Total Quality Management & Business Excellence

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/ctqm20

Does social media contribute to research impact? An Altmetric study of highly-cited marketing research

Sajad Gholampour, Weng Marc Lim, Brady D. Lund, Alireza Noruzi, Alireza Elahi, Ali Akbar Saboury, Raheel Nawaz & Behzad Gholampour

To cite this article: Sajad Gholampour, Weng Marc Lim, Brady D. Lund, Alireza Noruzi, Alireza Elahi, Ali Akbar Saboury, Raheel Nawaz & Behzad Gholampour (2024) Does social media contribute to research impact? An Altmetric study of highly-cited marketing research, Total Quality Management & Business Excellence, 35:13-14, 1671-1701, DOI: 10.1080/14783363.2024.2393339

To link to this article: https://doi.org/10.1080/14783363.2024.2393339

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

Published online: 13 Sep 2024.

Submit your article to this journal

Article views: 1555

View related articles

View Crossmark data

Citing articles: 1 View citing articles

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=ctqm20

Total Quality Management, 2024
Vol. 35, No. 14, 1671–1701, https://doi.org/10.1080/14783363.2024.2393339

Routledge
Taylor & Francis Group
Check for updates

Does social media contribute to research impact? An Altmetric study of highly-cited marketing research

Sajad Gholampour[a,b], Weng Marc Lim[c,d,e*], Brady D. Lund[f], Alireza Noruzi[g], Alireza Elahi[h], Ali Akbar Saboury[i], Raheel Nawaz[j] and Behzad Gholampour[k,l]

[a]*Parseh iMetrics Institute, Tehran, Iran;* [b]*Faculty of Physical Education and Sport Sciences, Kharazmi University, Tehran, Iran;* [c]*Sunway Business School, Sunway University, Selangor, Malaysia;* [d]*School of Business, Law and Entrepreneurship, Swinburne University of Technology, Melbourne, Australia;* [e]*Faculty of Business, Design and Arts, Swinburne University of Technology, Sarawak, Malaysia;* [f]*College of Information, University of North Texas, Denton, TX, USA;* [g]*Department of Knowledge and Information Science, Faculty of Management, University of Tehran, Tehran, Iran;* [h]*Faculty of Physical Education and Sport Sciences, Kharazmi University, Tehran, Iran;* [i]*Institute of Biochemistry and Biophysics, University of Tehran, Tehran, Iran;* [j]*Office of the Pro Vice Chancellor, Staffordshire University, Stoke-on-Trent, UK;* [k]*Parseh iMetrics Institute, Tehran, Iran;* [l]*Department of Knowledge and Information Science, University of Tehran, Tehran, Iran*

The thorough dissection of prominent scholarly contributions can shed light on the evolution of research trajectories. Using marketing research as a case, this study aims to probe into the recognition and resonance that research enjoys across social media landscapes, employing the power of Altmetric. We employed an analytical approach involving descriptive statistics coupled with the Spearman correlation test, scrutinizing Altmetric data for the most heavily cited works in the marketing discipline (*n*: 137). Our examination illuminates that the United States and the United Kingdom are the dominant contributors to the majority of tweets and readership relating to these works. Noteworthily, marketing research featured in top-tier publications registered the highest Altmetric scores from both Twitter and Mendeley. An intriguing pattern surfaced in our exploration, highlighting a positive relationship between Altmetric scores drawn from social media platforms and citation counts on the Web of Science (WoS), as well as between Mendeley readership and WoS citations. These Altmetric insights underscore the pivotal role social media plays in propelling citation rates of research, implying that researchers can significantly amplify the visibility and citation impact of their work by strategically employing social media platforms and tapping into Altmetric indicators' potential.

Keywords: Altmetric; citation; impact; marketing; research; social media

Introduction

Evolution of scholarly metrics

In the era of information evolution and revolution, we are immersed in an ever-expanding landscape of information (Lim, 2024), a phenomenon that has only intensified with

*Corresponding author. Dean's Office, Sunway Business School, Sunway University, Jalan Universiti, Bandar Sunway, Selangor, Malaysia. Email: lim@wengmarc.com, marcl@sunway.edu.my, marclim@swin.edu.au, wlim@swinburne.edu.my

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

advancements in digital technology and data analytics (Basu et al., 2023). This contemporary epoch is sculpted by the advancement and proliferation of the Internet and its related technologies (Olawale et al., 2024). The world wide web has manifested itself as a particularly potent force within this vortex, reshaping the contours of scholarly publication (Rao et al., 2024). Pioneering this transformation is Altmetric, an innovative approach to appraising the reach and repercussions of academic research (Nabavi, 2024; Piwowar, 2013), which seeks to gauge the imprint left by scholarly works within the expansive social web (Rao et al., 2024; Thelwall, 2016).

The term 'Altmetric' was conceived by Jason Priem in 2010, positing the idea as a comprehensive set of metrics appraising scholarly contributions (Priem, 2010; Priem & Hemminger, 2010; Priem et al., 2010; Roemer & Borchardt, 2015). Altmetric acts as a revolutionary counterpoint to traditional metrics by expanding the scope of research quality assessment beyond mere citations, encapsulating other impact indicators such as downloads, views, news media mentions, Facebook shares, Twitter tweets, and more, thus assigning a score to each piece of scholarly work. This simplified process enables answers to complex questions such as, 'What is the scientific and social impact of my research publications?' – a question that has been a constant companion to scientists since the dawn of modern science around 400 years ago (Dwivedi et al., 2024; Wouters & Costas, 2012).

Recognized as a barometer of publication effectiveness and utility, the Altmetric score, in concert with citation counts, serves as a key yardstick for evaluating research outputs (Nabavi, 2024; Thelwall et al., 2013). Researchers, by harnessing the power of social media to disseminate their publications, can exponentially magnify their work's visibility (Rao et al., 2024), subsequently amplifying citations and their *h*-index – the traditional gauges of research impact (Donthu et al., 2023; Saeed-Ul Hassan & Ahmed Gillani, 2016). This suggests the imperative for research institutions to prioritize a diverse array of impact indicators, encompassing both Altmetric and citation indicators.

Role of social media in scientific communication

Social media emerges as a powerful conduit for the exchange of information, experiences, and scientific triumphs, reinforcing scientific communication, and enabling the global dissemination of research endeavors (Kadriu, 2013; Lim & Rasul, 2022; Rao et al., 2024; Van Noorden, 2014). As researchers and the scientific community increasingly embrace these platforms to foster engagement with specific research facets, social media becomes an accelerator for enhancing visibility and citation impact (Ale Ebrahim, 2012; Lim & Kumar, 2024), thus potentially bolstering the international recognition of research units (Wiechetek & Pastuszak, 2022).

The theoretical backdrop of this study builds on the relevance of social media in today's digitized world, focusing on how networks generated by these platforms influence various outcomes. Emerging literature highlights several critical aspects of social media's impact. For instance, social media influencers' credibility significantly affects consumer behavior and purchase intentions through attitudes toward advertisements (Ata et al., 2022). Additionally, social media analytics have been instrumental in exploring challenges in supply chain management during crises, such as the COVID-19 pandemic (Cano-Marin et al., 2023). The integration of fintech advancements leveraging social media for sustainable entrepreneurship is another area of significant development (Gupta et al., 2024). Furthermore, the success of social media brand communities is often measured by media capability and organizational support (Chang et al., 2020), while identifying helpful quality-related reviews from social media is crucial for enhancing consumer experiences

(Liu et al., 2019). The influence of electronic word-of-mouth (eWOM) on consumer purchase intentions is also noteworthy (Nyagadza et al., 2023). Theoretical explorations also include the retrospective view and thematic analysis of value co-creation through bibliometric analysis (Hassan Shah et al., 2022), and the advances in social media research, which cover past, present, and future developments in the field (Kapoor et al., 2018). These diverse studies collectively underscore the multifaceted influence of social media on various domains, providing a robust foundation for understanding its role in shaping modern marketing strategies and consumer behavior.

Building on this backdrop, it is clear that social media's transformative impact extends across various scientific domains, and a noteworthy lynchpin that binds the diversity together is marketing (Lim & Rasul, 2022). As marketing interweaves closely with people's daily lives, it is significantly impacted by technological advancements and social media (Lund, 2019). Recognized as invaluable tools for customer engagement (Lim, Rasul, et al., 2022) and success in the digital marketplace (Ebrahim, 2020), many businesses and marketers consider these platforms integral to their marketing strategies (Appel et al., 2020; Lim, Kumar, Pandey, Rasul, et al., 2022; Schulze et al., 2014). They leverage social media to fortify customer relationships, elevate product awareness, attract and retain customers, and mine insights on product or brand interest (Malhotra & Bhattacharyya, 2022). Some also utilize these platforms to adeptly address customer grievances (Golmohammadi et al., 2021), hence realizing social media's potential in rapidly disseminating information, fostering interaction, and reaching target audiences. Therefore, like their counterparts in other fields, marketing experts strive to comprehend the impact of their endeavors on their target communities (Donthu, Kumar, Pandey, et al., 2021). With Altmetric studies increasingly being leveraged to appraise the social media impact of publications, researchers are finding new ways to evaluate and enhance their work's visibility and influence since Jason Priem introduced Altmetric indicators in 2010.

Importance of studying Altmetric

A perusal of the scholarly landscape reveals a diverse array of studies that have effectively harnessed Altmetric methodologies across a multitude of scientific disciplines. Key examples include work conducted by Baek et al. (2020), Gholampour et al. (2022), Khademizadeh et al. (2024), Kocyigit and Akyol (2021), Moon et al. (2020), Shamsi et al. (2022), Tang et al. (2020), and Verma and Madhusudhan (2019). An exploration of Mendeley usage has been taken up by Aduku et al. (2017), Mohammadi and Thelwall (2014), Thelwall and Wilson (2016), and Zahedi et al. (2014, 2017). Other research endeavors have focused on the interplay between tweets, Twitter, and other social media platforms, as evident in the studies by de Winter (2015), Hassan et al. (2021), Haustein et al. (2014a, 2014b), Ke et al. (2017), Said et al. (2019), Tahamtan et al. (2021), and Yu et al. (2021). Additionally, the relationship between Altmetric scores and citations has been analyzed in works by Barakat et al. (2018), Chang et al. (2019), Costas et al. (2014), Huang et al. (2018), Mullins et al. (2020), and Nocera et al. (2019). Yet, despite a notable upsurge in outputs in marketing research (Chandra et al., 2022; Donthu, Kumar, et al., 2022; Donthu, Lim, et al., 2022), none of the identified studies have yet applied the Altmetric approach specifically within this domain.

The necessity to study Altmetric, particularly from the perspective of highly-cited papers, stems from the need to understand the broader impact of research beyond traditional citation metrics (Mukherjee et al., 2022). Highly-cited papers serve as a suitable case for this exploration because they represent the pinnacle of academic influence and offer insights into the dissemination patterns (Lim, Kumar, & Donthu, 2024). In the

context of marketing, which is closely linked with societal trends and consumer behavior (Lim, Kumar, Pandey, Verma, et al., 2023), it is crucial to comprehend how research permeates through social media channels to influence public and academic discourse. This study is important as it addresses gaps in the current literature by focusing on the interplay between Altmetric scores and traditional citations, offering a comprehensive understanding of research impact in the digital age (Hammarfelt, 2014; Rao et al., 2024). The relevance is underscored by the increasing reliance on social media for information dissemination (Lim, 2024), making it urgent to evaluate how these platforms can be leveraged to maximize research visibility and impact (Rao et al., 2024). This study adds value by providing empirical evidence on the effectiveness of social media strategies in enhancing academic influence, thus guiding researchers, institutions, and policymakers in optimizing their communication and dissemination practices.

To this end, this study aims to assess the standing of highly-cited works in the field of marketing through an Altmetric lens across diverse social media platforms, with data sourced from Altmetric.com. To achieve this goal, the study seeks to address the following research questions (RQs):

RQ1. What characteristics do highly-cited marketing papers exhibit in terms of Altmetric score, document type, journal rank, and their Altmetric score distribution over the years?

RQ2. What is the scientific impact of tweets and readership engagement with highly-cited marketing papers on Twitter and Mendeley, considering factors such as country and professional status?

RQ3. How do highly-cited marketing papers fare concerning their presence in publishing journals and across different social media platforms?

RQ4. Is there a significant correlation between the number of citations received by highly-cited marketing papers, their media presence, and their Altmetric score?

Expected contributions and implications

The contributions and implications of the present study are multifaceted. Noteworthily, this study holds the potential to persuade institutions and policymakers to embrace Altmetric indicators, specifically for publications with high Altmetric scores, as an additional evaluation tool alongside traditional citation-based indicators (Lim, Kumar, & Donthu, 2024). Furthermore, since social media platforms host a broad spectrum of non-academic individuals, sharing scientific publications on these platforms can extend the research benefits to the general public (Rao et al., 2024). Researchers can also utilize Altmetric indices as a strategic augment to increase their citations, thereby amplifying their *h*-index and overall efficacy. More importantly, by integrating Altmetric data with traditional metrics, institutions can develop a more comprehensive evaluation framework that reflects the true reach and impact of research (Mukherjee et al., 2022). This approach can inform funding decisions, enhance public engagement with scientific findings, and support the strategic dissemination of research to maximize its societal and academic influence.

Methodology

The present research is a pragmatic study employing a descriptive-analytical approach, capitalizing on data gleaned from Altmetric.com. The research procedure unfolds in

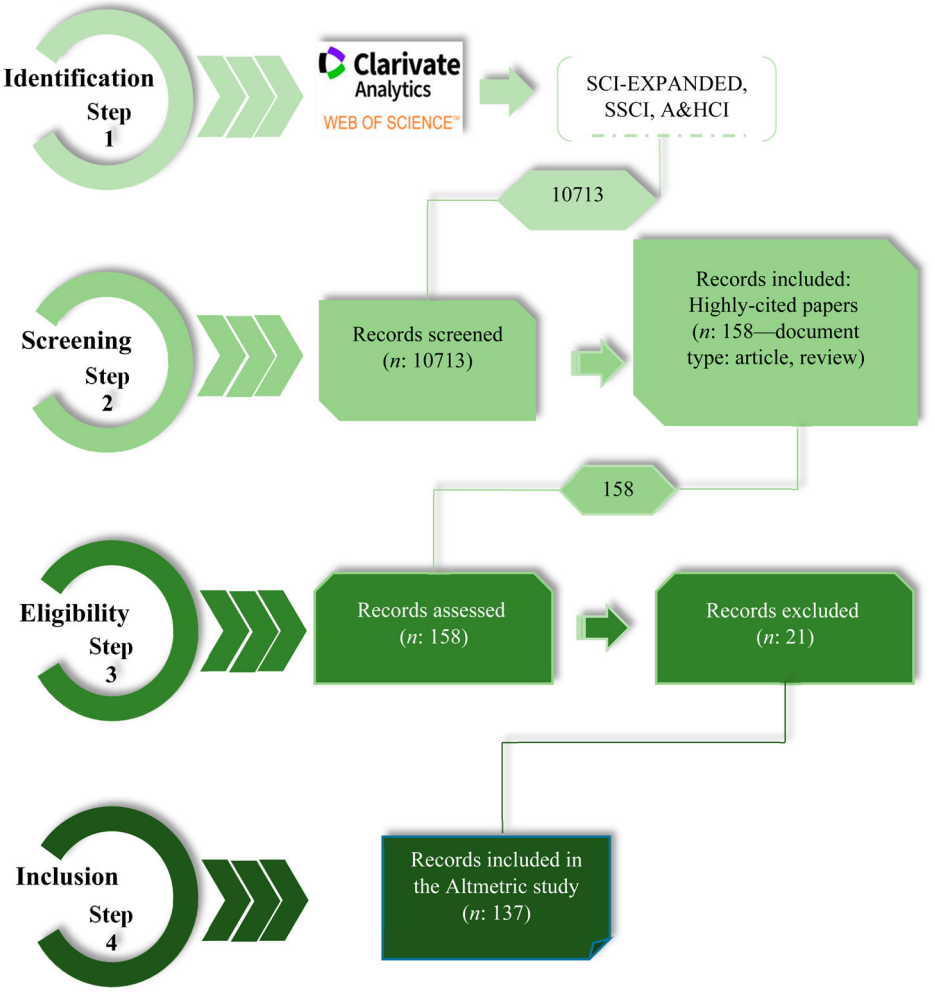

Figure 1. The PRISMA procedure to locate highly-cited marketing papers for the Altmetric study.

three stages, two of which are data-gathering phases, with the final stage involving an in-depth analysis of the collected data (Figure 1).

Data collection

Stage one

The first stage is guided by the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) protocol, encompassing four steps: *identification*, *screening*, *eligibility*, and *inclusion* (Moher et al., 2009; Page et al., 2021) – as recommended by recent scholars (Lim, Kumar, et al., 2024; Kraus et al., 2022). The *identification* entailed data collection through the Clarivate's Web of Science (WoS) database. The choice of this database stemmed from its proven reliability and its rigorous journal selection criteria (Gholampour et al., 2022; Donthu, Kumar, Mukherjee, et al., 2021; Paul et al., 2021). We harnessed the data from three major indices within the Web of Science database – namely, Science Citation Index Expanded (SCI-EXPANDED), Social Sciences Citation

Index (SSCI), and Arts and Humanities Citation Index (A&HCI). The search strategy, detailed in the Appendix, was implemented in the subject field (TS phrase) within the advanced search section of the database. The search parameters were confined to the timeframe from 2012 to 2022 – a decade-long time period consistent with recent review-based studies (Deda & Disnawati, 2024; Mahmoud et al., 2024) at the time in which this study was conducted (i.e. up to the latest full year when this study was conducted in 2023) (Lim, Ciasullo, et al., 2024). Only highly-cited papers are considered, in which Clarivate (2024) defines as papers that perform in the top 1% based on the number of citations received when compared to other papers published in the same field in the same year. Through this *screening* approach, we identified and obtained 158 highly-cited papers (out of 10,713 papers – the remaining 10,555 papers were non-highly cited) within the specified time frame (Figure 1). The gathered data were subsequently extracted in plain text and CSV formats.

Stage two

The second stage is a continuation of the PRISMA protocol that incorporated data from Altmetric.com to scrutinize the *eligibility* of identified papers. Altmetric.com is instrumental in tracking the online buzz around scholarly publications and other texts from a broad spectrum of sources, encompassing blogs, Facebook pages, Google+, leading news media, and Twitter, among others. Every scholarly publication is accorded an Almetric score, representing its degree of impact across social media platforms (Adie & Roe, 2013; Bornmann, 2014). The choice of Altmetric.com for this study was motivated by its unrivaled monitoring capabilities of social media platforms in contrast to other Altmetric service providers. The Altmetric score bestowed upon each scholarly work signifies the magnitude and the consequential impact of its online footprint (Robinson-García et al., 2014; Costas et al., 2014).

It is noteworthy that only highly-cited papers that are related to marketing and equipped with digital object identifiers (DOIs), PubMed record IDs (PMIDs), archive identifiers, or other standardized markers could be evaluated using Altmetric bookmarklet tools – resulting in the exclusion of 21 (non-marketing) papers. Out of the remaining 137 highly-cited papers in marketing that were retained for *inclusion*, all were digitized objects. An assessment of these papers using the Almetric bookmarklet tools disclosed that merely 104 papers were referenced on social media, thereby earning Almetric scores. Past investigations by Bornmann (2014), Costas et al. (2014), and Robinson-García et al. (2014) have also utilized data sourced from Altmetric.com in scientometrics. Descriptive statistical analysis was executed via Excel software, while correlation analysis was facilitated through SPSS software.

Data analysis

Stage three

In the third and final stage, the collected data were subjected to both descriptive and inferential statistical analyses using Excel and SPSS software. Excel software was deployed to scrutinize the distribution of papers bearing Almetric scores by year, the readers and tweeters, their professional standing on Mendeley and Twitter, the most frequently featured journals with Almetric papers, the representation of marketing papers on social media, and the construction of tables. Moreover, Spearman's correlation test, combined with the capabilities of SPSS software, was employed to ascertain the statistical significance

of the relationship between citation metrics and social media presence of papers, and the correlation between citation data and Almetric scores.

Results

Publication trends of highly-cited marketing papers with social media engagement

An examination of high-cited papers with Altmetric indicators in the marketing discipline listed in Table 1 indicates a significant increase of such papers in 2021 (21 papers) and 2019 (20 papers). Not far behind, 2020 and 2017 witnessed the publication of 15 papers each. Notably, of the 21 papers published in 2021, 17 earned Altmetric scores. Similarly, 14 out of 20 papers published in 2019 achieved Altmetric recognition. It is compelling to note that the Altmetric scores ranged from a minimum of one to a maximum of 1,224. In the same vein, the citations for these papers ranged between eight and 1,277. Intriguingly, almost half (49%) of all Altmetric-recognized high-cited papers emerged within the last four years (2019–2022).

Characteristics of highly-cited marketing papers and their social media engagement

Tables 2 and 3 showcase the top 11 Altmetric-ranking marketing papers. A review of these papers underscores that all, except for J. Berger's contributions, are products of collaborative efforts. An interesting pattern emerges when analyzing the journals' influence based on their ranking. Notably, 10 out of 11 papers were published in Q1 journals, the exceptions being A3 and A10. Of these, eight were research articles while two were review pieces. A piece by J. Berger, published by the *Journal of Marketing Research* (*JMR*), remarkably accumulated the most citations. The paper titled 'Psychological targeting as an effective approach to digital mass persuasion' amassed the highest Altmetric score of 1224. Remarkably, this paper graced 12 different social media platforms. Citation-wise, the paper acquired 64 mentions in news outlets, 25 in blogs, four in policy sources, one in Wikipedia pages, and an impressive 364 in Dimensions. The paper also attracted attention on Facebook, with three shares, secured 1037 readers on Mendeley, and stirred up 732 tweets. A deeper exploration of social media engagement for other high-cited marketing papers is detailed in Table 2.

Table 1. Highly-cited marketing papers on social media.

Publication year	NP	NPAS	%	LAS	HAS	LC	HC	SAS	SC
2012	10	8	80	3	446	212	1277	681	5902
2013	10	9	90	2	43	172	422	146	3048
2014	6	6	100	2	76	263	1201	111	3190
2015	4	4	100	7	41	231	503	83	1481
2016	13	11	85	1	861	142	851	999	4663
2017	15	9	60	1	1224	147	482	1508	3273
2018	9	6	67	1	47	109	293	77	1666
2019	20	14	70	1	109	84	308	312	2757
2020	15	13	87	1	55	68	254	268	1742
2021	21	17	81	1	212	40	277	447	1686
2022	14	7	50	2	23	8	93	42	393

Notes: NP = Number of papers. NPAS = Number of papers with Altmetric score. LAS = Lowest Altmetric score. HAS = Highest Altmetric score. LC = Lowest citation. HC = Highest citation. SAS = Sum Altmetric score. SC = Sum citations.

Table 2. Highly-cited marketing papers with the highest Altemetric scores and their characteristics.

Paper (P) and lead author	Article title	Source title	Document type	Total citations	Publication year	Number of authors	Quartile in WoS 2021	Almetric score
P (1) Matz, SC	Psychological targeting as an effective approach to digital mass persuasion	*Proceedings of the National Academy of Sciences of the United States of America*	Article	257	2017	4	Q1	1224
P (2) Brough, AR	Is eco-friendly unmanly? The green-feminine stereotype and its effect on sustainable consumption	*Journal of Consumer Research*	Article	246	2016	5	Q1	861
P (3) Berger, J	What makes online content viral?	*Journal of Marketing Research*	Article	1277	2012	2	Q2	445
P (4) Peck, J	Caring for the commons: Using psychological ownership to enhance stewardship behavior for public goods	*Journal of Marketing*	Article	42	2021	4	Q1	212
P (5) De Veirman, M	Marketing through Instagram influencers: The impact of number of followers and product divergence on brand attitude	*International Journal of Advertising*	Article	482	2017	3	Q1	151
P (6) Glanz, K	Retail grocery store marketing strategies and obesity an integrative review	*American Journal of Preventive Medicine*	Review	212	2012	3	Q1	140

P (7) Dwivedi, YK	Setting the future of digital and social media marketing research: Perspectives and research propositions	*International Journal of Information Management*	Article	277	2021	18	Q1	
P (8) Ki, CW	The mechanism by which social media influencers persuade consumers: The role of consumers' desire to mimic	*Psychology & Marketing*	Article	104	2019	2	Q1	
P (9) Appel, G	The future of social media in marketing	*Journal of the Academy of Marketing Science*	Article	254	2020	4	Q1	
P (10) Berger, J	Word of mouth and interpersonal communication: A review and directions for future research	*Journal of Consumer Psychology*	Review	652	2014	1	Q2	
P (11) Arora, A	Measuring social media influencer index – Insights from Facebook, Twitter and Instagram	*Journal of Retailing and Consumer Services*	Article	159	2019	5	Q1	

Table 3. 11 highly-cited marketing papers with the highest Altmetric score and their social media performance.

Paper (P)	News outlets	Blogs	Policy sources	Twitter	Patents	Facebook pages	Wikipedia pages	Google+ users	Redditor	Video uploader	Dimensions	Mendeley	CiteULike	Peer review sites	Altmetric Score
P (1)	64	25	4	732	0	3	1	1	5	2	364	1037	2	0	
P (2)	79	14	3	173	0	5	4	1	2	0	303	877	0	0	
P (3)	43	8	3	57	5	0	6	6	0	6	1611	2622	1	0	
P (4)	22	2	0	33	0	0	0	0	0	0	58	203	0	0	
P (5)	15	3	2	11	0	0	0	0	0	0	681	2899	0	0	
P (6)	15	0	5	8	0	0	0	1	0	0	228	436	0	0	

P (7)	8	0	0	64	0	0	2	0	0	0	405	3978	0	1
P (8)	13	1	0	2	0	0	0	0	0	0	158	776	0	0
P (9)	5	0	1	48	0	1	3	0	0	0	435	4004	0	1
P (10)	9	1	0	1	0	0	2	0	0	0	841	1666	0	0
P (11)	9	0	0	1	0	0	0	0	0	0	214	1185	0	0

Demographic and geographical distribution of highly-cited marketing papers' social media engagement

Altmetric bookmarklet tools, providing valuable graphical insights into the geographical distribution of readership and Twitter engagement, demonstrated the broad appeal of highly-cited marketing papers. Figure 2 presents an overview of these demographics while Table 4 identifies the countries with the highest engagement metrics. Researchers, students, librarians, and professors from 56 countries accessed these papers on Mendeley, whereas Twitter saw engagement from researchers, non-academic individuals, and scientists from 65 countries. We also see that Germany and the UK tied for the highest readership, each contributing 11.07% of the readers. The USA was close behind with 10.98% of readers. The USA dominated Twitter engagement with 32.10% of tweets, followed by the UK (18.97%), Canada (5.03%), and France (4.31%).

Table 5 Panel A unravels the readership demographics on Mendeley for highly-cited marketing papers. Master's students constituted the largest segment (27.23%), followed by Ph.D. and doctoral students (23.94%), and Bachelor's students (16.60%). Table 5 Panel B illuminates the disciplines with the highest readership: Business, management

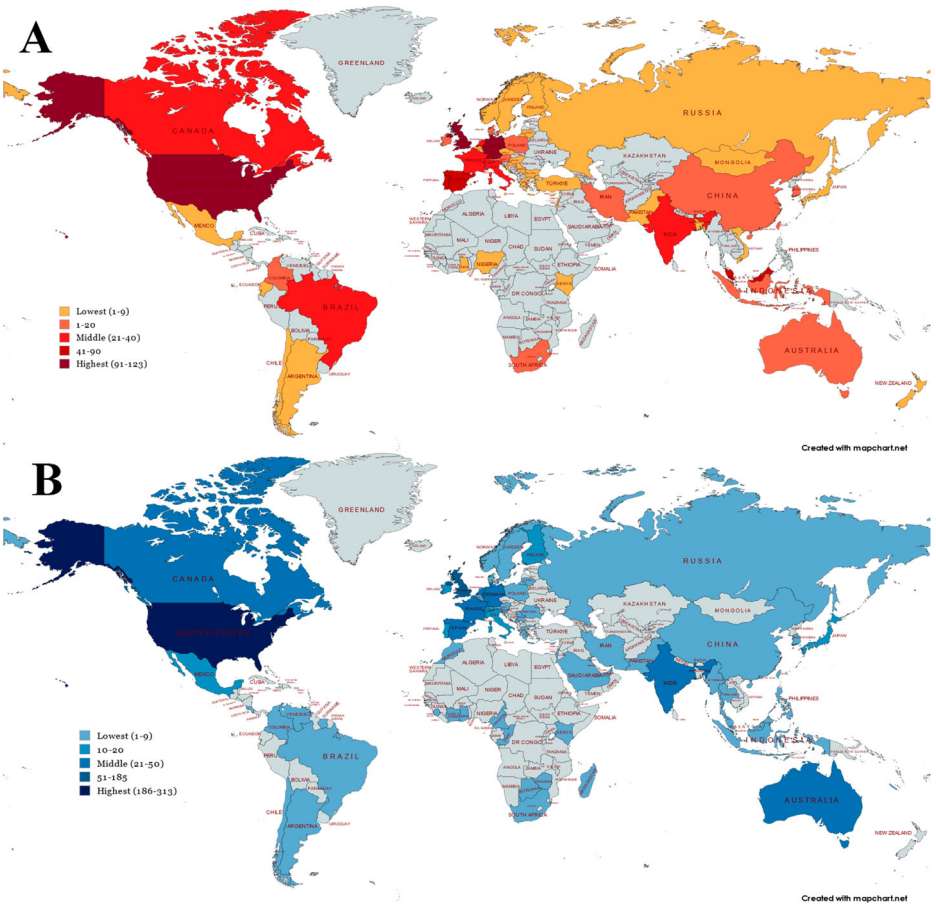

Figure 2. Geographical map of readers (A) and tweeters (B) of highly-cited marketing papers with Altmetric scores on Mendeley and Twitter.

Table 4. Reads and tweets of highly-cited marketing papers with Almetric scores on Mendeley and Twitter.

Rank	Country	Readers	%	Rank	Country	Tweeters	%
=1	Germany	123	11.07	1	USA	313	32.10
=1	UK	123	11.07	2	UK	185	18.97
3	USA	122	10.98	3	Canada	49	5.03
4	Spain	85	7.65	4	France	42	4.31
5	Portugal	66	5.94	5	Australia	39	4.00
6	Malaysia	60	5.40	6	Spain	38	3.90
7	Brazil	39	3.51	7	Netherlands	28	2.87
8	Italy	37	3.33	8	Germany	27	2.77
9	France	36	3.24	9	India	26	2.67
10	Switzerland	27	2.43	10	Switzerland	16	1.64
11	India	25	2.25	11	Japan	15	1.54
=11	Netherlands	25	2.25	=11	Portugal	15	1.54
13	Canada	24	2.16	13	Italy	14	1.44
14	Australia	20	1.88	14	Finland	13	1.33
15	Other countries	299	29.91	15	Other countries	155	15.90

Notes: The status of 99,824 readers and 2194 tweeters are unknown.

Table 5. Professional status and discipline of reads and tweets of highly-cited marketing papers with Altmetric scores on Mendeley and Twitter.

Rank	Constituent	*n*	%
Panel A. Readers by professional status			
1	Master's student	21547	27.23
2	Ph.D. and doctoral student	18948	23.94
3	Bachelor's student	13139	16.60
4	Lecturer	3750	4.74
5	Researcher	1248	1.58
6	Associate Professor	116	0.15
7	Professor	6	0.01
8	Other professions	20381	25.75
Panel B. Readers by discipline			
1	Business, management, and accounting	31652	50.21
2	Social sciences	9337	14.81
3	Economics, econometrics, and finance	4495	7.13
4	Computer science	3695	5.86
5	Psychology	944	1.50
6	Engineering	744	1.18
7	Arts and humanities	549	0.87
8	Sports and recreations	174	0.28
9	Agricultural and biological sciences	87	0.14
10	Environmental science	85	0.13
11	Other disciplines	11267	17.88
Panel C. Tweets by professional status			
1	Members of the public	1228	71.15
2	Scientists	403	23.35
3	Science communicators (journalists, bloggers, editors)	63	3.65
4	Practitioners (doctors, other healthcare professionals)	32	1.85

Notes: The professional status of 21,800 readers, disciplines of 37,906 readers, and professional status of 1443 tweets are unknown.

and accounting took the lead with 50.21%, trailed by social sciences (14.81%), economics, econometrics, and finance (7.13%), and computer science (5.86%). Table 5 Panel C highlights Twitter engagement, indicating that the public made up 71.15% of the tweets, followed by scientists (23.35%), and science communicators (3.65%).

Social media engagement of journals publishing highly-cited marketing papers

When evaluating the journals publishing high-impact marketing papers with Altmetric scores, three players rise to prominence: *Journal of Interactive Marketing*, *Journal of Business Research*, and *Journal of Marketing*. These journals outperformed their peers in terms of social media engagement and Altmetric scores, as detailed in Table 6.

Social media outlets, including Mendeley, Dimensions, Twitter, news outlets, and blogs, played a significant role in disseminating these publications, as depicted in Figure 3. An analysis of the 137 highly-cited marketing papers shows that 104 earned Altmetric scores, attracting considerable attention and engagement across diverse social media platforms.

Table 7 presents an intriguing distribution of Altmetric scores among high-impact marketing papers. A clear trend emerges, with influential journals (Q1) hosting a majority of these papers, and multi-authored papers scoring higher on average. These observations point to a pattern where papers published in high-impact journals and those with collaborative authorship achieve higher Altmetric scores.[1]

Correlation analysis between Altmetric scores, WoS citations, and social media engagement

Leveraging Spearman's correlation test, our study thoroughly probes the relationships between Altmetric scores and WoS citations with social media mentions of high-cited marketing papers. The selection of Spearman's correlation is motivated by the non-parametric nature of our data, as confirmed by the Kolmogorov–Smirnov test, rendering Pearson's correlation untenable due to its requirement for normally distributed data (Nath et al., 2020). This aligns with previous citation-focused studies, which often exhibit skewness and an abundance of zeros that cannot be transformed into a normal (Gaussian) distribution through mathematical functions (Sud & Thelwall, 2014). In presenting the results, we grouped social media outlets based on their similarities and analyzed their impact on Altmetric scores (Table 8) and WoS citations (Table 9).

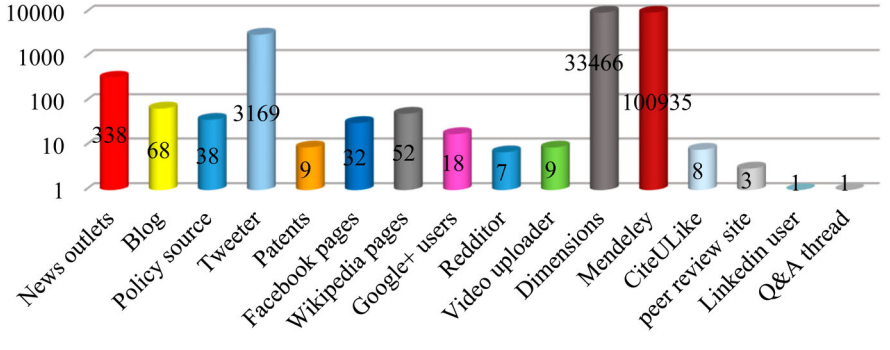

Figure 3. Social media outlets and Almetric scores for highly-cited marketing papers.

Table 6. Journals that publish highly-cited marketing papers with an Altmetric score.

Rank	Journal	Number of papers with Altmetric Score	Altmetric	Clarivate Analytics	Dimensions	twitter	MENDELEY			NEWS	Journal Citation Reports	
1	*Journal of Interactive Marketing*	15	229	4289	7000	104	23252	2	2	12	11.318	1
2	*Journal of Business Research*	10	226	2090	3193	115	16646	6	2	11	10.969	1
3	*Journal of Marketing*	6	329	730	2084	57	7649	1	6	28	15.360	1
4	*Psychology & Marketing*	5	160	557	981	34	3234	–	2	14	5.507	1
5	*Journal of Cleaner Production*	4	5	781	842	5	3374	1	–	–	11.072	1
6	*Journal of Retailing and Consumer Services*	4	82	1069	1236	6	3828	1	–	9	10.972	1
7	*Tourism Management*	4	58	1505	1321	11	3022	1	–	6	12.897	1
8	*Industrial Marketing Management*	3	30	1607	572	10	3191	–	1	1	8.89	1
9	*International Journal of Advertising*	3	158	522	928	16	3976	–	3	15	5.888	1
10	*International Journal of Information Management*	3	127	324	681	71	5563	–	–	8	18.958	1
11	*International Journal of Research in Marketing*	3	55	767	930	38	5137	–	–	2	8.047	1

Notes: Impact factors based on Journal Citation Report 2021.

Table 7. Journal ranking and authorship composition of highly-cited marketing papers with Altmetric scores.

	Papers	%	Citations	%	Altmetric score
Journal quartile or rank					
Q1	86	82.69	19714	77.44	4040
Q2	14	13.46	5273	20.72	615
Q3	4	3.85	469	1.84	18
Authorship composition					
Single-authored	7	6.73	2029	7.97	114
Multi-authored	97	93.27	23427	92.03	4559

Blogs, news outlets, policy sources, and Wikipedia

These platforms are characterized by their broad reach and ability to influence public opinion and policy. They are often used to disseminate information to a general audience and can significantly enhance the visibility of research through mainstream media channels.

Altmetric scores. The findings reveal positive correlations between Altmetric scores and mentions in blogs ($r = 0.976$, $p < .01$), news outlets ($r = 0.952$, $p < .01$), policy sources ($r = 0.634$, $p < .01$), and Wikipedia ($r = 0.323$, $p < .01$). These platforms reach a wide, non-academic audience, significantly enhancing the visibility of research and contributing to higher Altmetric scores due to their broad public accessibility and influence.

WoS citations. The correlation between WoS citations and mentions on policy sources ($r = 0.344$, $p < .01$) and Wikipedia ($r = 0.418$, $p < .05$) is significant. However, mentions in blogs and news outlets do not show a statistically significant correlation with WoS citations. This suggests that while these platforms boost immediate visibility and public engagement, they do not directly translate into academic citations, which are more influenced by formal academic referencing and scholarly discourse.

Facebook, Reddit, Twitter, and video uploaders (e.g. YouTube)

These platforms are known for their high user engagement and the ability to share content quickly. They are widely used by both the general public and academics, making them powerful tools for disseminating research to diverse audiences.

Altmetric scores. Twitter ($r = 0.890$, $p < .01$), Facebook pages ($r = 0.587$, $p < .01$), Reddit users ($r = 0.247$, $p < .05$), and video uploaders ($r = 0.482$, $p < .01$) show varying degrees of positive correlation with Altmetric scores. Twitter stands out for its high correlation, likely due to its extensive use by academics and the general public for sharing and discussing research. Facebook and video uploaders also contribute to Altmetric scores through broader public engagement, while Reddit's more modest correlation reflects its niche communities where research may be discussed but not as broadly disseminated.

WoS citations. Twitter ($r = 0.205$, $p < .05$) shows a modest but significant correlation with WoS citations, indicating some academic recognition from this platform. However,

Table 8. Spearman's correlation of Altmetric score and social media mentions.

	News outlets	Blogs	Policy sources	Twitter	Wikipedia pages	Google+ users	Video uploaders	Facebook pages	Redditor	CiteULike	Dimensions	Mendeley
Altmetric score	.952**	.976**	.634**	.890**	.323**	0.328**	.482**	.587**	.247*	.558**	.147	.075

Notes: ** = Correlation is significant at the 0.01 level. * = Correlation is significant at the 0.05 level.

Table 9. Spearman's correlation of WoS citations and social media mentions.

	Patents	Dimensions	CiteULike	Wikipedia pages	Policy source	Mendeley	Twitter	Facebook pages
Web of Science citations	.188	.975**	.306**	.418*	.344**	.789**	.205*	.179

Notes: ** = Correlation is significant at the 0.01 level. * = Correlation is significant at the 0.05 level.

Facebook ($r = 0.179$), Reddit ($r = 0.188$), and video uploaders do not show significant correlations with WoS citations, suggesting that while they engage the public, their impact on academic citations is limited.

Wikipedia, video uploaders, and CiteULike

These platforms are primarily academic tools used for reference management and scholarly metrics. They are widely used within the academic community for organizing and citing research.

Altmetric scores. Mentions in Dimensions ($r = 0.147$, $p > .05$), CiteULike ($r = 0.558$, $p < .01$), and Mendeley ($r = 0.075$, $p > .05$) show varied correlations with Altmetric scores. CiteULike's moderate correlation indicates its use by academics, while the lack of significant correlation for Dimensions and Mendeley suggests that these platforms contribute more to academic referencing rather than broader public engagement.

WoS citations. A positive correlation is observed between WoS citations and mentions in Dimensions ($r = 0.975$, $p < .01$) and Mendeley ($r = 0.789$, $p < .01$), with CiteULike also showing a significant correlation ($r = 0.306$, $p < .01$). These platforms are highly influential in academic circles, directly contributing to citation counts in scholarly publications. The strong correlation underscores their role in traditional academic dissemination and impact.

Summary of observations

The findings provide a substantial testament to the role of social media visibility in enhancing the Altmetric score of marketing papers and, to some extent, their citation performance in WoS. The positive correlations observed underscore the critical role of diverse social media engagement in boosting both immediate visibility and longer-term academic impact. This suggests that researchers should strategically utilize a wide range of social media platforms to maximize their research's reach and influence, thereby fostering a more dynamic and interconnected academic ecosystem. More specifically, in terms of Altmetric scores, platforms with broad public access and engagement (e.g. blogs, news outlets, policy sources, Wikipedia, Facebook, Twitter) show strong positive correlations with Altmetric scores, highlighting their role in enhancing the visibility and public impact of research. Moreover, in terms of WoS citations, platforms primarily used within academic circles (e.g. Dimensions, CiteULike, Mendeley) show strong correlations with WoS citations, indicating their importance in traditional academic referencing and scholarly impact. These findings suggest a strategic approach for researchers to maximize their research impact by engaging with both public-oriented platforms to boost Altmetric scores and academic-focused platforms to enhance citation counts.

Discussion and conclusion

In this section, we provide a comprehensive discussion of our study's findings and their implications. We first present the key takeaways, summarizing the main insights from our analysis. We then dive into the theoretical contributions, highlighting how our research advances the understanding of marketing research dissemination and impact through social media. Following this, we outline the academic implications, discussing the broader

significance of our findings for scientific policymakers, educational institutions, and researchers. Finally, we offer practical recommendations for scholars in the marketing field to enhance their research visibility and impact. Each sub-section is designed to address specific aspects of our study, ensuring clarity and focus for our intended beneficiaries (Lim & Bowman, 2023) and stakeholders (Mahajan et al., 2023).

Key takeaways

In this study, we undertook an exploration of the influence exerted by highly-cited marketing papers on social media through the lens of Altmetric indicators. From the 137 highly-cited marketing papers identified in the WoS, we discovered that 104 papers (or 75.91%) that garnered considerable attention on a multitude of social media platforms, securing Altmetric scores, while the remaining 33 papers (24.09%) did not manifest any Altmetric footprint. This contradicts the findings of Holmberg (2015), who suggested more limited Altmetric coverage in the marketing field, emphasizing that Altmetric prevalence can vary contingent on the subject area, the social media platforms scrutinized, and the source of Altmetric data. Our study indicates a deep-seated relevance of highly-cited marketing literature within societal dialogues, with over 75% of highly-cited marketing papers generating Altmetric scores on Altmetric.com. Our observations counter the assertions of Robinson-García et al. (2014), who proposed a more circumscribed impact of these publications.

Temporal analysis of Altmetric scores and citations demonstrates a peak in Altmetric scores in 2016 and 2017, while nearly half (49%) of the high-cited papers with Altmetric scores were disseminated between 2019 and 2022, reflecting an ascendant emphasis on social media in recent years. Conversely, the surge of citations coincided with high-cited papers published in 2011 and 2012, implying that the laborious, time-intensive process of peer review and publication delays citation accumulation relative to Altmetric score accrual. In this regard, gauging the influence of new articles through Altmetric scores could provide a more accurate and timely measure of their impact, a proposition also put forth by Costas et al. (2014).

On examining the authorship patterns of the high-cited papers boasting the highest Altmetric scores, we discovered a preponderance of multi-authored papers, corroborating the assertion by Wang, Lv, et al. (2020) that collaborative efforts often culminate in highly-cited papers. Our findings underscore the transformative potential of co-authorship in augmenting both the Altmetric footprint and citation tally of marketing research, emphasizing that the act of co-authorship can be a potent influence.

Our exploration also extended to the visibility and Altmetric resonance of these high-impact papers across various social media platforms, including Mendeley, Dimensions, and Twitter. We observed a heightened preference among researchers for Mendeley and Twitter, aligning with prior research underscoring their critical role in the international dissemination of scientific findings. The combination of user-friendly interfaces, free access, and capacity for multimedia content makes Mendeley and Twitter attractive, highly interactive platforms.

Analyzing the geographic distribution of Tweeters and readers of these highly-cited marketing papers, we established that over 51% of tweets and 22% of readership emanated from the USA and UK, reflecting an observation made by Haseena and Abdul Azeez (2021). The predominant discipline of Mendeley readers was business, management, and accounting, signaling a concentrated interest in this area. Strikingly, over 71% of tweets originated from members of the general public, underscoring their engagement

with scientific findings in marketing, and supporting the conclusions of Haseena and Abdul Azeez (2021), Haustein et al. (2014b), and Stephen (2019).

When we scrutinized the professional demographics of readers, we found that over 51% of Mendeley readers were master's and Ph.D. and doctoral students, attesting to the high engagement of these graduate students with Mendeley. These findings resonate with the research by Haunschild et al. (2015), Mohammadi et al. (2015), and Pooladian and Borrego (2017), and underline the importance of scientific research outputs for this demographic, indicating their propensity to share research findings on social media.

Our study also spotlighted the journals with the most Altmetrically active papers in the field of marketing – *Journal of Interactive Marketing*, *Journal of Business Research*, and *Journal of Marketing*. The *Journal of Interactive Marketing* emerged as the front-runner, hosting the most highly-cited papers with Altmetric scores, along with a sizable share of tweets and readership. Given their elevated journal quartiles or ranks and impact factors, it is logical that these high-profile journals would attract significant attention and scrutiny, thereby driving their respective Altmetric scores. This phenomenon is supported by Erdt et al. (2016) and Holmberg (2015), who found a statistically significant association between a journal's prestige and the social media visibility of its publications.

Our correlation analysis unveiled a robust, positive relationship between the number of social media mentions and WoS citations, underscoring that an increase in social media mentions is often mirrored by an uptick in WoS citations. A similar positive correlation was discerned between the number of reads on Mendeley and WoS citations, indicating that heightened readership can catalyze citation accrual. These conclusions align with research by Bar-Ilan (2012), Bar-Ilan et al. (2012), Mohammadi and Thelwall (2014), and Priem et al. (2012), who also reported a positive correlation between reads and citations.

Theoretical contributions

Our study provides several key theoretical contributions to the understanding of marketing research's dissemination and impact through social media engagement. Examining highly-cited marketing papers with Altmetric indicators, we offer finer-grained insights into how digital metrics complement traditional citation measures and contribute to the broader theoretical landscape.

On characteristics of highly-cited marketing papers (RQ1)

Our findings reveal that highly-cited marketing papers typically achieve higher Altmetric scores when published in top-tier journals (Q1) and are often the result of collaborative efforts. This supports existing theories on the correlation between journal prestige, collaborative authorship, and research impact (Donthu, Kumar, Pandey, et al., 2021; Lund, 2021). The combination of high-quality publication outlets and co-authorship significantly enhances a paper's visibility and engagement, suggesting that strategic publication practices and collaborative networks are crucial for maximizing research dissemination and impact.

On scientific impact of tweets and readership engagement (RQ2)

The substantial role of social media platforms, particularly Mendeley and Twitter, in disseminating marketing research is evident from our study. The engagement

predominantly driven by users from the USA and the UK, with master's and Ph.D. students forming a significant portion of the readership, underscores the importance of targeting specific demographics and geographies. These findings highlight the potential of social media as a powerful tool for researchers to reach a broader and more diverse audience (Rao et al., 2024), thereby amplifying the academic and societal impact of their work.

On presence in publishing journals and social media platforms (RQ3)

Our analysis indicates that journals such as the *Journal of Interactive Marketing*, *Journal of Business Research*, and *Journal of Marketing* are pivotal in hosting high-impact papers. These journals' strong presence across social media platforms suggests that strategic publication choices can significantly enhance a paper's visibility and Altmetric performance. This highlights the value of aligning publication strategies with journals that not only have high impact factors but also actively engage with social media platforms to promote their articles.

On correlation between citations, media presence, and Altmetric score (RQ4)

The robust correlations between Altmetric scores, social media mentions, and traditional citations affirm that social media visibility is a crucial predictor of academic impact. This finding aligns with the broader theoretical understanding that digital engagement metrics can complement traditional citation metrics to provide a holistic view of a paper's influence (Donthu, Kumar, Mukherjee, et al., 2021; Rao et al., 2024). The positive correlation between social media engagement and citation counts underscores the reciprocal relationship between online visibility and academic recognition, suggesting that researchers should leverage social media platforms to enhance their research's reach and impact.

To this end, our study contributes to the theoretical understanding of how digital and social media engagement metrics interact with traditional academic measures to influence the dissemination and impact of marketing research. Highlighting the importance of journal prestige, collaborative authorship, targeted social media strategies, and the complementary nature of Altmetric and citation metrics, we provide a comprehensive framework for researchers and institutions aiming to maximize the visibility and impact of their scholarly work, thereby enhancing recent work on scholarly communication and impact such as Rao et al. (2024).

Academic implications

Our study's findings deliver key insights with considerable implications for scientific policymakers, educational institutions, and researchers in the field of marketing.

Broadening evaluation metrics

The synergistic use of Altmetric indicators alongside traditional citation-based metrics is essential for accurately assessing the impact of scholarly publications in the digital age. Altmetric data offer a broader perspective on the societal relevance and engagement of marketing research. Institutions and policymakers can better evaluate the true influence and reach of research outputs by incorporating these metrics, leading to more informed decisions regarding funding, promotions, and policy formulations.

Enhancing public engagement

The substantial public engagement observed on platforms such as Twitter underscores the importance of social media in disseminating highly-cited marketing papers. Researchers should proactively utilize these networks to share their findings, thereby making their work accessible to a wider non-academic audience. This broader dissemination fosters greater public involvement with scientific research and enhances the societal impact of marketing studies. Institutions should recognize the value of Altmetric scores in capturing this engagement and use these insights to support research initiatives that have wide-reaching implications.

Leveraging researcher preferences

Our findings highlight a strong preference for Mendeley and Twitter among researchers, particularly among master's and Ph.D. students. Institutions and educators should leverage Mendeley's user-friendly interface and extensive accessibility to promote greater engagement with research outputs. Additionally, the multimedia capabilities and broad adoption of Twitter make it an effective platform for researchers to communicate their work to both academic and non-academic audiences. Encouraging the use of these platforms can enhance the visibility and impact of research, particularly among emerging scholars.

Targeting high-impact journals

The *Journal of Interactive Marketing*, *Journal of Business Research*, and *Journal of Marketing* are identified as leading outlets for high-impact marketing papers. These journals not only have high impact factors but also actively engage with social media platforms, amplifying the visibility of their publications. Researchers should aim to publish in these influential journals to maximize their work's reach and impact. Institutions can support this strategy by recognizing and rewarding publications in these high-profile outlets.

Maximizing online engagement

The positive correlations between social media mentions and traditional citations highlight the reciprocal relationship between online engagement and academic recognition. Researchers should capitalize on the potential of social media platforms to increase the visibility and citations of their work. Hence, by fostering active readership and engagement on platforms like Mendeley, researchers can significantly enhance their citation counts and, consequently, their academic impact. Institutions should consider incorporating social media metrics into their evaluation frameworks to capture the full spectrum of a researcher's influence.

Practical recommendations

Informed by our study's findings, we propose the following strategies for scholars in the marketing field aiming to augment the Altmetric footprint of their publications.

Foster collaborative research

Given that multi-authored papers tend to secure higher Altmetric scores than papers authored individually, we advocate for the promotion of collaborative research efforts

among marketing researchers. Cultivate an environment conducive to collaboration, including international cooperation, to amplify research outputs' impact and visibility.

Amplify through sharing

Marketing journals and researchers should proactively advocate for the sharing of research papers on scientific and social media platforms. Harnessing these platforms' potential can notably elevate Altmetric scores, citation counts, and impact factors. Encourage authors to disseminate their published works via their personal and institutional social media accounts, ensuring broader distribution and engagement with their research. Marketing researchers could also prioritize publishing in marketing journals that champion their published works through their own social media channels, thus expanding their research's reach and impact.

Leverage social media as a supplementary tool

Marketing researchers and publishers should acknowledge social media's potential as a practical, ancillary tool to boost their research output's accessibility and reach. Actively harnessing social media platforms, marketing researchers can facilitate swifter, broader access to their work, fostering dialogue with diverse audiences, spanning academics, industry professionals, policymakers, and the general public.

Stay abreast of trends

In the swiftly evolving terrain of scholarly communication and digital media, it is paramount for marketing researchers and publishers to remain informed about emerging trends and best practices. Regularly monitoring and assessing the impact of Altmetric indicators, social media engagement, and online visibility, they can leverage technological advancements and adjust strategies accordingly to maximize digital platforms' benefits in the marketing research ecosystem.

Collaborate with communication experts

For optimal use of social media and digital platforms, marketing researchers and publishers might consider allying with communication experts, social media managers, and digital marketing professionals. These specialists can guide the development of effective communication strategies, optimize social media presence, and analyze the impact of research dissemination efforts. Tapping into their expertise, marketing researchers and publishers can enhance their online visibility, engagement, and impact, thereby driving the marketing discipline forward and reaching a broader audience with their research findings.

Limitations and future research directions

While our study contributes significantly to the understanding of Altmetric scores and their relationship with social media mentions and citation performance in the marketing discipline, certain limitations offer a fertile ground for future inquiry. These limitations should be seen not as deficiencies, but as gateways leading to broader, more granular exploration of this multifaceted domain.

Firstly, this study is confined to highly-cited marketing papers, which may not provide a complete picture of the field's research engagement and influence. Subsequent studies

might strive to envelop a wider spectrum of scholarly works, spanning those with both high and low citation counts. In doing so, researchers can assemble a more encompassing understanding of the interplay between Altmetric scores and the citation impact of diverse research outputs in marketing.

Additionally, the impact of the journal impact factor on Altmetric scores merits further investigation. While high-impact journals often correlate with higher visibility and engagement, understanding the peculiarities of this relationship, particularly across different fields and access types (open access versus subscription access), could offer valuable insights. Future research could explore how the accessibility of a journal influences its Altmetric performance, potentially revealing whether open access publications garner higher Altmetric scores due to their broader availability and ease of dissemination.

Besides that, to foster a richer Altmetric analysis, future studies could pivot towards incorporating an array of influential marketing journals, particularly those boasting high impact factors. This would facilitate a more representative sample, offering granular insights into the ecosystem of highly impactful scholarly publications.

In addition, the correlation analysis between Altmetric scores, WoS citations, and social media engagement offered only a high-level aggregate overview, limited by the small number of cases available. Specifically, only 104 out of 137 highly-cited marketing papers were referenced on social media and, therefore, earned Altmetric scores. Citation patterns fluctuate over time – particularly with older and very recent papers often showing fewer citations (Donthu, Kumar, Pandey, et al., 2021; Maflahi & Thelwall, 2016, 2018; Wang, Glänzel, et al., 2020). Future research should consider longitudinal and time series analyses that track changes in these metrics over specific intervals, potentially including a broader set of papers rather than focusing exclusively on highly-cited ones. This approach would increase the number of cases included, enabling a more comprehensive and dynamic examination of the relationship between these metrics over time.

Furthermore, capitalizing on alternative Altmetric tools such as Plum Analytics and Impactstory could yield a more multifaceted perspective on the visibility and impact of research outputs. Leveraging these diverse tools, scholars can further decode the nexus between social media presence, Altmetric scores, and citation counts.

Moreover, in light of our findings, we encourage marketing scholars and students to harness the power of social media to magnify their research visibility and citation performance. Knowledge acquisition and active engagement in social media platforms can be fostered through workshops, educational programs, and exploratory learning. Concurrently, entities accountable for science, technology, and innovation policies should fold social media strategies into their research communication protocols to foster broader engagement and societal impact of research outputs.

Finally, an exciting avenue for future exploration lies in alternative data extraction methodologies. Such methods could unveil details about the geographical and professional distribution of readers and tweeters on platforms like Mendeley and Twitter, thereby providing a better understanding of the global and professional impact of marketing research.

Acknowledgement

The authors sincerely appreciates the constructive feedback on the initial version of this manuscript from Professor Saeed Ul Hassan, Manchester Metropolitan University, Manchester, England, UK, and Professor Aliakbar Jafari, University of Strathclyde, Glasgow, Scotland, UK. The authors also thank the editors and reviewers for the effort and time that were invested into reviewing this manuscript and providing valuable suggestions for improvement.

Data availability statement

Altmetric data as per reported in the study.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Note

1. This finding should be interpreted cautiously. Given the limited number of cases in non-Q1 journals and single authorships herein this study, a more comprehensive dataset and a regression analysis are necessary to rigorously test the significance of these relationships and validate whether high-impact journals and collaborative authorship indeed lead to increased visibility and impact.

References

Adie, E., & Roe, W. (2013). Altmetric: Enriching scholarly content with article-level discussion and metrics. *Learned Publishing*, *26*(1), 11–17. https://doi.org/10.1087/20130103

Aduku, K. J., Thelwall, M., & Kousha, K. (2017). Do Mendeley reader counts reflect the scholarly impact of conference papers? An investigation of computer science and engineering. *Scientometrics*, *112*(1), 573–581. https://doi.org/10.1007/s11192-017-2367-1

Ale Ebrahim, N. (2012). Publication marketing tools "enhancing research visibility and improving citations". *Research Tools in Education Series*, *1*(2), 1–86.

Appel, G., Grewal, L., Hadi, R., & Stephen, A. T. (2020). The future of social media in marketing. *Journal of the Academy of Marketing Science*, *48*(1), 79–95. https://doi.org/10.1007/s11747-019-00695-1

Ata, S., Arslan, H. M., Baydaş, A., & Pazvant, E. (2022). The effect of social media influencers' credibility on consumer's purchase intentions through attitude toward advertisement. *ESIC Market*, *53*(1), e280–e280. https://doi.org/10.7200/esicm.53.280

Baek, S., Yoon, D. Y., Lim, K. J., Hong, J. H., Moon, J. Y., Seo, Y. L., & Yun, E. J. (2020). Top-cited articles versus top Altmetric articles in nuclear medicine: A comparative bibliometric analysis. *Acta Radiologica*, *61*(10), 1343–1349. https://doi.org/10.1177/0284185120902391

Bar-Ilan, J. (2012). JASIST@mendeley. In *ACM Web Science Conference Workshop on Altmetrics*. http://altmetrics.org/altmetrics12/bar-ilan/

Bar-Ilan, J., Haustein, S., Peters, I., Priem, J., Shema, H., & Terliesner, J. (2012). Beyond citations: Scholars' visibility on the social web. arXiv preprint arXiv:1205.5611.

Barakat, A. F., Nimri, N., Shokr, M., Mahtta, D., Mansoor, H., Mojadidi, M. K., Mahmoud, A. N., Senussi, M., Masri, A., & Elgendy, I. Y. (2018). Correlation of Altmetric attention score with article citations in cardiovascular research. *Journal of the American College of Cardiology*, *72*(8), 952–953. https://doi.org/10.1016/j.jacc.2018.05.062

Basu, R., Lim, W. M., Kumar, A., & Kumar, S. (2023). Marketing analytics: The bridge between customer psychology and marketing decision-making. *Psychology & Marketing*, *40*(12), 2588–2611. https://doi.org/10.1002/mar.21908

Bornmann, L. (2014). Validity of Altmetrics data for measuring societal impact: A study using data from Altmetric and F1000Prime. *Journal of Informetrics*, *8*(4), 935–950. https://doi.org/10.1016/j.joi.2014.09.007

Cano-Marin, E., Ribeiro-Soriano, D., Mardani, A., & Gonzalez-Tejero, C. B. (2023). Exploring the challenges of the COVID-19 vaccine supply chain using social media analytics: A global perspective. *Sustainable Technology and Entrepreneurship*, *2*(3), 100047. https://doi.org/10.1016/j.stae.2023.100047

Chandra, S., Verma, S., Lim, W. M., Kumar, S., & Donthu, N. (2022). Personalization in personalized marketing: Trends and ways forward. *Psychology & Marketing*, *39*(8), 1529–1562. https://doi.org/10.1002/mar.21670

Chang, J., Desai, N., & Gosain, A. (2019). Correlation between Altmetric score and citations in pediatric surgery core journals. *Journal of Surgical Research*, *243*, 52–58. https://doi.org/10.1016/j.jss.2019.05.010

Chang, C. M., Hsu, M. H., Huang, E., & Yang, Y. H. (2020). Measuring social media brand community success: The roles of media capability and organisational support. *Total Quality Management & Business Excellence*, *31*(13–14), 1454–1466. https://doi.org/10.1080/14783363.2018.1485485

Clarivate. (2024). Essential Science Indicator. https://clarivate.libguides.com/c.php?g=593878&*p*=4107961

Costas, R., Zahedi, Z., & Wouters, P. (2014). Do 'Altmetrics' correlate with citations? Extensive comparison of Altmetric indicators with citations from a multidisciplinary perspective. *Journal of the Association for Information Science and Technology*, *66*(10), 2003–2019. https://doi.org/10.1002/asi.23309

Deda, Y. N., & Disnawati, H. (2024). A decade of research design studies: A bibliometric analysis (2012–2022). *Bulletin of Pedagogical Research*, *4*(1), 1–12. https://doi.org/10.51278/bpr.v4i1.1038

de Winter, J. C. F. (2015). The relationship between tweets, citations, and article views for PLOS One articles. *Scientometrics*, *102*(2), 1773–1779. https://doi.org/10.1007/s11192-014-1445-x

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, *133*, 285–296. https://doi.org/10.1016/j.jbusres.2021.04.070

Donthu, N., Kumar, S., Pandey, N., & Lim, W. M. (2021). Research constituents, intellectual structure, and collaboration patterns in Journal of International Marketing: An analytical retrospective. *Journal of International Marketing*, *29*(2), 1–25. https://doi.org/10.1177/1069031X211004234

Donthu, N., Kumar, S., Sahoo, S., Lim, W. M., & Joshi, Y. (2022). Thirty years of product and brand management research: A retrospective review of the Journal of Product and Brand Management using bibliometric analysis. *Journal of Product & Brand Management*, *31*(8), 1141–1167. https://doi.org/10.1108/JPBM-02-2022-3878

Donthu, N., Kumar, S., Sureka, R., Lim, W. M., & Pereira, V. (2023). Foundations of knowledge management: Intellectual structure and citation drivers of the Journal of Knowledge Management. *Journal of Knowledge Management*, *27*(4), 953–974.

Donthu, N., Lim, W. M., Kumar, S., & Pattnaik, D. (2022). The journal of advertising's production and dissemination of advertising knowledge: A 50th anniversary commemorative review. *Journal of Advertising*, *51*(2), 153–187. https://doi.org/10.1080/00913367.2021.2006100

Dwivedi, Y. K., Jeyaraj, A., Hughes, L., Davies, G. H., Ahuja, M., Albashrawi, M. A., Al-Busaidi, A. S., Al-Sharhan, S., Al-Sulaiti, K. I., Altinay, L., Amalaya, S., Archak, S., Ballestar, M. T., Bhagwat, S. A., Bharadwaj, A., Bhushan, A., Bose, I., Budhwar, P., Bunker, D., … Walton, P. (2024). "Real impact": Challenges and opportunities in bridging the gap between research and practice–Making a difference in industry, policy, and society. *International Journal of Information Management*, *78*, 102750. https://doi.org/10.1016/j.ijinfomgt.2023.102750

Ebrahim, R. S. (2020). The role of trust in understanding the impact of social media marketing on brand equity and brand loyalty. *Journal of Relationship Marketing*, *19*(4), 287–308. https://doi.org/10.1080/15332667.2019.1705742

Erdt, M., Nagarajan, A., Sin, S. C. J., & Theng, Y. L. (2016). Altmetrics: An analysis of the state-of-the-art in measuring research impact on social media. *Scientometrics*, *109*(2), 1117–1166. https://doi.org/10.1007/s11192-016-2077-0

Gholampour, B., Gholampour, S., & Noruzi, A. (2022). Research trend analysis of information science in France based on total, cited and uncited publications: A scientometric and altmetric analysis. *Informology*, *1*(1), 7–26.

Golmohammadi, A., Havakhor, T., Gauri, D. K., & Comprix, J. (2021). Complaint publicization in social media. *Journal of Marketing*, *85*(6), 1–23. https://doi.org/10.1177/00222429211002183

Gupta, B. B., Gaurav, A., Arya, V., & Chui, K. T. (2024). Fintech advancements in the digital economy: Leveraging social media and personal computing for sustainable entrepreneurship. *Journal of Innovation & Knowledge*, *9*(1), 100471. https://doi.org/10.1016/j.jik.2024.100471

Hammarfelt, B. (2014). Using altmetrics for assessing research impact in the humanities. *Scientometrics*, *101*(2), 1419–1430. https://doi.org/10.1007/s11192-014-1261-3

Haseena, V. K. K. M., & Abdul Azeez, T. A. (2021, February). Impact of scholarly articles on social media: An altmetric mapping of University of Calicut. Kerala-India. *Library Philosophy and Practice*, 5111.

Hassan, S. U., Saleem, A., Soroya, S. H., Safder, I., Iqbal, S., Jamil, S., Bukhari, F., Aljohani, N. R., & Nawaz, R. (2021). Sentiment analysis of tweets through altmetrics: A machine learning approach. *Journal of Information Science*, *47*(6), 712–726. https://doi.org/10.1177/0165551520930917

Hassan Shah, S. H., Noor, S., Bayiz Ahmad, A., Saleem Butt, A., & Lei, S. (2022). Retrospective view and thematic analysis of value co-creation through bibliometric analysis. *Total Quality Management & Business Excellence*, *33*(7–8), 752–776. https://doi.org/10.1080/14783363.2021.1890017

Haunschild, R., Bornmann, L., & Leydesdorff, L. (2015). Networks of reader and country status: An analysis of Mendeley reader statistics. *PeerJ Computer Science*, *2015*(11), e32. https://doi.org/10.7717/peerj-cs.32

Haustein, S., Larivière, V., Thelwall, M., Amyot, D., & Peters, I. (2014a). Tweets vs. Mendeley readers: How do these two social media metrics differ? *IT – Information Technology*, *56*(5), 207–215. https://doi.org/10.1515/itit-2014-1048

Haustein, S., Peters, I., Sugimoto, C. R., Thelwall, M., & Larivière, V. (2014b). Tweeting biomedicine: An analysis of tweets and citations in the biomedical literature. *Journal of the Association for Information Science and Technology*, *65*(4), 656–669. https://doi.org/10.1002/asi.23101

Holmberg, K. J. (2015). *Altmetrics for information professionals past, present and future. Altmetrics for information professionals* (1st ed.). Chandos Publishing.

Huang, W., Wang, P., & Wu, Q. (2018). A correlation comparison between altmetric attention scores and citations for six PLOS journals. *PLoS One*, *13*(4), e0194962.

Kadriu, A. (2013). Discovering value in academic social networks: A case study in ResearchGate. In *Proceedings of the ITI 2013 35th International Conference on Information Technology Interfaces* (pp. 57–62). IEEE.

Kapoor, K. K., Tamilmani, K., Rana, N. P., Patil, P., Dwivedi, Y. K., & Nerur, S. (2018). Advances in social media research: Past, present and future. *Information Systems Frontiers*, *20*(3), 531–558. https://doi.org/10.1007/s10796-017-9810-y

Ke, Q., Ahn, Y.-Y., & Sugimoto, C. R. (2017). A systematic identification and analysis of scientists on Twitter. *PLoS One*, *12*(4), e0175368.

Khademizadeh, S., Danesh, F., Esmaeili, S., Lund, B., & Santos-d'Amorim, K. (2024). Evolution of retracted publications in the medical sciences: Citations analysis, bibliometrics, and altmetrics trends. *Accountability in Research*. https://doi.org/10.1080/08989621.2023.2223996

Kocyigit, B. F., & Akyol, A. (2021). Bibliometric and altmetric analyses of publication activity in the field of Behcet's Disease in 2010–2019. *Journal of Korean Medical Science*, *36*(32), 1–10. https://doi.org/10.3346/jkms.2021.36.e207

Kraus, S., Breier, M., Lim, W. M., Dabić, M., Kumar, S., Kanbach, D., Mukherjee, D., Corvello, V., Piñeiro-Chousa, J., Liguori, E., Palacios-Marqués, D., Schiavone, F., Ferraris, A., Fernandes, C., & Ferreira, J. J. (2022). Literature reviews as independent studies: Guidelines for academic practice. *Review of Managerial Science*, *16*(8), 2577–2595. https://doi.org/10.1007/s11846-022-00588-8

Lim, W. M. (2024). Fact or fake? The search for truth in an infodemic of disinformation, misinformation, and malinformation with deepfake and fake news. *Journal of Strategic Marketing*. https://doi.org/10.1080/0965254X.2023.2253805

Lim, W. M., & Bowman, C. (2023). How to establish practical contributions and convey practical implications? Guidelines on locating practice gaps and making recommendations for practice. *Activities, Adaptation & Aging*, *47*(3), 263–282. https://doi.org/10.1080/01924788.2023.2232220

Lim, W. M., Ciasullo, M. V., Escobar, O., & Kumar, S. (2024). Healthcare entrepreneurship: Current trends and future directions. *International Journal of Entrepreneurial Behavior & Research*. https://doi.org/10.1108/IJEBR-02-2023-0197

Lim, W. M., & Kumar, S. (2024). Guidelines for interpreting the results of bibliometric analysis: A sensemaking approach. *Global Business and Organizational Excellence*, *43*(2), 17–26. https://doi.org/10.1002/joe.22229

Lim, W. M., Kumar, S., & Donthu, N. (2024). How to combine and clean bibliometric data and use bibliometric tools synergistically: Guidelines metaverse research. *Journal of Business Research*, *182*, 114760.

Lim, W. M., Kumar, S., Pandey, N., Rasul, T., & Gaur, V. (2022). From direct marketing to interactive marketing: A retrospective review of the Journal of Research in Interactive Marketing.

Journal of Research in Interactive Marketing, *17*(2), 232–256. https://doi.org/10.1108/JRIM-11-2021-0276

Lim, W. M., Kumar, S., Pandey, N., Verma, D., & Kumar, D. (2023). Evolution and trends in consumer behaviour: Insights from Journal of Consumer Behaviour. *Journal of Consumer Behaviour*, *22*(1), 217–232. https://doi.org/10.1002/cb.2118

Lim, W. M., & Rasul, T. (2022). Customer engagement and social media: Revisiting the past to inform the future. *Journal of Business Research*, *148*, 325–342. https://doi.org/10.1016/j.jbusres.2022.04.068

Lim, W. M., Rasul, T., Kumar, S., & Ala, M. (2022). Past, present, and future of customer engagement. *Journal of Business Research*, *140*, 439–458. https://doi.org/10.1016/j.jbusres.2021.11.014

Liu, Y., Jiang, C., Ding, Y., Wang, Z., Lv, X., & Wang, J. (2019). Identifying helpful quality-related reviews from social media based on attractive quality theory. *Total Quality Management & Business Excellence*, *30*(15–16), 1596–1615. https://doi.org/10.1080/14783363.2017.1389265

Lund, B. (2019). Universities engaging social media users: An investigation of quantitative relationships between universities' Facebook followers/interactions and university attributes. *Journal of Marketing for Higher Education*, *29*(2), 251–267. https://doi.org/10.1080/08841241.2019.1641875

Lund, B. (2021). Evaluating the use of journal prestige as a metric for academic research faculty. *The Library Quarterly*, *91*(3), 322–336. https://doi.org/10.1086/714319

Maflahi, N., & Thelwall, M. (2016). When are readership counts as useful as citation counts? S copus versus M endeley for LIS journals. *Journal of the Association for information Science and Technology*, *67*(1), 191–199. https://doi.org/10.1002/asi.23369

Maflahi, N., & Thelwall, M. (2018). How quickly do publications get read? The evolution of Mendeley reader counts for new articles. *Journal of the Association for Information Science and Technology*, *69*(1), 158–167. https://doi.org/10.1002/asi.23909

Mahajan, R., Lim, W. M., Sareen, M., Kumar, S., & Panwar, R. (2023). Stakeholder theory. *Journal of Business Research*, *166*, 114104. https://doi.org/10.1016/j.jbusres.2023.114104

Mahmoud, M. I., Surwanti, A., & Pribadi, F. (2024). Bibliometric analysis of trends and patterns in capital structure research: A decade-long review (2012–2022). *Multidisciplinary Reviews*, *7* (2), 2024025–2024025. https://doi.org/10.31893/multirev.2024025

Malhotra, P., & Bhattacharyya, S. (2022). Leveraging co-followership patterns on social media to identify brand alliance opportunities. *Journal of Marketing*, *86*(4), 17–36.

Mohammadi, E., & Thelwall, M. (2014). Mendeley readership altmetrics for the social sciences and humanities: Research evaluation and knowledge flows. *Journal of the Association for Information Science and Technology*, *65*(8), 1627–1638. https://doi.org/10.1002/asi.23071

Mohammadi, E., Thelwall, M., Haustein, S., & Larivière, V. (2015). Who reads research articles? An Altmetrics analysis of Mendeley user categories. *Journal of the Association for Information Science and Technology*, *66*(9), 1832–1846. https://doi.org/10.1002/asi.23286

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA Group* (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine*, *151*(4), 264–269. https://doi.org/10.7326/0003-4819-151-4-200908180-00135

Moon, J. Y., Yun, E. J., Yoon, D. Y., Seo, Y. L., Cho, Y. K., Lim, K. J., & Hong, J. H. (2020). Analysis of the Altmetric top 100 articles with the highest Altmetric attention scores in medical imaging journals. *Japanese Journal of Radiology*, *38*(7), 630–635. https://doi.org/10.1007/s11604-020-00946-0

Mukherjee, D., Lim, W. M., Kumar, S., & Donthu, N. (2022). Guidelines for advancing theory and practice through bibliometric research. *Journal of Business Research*, *148*, 101–115. https://doi.org/10.1016/j.jbusres.2022.04.042

Mullins, C. H., Boyd, C. J., & Corey, B. L. (2020). Examining the correlation between Altmetric score and citations in the general surgery literature. *Journal of Surgical Research*, *248* (April), 159–164. https://doi.org/10.1016/j.jss.2019.11.008

Nabavi, M. (2024). Coverage of the research documents with top altmetric attention scores in online news. *Online Information Review*. https://doi.org/10.1108/OIR-12-2022-0666

Nath, A., Jana, S., Kerketta, S., & Kerketta, S. (2020). Who reads PLOS research articles? Extensive analysis of the Mendeley readership categories of PLOS journals. *Journal of Scientometric Research*, *9*(3), 245–252. https://doi.org/10.5530/jscires.9.3.32

Nocera, A. P., Boyd, C. J., Boudreau, H., Hakim, O., & Rais-Bahrami, S. (2019). Examining the correlation between Altmetric score and citations in the urology literature. *Urology*, *134*(December), 45–50. https://doi.org/10.1016/j.urology.2019.09.014

Nyagadza, B., Mazuruse, G., Simango, K., Chikazhe, L., Tsokota, T., & Macheka, L. (2023). Examining the influence of social media eWOM on consumers' purchase intentions of commercialised indigenous fruits (IFs) products in FMCGs retailers. *Sustainable Technology and Entrepreneurship*, *2*(3), 100040. https://doi.org/10.1016/j.stae.2023.100040

Olawale, O., Ajayi, F. A., Udeh, C. A., & Odejide, O. A. (2024). Remote work policies for IT professionals: Review of current practices and future trends. *International Journal of Management & Entrepreneurship Research*, *6*(4), 1236–1258. https://doi.org/10.51594/ijmer.v6i4.1056

Page, M., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: AN updated guideline for reporting systematic reviews. *Systematic Reviews*, *10*(1), 89. https://doi.org/10.1186/s13643-021-01626-4

Paul, J., Lim, W. M., O'Cass, A., Hao, A. W., & Bresciani, S. (2021). Scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR). *International Journal of Consumer Studies*, *45*(4), O1–O16. https://doi.org/10.1111/ijcs.12695

Piwowar, H. (2013). Introduction Altmetrics: What, why and where? *Bulletin of the American Society for Information Science and Technology*, *39*(4), 8–9. https://doi.org/10.1002/bult.2013.1720390404

Pooladian, A., & Borrego, Á. (2017). Twenty years of readership of library and information science literature under Mendeley's microscope. *Performance Measurement and Metrics*, *18*(1), 67–77. https://doi.org/10.1108/PMM-02-2016-0006

Priem, J. (2010). I like the term #articlelevelmetrics, but it fails to imply diversity of measures. Lately, I'm liking #altmetrics.

Priem, J., & Hemminger, B. M. (2010). Scientometrics 2.0: New metrics of scholarly impact on the social web. *First Monday*, *15*(7). https://doi.org/10.5210/fm.v15i7.2874

Priem, J., Piwowar, H. A., & Hemminger, B. M. (2012). Altmetrics in the wild: Using social media to explore scholarly impact. arXiv preprint arXiv:1203.4745.

Priem, J., Taraborelli, D., & Groth, P. (2010). Altmetrics: A manifesto. http://altmetrics.org/manifesto

Rao, P., Kumar, S., Lim, W. M., & Rao, A. A. (2024). The ecosystem of research tools for scholarly communication. *Library Hi Tech*, *42*(4), 1132–1151. https://doi.org/10.1108/LHT-05-2022-0259

Robinson-García, N., Torres-Salinas, D., Zahedi, Z., & Costas, R. (2014). New data, new possibilities: Exploring the insides of Altmetric.com. *Profesional de La Informacion*, *23*(4), 359–366. https://doi.org/10.3145/epi.2014.jul.03

Roemer, R. C., & Borchardt, R. (2015). Introduction to altmetrics. *Library Technology Reports*, *51*(5), 5–10.

Saeed-Ul Hassan, W., & Ahmed Gillani, U. (2016). Altmetrics of 'Altmetrics' using Google Scholar, Twitter, Mendeley, Facebook, Google-plus, CiteULike, Blogs and Wiki. arXiv preprint arXiv:1603.07992.

Said, A., Bowman, T. D., Ayaz Abbasi, R., Radi Aljohani, N., Ul Hassan, S., & Nawaz, R. (2019). Mining network-level properties of Twitter Altmetrics data. *Scientometrics*, *120*(1), 217–235. https://doi.org/10.1007/s11192-019-03112-0

Schulze, C., Schöler, L., & Skiera, B. (2014). Not all fun and games: Viral marketing for utilitarian products. *Journal of Marketing*, *78*(1), 1–19. https://doi.org/10.1509/jm.11.0528

Shamsi, A., Lund, B., & SeyyedHosseini, S. (2022). Sharing of retracted COVID-19 articles: An Altmetric study. *Journal of the Medical Library Association*, *110*(1), 97. https://doi.org/10.5195/jmla.2022.1269

Stephen, G. (2019). Altmetric for the spread of true and false news online - A study of using Altmetric IT tool. *Library Philosophy and Practice*, 2910.

Sud, P., & Thelwall, M. (2014). Evaluating altmetrics. *Scientometrics*, *98*(2), 1131–1143. https://doi.org/10.1007/s11192-013-1117-2

Tahamtan, I., Potnis, D., Mohammadi, E., Miller, L. E., & Singh, V. (2021). Framing of and attention to COVID-19 on Twitter: Thematic analysis of hashtags. *Journal of Medical Internet Research*, *23*(9), e30800. https://doi.org/10.2196/30800

Tang, Y., Tseng, H., & Vann, C. (2020). Unwrap citation count, Altmetric attention score and Mendeley readership status of highly cited articles in the top-tier LIS journals. *Global*

Knowledge, Memory and Communication, *69*(8–9), 653–664. https://doi.org/10.1108/GKMC-01-2020-0005

Thelwall, M. (2016). Data science Altmetrics. *Journal of Data and Information Science*, *1*(2), 7–12. https://doi.org/10.20309/jdis.201610

Thelwall, M., Haustein, S., Larivière, V., & Sugimoto, C. R. (2013). Do Altmetrics work? Twitter and ten other social web services. *PLoS One*, *8*(5), e64841. https://doi.org/10.1371/journal.pone.0064841

Thelwall, M., & Wilson, P. (2016). Mendeley readership altmetrics for medical articles: An analysis of 45 fields. *Journal of the Association for Information Science and Technology*, *67*(8), 1962–1972. https://doi.org/10.1002/asi.23501

Van Noorden, R. (2014). Online collaboration: Scientists and the social network. *Nature News*, *512*(7513), 126–129. https://doi.org/10.1038/512126a

Verma, S., & Madhusudhan, M. (2019). An Altmetric comparison of highly cited digital library publications of India and China. *Annals of Library and Information Studies*, *66*(2), 71–75.

Wang, Z., Glänzel, W., & Chen, Y. (2020). The impact of preprints in Library and Information Science: An analysis of citations, usage and social attention indicators. *Scientometrics*, *125*(2), 1403–1423. https://doi.org/10.1007/s11192-020-03612-4

Wang, X., Lv, T., & Hamerly, D. (2020). How do Altmetric sources evaluate scientific collaboration? An empirical investigation for Chinese collaboration publications. *Library Hi Tech*, *38*(3), 563–576. https://doi.org/10.1108/LHT-05-2019-0101

Wiechetek, Ł, & Pastuszak, Z. (2022). Academic social networks metrics: An effective indicator for university performance? *Scientometrics*, *127*(3), 1381–1401. https://doi.org/10.1007/s11192-021-04258-6

Wouters, P., & Costas, R. (2012). *Users, narcissism and control – Tracking the impact of scholarly publications in the 21st century*. SURF Foundation.

Yu, H., Murat, B., Li, L., & Xiao, T. (2021). How accurate are Twitter and Facebook Altmetrics data? A comparative content analysis. *Scientometrics*, *126*(5), 4437–4463. https://doi.org/10.1007/s11192-021-03954-7

Zahedi, Z., Costas, R., & Wouters, P. (2014). Broad Altmetric analysis of Mendeley readerships through the academic status of the readers of scientific publication. In *Proceedings of the 19th International Conference on Science and Technology Indicators* (pp. 720–727).

Zahedi, Z., Costas, R., & Wouters, P. (2017). Mendeley readership as a filtering tool to identify highly cited publications. *Journal of the Association for Information Science and Technology*, *68*(10), 2511–2521. https://doi.org/10.1002/asi.23883

Appendix. Search string

TS = (‘Agile Marketing’ OR ‘Ambush Marketing’ OR ‘Viral Marketing’ OR ‘Communal Marketing’ OR ‘Brand Marketing’ OR ‘Buzz Marketing’ OR ‘People Marketing’ OR ‘Persuasive Marketing’ OR ‘Celebrity Marketing’ OR ‘Consumer Marketing’ OR ‘Community Marketing’ OR ‘Computational Marketing’ OR ‘Content Marketing’ OR ‘Defensive Marketing’ OR ‘Event Marketing’ OR ‘Freebie Marketing’ OR ‘Guerrilla Marketing’ OR ‘Neuro Marketing’ OR ‘Word-of-Mouth Marketing’ OR ‘WOM Marketing’ OR ‘Ethical Marketing’ OR ‘Cause Marketing’ OR ‘Word Stream Marketing’ OR ‘Multichannel Marketing’ OR ‘Interactive Marketing’ OR ‘Multichannel Marketing’ OR ‘Attractive Marketing’ OR ‘Show Marketing’ OR ‘Web-Based Marketing’ OR ‘Paper Napkin Marketing’ OR ‘Marketing Leadership’ OR ‘Evangelism Marketing’ OR ‘Database Marketing’ OR ‘Corporate Marketing’ OR ‘University Marketing’ OR ‘Analytical Marketing’ OR ‘Youth Marketing’ OR ‘Voice Marketing’ OR ‘Video Marketing’ OR ‘Vertical Marketing’ OR ‘User-Generated Marketing’ OR ‘Undercover Marketing’ OR ‘Transactional Marketing’ OR ‘Traditional Marketing’ OR ‘Trade Marketing’ OR ‘Time Marketing’ OR ‘Test-Driven Marketing’ OR ‘Tele Marketing’ OR ‘Technical Marketing’ OR ‘Targeted Marketing’ OR ‘Synchrony Marketing’ OR ‘Street Marketing’ OR ‘Stealth Marketing’ OR ‘Sports Marketing’ OR ‘Social Media Marketing’ OR ‘Social Marketing’ OR ‘Shotgun Marketing’ OR ‘Shopper Marketing’ OR ‘Shadow Marketing’ OR ‘Services Marketing’ OR ‘Self-Marketing’ OR ‘Search Marketing’ OR ‘Seasonal Marketing’ OR ‘Scientific Marketing’ OR ‘Scarcity Marketing’ OR ‘Reverse Marketing’ OR ‘Retail Marketing’ OR ‘Reply Marketing’ OR ‘Re Marketing’ OR ‘Relationship Marketing’ OR ‘Referral Marketing’ OR ‘Real-Time Marketing’ OR ‘Push Marketing’ OR ‘Pull Marketing’ OR ‘Proximity Marketing’ OR ‘Promotional Marketing’ OR ‘Product Marketing’ OR ‘PR Marketing’ OR ‘Post-Click Marketing’ OR ‘Point-Of-Sale Marketing’ OR ‘Place Marketing’ OR ‘Philanthropic Marketing’ OR ‘Persuasion Marketing’ OR ‘Personalized Marketing’ OR ‘Person Marketing’ OR ‘Permission Marketing’ OR ‘Performance Marketing’ OR ‘Pay-Per-Click Marketing’ OR ‘Partnership Marketing’ OR ‘Out-of-Home Marketing’ OR ‘Outdoor Marketing’ OR ‘Outbound Marketing’ OR ‘Organisation Marketing’ OR ‘Organization Marketing’ OR ‘Online Marketing’ OR ‘One-To-One Marketing’ OR ‘Offline Marketing’ OR ‘Offensive Marketing’ OR ‘Non-Traditional Marketing’ OR ‘Niche Marketing’ OR ‘Next-Best-Action Marketing’ OR ‘Newsletter Marketing’ OR ‘New Media Marketing’ OR ‘Network Marketing’ OR ‘Native Marketing’ OR ‘Multi-Level Marketing’ OR ‘Multicultural Marketing’ OR ‘Mobile Marketing’ OR ‘Mass Marketing’ OR ‘Loyalty Marketing’ OR ‘Long Tail Marketing’ OR ‘Local Marketing’ OR ‘Left-Brain Marketing’ OR ‘Internet Marketing’ OR ‘International Marketing’ OR ‘Interactive Marketing’ OR ‘Integrated Marketing’ OR ‘In-Store Marketing’ OR ‘In-game Marketing’ OR ‘Informational Marketing’ OR ‘Influencer Marketing’ OR ‘Industrial Marketing’ OR ‘Inbound Marketing’ OR ‘Humanistic Marketing’ OR ‘Horizontal Marketing’ OR ‘Green Marketing’ OR ‘Goods Marketing’ OR ‘Global Marketing’ OR ‘Geographic Marketing’ OR ‘Freebie Marketing’ OR ‘Free Sample Marketing’ OR ‘Flanking Marketing’ OR ‘Field Marketing’ OR ‘Facebook Marketing’ OR ‘Experiential Marketing’ OR ‘Experiential Marketing’ OR ‘Evangelism Marketing’ OR ‘Ethnic Marketing’ OR ‘Entrepreneurial Marketing’ OR ‘Employee Marketing’ OR ‘Email Marketing’ OR ‘Ecommerce Marketing’ OR ‘Drip Marketing’ OR ‘Door-To-Door Marketing’ OR ‘Diversity Marketing’ OR ‘Disruptive Marketing’ OR ‘Direct Mail Marketing’ OR ‘Direct Marketing’ OR ‘Digital Marketing’ OR ‘Differential Marketing’ OR ‘De-Marketing’ OR ‘Data Marketing’ OR ‘Cultural Marketing’ OR ‘Cross Media Marketing’ OR ‘Corporate Marketing’ OR ‘Cooperative Marketing’ OR ‘Conversion Rate Marketing’ OR ‘Conversational Marketing’ OR ‘Contextual Marketing’ OR ‘Cloud Marketing’ OR ‘Closed Loop Marketing’ OR ‘Close Range Marketing’ OR ‘Channel Marketing’ OR ‘Catalogue Marketing’ OR ‘Action Marketing’ OR ‘Call Center Marketing’ OR ‘Business Marketing’ OR ‘Brick And Mortar Marketing’ OR ‘Black Hat Marketing’ OR ‘Above the Line Marketing’ OR ‘Below the Line Marketing’ OR ‘Behavioral Marketing’ OR ‘Augmented Marketing’ OR ‘Article Marketing’ OR ‘Alliance Marketing’ OR ‘Affinity Marketing’ OR ‘Acquisition Marketing’ OR ‘Affiliate Marketing’ OR ‘Account Based Marketing’)