

The impact of social media on marketing using bibliometrics analysis

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CHRONICLE

ABSTRACT

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Social media has grown very quickly and has affected all dimensions of the world's community. The purpose of this article is to review valid articles on the relationship between social media and promotion using manual and bibliometrics analysis methods and identify top themes in these articles. We review the papers published between 2007 and the first month of 2019 in Scopus. 1,840 articles were published in the mentioned period. In this article, we review various charts including word dynamics, the contributions of different countries, country scientific production, corresponding author's country, the frequency distribution of sources, collaboration network and country collaboration map. The study indicates that Canada, Australia and France were the most productive countries in this area.

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1. Introduction

The Internet is one of the largest systems ever designed, engineered and implemented by man. Often in the everyday conversations of the two words “the web” and “the internet” use without differentiation, but these two words have different meanings. The Internet is a global communication system for data, software and hardware infrastructure that connects computers around the world. The Web is one of the services provided on the Internet and is used to connect to the Internet. The Internet is one level higher than the web.

The Internet has a lot of uses to provide “services”. One of the biggest uses of the Internet is the provision of services to the public. World Wide Web browsers such as Microsoft Internet Explorer, Firefox, Opera, Apple Safari, and Google Chrome allow users to move from one page to another page and search in web search engines like Yahoo and Google.

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Also, internet establishes communication quickly, easily and builds a high quality connection among thousands of people across the globe. Email is one of the most important communication services available on the Internet. Internet phone is another communication service that is used by the advent of the Internet. Another implementation of the internet is to transfer the necessary data. File sharing is an example of transferring large amounts of data over the Internet. The internet has a massive social impact. The Internet due to its usability and wide access creates a new form of interaction, activity, and social organization. Social networking sites such as Facebook, Twitter create new ways to socialize and engage. Users of these sites can add different information to their pages, follow common interests and connect to others. Websites such as LinkedIn promote professionals and business communication. YouTube is specialized in video and image users.

With the expansion of the Internet, a new generation of Web has emerged called “Web 2.0” that is more attractive, easier and more practical. “Web 2.0” uses the advances of technology to design web sites on the Internet. Sites or Internet services that allow users to exchange information or generate or manipulate information generally accomplish their tasks through “web 2.0”. For example, Google, Blogs and Social Media are the samples of Web 2.0. Web 2.0 tries to connect all gadgets and electronics such as Mobile Phones, Internet TVs, Digital Cameras, etc. Web 2.0 creates a generic collaboration in the production, presentation, and processing of information. One of the most important usages of the Internet and social media is “Marketing” and the most important part of the marketing mix is promotion. Parts of promotion plans include personal selling, advertising, direct marketing, sales promotion, public relation, corporate image, sponsorship, the Internet and social media. Promotion is considered as a major tool for improving general health in the world. Health promotion enables people to improve their health conditions. Also, health promotion focuses on public policies and its determinants such as income, housing, food security, employment status, and working environment. Health promotion is equity in health for everyone, everywhere in the world through focusing on social justice and human rights in government and non-governmental organizations. Social media is one of the greatest tools for health promotion, which is used in all its dimensions, including youth education, healthy eating and exercise, and lifestyle modification. Also sometimes the Internet and social media as a political tool.

On the Internet, there is no central monitoring of both technical and access policies. Each network in the Internet has its own standards, and this raises caution about the content of the Internet. The Internet and social media both have many positive and negative effects. For example, free access to a variety of negative information, such as internet marketing of alcohol and drugs for teens and young people, which can lead to many problems.

2. The themes in reviewed articles

The search of articles on the Scopus site was accomplished with two keywords “Social Media” and “Promotion”. In Scopus, there were 1840 articles related to these keywords. Then the articles were arranged according to the highest citation, and among them, we reviewed 150 articles which received the highest citations. The focus of the articles was on the themes in Table 1.

Table 1
Articles themes

No.	Articles	Total Citation	Tourism / Hospitality	YouTube	economic values
			Children / Adolescent	Mobile / computer	Gender / Male / Female
			Facebook	Twitter	
4	(Moorhead et al., 2013)	398	✓	✓	✓
5	(Goh et al., 2013)	350	✓	✓	✓
6	(Greene et al., 2011)	349	✓	✓	✓
7	(Leung et al., 2013)	288	✓	✓	✓
8	(Mozaffarian et al., 2012)	287	✓	✓	✓
9	(Korda and Itani 2013)	213	✓	✓	✓
10	(van Dijck 2013)	203	✓	✓	✓
11	(Thackeray et al., 2008)	190	✓	✓	✓
12	(Lupton 2013)	174	✓	✓	✓
13	(Zeng and Gerritsen 2014)	158	✓	✓	✓
14	(Cavallo et al., 2012)	146	✓	✓	✓
15	(Laranjo et al., 2014)	145	✓	✓	
16	(Guse et al., 2012)	143	✓	✓	✓
17	(Marshall 2010)	141	✓	✓	✓
18	(Lee Ventola 2014)	140	✓	✓	✓
19	(Kaplan 2012)	139	✓	✓	✓
20	(Moreno et al., 2009)	139	✓	✓	✓
21	(Neiger et al., 2012)	137	✓	✓	✓
22	(Chou et al., 2013)	136	✓	✓	
23	(Bull et al., 2012)	136	✓	✓	✓
24	(Benevento et al., 2009)	133	✓	✓	✓
25	(Lupton 2012)	127	✓	✓	✓
26	(Gold et al., 2011)	103	✓	✓	✓
27	(Luxton et al., 2012)	100	✓	✓	✓
28	(Cohn et al., 2011)	95	✓	✓	✓
29	(Schultz and Peltier 2013)	85	✓	✓	
30	(Tiggemann and Zaccardo 2015)	78	✓	✓	✓
31	(Naslund et al., 2016)	77	✓	✓	✓
32	(Freeman 2012)	76	✓	✓	✓
33	(Woodcock et al., 2011)	76	✓	✓	
34	(Estabrooks et al., 2012)	75	✓	✓	✓
35	(Taylor et al., 2012)	73	✓	✓	✓
36	(Lupton 2015)	71	✓	✓	
37	(Boudreaux et al., 2014)	71	✓	✓	
38	(Hachinski et al., 2010a)	71	✓	✓	✓
39	(Williams et al., 2014)	69	✓	✓	✓
40	(Neiger et al., 2013)	68	✓	✓	✓
41	(Gibbons et al., 2011)	68	✓	✓	✓
42	(Huang et al., 2015)	66	✓	✓	
43	(Leskovec et al., 2010)	66	✓	✓	
44	(Akl et al., 2015)	64	✓	✓	✓
45	(Rhodes et al., 2011)	62	✓	✓	✓
46	(Chassikatos et al., 2016)	61	✓	✓	✓
47	(Rozental and Bates 2013)	60	✓	✓	✓
48	(Morgan et al., 2013)	60	✓	✓	
49	(Reuter et al., 2013)	56	✓	✓	✓
50	(Nuutinen et al., 2013)	55	✓	✓	✓
51	(Yonker et al., 2015)	54	✓	✓	✓
52	(Long et al., 2012)	54	✓		✓
53	(Benevento et al., 2009)	54	✓	✓	
54	(Hill et al., 2016)	53	✓	✓	
55	(Goring et al., 2014)	53	✓	✓	
56	(Lu et al., 2014)	53		✓	✓
57	(Lyon and Montgomery 2013)	53	✓	✓	✓
58	(Reyna 2012)	53	✓	✓	
59	(Piette et al., 2015)	52	✓	✓	✓
60	(Chaudhry et al., 2012)	52	✓	✓	✓
61	(Parveen et al., 2014)	51	✓	✓	
62	(Zheng and Zheng 2014)	50	✓	✓	
63	(Thackeray et al., 2013)	50	✓	✓	✓
64	(Sobaci and Karkin 2013)	50	✓	✓	✓
65	(Sugimoto et al., 2017)	49	✓	✓	

No.	Articles	Total Citation	Tourism / Hospitality	YouTube	economic values
			Children / Adolescent	Mobile / computer	Gender / Male / Female
			web 2.0	Facebook	Twitter
66	(Valente et al., 2015)	49	✓	✓	✓
67	(Biddle et al., 2014)	48	✓	✓	✓
68	(Patrick et al., 2014)	47	✓	✓	✓
69	(Cavazos-Rehg et al., 2015)	45	✓	✓	✓
70	(Rohm et al., 2013)	45	✓	✓	✓
71	(Coiera 2013)	45	✓	✓	✓
72	(Yang et al., 2015)	44	✓	✓	✓
73	(Thackeray et al., 2012)	44	✓	✓	✓
74	(Hoffman et al., 2014)	43	✓	✓	✓
75	(Hanson et al., 2011)	43	✓	✓	✓
76	(Stankov et al., 2010)	43	✓	✓	✓
77	(Pedrana et al., 2013)	42	✓	✓	✓
78	(Li et al., 2013)	42	✓	✓	✓
79	(Arena et al., 2015)	41	✓	✓	✓
80	(Joseph et al., 2015)	41	✓	✓	✓
81	(Fausto et al., 2012)	41	✓	✓	✓
82	(Jones et al., 2012)	41	✓	✓	✓
83	(Jaganath et al., 2012)	41	✓	✓	✓
84	(Young et al., 2015)	40	✓	✓	✓
85	(Balatsoukas et al., 2015)	40	✓	✓	✓
86	(Dev et al., 2010)	40	✓	✓	✓
87	(Gruzd and Haythornthwaite	39	✓	✓	✓
88	(Harris et al., 2014)	38	✓	✓	✓
89	(Young et al., 2014)	38	✓	✓	✓
90	(Betsch 2011)	38	✓	✓	✓
91	(Hamm et al., 2014)	37	✓	✓	✓
92	(Moreno and Whitehill 2014)	37	✓	✓	✓
93	(Cho and Park 2012)	37	✓	✓	✓
94	(Sipp et al., 2017)	36	✓	✓	✓
95	(Hale et al., 2014)	36	✓	✓	✓
96	(McNeil et al., 2012)	36	✓	✓	✓
97	(Xie and Lee 2015)	35	✓	✓	✓
98	(Merchant et al., 2014)	35	✓	✓	✓
99	(Boley et al., 2013)	35	✓	✓	✓
100	(Yoon et al., 2013)	35	✓	✓	✓
101	(Magnée et al., 2013)	35	✓	✓	✓
102	(Montague and Perchonok 2012)	35	✓	✓	✓
103	(Peoples et al., 2016)	34	✓	✓	✓
104	(Luo et al., 2014)	34	✓	✓	✓
105	(Ramanadhan et al., 2013)	34	✓	✓	✓
106	(Gittelson et al., 2013)	34	✓	✓	✓
107	(Livingston et al., 2013)	34	✓	✓	✓
108	(Gerodimos and Justinussen	33	✓	✓	✓
109	(Struik and Baskerville 2014)	33	✓	✓	✓
110	(Liaw and Tan 2014)	33	✓	✓	✓
111	(Byron et al., 2013)	33	✓	✓	✓
112	(De Moya and Jain 2013)	33	✓	✓	✓
113	(Papasolomou and Melanthiou	33	✓	✓	✓
114	(Frew et al., 2012)	33	✓	✓	✓
115	(Varlamis et al., 2010)	33	✓	✓	✓
116	(Feldstein and Weller 2009)	33	✓	✓	✓
117	(McAlpine et al., 2015)	32	✓	✓	✓
118	(Hachinski et al., 2010b)	32	✓	✓	✓
119	(Taggart et al., 2015)	31	✓	✓	✓
120	(Robinson et al., 2014)	31	✓	✓	✓
121	(Powell et al., 2014)	31	✓	✓	✓
122	(Nguyen et al., 2013)	31	✓	✓	✓
123	(Acord and Harley 2013)	31	✓	✓	✓
124	(Hammond et al., 2013)	31	✓	✓	✓
125	(Thackeray and Neiger 2009)	31	✓	✓	✓
126	(Smailhodzic et al., 2016)	30	✓	✓	✓
127	(Piwoz and Huffman 2015)	30	✓	✓	✓

No.	Articles	Total Citation	Tourism / Hospitality	YouTube	economic values	web 2.0	Children / Adolescent	Mobile / computer	Gender / Male / Female	Facebook	Twitter	Internet / websites	Marketing / Promotion	Human / Adult / Youth	Health Promotion	Social Media/Network
128	(MacKey and Liang 2013)	30	✓	✓	✓	✓	✓	✓	✓							
129	(Vitak et al., 2012)	30	✓	✓	✓	✓	✓	✓	✓							
130	(Müller et al., 2016)	29	✓	✓	✓	✓	✓	✓	✓							✓
131	(Mazanderani et al., 2013)	29	✓	✓												
132	(Seidenberg et al., 2012)	29	✓		✓	✓	✓	✓	✓		✓	✓				
133	(Donelle and Booth 2012)	29	✓	✓	✓	✓	✓	✓	✓							✓
134	(Wong and Gupta 2011)	29	✓	✓	✓	✓	✓	✓	✓							✓
135	(Hansberry et al., 2015)	28	✓	✓	✓	✓	✓	✓	✓							✓
136	(Hanks et al., 2016)	27	✓	✓												✓
137	(Koster et al., 2015)	27	✓	✓												✓
138	(Gornall 2015)	27	✓	✓												
139	(Asiodu et al., 2015)	27	✓	✓	✓	✓	✓	✓	✓							✓
140	(Loxton et al., 2015)	27	✓		✓	✓	✓	✓	✓							✓
141	(Finch et al., 2013)	27	✓	✓		✓	✓	✓	✓							
142	(Wang and Huang 2012)	27	✓	✓												
143	(Shoveller et al., 2012)	27	✓	✓	✓	✓	✓	✓	✓							✓
144	(Roblin 2011)	27	✓	✓	✓	✓	✓	✓	✓							✓
145	(Purdy 2011)	27	✓	✓	✓	✓	✓	✓	✓							✓
146	(Lobstein et al., 2017)	26	✓	✓	✓	✓	✓	✓	✓							✓
147	(Hoang et al., 2015)	26	✓													
148	(Greaves et al., 2014)	26	✓													
149	(Nelson et al., 2014)	26	✓	✓	✓	✓	✓	✓	✓							✓
150	(Wood and Burkhalter 2014)	26	✓	✓	✓	✓	✓	✓	✓							✓
150	(Wood and Burkhalter 2014)	26	✓	✓	✓	✓	✓	✓	✓							

3. Literature Review

Top keywords include “Social Media” with 150 articles, “Health Promotion” with 101 articles, “Human” with 98 articles and “Marketing” with 86 articles. So we divide articles into four groups:

- Effects and Functions of Social Media
- The impact of social media on health promotion
- The impact of social media on human
- The impact of social media on marketing promotion

3.1. Effects and Functions of Social Media

Facebook, Twitter, and YouTube are three most important channels for creating content and receiving information from organizations (Luo et al., 2014; Peoples et al., 2016). Facebook is used by organizations as a tool for disseminating information, employees, and promotion of organization and their applications (MacKey & Liang 2013). Facebook is one of the social media which is widely used in the world. Facebook is used to attract social support in a variety of topics such as marketing, health promotion, the tourism industry, privacy, and electoral campaigns (Cavallo et al., 2012; Livingston et al., 2013; Byron et al. 2013). YouTube can provide educational films and content to the public (Long et al., 2012). Internet-based recruiting, technology publication and research are new Internet gains (Morgan et al., 2013; Benevenuto et al., 2009; Balatsoukas et al., 2015). One of the characteristics of Virtual media is more and easier access to information types that can create awareness and changing behavior (Laranjo et al., 2014; Moorhead et al., 2013). Web 2.0 and social media create a new kind of communication among

people with any nationality or ethnicity (Niger et al., 2012; Gibbons et al., 2011; Acord & Harley 2013). Social media are the perfect environment for online recruitment, online education, and online political news (Feldstein & Weller 2009; Hammond et al., 2013; Mazanderani et al., 2013; Loxton et al., 2015). In natural disasters, social media is used to facilitate for flexible communicate, publishing images and experiences of victims and creating campaigns to help people (Taylor et al., 2012; Huang et al., 2015; Hill et al., 2016; Goring et al., 2014).

Being exposed to inappropriate content and contacts is one of the negative effects of social media (Lyon & Montgomery 2013; Benevenuto et al., 2009). Other applications of the social media includes the promotion of the environment, the introduction of celebrities and their fans, the scientific communication between universities, the publication of personal photos and videos (Marshall, 2010; Reyna, 2012; Zheng & Zheng 2014; Valente et al., 2015; Boley et al., 2013). The evaluation of social media requires key performance indicators and rules. Social media analysis is essential for checking online space changes. Mobile phones and video films are also a kind of technology that is used to change behavior, but sometimes causes a negative effect among young people (Müller et al., 2016; Montague & Perchonok 2012; Cho & Park 2012; Harris et al., 2014; Gruzd & Haythornthwaite, 2013; Chou et al., 2013).

3.2. The impact of social media on health promotion

Social media can inform teenagers and young people about the dangers of sexually transmitted diseases, sexually transmitted infections, HIV, unwanted pregnancies and common illnesses among homosexuals (Lee Ventola, 2014; Bull et al., 2012; Rhodes et al., 2011; Jones et al., 2012; Young et al., 2014). Search engines and social networking sites like Facebook are used to promote sexual health. Teenagers show signs of dangerous behaviors such as drugs abuse, unhealthy sex and violence on public websites (Gold et al., 2011; Kaplan 2012). Websites are another tools for social marketers to provide sexual health messages also online counseling and online education for youth and the use of Harnessing Online Peer Education (HOPE) as a tool for HIV prevention and the prevalence of sexually transmitted infections and Chlamydia (Pedrana et al., 2013; Fausto et al., 2012; Dev et al., 2010; Shoveller et al., 2012). Advertising and sale of alcohol on the Internet have effects on consumer's taste and decrease the consumer's age. Mobile technology, Facebook and Twitter can help reduce alcohol consumption (Lobstein et al., 2017; Moreno & Whitehill 2014; Cavazos-Rehg et al., 2015; Patrick et al., 2014; Cohn et al., 2011). There are tobacco control policies and reduction in smoking and Fight against cigarettes on the Web 2.0 and social media, especially Facebook. These efforts are being made to promote mental health among young people (Mozaffarian et al., 2012; Freeman 2012; Akl et al., 2015; Gittelsohn et al., 2013; Struik & Baskerville, 2014; Gornall 2015). The existence of electronic media such as television and computers in the children's room can create sleep disorders, slow motion, obesity, and impatience. Use of media to encourage families to choose healthy foods and vegetables for children is very important (Hanks et al., 2016; Hamm et al., 2014; Li et al., 2013; Biddle et al., 2014; Reuter et al., 2013).

Social media and Web 2.0 play an important role in health communication and mental health promotion and may change communication patterns in age groups. Today, the Internet and patient-focused healthcare are cheap ways of promoting health among all levels of society (Chou et al., 2009; Rozenblum & Bates 2013; Nuutinen et al., 2013; Lu et al., 2014; Robinson et al., 2014). Developed countries reduce health inequities through the Internet and social media. They change people's behavior, using health promotion campaigns in the media and distributing free products or lowering prices for health products. Mobile applications are useful tool for health service providers (Hachinski et al., 2010a; Hanson et al., 2011; Jaganath et al., 2012; Betsch, 2011; Hale et al., 2014; Magnée et al., 2013; McAlpine et al., 2015; Powell et al., 2014). Twitter is used in professional medical societies for scientific communication and counseling for doctors from each other. Doctors also use social media to educate their patients and also to create electronic medical records and patient records (Hoang et al., 2015; Donelle & Booth 2012; Frew

et al., 2012; Coiera, 2013). Also, Mobile Health or M-Health is a tool that can provide accurate biometric information from the human body, especially the elderly for doctors (Piette et al., 2015; Yonker et al., 2015; Estabrooks et al., 2012; Moreno et al., 2009; Lupton, 2013). Twitter publishes detailed information about diseases, but it also sometimes has a negative attitude toward diseases (McNeil et al., 2012). Facebook has created an opportunity for sharing experiences between patients and their families, in which individuals with a particular disease can form groups and campaigns (Greene et al., 2011). Internet development improves patient quality of life, improves disease management and changes the prevention paradigms (Chaudhry et al., 2012; Arena et al., 2015; Ramanadhan et al., 2013; Roblin 2011).

Social media and the Internet can affect suicide and reduce the self-esteem of young people, leading to their worry and mental anxiety (Naslund et al., 2016; Tiggemann & Zaccardo 2015; Luxton et al., 2012; Lupton, 2012; Korda & Itani, 2013). Many health promotion programs are voluntary, and some are done by health organizations. Social media promotes a healthy diet and reduces fat consumption and educates the symptoms of the disease (Lupton, 2015; Boudreux et al., 2014; Williams et al., 2014; Neiger et al., 2013; Leskovec et al., 2010; Chassiakos et al., 2016). Social marketing and online sales of condoms to prevent unwanted pregnancies, family planning and awareness and support for pregnant women, prevention of head injuries education and the teaching of breast cancer preventive action to women are another uses of the media (Thackeray et al., 2013; Hachinski et al., 2010a; Taggart et al., 2015; Asiodu et al., 2015; Finch et al., 2013; Purdy, 2011). Encouraging messages for physical activity and exercise on Facebook, fundraising for patients on Twitter, sharing experiences of patients before and after treatment on YouTube are examples of how to use these media (Joseph et al., 2015; Wong & Gupta 2011; Wood & Burkhalter, 2014). Promoting diet and physical activity in developing countries is performed on social media with behavioral change techniques (Koster et al., 2015; Hansberry et al., 2015; Yoon et al., Bakken 2013; Merchant et al., 2014; Yang et al., 2015). Interacting with patients and creating electronic health records is the advantage of social media and addiction to media is the disadvantage (Sipp et al., 2017; Piwoz & Huffman 2015; Vitak et al., 2012; Wang & Huang 2012).

3.3. The impact of social media on marketing promotion

Facebook can create economic values by creating fan groups for brands and ads and online surveys. Facebook is also used to promote the tourism industry (Nelson et al., 2014; Nguyen et al., 2013; Xie & Lee, 2015; Stankov et al., 2010; Goh et al., 2013). On Twitter, there are customer service, LCCs low-cost carrier tickets promotions, flight cancellations or delays, and post-booking management in Airlines. Twitter is used for promotion and political marketing (Sobaci & Karkin, 2013; Struik & Baskerville, 2014; Greaves et al., 2014). Social media has facilitated communication between organizations and customers. Word of mouth marketing and mobile marketing help to build loyal customers (Mangold & Faulds, 2009; Kozinets et al., 2010; Lee Ventola, 2014; Schultz & Peltier 2013). Social marketing as a consumer-oriented approach leads to a change in consumer behavior with the help of social media. Internet marketing through corporate websites, direct marketing through campaigns on websites, viral marketing through Web 2.0 leads to a change in consumer behavior (Thackeray et al., 2008; Thackeray et al., 2012; Thackeray & Neiger 2009; Smailhodzic et al., 2016; Seidenberg et al., 2012). Also, social media has a great influence on the management of the tourism and hospitality system and the decision of travelers (De Moya & Jain, 2013; Zeng & Gerritsen, 2014; Leung et al., 2013; Balatsoukas et al., 2015). YouTube, as the most popular video sharing site in the world, has a great potential for access and influence in a large audience. Internet sales of electronic cigarettes are executed on YouTube with promotional videos. Also, blogs and microblogging or customer review sites are used to introduce and promote product and marketing. LinkedIn is also used to express people and communicate, advertise, and shape people's online identity (van Dijck, 2013; Gerodimos & Justinussen, 2015; Varlamis et al., 2010). Advantages of using the Internet are including to be cheap, instant access to the international community, connecting with millions of people and receiving real feedback from them. Social media is also used to manage customer relationships and create value along the value chain (Papasolomou & Melanthiou 2012;

Hoffman et al., 2014; Rohm et al., 2013; Sugimoto et al., 2017; Parveen et al., 2014; Woodcock et al., 2011).

4. The most common keywords

Table 2 demonstrates some of the most cited references associated with Social media and Promotion. As we can observe from the results of Table 2, Social media, Health Promotion and Human are three well-recognized keywords used in the literature. Fig. 1 shows the most important words used over time.

Table 2

The most popular keywords used in studies associated with social media and promotions

Words	Occurrences	Words	Occurrences
social media	1545	review	87
health promotion	1190	methodology	84
human	926	major clinical study	82
humans	785	consumer health information	81
female	684	education	80
male	641	interpersonal communication	79
adult	494	mass medium	76
internet	482	program evaluation	76
adolescent	423	qualitative research	75
article	418	health care personnel	73
young adult	333	pregnancy	72
procedures	300	telemedicine	72
united states	260	health care policy	70
health education	231	diet	69
priority journal	228	advertising	68
social networking (online)	208	sexual behavior	68
middle aged	203	infant	67
social network	189	social networking	67
health behavior	187	surveys and questionnaires	63
public health	186	health care delivery	62
child	166	HIV infections	62
information dissemination	162	adolescent behavior	61
marketing	155	commerce	60
attitude to health	154	mobile application	59
psychology	150	online system	57
medical information	147	practice guideline	57
smoking	135	randomized controlled trial	57
social support	133	communication	56
controlled study	126	mass media	55
exercise	126	text messaging	55
statistics and numerical data	114	information processing	54
utilization	112	motivation	54
aged	104	cross-sectional studies	53
social marketing	102	cross-sectional study	53
questionnaire	98	mobile phone	53
attitudes	97	behavior change	51
awareness	97	health program	51
health knowledge	97	united kingdom	51
practice	97	health survey	50
obesity	93	breast feeding	49
organization and management	91	editorial	48
smoking cessation	91	advertising as topic	47
Australia	89	health communication	47
physical activity	87	peer group	47

5. Contributions of countries

Our survey demonstrates that American has maintained the most contribution in the field of Social media and promotion. Table 3 shows the details of our survey.

Table 3

The summary of the contributions of different countries

Country	Total Citations	Average Article Citations
USA	8998	16.945
AUSTRALIA	1622	15.302
FRANCE	837	104.625
CANADA	760	11.176
UNITED KINGDOM	592	8.97
IRELAND	442	34
SINGAPORE	392	35.636
HONG KONG	310	44.286
NETHERLANDS	305	27.727
BRAZIL	196	19.6
CHINA	163	4.794
GERMANY	161	10.062
LEBANON	151	30.2
PORTUGAL	143	47.667
FINLAND	123	12.3
KOREA	102	3.643
JAPAN	90	9
SPAIN	89	2.543
TURKEY	83	11.857
NEW ZEALAND	81	6.75

6. Country Scientific Production

According to Fig. 1, the distribution of scientific production by various countries in the subject of social media and promotion is the largest scientific production is United States with 1898 documents.

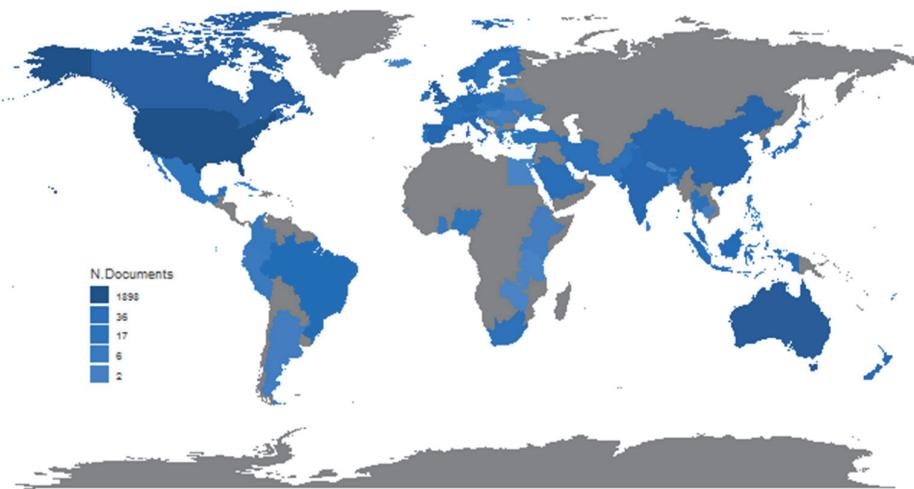


Fig. 1. Country Scientific Production

7. Corresponding author's country

Fig. 2 shows the number of articles produced by the authors of different countries (SCP) and the rate of cooperation of each country's authors with other countries' authors (MCP). For instance, authors of the

United States have produced 470 articles, and American author's co-authorship with other countries is 61 papers. Subsequently, the authors of Australia ranked second with 79 papers, and author's co-authorship with other countries is 27 papers.

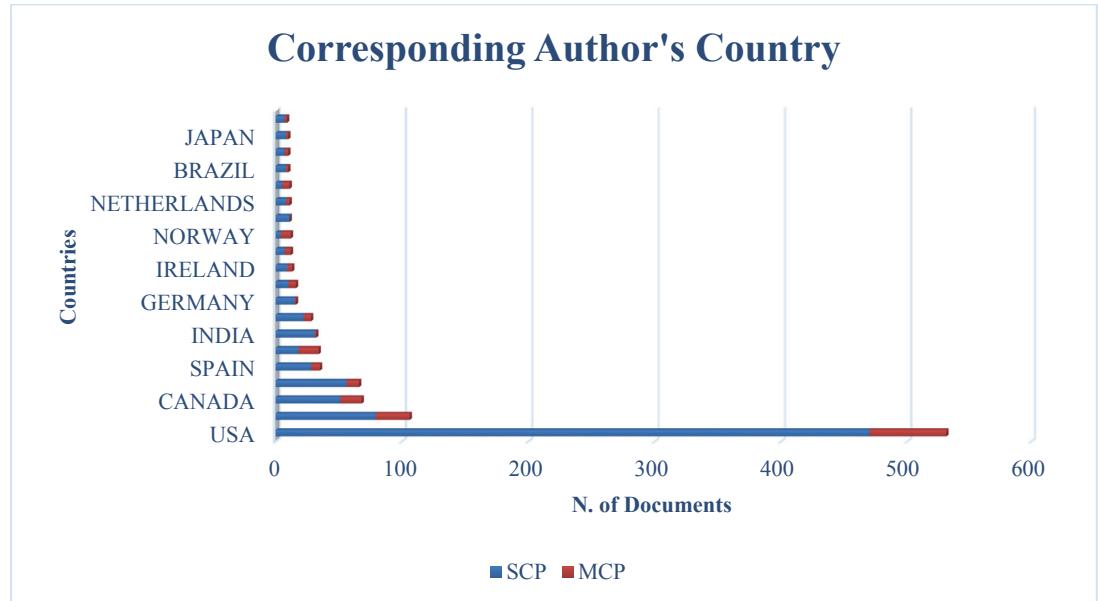


Fig. 2. Corresponding author's country

8. The frequency distribution of sources

In this research, most articles from the sources shown in Fig. 3 are the journal of medical internet research with 78 articles with the highest number of published articles.

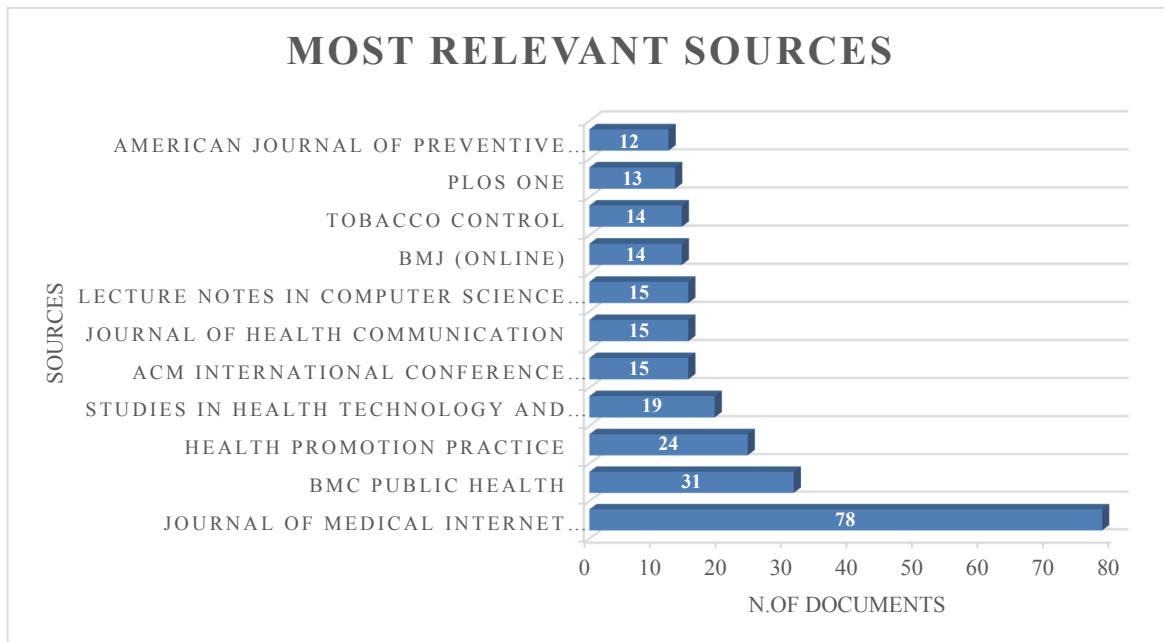


Fig. 3. Most Relevant Source

9. Collaboration network

Fig. 4 shows the Author's Collaboration Network.

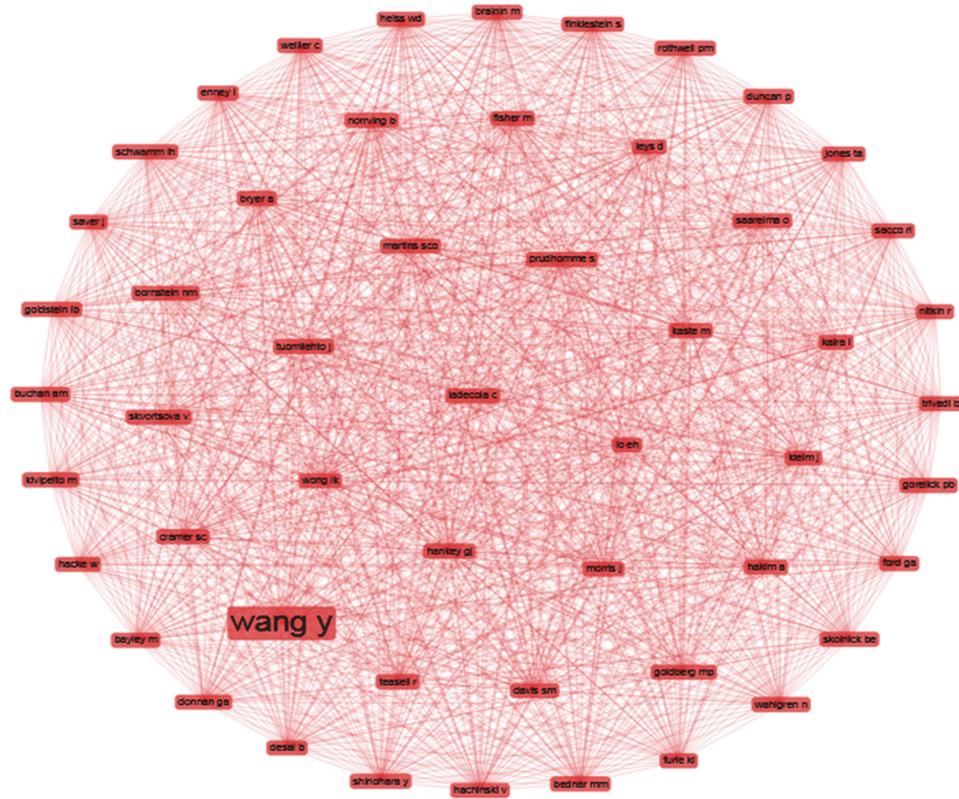


Fig. 4. Author's Collaboration Network

In terms of the average citation, papers published by researchers in Canada, Australia, and France have maintained the highest citations. Fig. 5 shows the results of the collaborations among various countries. As we can observe from the results of Fig. 5, there was strong collaboration from the researchers in the United States from one side and other countries which was the highest to Canada, Australia and China, respectively.

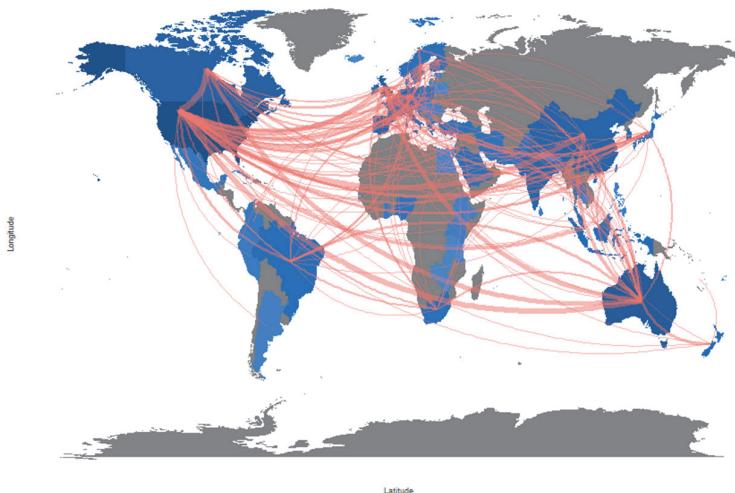


Fig. 5.Country Collaboration map

As shown in Fig. 6, the total number of citations to articles related to the subject gradually increased over time from the 1950s, and since 2000 the slope of the growth has been markedly increased, and the peak was in the period 2010-2015, but after that period it has fallen quickly.

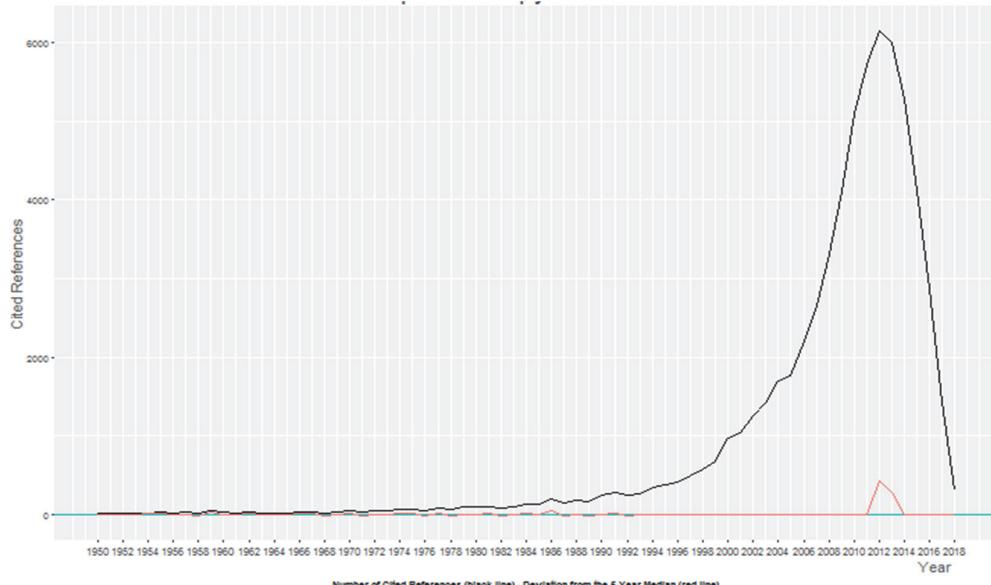


Fig. 6. Reference Publication Year Spectroscopy

10. Highly cited papers

Table 4 below shows the largest number of citations for the selected documents, as well as the annual average, with the highest record for MANGOLD WG, 2009, BUS HORIZ, which has 1124 citations with an average annual average of 112.4.

Table 4
Highly cited papers

Paper	Total Citations	TC per Year
MANGOLD WG, 2009, BUS HORIZ	1124	112.4
KOZINETS RV, 2010, J MARK	684	76
CHOU WYS, 2009, J MED INTERNET RES	475	47.5
MOORHEAD SA, 2013, J MED INTERNET RES	384	64
GOH KY, 2013, INF SYST RES	347	57.833
GREENE JA, 2011, J GEN INTERN MED	346	43.25
MOZAFFARIAN D, 2012, CIRCULATION	286	40.857
LEUNG D, 2013, J TRAVEL TOUR MARK	285	47.5
KORDA H, 2013, HEALTH PROMOT PRACT	211	35.167
VAN DIJCK J, 2013, MEDIA CULT SOC	198	33
THACKERAY R, 2008, HEALTH PROMOT PRACT	187	17
LUPTON D, 2013, CRIT PUB HEALTH	170	28.333
ZENG B, 2014, TOUR MANAGE PERSPECT	155	31
CAVALLO DN, 2012, AM J PREV MED	146	20.857
GUSE K, 2012, J ADOLESC HEALTH	143	20.429
LARANJO L, 2014, J AM MED INFORMATICS ASSOC	142	28.4
MARSHALL PD, 2010, CELEBRITY STUD	141	15.667
KAPLAN AM, 2012, BUS HORIZ	138	19.714
MORENO MA, 2009, ARCH PEDIATR ADOLESC MED	138	13.8
LEE VENTOLA C, 2014, P T	137	27.4

11. Conclusion

This study has tried to provide a comprehensive view of the scientific papers between 2007 to the first month of 2019 in social media and promotion fields. This research has shown Canada, Australia and France as the most productive countries in this area. Journal of medical internet research has also been the most relevant sources and most corresponding author's country have been from the United States.

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