LOCAL ALTMETRICS IN CHINA: A REVIEW OF THE LITERATURE

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GENERAL OUTLINE

- **Introduction**

- **Local Social media tools in China**

- **Local altmetric data sources and indicators in China**

- **Challenges and countermeasures**

INTRODUCTION

- Altmetrics has a wider range of evaluation objects, evaluation data sources and metric indicators. Altmetrics also could measure broader impact of scientific outputs besides scholarly impact.

- However, studies have shown that altmetrics indicators are largely affected by countries or regions, especially for non-English speaking countries such as China, Japan, Russia, etc.

- This is due to the large differences in the social media used by scholars from various countries and the characteristics of scholars' scientific communication behavior.

INTRODUCTION

- According to a survey by iMedia Research, the three mobile social products most frequently used by Chinese residents are WeChat, QQ, and Sina Weibo, accounting for 73.7%, 43.3%, and 17.0%, respectively. (October 2019)
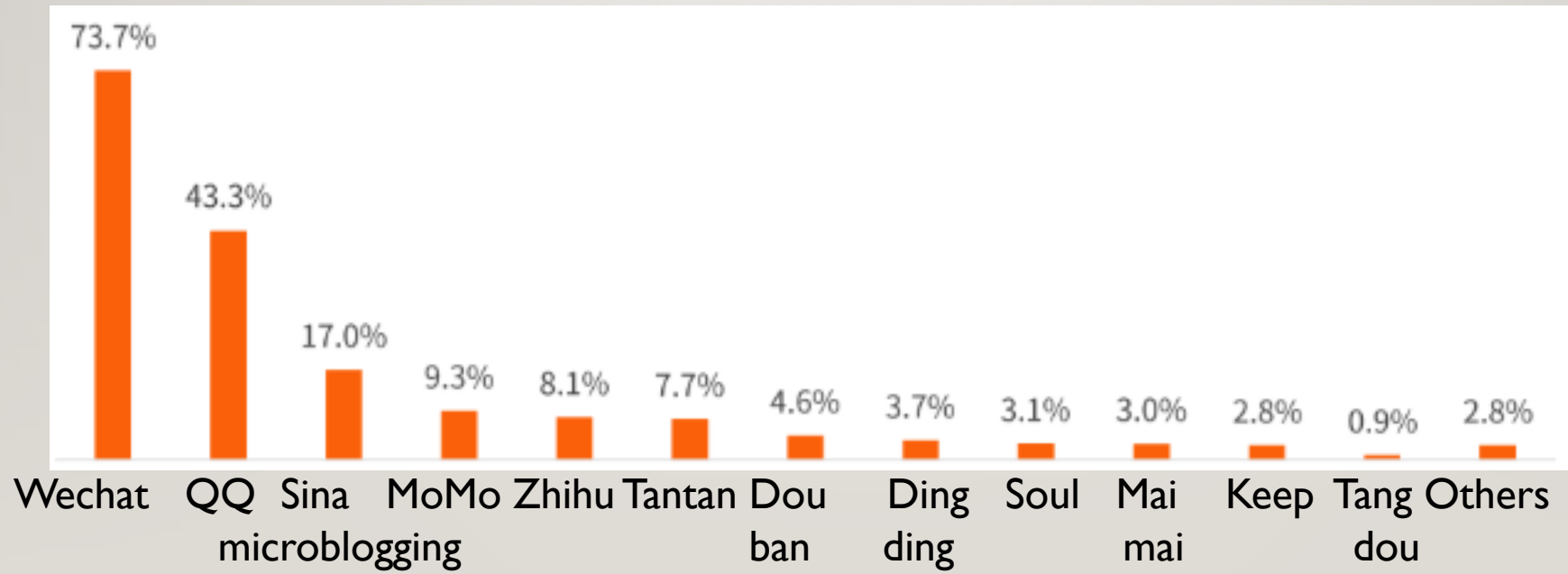
INTRODUCTION

- WeChat was born in Guangzhou in 2011.

- WeChat supports more than 20 languages worldwide and covers more than 200 countries and regions.

- As of the first quarter of 2020, the monthly active accounts of WeChat have reached 1.2025 billion.

- According to a report by Nielsen Company, the combined users of Facebook, Twitter, and YouTube are about 1 billion, accounting for about 20% of the global population.

INTRODUCTION

- Therefore, in comparison, WeChat's users are no less than Twitter or Facebook, occupying an important position in various social media worldwide.

- Nowadays, the most prominent social media platforms extensively used across the globe are Wechat, Facebook, twitter, etc.

- So, research on altmetrics indicators based on scientific communication activities on social media cannot exclude WeChat, an important data source.

INTRODUCTION

- Zahedi has talked about the "altmetric divide" around the world in 2016.

- Based on statistics, China, India, and the United States concentrate the largest number of social media users in the world.

- The impact evaluation of China's local academic output would be quite deviated if only using internationally commonly used indicators and models.

- The internationally universal impact evaluation model that integrates citation and altmetrics indicators which are commonly used internationally cannot be fully applied to the evaluation of Chinese academic output.

INTRODUCTION

- The impact evaluation of scientific outputs by scholars from China should be conducted in China context using Chinese native altmetrics.

- Research on altmetrics based on Chinese social media will provide important references for the construction of global altmetrics theory and application systems.

LOCAL SOCIAL MEDIA TOOLS IN CHINA

- The scholars and the public in China always used the local social media tools. We divided them into seven types in general.

- They are library-type social media, blog-type social media, news-type social media, community-type social media, question-and-answer social media, encyclopedia-type social media, general type social media

LIBRARY-TYPE SOCIAL MEDIA

- Baidu Scholarly

- Baidu Library

- DouDing Library

- Doc88.com

BLOG-TYPE SOCIAL MEDIA

- ScienceNet blog

- CSDN blog

- Sina blog

- Bokee.com blog

NEWS-TYPE SOCIAL MEDIA

- Guokr.com

果壳

Bioon.com

-

- Tencent News

腾讯网

China social science net

COMMUNITY-TYPE SOCIAL MEDIA

- BBS.DXY.CN

- Douban

- Forum of Xiaomuchong

QUESTION-AND-ANSWER SOCIAL MEDIA

- CSDN Q&A

Baidu zhidao

- Guokr.com

iask.com

- Zhihu

Sousou wenwen

ENCYCLOPEDIA-TYPE SOCIAL MEDIA

- Baidu Baike

- Sogou Baike

GENERAL TYPE SOCIAL MEDIA

- WeChat

- Sina

LOCAL ALTMETRIC DATA SOURCES AND INDICATORS IN CHINA

- Some Chinese scholars have done careful studies on the local altmetric data sources, and constructed comprehensive evaluation indicator systems for **papers, books, scientific data, journals, scholars, and physicians**.

PAPERS

	Types of the tools	Data source
1	academic search platforms	Baidu Scholar
2	online document sharing libraries	Baidu Library, Doc88.com, Docin.com, Taodocs.com and ishare.iask.sina.com.cn, etc.
3	social media platforms	Sina blog, Sina weibo, CDSN blog, Sciencenet blog and wechat, etc.
4	the official website of professional associations	China Social Science Network
5	website of academic journals	Nature, PLOS ONE…

BOOKS

- The more famous Chinese local community platform for book recommendation is Douban Dushu.

- Jiang CL has divided the altmetric indicators of books into two categories: one is the library collection indicator, and the other is the network utilization indicator.

	Types of the indicators	Sub-type indicators
1	The library collection type	number of readings, number of libraries in collections, number of downloads, number of recommendations, number of collections, number of comments.
2	The network utilization type	douban network book reviews, academic community discussions, news reports, reader reviews on Dangdang and Amazon, collections on Dangdang and Amazon, mentions on WeChat, Sina Weibo, and blogs.

SCIENTIFIC DATASET

- Altmetric indicators of the scientific dataset mostly come from the scientific data sharing platform (for example, www.geodata.cn).

	Data source	Altmetric indicators
1	the cloud of scientific data access	visits of the day, cumulative visits, uploads this week, cumulative data uploads
2	massive scientific data	downloads this week, cumulative data downloads, clicks, comments
3	Scientific data uploader	number of data uploads, data downloaded, comments, data users, tags

JOURNALS

- Data source:

- The Chinese Journal Comment Net, Xiaomu Chong Forum

- Altmetric indicators for the journals:

- viewing volume, time cost, economic cost, and editorial attitude. Among them, time cost includes review speed and publication speed; and economic cost includes review cost and layout cost.

SCHOLARS

	Types of indicators	Altmetric indicators
1	blogger enthusiasm	the number of blog posts, activity, points, gold coins, and the number of topics
2	communication coverage	the number of friends, the number of visits, and the number of visits per article the amount
3	blog post quality	the number of "selected blog posts" selected by the editorial department of Science.com

PHYSICIANS

	Types	Altmetric indicators for physicians
1	evaluation	the number of comments posted by patients in the "Patient Medical Experience" module of the website
2	rating	"Patient Satisfaction"
3	thanks	the number of patients' "thank you" and "gifts"
4	recommendations	the number of "good feedback of treatment"
5	votes	the number of "patient votes"

CHALLENGES AND COUNTERMEASURES

- Arguably, in all countries (but also globally) there are many social media platforms available for many communities, but not all of them necessarily have the technical or conceptual properties for being used in altmetric studies (e.g. they lack APIs, the interaction with science objects is not meaningful or traceable, etc.)

- In table 1, most native social media in China lack APIs. Alternatively, most researchers used the web crawlers such as a tool named "octopus" or python programs to obtain the data.

	Type	Sub-type	Type of audience	Altmetric indicators	API Availability	Data acquisition method
1	Library-type	Baidu Scholarly	Scholarship-specific application	Likes,reading	No	Web Crawler
		Baidu Library	General-use application	reading,downloading,score	No	Web Crawler
		Douding Library	General-use application	Likes, reading, commenting, For or against count	Yes	Web Crawler,API
		Doc88.com	General-use application	View count, Download credits, Heat star	No	Web Crawler

	Type	Sub-type	Type of audience	Altmetric indicators	API Availability	Data acquisition method
2	Blog-type	ScienceNet.cn	Scholarship-specific application	Reading,recommending, referrer	No	Web Crawler
		CSDN Blog	IT Professional	Reading,Commenting,likes, favorite	Yes	Web Crawler,API
		Sina Blog	General-use application	Reading,commenting, favorite, reposts,likes	No	Web Crawler
		Bokee.com	General-use application	Click, comment, support or criticize	No	Web Crawler

	Type	Sub-type	Type of audience	Altmetric indicators	API Availability	Data acquisition method
3	News-type	Guokr.com	General-use application	Likes, Comments	Yes	Web Crawler,API
		Tencent News(QQ.com)	General-use application	comments	Yes	Web Crawler,API
		Bioon.com	biomedical researcher	Tags	No	Web Crawler
		China Social Science Net	researcher concerned with philosophy and the social sciences	Downloads,on line reading	No	Web Crawler

	Type	Sub-type	Type of audience	Altmetric indicators	API Availability	Data acquisition method
4	Community-type	BBS.DXY.CN	Medical practitioner	Browse, discuss, like, favorite, reply	Yes	Web Crawler,API
		Douban	General-use application	Want to read, read, read, Douban score, evaluation, star rating, short review, book review, reading notes	Yes	Web Crawler,API
		Baidu post bar	General-use application	favorite, reply	Yes	Web Crawler,API
		Forum of Xiaomuchong	Scholarship-specific application	Follow, like, reply, send red flowers	No	Web Crawler

	Type	Sub-type	Type of audience	Altmetric indicators	API Availability	Data acquisition method
5	Question-and-answer-type	CSDN Q&A	IT Professional	Browse, bookmark, like, comment, share, reward	Yes	Web Crawler,API
		Guokr.com	General-use application	Supports	Yes	Web Crawler,API
		Zhihu	General-use application	Like, comment, share, favorite, like	Yes	Web Crawler,API
		Baidu Zhidao	General-use application	Support or deny, comment	Yes	Web Crawler,API
		iask.com	General-use application	Number of help, help index, praise index, love index, number of answers passed, Number of answers, number of searches, number of recommendations	No	Web Crawler
		Sousou wenwen	General-use application	Weekly adoption, ranking, Q coins, browse, comment, answer, support or deny	No	Web Crawler

	Type	Sub-type	Type of audience	Altmetric indicators	API Availability	Data acquisition method
6	Encyclopedia-type	Baidu Baike	General-use application	Favorite, like, reposts	Yes(Only used by partners)	Web Crawler,API
		Sogou Baike	General-use application	Favorite,sharing, entry tags	No	Web Crawler

	Type	Sub-type	Type of audience	Altmetric indicators	API Availability	Data acquisition method
7	General-type	Wechat	General-use application	Follow, favorite, share, read, like, watch, leave a message	No	Qingbo big data analysis platform
		Sina Microblogging	General-use application	Favorites, comments	Yes	Qingbo big data analysis platform

CHINA'S LOCAL ALTMETRICS STILL FACE THE FOLLOWING CHALLENGES

- lack of data foundation;

- lack of theoretical and empirical exploration of local altmetrics data sources and indicators;

- lack of verification of the relationship and influencing factors among Chinese local altmetrics indicators;

- The most important challenge is lacking of digging into the deep meaning of China's local altmetrics indicators, lacking of convenient open data platforms or tools, and lacking of data supervision, management and recognition of the traces of informal exchange activities used for scientific research evaluation.

THE COUNTERMEASURES

- encourage scholars to use social media for scientific communication and cooperation;

- explore local potential data sources and indicators in China;

- discover the potential application value of indicators;

- develop Chinese native altmetrics analysis tools;

- verify the applicability of altmetrics;

- stablish Chinese native altmetrics theory and application system.

THANKS

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