



# Applying citation and usage analysis to evaluate the e-journal package collection in Taipei Medical University Library (TMUL)

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## OBJECTIVE

E-journal packages accounts for 60% of overall e-resources budget in TMUL, however, some titles included in them aren't needed by users. In 2019, authors tried to analyze the title fill rate and cost per full-text download of all TMUL's e-journal packages, the research results can serve as the reference for our e-journal collection development and decision making in the future.

## METHODS

citation analysis  
cost of usage

## RESULTS

74% title fill rate

## CONCLUSIONS

change  
subscription plan

Methodologies of citation analysis and cost of usage were applied in this study. The authors believe that the cited journals of our faculty's papers represent their real research demand, and it could reflect the utilization efficiency of our e-journal collection.

### 1 Download



We exported 2016-2018 publication of TMU faculty from the WOS SCI/SSCI database, which results 4,698 journal articles with 181,422 citations.

### Analyze



We analyzed source journals of those 181,422 citations, including its frequency of publication, times cited, publisher/package which it belongs to. In addition, the cost per full-text download for each e-journal package were calculated based on their subscription fee and download statistics.

### 3 Comparison



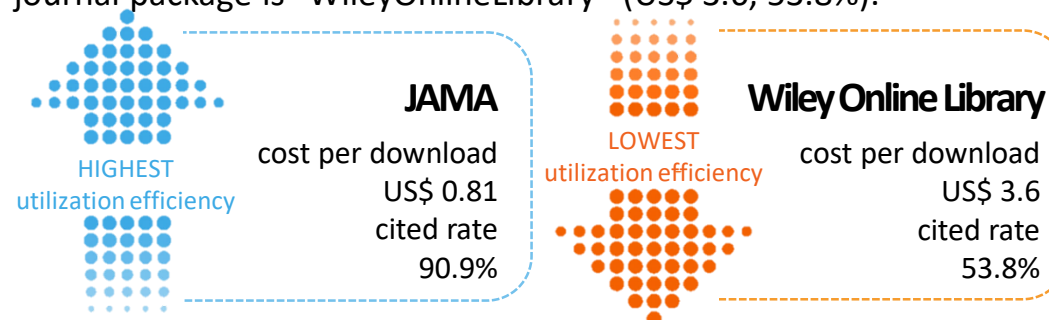
We then utilized the list-checking method to compare bibliographic data of these 181,422 citations with our e-journal collection for title fill rate to find out how our collection could support the research need of TMU faculty.

The title fill rate of 181,422 citations is 74% (among which 134,749 are the TMUL e-journal collection).

The top 3 most cited e-journal packages in 2016-2018 :



The cited rate and cost per download of each e-journal package are shown in Figure 1, the highest utilization efficiency e-journal packages are "JAMA" and "Cell Press" which have lowest cost per full-text download (US\$ 0.81, US\$ 1.27) and highest cited rate (90.9%, 90.5%). In addition, the lowest utilization efficiency e-journal package is "WileyOnlineLibrary" (US\$ 3.6, 53.8%).



Base on the findings, **TMUL changed the subscribing mode of "WileyOnlineLibrary" e-journal package from renewing whole package to a customized one in 2019 (reducing the number of titles from 842 to 381). Due to the adjustment, the cost per full-text download of Wiley reduced from USD3.6 (2016-2018 average) to 1.3 (2019) as well.**

In conclusion, libraries need to consider many aspects when subscribing e-journal collections to support research needs with limited budget. Through the big data analysis of citation and cost of usage, librarians can adjust subscription plan of the low utilization efficiency e-journal packages and make appropriate decisions.

Figure 1: Cited rate and cost per download of e-journal packages

