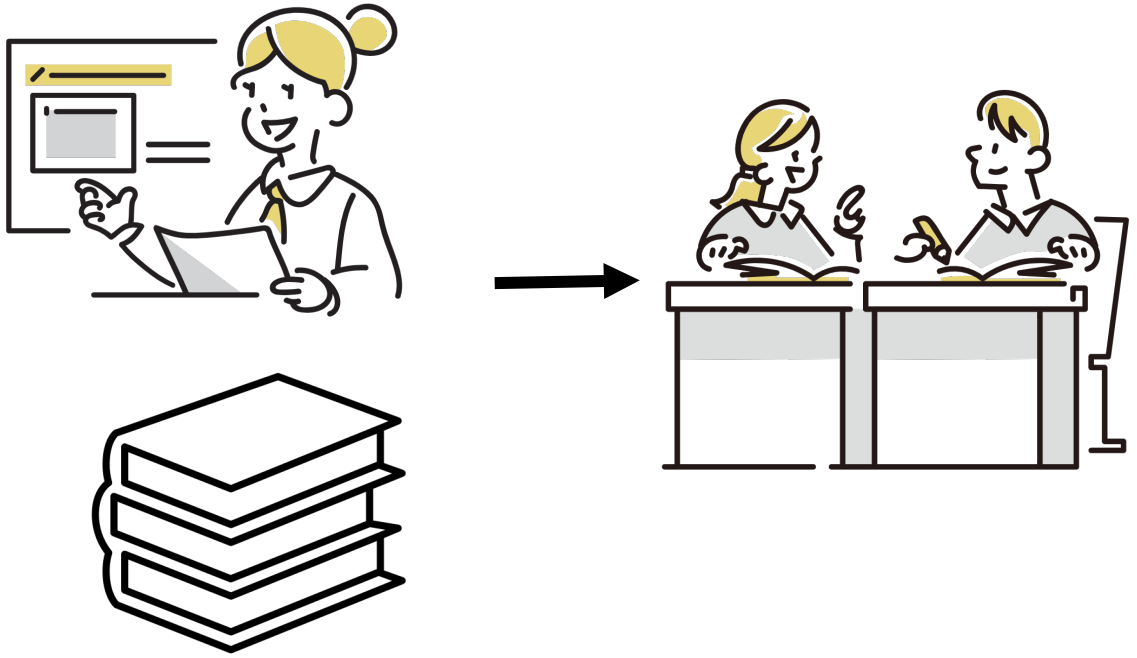
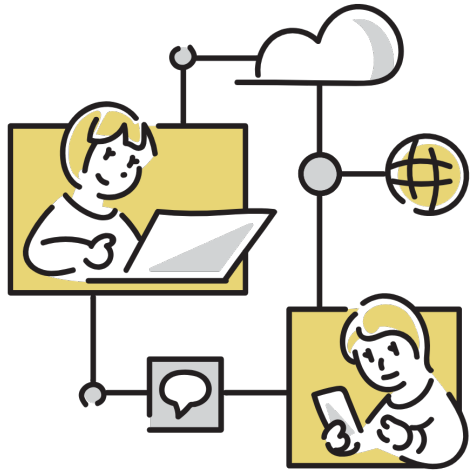
# 1 . Introduction

Network analysis has been extensively conducted by numerous researchers across various academic disciplines, encompassing social networks, biological networks, the World Wide Web, internet networks, and brain networks (Boccaletti 2006)

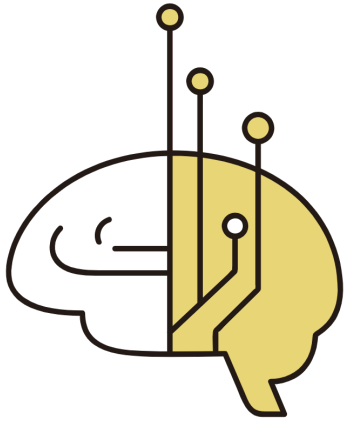



# 2. Previous Works

## Research Collaboration within STEM




## Co-authorship network between STEM and HSS



Artificial Intelligence

Education

# 3. Data and Description

01 **HTTP GET Request**

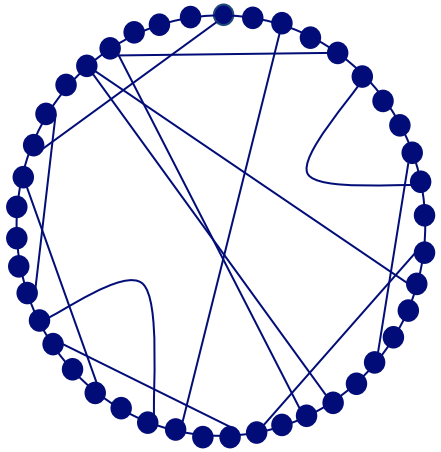
02 **Academic Fields**

STEM (Computer Science, Physics, Engineering, and Mathematics)
HSS (Arts and Humanities, and Social Science)

03 **Data Description**

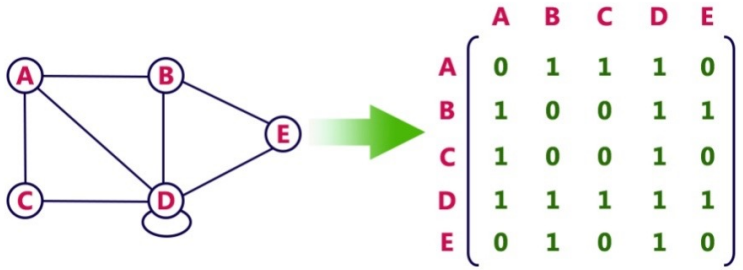
2014 — 2024


# 3. Descriptive Statistics

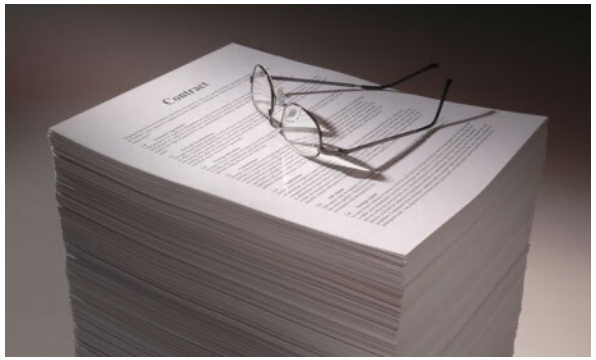


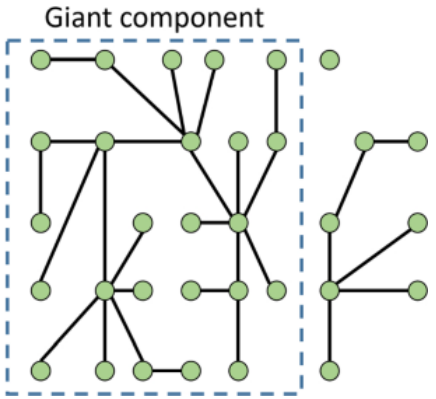
**Small World Theory**

Milgram (1967)




**Adjacency Matrix**

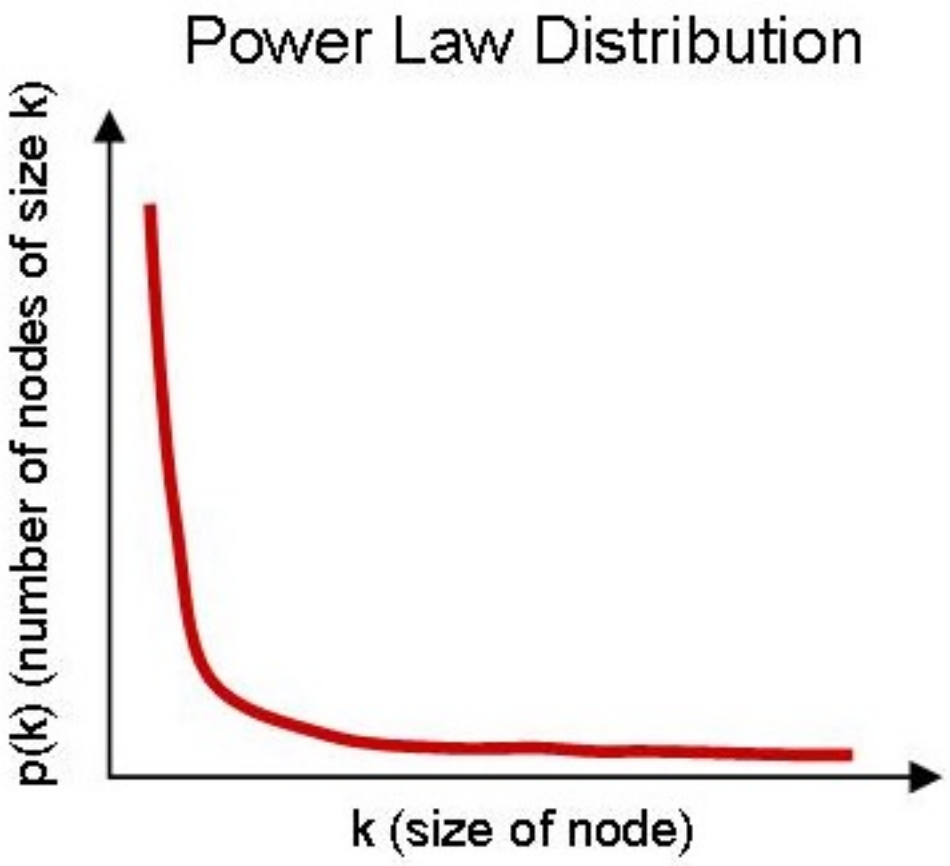


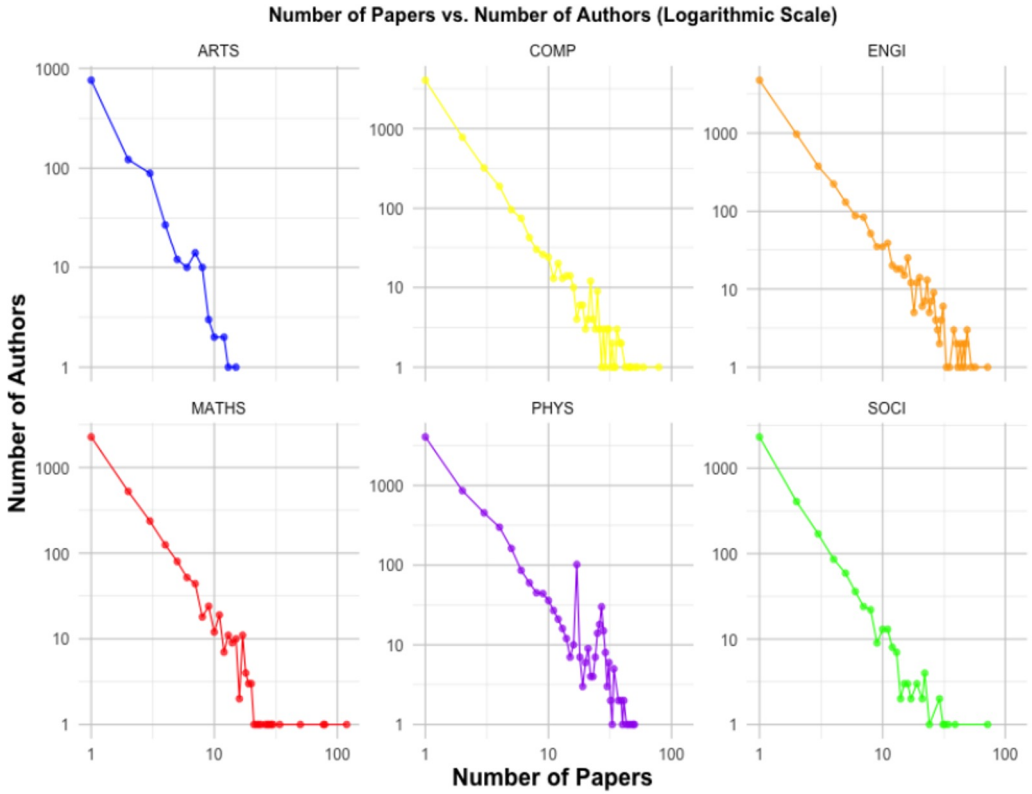



**Network Statistics**

# 4. Network Analysis

Network Analysis of 6 different academic fields

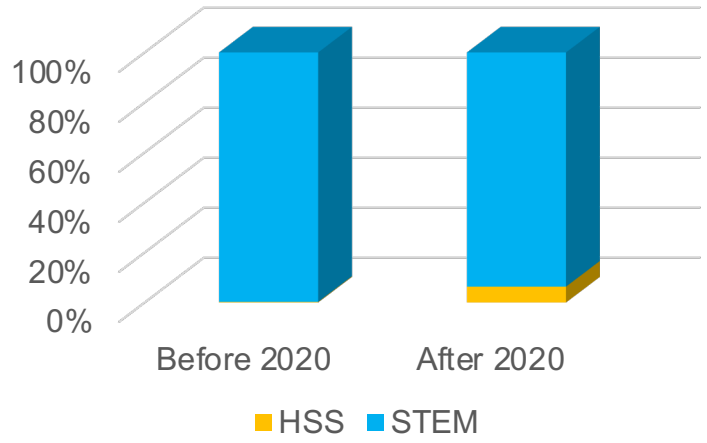


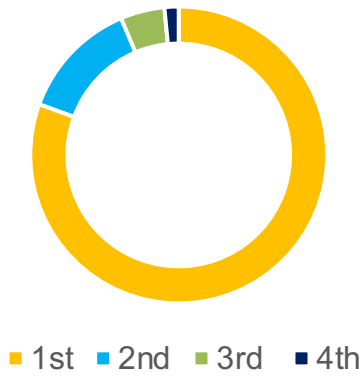
# 4. Interdisciplinary Network Result

## 1. Basic Statistics

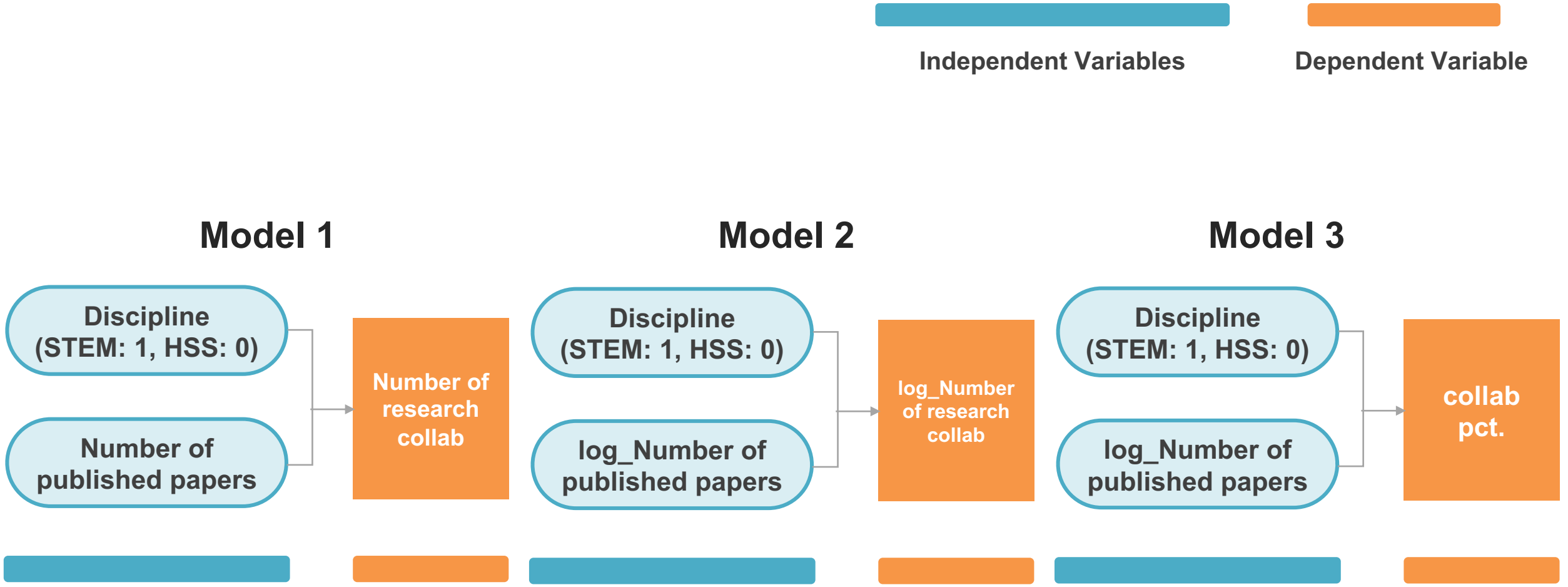

## 2. Giant Component Size Evolution



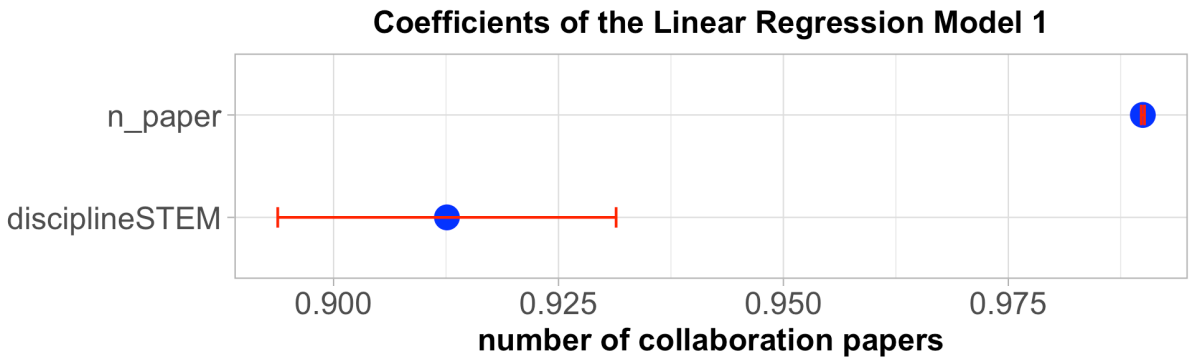

## 3. Community Detection

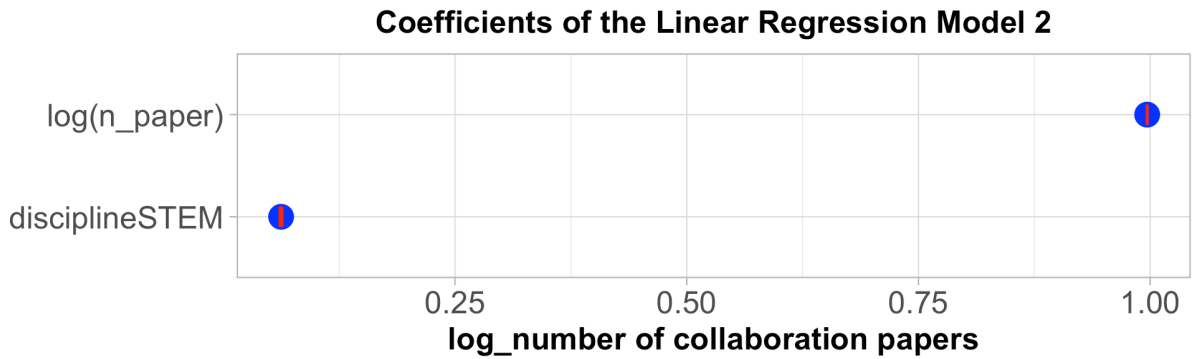


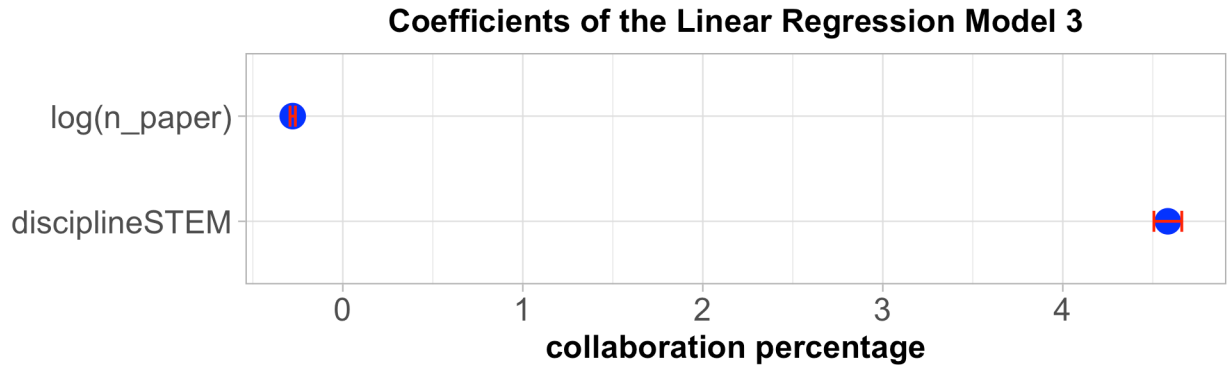
# 5. Analytical Models



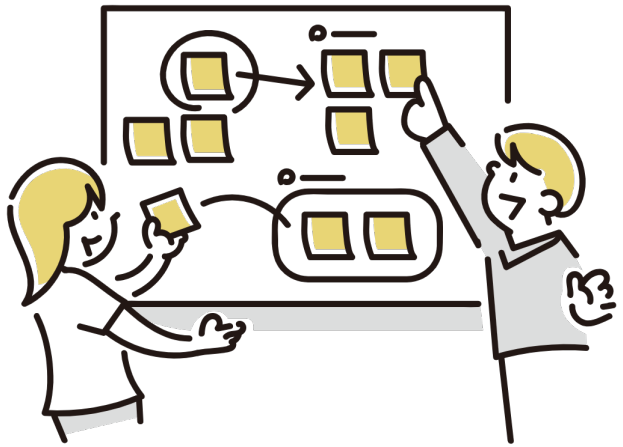
# 5. Analytical Models Result



# 6. Conclusion



# Thank You