Review paper

ANALYSIS OF RESEARCH TRENDS IN DIGITAL MEDIA AND URBAN BRANDING: INSIGHTS FROM CITESPACE (2013-2023)

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Abstract

With the continuous development of smart cities, the relationship between digital media and city branding has attracted significant attention. This study uses the CiteSpace tool to provide a comprehensive visual analysis of the research landscape in the field of digital media and city branding from 2013 to 2023. A systematic literature review (n=689 articles) was used to explore the main trends. The methodology included the analysis of publication volume, international collaboration network, research field (including keyword co-occurrence and keyword clustering), and research hotspots and frontiers analysis. The study underlines the importance of digital marketing and market communication research in the context of city branding. The study highlights the complex dynamics of this relationship and the importance of exploring the interactive influences within these interdisciplinary fields. Finally, the data analysis highlights several potential research questions related to the development of creative accounting, offering valuable insights for future studies. Additionally, this study provides a framework for firms to design and implement creative accounting development strategies. The study recommends that future research topics should include interdisciplinary approaches, consumer engagement, global collaboration, and long-term branding strategies. These approaches are necessary to advance understanding and effective management of city brands in the digital age.

Keywords: Digital Media, City Branding, Citespace, Wos Database, Research Trends, Systematic Literature Review

INTRODUCTION

The Statista report (2023c) indicates that the global online travel market will continue to expand, from approximately US\$475 billion in 2022 to over US\$521 billion in 2023. It is projected that this market will reach a value of over US\$1 trillion by 2030, with over two-thirds of revenue derived from online sales channels (Statista, 2023d). Concurrently, the advancement of digital media and city branding is propelling the evolution of smart cities across the globe. This trend has brought the relationship between digital media and city branding into sharp focus. City branding is defined as the process of creating and promoting a distinctive identity for a city (Vanolo, 2020). Concurrently, digital media play a pivotal role in city branding, enabling cities to effectively disseminate their brand messages (Rojíková et al., 2023). Consequently, this paper employs CiteSpace, a

sophisticated academic literature analysis tool, to provide a comprehensive visual analysis of the research landscape in digital media and city branding from 2013 to 2023.

The objective of this study is to utilise CiteSpace to visualise citation relationships and trends in the academic literature. This approach is intended to illuminate the research hotspots and frontiers in this dynamic field, ultimately contributing to a deeper understanding of the evolving intersection between digital media and city branding. Consequently, this paper identifies a crucial research gap in the field, emphasising the need for further exploration of digital marketing and market communication in the context of city branding. The current research illuminates the intricate interrelationship between digital media and city branding, underscoring the significance of incorporating consumer perspectives and interests when devising efficacious city branding strategies. Future research endeavors should endeavor to delve more deeply into the interactive influences within these interdisciplinary domains in order to effectively guide city branding practices and harness the potential of digital media. Such an exploration will enhance our understanding of the complex relationship between urban branding and digital media, provide valuable insights for practical applications, and inspire future research directions.

THEORETICAL BACKGROUND

The advent of the digital age has brought about profound changes in the production and consumption of media content. The advent of video technology and digital editing has revolutionised the production of television content (Pečiulis, 2021). Concurrently, the digital industry, propelled by the convergence of human ingenuity and cutting-edge technologies, has undergone a period of rapid expansion, resulting in the exponential growth of digital media and the facilitation of resource sharing and communication (Wan, 2021). However, the advent of digital transformation has led to a disruptive and innovative change in the production and dissemination of news (Pavlik, 2021). Concurrently, the proliferation of social media platforms, including online social networks and media-sharing services, has facilitated the rapid production and dissemination of information. The pervasiveness of social media has had a profound impact on various aspects of society, including communication, culture, and knowledge sharing (Hassan, et al., 2022).

In the context of these digital advancements and the profound impact of social media, the concept of city branding has emerged as a valuable asset that can enhance a city's reputation and competitiveness in the global arena (Shirvani Dastgerdi and De Luca, 2019). City branding is the process of creating and promoting a unique identity and image for a city with the objective of attracting visitors, investors, and improving the quality of

life for its residents (Malamud et al., 2022; Abd et al., 2022; Ma et al., 2021). It encompasses a multitude of elements, including integrated design, landmarks, signature architecture, city vision, culture, and symbolic assets. The utilisation of branding strategies is found to be positively correlated with a city's level of urban development (Ma et al., 2021). In essence, city branding is a multidisciplinary approach that aims to create a distinctive and attractive identity for a city, thereby contributing to its reputation and competitiveness (Al-Hinkawi and Zedan, 2021). Moreover, in the context of the evolving landscape of digital media and social platforms that redefine information sharing, cities are increasingly utilising these tools to advance their branding strategies.

Over time, social media has emerged as an effective channel for relationship marketing objectives, promoting the creation and reinforcement of consumer identity, thereby facilitating the establishment of a strong consumer base (Abeza et al., 2020). Some researchers posit that the integration of social media in the use of visitor behavior and experience data strategies can enhance the application of business intelligence in destination management (Van der Zee et al., 2020). As van Asperen and his colleagues (2018) have observed, there is a clear correlation between social media engagement and customer loyalty to brands. This indicates that optimising online effectiveness and active customer interaction is crucial for companies employing social media activities. Moreover, the intensity of social media use has been demonstrated to have a significant impact on brand recognition (Stojanovic et al., 2018). Finally, visitor evaluations and comments on social media have become crucial indicators that reflect the image of destinations. This further highlights the continuous evolution of social media in destination management and brand building (González-Rodríguez et al., 2016; Kladou and Mavragani, 2015).

Collectively, these factors are propelling the growth of social media in the field of destination management and brand development, rendering it a pivotal component of the contemporary tourism industry. Furthermore, destination marketing organisations (DMOs) have also acknowledged the significance of social media. They recognise that social media is not merely a conduit for disseminating information; it is also a powerful instrument for shaping the brand image of destinations (Jimenez-Barreto et al., 2019) and attracting visitors. To achieve this goal, they actively work to establish a quality online image that helps potential tourists gain a comprehensive insight into the destination's strengths and weaknesses, conduct risk assessments, and ultimately make travel decisions. Concurrently, DMOs optimise the sharing of brand-related stories and experiences on social media with the objective of highlighting the attractiveness of their products and contributing to city brand awareness (Lund et al., 2018). This comprehensive approach to social media helps to

better meet the needs of modern travellers and drives the continued development of the industry as a whole.

The pervasive popularity of online social networks has given rise to the phenomenon of social media influencers, or "internet celebrities." This phenomenon is currently experiencing a period of significant growth. While celebrity endorsements have long been an effective marketing strategy, particularly in the travel industry, the emergence of social media influencers has opened up new opportunities. They have become a powerful tool to attract modern travellers, especially when the image of the destination is closely aligned with the target market (Xu and Pratt, 2018). This collaboration serves to differentiate destinations in a highly competitive market, while also fostering deeper engagement.

Concurrently, Angelidou et al. (2018) posit that researchers must persist in their efforts to elucidate the nexus between digital media and city branding, particularly in the context of intelligent and sustainable urban development. The advent of smart technology enables cities to enhance efficiency and resource utilisation, thereby facilitating more sustainable urban development. This not only enhances the quality of life for city residents but also reinforces the city's brand and reputation. It is conceivable that the tourism industry may eventually embrace immersive technologies such as the Metaverse, which would facilitate awareness of destinations, positioning, branding, coordination, and management through digital twins (Buhalis et al., 2023).

DATA AND METHODS

This section delineates the methodology used for the comprehensive analysis of literature retrieved from the Web of Science Core Database (WOS). The data collection process entailed two rounds of searches, with the initial round focusing on city branding and the subsequent round focusing on digital media research. To identify pertinent articles, authors applied a set of specific search queries and criteria. These were then subjected to an in-depth analysis using CiteSpace 6.1.R6, a prominent bibliometric analysis software. The analysis encompasses several dimensions, including the volume of publications, researcher collaboration networks, national networks, research area analysis, and the identification of research hotspots and frontiers. These methodologies were employed to address the research objectives and questions central to this study.

Data

The literature data for this article were obtained from the Web of Science Core Database, with a data collection date of September 16, 2023. The data collection process involved a

two-round search strategy with specific search queries and criteria to obtain relevant articles.

First Round of Searching:

In the first round of searching, the search query included the subject term "City Branding" and its related terms, including "Urban Marketing," "City Identity," "Urban Image," "Urban Tourism," "Urban Competitiveness," "Urban Vitality," and "Urban Development Strategy." The search query for the first round was as follows: TS=(City Branding OR Urban Marketing OR City Identity OR Urban Image OR Urban Tourism OR Urban Competitiveness OR Urban Vitality OR Urban Development Strategy) AND (DT==("ARTICLE")). This round of searching aimed to identify articles related to the topic of city branding.

Second Round of Searching:

In the second round of searching, the subject term "Digital Media" and its related terms were used, including "Digital Media" "Digital Content," "Online Media," "Electronic Media," "New Media," "Multimedia," "Internet Media," "Digital Communication," "Web-Based Media," "Interactive Media," and "Digital Platforms."The search query for the second round was as follows: TS=(Digital Media OR Digital Content OR Online Media OR Electronic Media OR New Media OR Multimedia OR Internet Media OR Digital Communication OR Web-Based Media OR Interactive Media OR Digital Platforms) AND (DT==("ARTICLE")). This round of searching aimed to identify articles related to digital media.

Additional Criteria:

- The search was limited to articles published between 2013 and 2023.
- Document type was restricted to articles, excluding other publication types.
- Web of Science categories were set to include "hospitality leisure sport tourism," "urban studies," "management regional urban planning," and "area studies."
- A total of 815 articles were retrieved, and 689 were considered useful after screening.

Method

Citespace is a visualisation and analysis software developed by Dr. Chaomei Chen, a Chinese-American, based on the Java language. This software facilitates expeditious and rigorous bibliometric analysis of a substantial corpus of research papers within a particular

field or area of study, visually representing pivotal issues such as the current research hotspots, frontiers, and future research trends within that field or area of study. Citespace is regarded as one of the most prominent programs in the field of international scientific bibliometric software (Chen et al., 2015). This study employs CiteSpace 6.1.R6 for a comprehensive scientific literature analysis, which encompasses the following steps: The following steps are employed in the analysis: (1) Publication volume analysis; (2) Researcher collaboration network analysis; (3) National network analysis; (4) Research field analysis, including keyword co-occurrence and keyword clustering; (5) Research hotspots and fields analysis.

DATA ANALYSIS AND RESULTS

Publication Volume Analysis

The change in publication volume can be indicative of the research level and development of the field (Gao and Chen, 2021). To some extent, it serves as an important source of information for evaluating the dynamic development trends and attention level, as well as for predicting the future development of the field. In this study, the data from 689 literature sources were imported into Excel to facilitate the determination of the annual number of publications and the cumulative annual number of publications. The creation of line graphs based on the annual publication count and cumulative annual publication count allows for the deduction of trends in the core research of "digital media and city branding" from 2013 to 2023 (Fig. 1).

Figure 1 The annual publication volume related to digital media and city branding research from 2013 to 2023
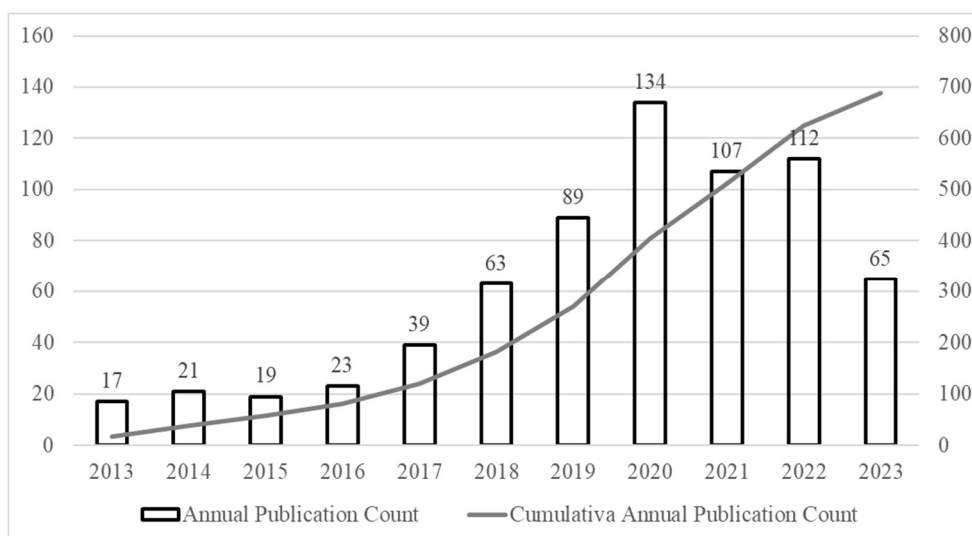
Source: Own compilation

The annual number of publications shows a fluctuating growth, and the core research in "Digital Media and City Branding" can be roughly divided into three stages: the growth stage (2013-2020), the fluctuation stage (2020-2022), and the decline stage (2022-2023). During the growth stage, the annual number of published articles ranged from 17 to 134, indicating a significant increase in the publication base. This suggests that digital media technologies experienced rapid development and widespread adoption during this period. As Steenkamp (2020) noted, "*more people are now using this latest technology of global connectivity than have ever flown, traveled by train, or owned a car*". These technologies also provided new channels and tools for city branding, stimulating research interest among scientists and attracting the attention of more researchers; during the fluctuation phase, the global pandemic significantly disrupted research activities. The outbreak led to interruptions, delays, and reallocation of resources for many research projects, which likely contributed to the decline in the number of research articles in 2020 and 2021. Despite the temporary setback caused by the pandemic, the importance of digital media in city branding remained relevant. Researchers may have gradually refocused their attention on this area, leading to a gradual increase in the number of articles in 2022; as for the decline phase, it can be attributed to research saturation on the topic, leading scholars to gradually decrease their focus on this area.

Network analysis of researchers

A visual analysis of a network with the node type "author" was performed using the CiteSpace software on 689 pieces of data. In the upper left corner of Figure 2, we find relevant data labeled as "N=301, E=102." The author collaboration network comprises a total of 301 nodes and 102 edges. Some authors exhibit a greater degree of interconnectedness, suggesting a closer degree of collaboration. Notable examples include authors such as Kumar, Navin; Adhikari, Kishalay; and Panda, Rejeev Kumar (Fig. 2).

Figure 2 Visual knowledge mapping of high-yield authors in research related to digital media and city branding from 2013 to 2023

Source: Own compilation, N=301, E=102

Note: N represents nodes corresponding to the positions of authors in the network. The size of an author's name in the figure reflects the frequency of its appearance in the 689 data points. Larger font sizes indicate higher frequencies of occurrence. E represents edges, which indicate connections between nodes. Thicker edges indicate that the authors connected by these edges have a higher frequency of co-occurrence in the same literature (Chen et al., 2015). Thus, these edges illustrate the collaborative relationships between authors.

The top 10 authors who have published the most papers are listed in Tab. 1. Among them, Foroudi, Camp, and Adhikari, etc. have published 3 articles, with the latter three (Meenghan, Panda and Rubio) contributing 2 articles each. Combined with the author's collaborative network, it becomes clear that research on digital media and city branding follows a single-core development pattern.

Table 1 Top 10 authors in research related to digital media and city branding from 2013 to 2023

| No	Count	Author	Year
1	3	Foroudi, Pantea	2017
2	3	Camp, Sara	2019
3	3	Adhikari, Kishalay	2022
4	3	Huertas, Assumpcio	2015
5	3	Marine-roig, Estela	2015
6	3	Andreu, Luisa	2018
7	3	Beatson, Amanda	2018
8	2	Meenghan, Tony	2013
9	2	Panda, Rajeev Kumar	2022
10	2	Rubio, Natalia	2020

Source: Own compilation

Countries Network Analysis

Using CiteSpace 6.1.R6 software to visually analyse the countries and create a map (Fig. 3), there are a total of 81 nodes and 177 edges. The total network density is 0.0546. Each node in the graph represents a country, and the size of the node corresponds to the production of research literature related to digital media and city branding for that country. The edges connecting the nodes represent collaborations between two countries. The peripheral nodes in purple indicate countries with high centrality (Li et al., 2022).

The nodes representing the United States, Spain, and England have the largest purple circles, with centrality values of 0.25, 0.35, and 0.34, respectively. These countries have the highest centrality and are leaders in this research area, indicating significant academic influence. China, Australia, Canada, Germany, and France also have noticeable purple circles around their nodes, with centrality values of 0.15, 0.13, 0.11, 0.12, and 0.11, respectively, ranking just below the United States in terms of centrality.

Figure 3 Visual knowledge mapping of high-yield countries related to media and city branding from 2013 to 2023
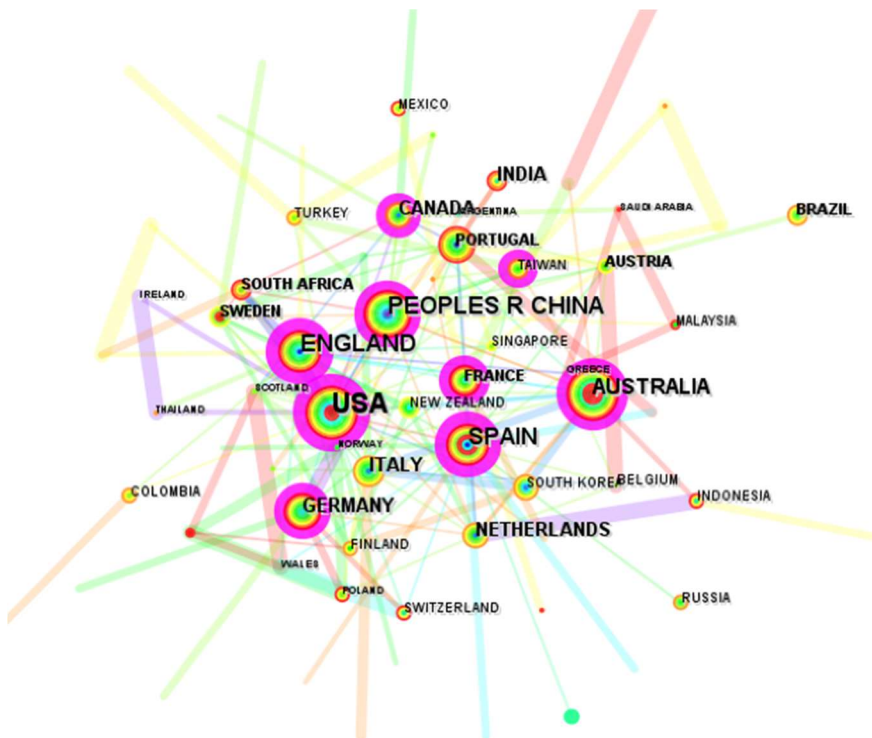
Source: Own compilation

Keyword Frequency

The author selected the node type as "Keywords" in the CiteSpace user interface to transform the scientific knowledge map into a co-occurrence table of keywords. The top 27 high-frequency keywords all have frequencies of 20 times or more (Tab. 2).

Table 2 Top 27 co-occurring keywords in research related to digital media and city branding from 2013 to 2023

| No	Freq	Centr	Keyword	Year	No	Freq	Centr	Keyword	Year
1	203	0.20	social media	2013	15	27	0.07	intention	2018
2	76	0.08	city	2013	16	27	0.02	online	2015
3	71	0.12	impact	2013	17	26	0.06	information	2014
4	62	0.04	tourism	2014	18	26	0.03	perception	2018
5	56	0.02	model	2017	19	25	0.05	consumer	2017
6	53	0.07	image	2015	20	24	0.06	hospitality	2015
7	47	0.08	word of mouth	2015	21	24	0.03	brand	2017
8	45	0.08	media	2016	22	24	0.04	big data	2015
9	40	0.02	experience	2017	23	24	0.01	smart city	2018
10	37	0.01	identity	2018	24	23	0.03	management	2017
11	36	0.05	destination image	2015	25	23	0.02	place	2018
12	34	0.12	internet	2014	26	22	0.06	communication	2014
13	30	0.02	destination	2018	27	22	0.08	technology	2018
14	29	0.05	behavior	2016					

Source: Own compilation

The most frequent keyword is "social media" with a frequency of 203 times. The second most frequent keyword is "city" with a frequency of 76 times. This indicates that "social media" and "city" are fundamental elements and crucial pillars of research in the field of digital media and city branding. Other highly central keywords include "impact" and "internet", which are also key nodes in this research structure. Particularly noteworthy is the keyword "impact", which has a frequency of 71 times and a centrality of 0.12, indicating its central position within this theme.

Keywords Clustering Analysis

There are many keywords in Tab. 2, to increase the precision of summarising the research field given the abundance of keywords in the co-occurring keywords table, this paper utilises Citespace's keyword clustering functionality. This allows for the consolidation of closely related keywords in the map into clusters, resulting in the keyword cluster map

shown in the Fig. 4. Citespace provides two metrics, Modularity (Q-value) and Mean Silhouette (S-value), based on network structure and clustering quality. If the Q-value > 0.3, the clustering structure is considered significant, and if the S-value > 0.7, the clustering is considered persuasive (Chen, 2015). The data shown in the upper left corner of the figure indicates that the Q-value = 0.3796 and the S-value = 0.7378. Therefore, the clustering structure in this keyword cluster map is highly significant, and the results are convincing (Fig. 4).

Figure 4 Top 9 clusters of digital media and city branding literature from 2013 to 2023
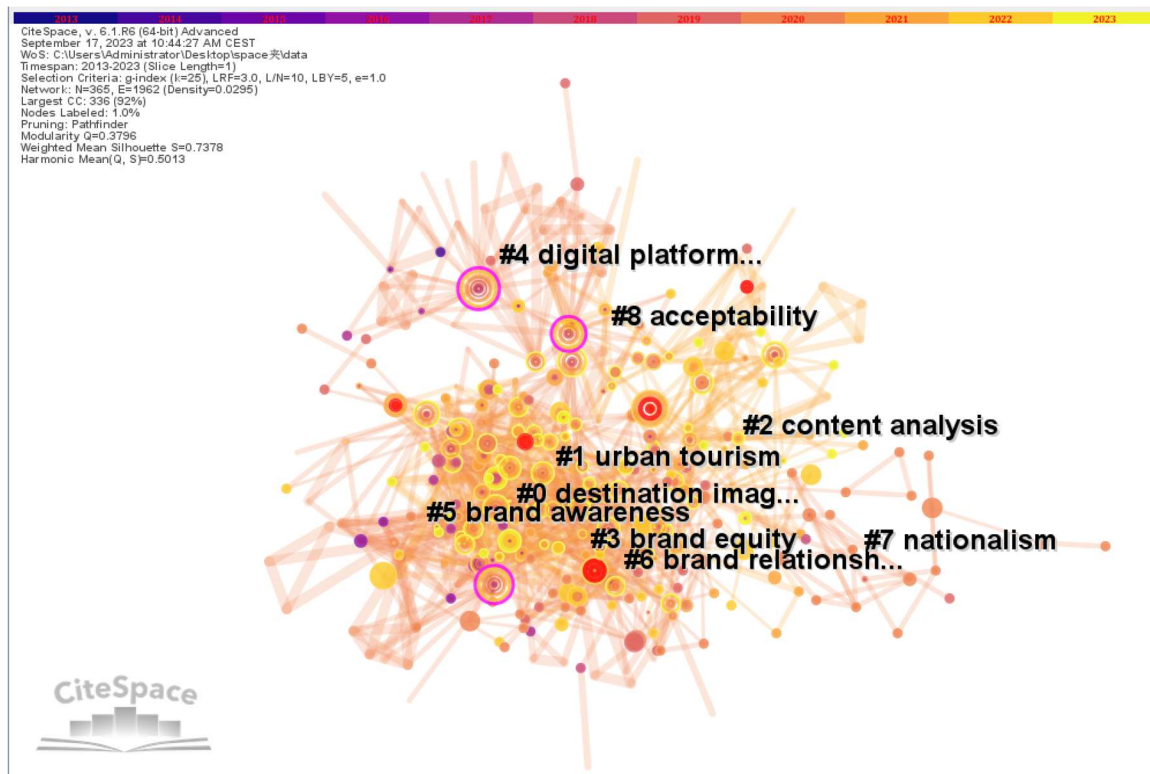
Source: Own compilation

Each cluster contains a decreasing number of documents from small to large in numerical order. This article has extracted data related to the top 9 clusters from Citespace, which is summarised in Table 3. In the "keywords (LLR)" column, the top four or five most representative and strongest keywords for each cluster are extracted. In the "Cited reference Keywords" column extracts some high-frequency keywords from the cited references in each cluster are extracted. The use of keywords helps to identify the core research areas in the study of digital media and city branding.

Table 3 Top 9 clusters of digital media and city branding literature from 2013 to 2023

Cluster No.	Size	S	Keywords (LLR)	Cited reference Keywords (Partial)	Year
#0 destination image	52	0.687	destination image (17.36, 0.000); consumer-based brand equity (11.86, 0.001); destination branding (11.44, 0.001); consumer engagement (8.62, 0.005)	model, word of mouth, experience, destination image, intention, online, customer engagement, destination, branding loyalty, user generated content, satisfaction, scale development	2019
#1 urban tourism	50	0.683	urban tourism (31.11, 0.000); tripadvisor (12.23, 0.001); digital footprints (10.33, 0.005); gis (10.33; 0.005)	tourism, destination, behavior, big data, hospitality, management, quality	2018
#2 content analysis	50	0.670	content analysis (13.09, 0.001); urban governance (11.8, 0.001); smart city (11.39, 0.001); host cities (7.86, 0.01); digital geographies (7.86, 0.01)	city identity, smart city, politics, Twitter, content analysis, urban, dynamics	2019
#3 brand equity	44	0.735	brand equity (10.76, 0.005); destination brand (9.32, 0.005); platforms (8.19, 0.05); WOM (8.19, 0.005); reputation (6.12, 0.05)	image, consumer, place, technology, communication, brand equity, Facebook, engagement, equity	2017
#4 digital platforms	42	0.720	digital platforms (20.07, 0.000); social media (13.22, 0.001); digital device (10.02, 0.005); South Africa (10.02, 0.005); internet (7.38, 0.01)	social media, Internet, culture, consumption, digital platform, digital device	2015
#5 brand awareness	39	0.829	brand awareness (12.66, 0.001), brand placement (12.15, 0.001), prominence (8.43, 0.005), sports mega-events (8.43, 0.005), Iran (8.43, 0.005)	impact, media, information, perception, community, place branding	2015
#6 brand relationship quality	22	0.741	brand relationship quality (8.43, 0.005), performance (8.43, 0.005), culinary tourism (6.8, 0.01); Barcelona (6.06, 0.05); grounded theory (6.06, 0.05)	strategy, antecedent, customer satisfaction, performance, challenge, brand community, attachment	2019
#7 nationalism	17	0.906	nationalism (7.74, 0.01); social power (7.74, 0.01); world cities (7.74, 0.01); citizenship rights (7.74, 0.01); ride-hailing (7.74, 0.01)	organisation, place attachment, globalisation, policy	2019
#8 acceptability	15	0.868	acceptability (7.18, 0.01); research and development (7.18, 0.01); perceived image (7.18, 0.01); manufacturing enterprise (7.18, 0.01); visibility (7.18, 0.01)	travel, place, brand, China, information, technology, acceptance	2019

Source: Own compilation *Note LLR (Log Likelihood Ratio) is primarily used to statistically measure the co-occurrence of keywords in a collection of literature.

Based on the integration and analysis of the keywords in Tab. 3, along with the information provided in Table 2, research in the field of digital media and city branding can be categorised into the following three areas:

1. *urban branding and image* (destination image, consumer-based brand equity, brand equity, destination brand, brand awareness, brand placement);

2. *digital media and urban marketing* (urban tourism, TripAdvisor, digital footprints, urban tourism, TripAdvisor, digital footprints, digital device);

3. *urban policy and social impact* (content analysis, urban governance, smart city, nationalism, social power, world cities, civil rights, acceptance, research and development, perceived image, productive enterprise).

Keywords Bursting Analysis

Keyword bursting refers to a particular keyword variable that has undergone significant changes in a short period of time (Xiao & Xiao, 2018). The authors set the display option of CiteSpace 6.1.R6 to "Burstness" and then clicked "View" to obtain a bursting keyword co-occurrence map of digital media and city branding research over the past 10 years (Fig. 5).

From 2013 to 2017, research focused primarily on the impact of the digital society and communication technology. Due to the rapid advancement of digital technology, the proliferation of smartphones, high-speed Internet connectivity, and digital tools have changed people's lifestyles and media consumption behaviour. Various aspects of society began to be profoundly impacted by digital technology, including communication, information retrieval, work, and entertainment. the introduction of an entirely new business model and economic infrastructure around digital platforms (Minoia & Jokela, 2020). Researchers began to focus on the ongoing evolution of the digital society and the influence of communication technology on social structures, cultures, and individual behaviors. They began to explore the pros and cons of the digital society, privacy issues, information dissemination, and digital exclusion; from 2017 to 2021, research shifted to social media and brand management.

Currently, the global social network penetration rate is nearly 54 percent (Statista, 2023b). Social media platforms are growing at a staggering pace, attracting millions of new users across various platforms (Xu and Pratt, 2018). These platforms such as Facebook, X (formerly Twitter), Instagram, and others became essential communication tools for billions of users worldwide (Statista, 2023a). Social media created new opportunities for marketing

and brand management. Meanwhile, the intensity of a brand's interaction on social media can have a positive impact on the destination's brand awareness at the moment when travel decisions are made (Stojanovic, et al. 2018).

Researchers started to pay attention to how to effectively utilise social media for brand promotion, customer interaction, and social media analytics. They conducted studies on how social media impacts brand image, reputation, and marketing strategies. From 2021 to 2023, digital marketing and urban development continued to evolve and adapt. The expanding networks of information and communication technology (ICT) along with the dizzying spread of ubiquitous computing, enabling the connection of places, people, and objects, shape the reality of urban development (Castells, 1996, Sassen, 2011). Besides, digital marketing continued to evolve due to the ongoing growth of the Internet and e-commerce. Over the past few years, social media marketing has become one of the most popular and successful forms of digital marketing. Thanks to the extremely high number of users of networks like Facebook and Instagram, advertisers can reach billions of potential customers at the click of a mouse. Among the many benefits of using social media platforms for business purposes, industry professionals particularly value the increased exposure for their brands and products, as well as the increased traffic on their websites (Jie & Ou, 2020, Statista, 2023a). Consumers also became accustomed to digital channels, which became crucial for businesses to attract customers and boost sales. According to the United Nations, urbanisation trends have accelerated. Currently, more than half of the world's population resides in urban areas, and it is projected to increase to 68% by 2050 (Kundu & Pandey, 2020). As a result, cities are encountering challenges related to population growth, sustainability, and infrastructure development. Urban planners and researchers started focusing on how to leverage digital technology and innovative urban development strategies to address these challenges. Researchers began to focus on how to effectively use social media for brand promotion, customer interaction, and social media analytics. They conducted studies on the impact of social media on brand image, reputation, and marketing strategies.

Based on the keyword co-occurrence analysis presented earlier, it is clear that the current research landscape in this area is undergoing a significant shift. Previously, research hotspots were primarily concentrated in isolated areas such as social media, cities, impact, and tourism. However, there is a noticeable shift towards more interdisciplinary research areas, including smart city, city branding, and digital marketing. Of particular note is the increasing attention being paid to different stakeholders, including consumers.

Figure 5 The network visualisation with the strongest citation bursts in studies regarding digital media and city branding from 2013 to 2023

Top 25 Keywords with the Strongest Citation Bursts

Keywords	Year	Strength	Begin	End	2013 – 2023
citizenship	2013	1.82	**2013**	2016	
new media	2014	3.12	**2014**	2016	
mobile phone	2014	2.3	**2014**	2017	
internet	2014	2.21	**2014**	2017	
web	2015	3.1	**2015**	2019	
gender	2016	2.47	**2016**	2017	
media	2016	2.13	**2016**	2017	
communication	2014	1.85	**2016**	2018	
performance	2017	1.86	**2017**	2020	
image	2015	1.64	**2017**	2018	
destination branding	2018	3.33	**2018**	2019	
facebook	2018	2.82	**2018**	2020	
user generated content	2018	2.57	**2018**	2019	
travel	2018	2.29	**2018**	2019	
smart city	2018	1.87	**2018**	2020	
management	2017	3.72	**2019**	2020	
identity	2018	2.68	**2019**	2020	
age	2015	1.91	**2019**	2020	
organization	2019	1.86	**2019**	2020	
digital marketing	2021	2.1	**2021**	2023	
public space	2021	2.1	**2021**	2023	
engagement	2019	2.01	**2021**	2023	
city branding	2021	1.94	**2021**	2023	
urban tourism	2017	1.77	**2021**	2023	
labor	2021	1.75	**2021**	2023	

Source: Own compilation

Research Frontiers Analysis

Development trends refer to the most current and promising research topics in a field (Jie & Ou, 2020). Tracking these trends is beneficial for determining research directions and providing guidance for future studies. Based on the interactive relationships and evolutionary paths of the frontiers in digital media and city branding, the researchers have designed the frontier time-zone view. This is also a unique feature that distinguishes CiteSpace from other visualisation software (Cai et al., 2012). In the CiteSpace analysis, we set the time slice to one year, performed the keyword analysis, and selected the "time zone view" as shown in Fig. 6.

Figure 6 Frontier Time Zone View related to digital media and city branding from 2013 to 2023
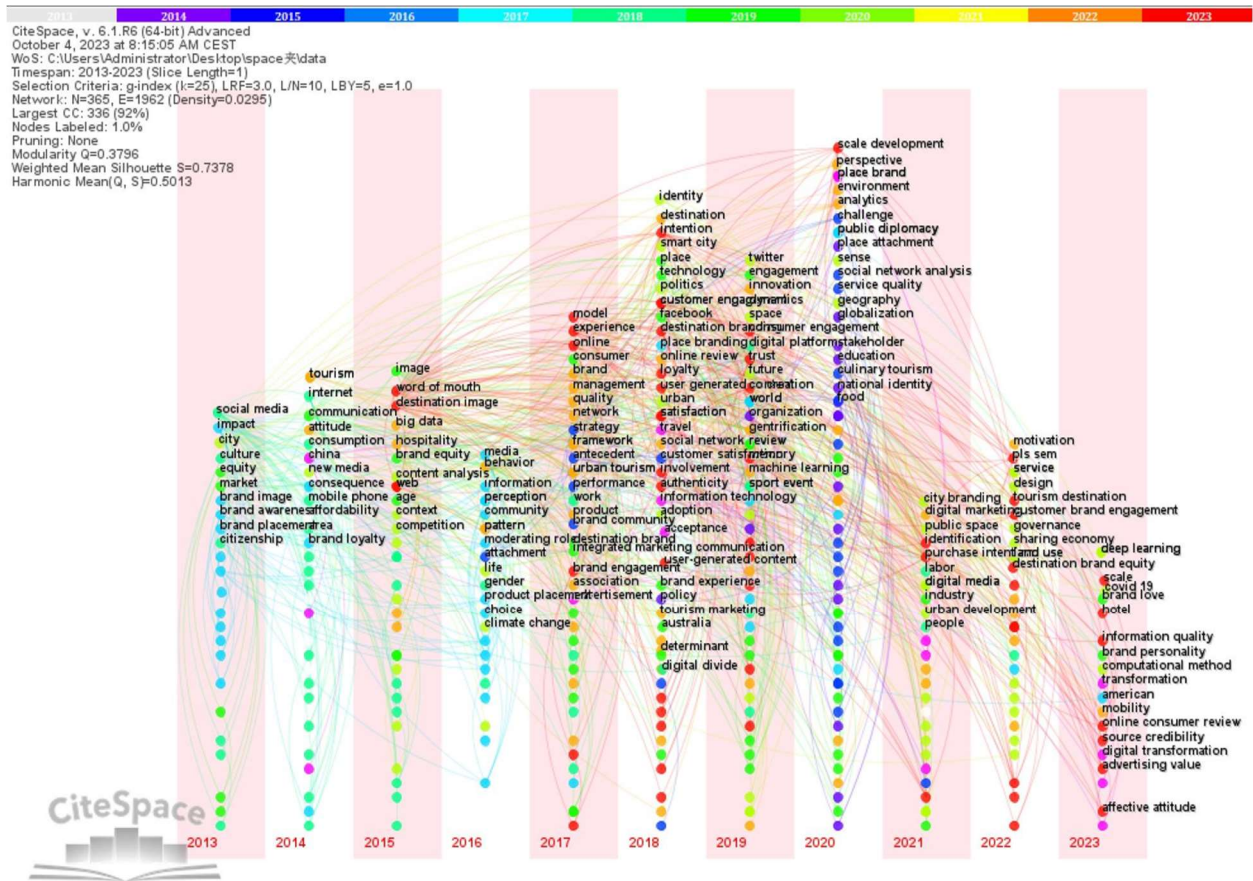
Source: Own compilation

Fig. 6 provides a clear overview of the research trends for each year, highlighting a period of significant growth and prosperity in research from 2017 to 2020. Furthermore, it can be seen that the main keywords in digital media and city branding research from 2013 to 2023 are: social media, impact, city, tourism, internet, communication, attitude, image, word of mouth, destination image, media, behavior, identity, experience, consumer, Twitter, perspective, city

branding, motivation, brand love, information quality, brand personality, affective attitude. Combining keyword frequency and clustering information, it can be seen that the research includes the following main directions:

1. *Impact of digital media on urban branding*: this direction explores how digital media influences a city's brand image, information dissemination, and reputation. It covers the use of social media, information quality, and the impact of digital media on urban tourism. Keywords in this context include social media, the internet, and media communication.

2. *Consumer attitudes and behaviours in urban tourism*: this direction investigates consumer attitudes, behaviours, and experiences in urban tourism, as well as their perceptions and emotions toward urban brands. Keywords in this context include consumers, behaviour, attitude, and experience, emphasising the role of consumers and the personality of urban brands.

3. *Urban branding, management, and marketing*: this research area focuses on the establishment of urban brands, brand management strategies, marketing strategies, and the attractiveness of urban brands to residents and tourists. Keywords include urban branding, brand management, marketing, and city image, emphasising the importance of urban brand management and strategy development.

These directions collectively explore the impact of digital media on urban branding, consumer attitudes and behaviours in urban tourism, and urban branding, management, and marketing strategies. Furthermore, in recent years, research on digital brand management and consumer behaviour has become a research hotspot and frontier.

DISCUSSION

After conducting an extensive study in the field of digital media and city branding, several key findings emerged. First, the research landscape has undergone a notable evolution, with a fluctuating increase in the number of published articles from 2013 to 2023. This trend is indicative of the growing importance of digital media in the field of city branding. Additionally, researchers have fostered collaborative relationships that drive knowledge innovation and dissemination. Researchers such as Foroudi, Camp, Adhikari, and Huertas have played a pivotal role in advancing digital media and urban branding research. Furthermore, national network analysis has revealed that countries such as the United States, Spain, and the United Kingdom have significant academic influence in the field, fostering global research collaborations. The critical role of digital media in city branding remains

undiminished, and further in-depth research is expected to meet the evolving needs of urban marketing. These studies will elucidate the intricate relationship between digital media and urban branding, furnishing invaluable insights for practical applications and furthering the field's continued development.

Conversely, a comprehensive analysis of the literature reveals a notable shift in the focus of research within the field of digital media and city branding. Historically, research efforts have been concentrated on specific domains, including social media, cities, impact, and tourism. Nevertheless, the prevailing tendency is towards interdisciplinary domains, encompassing subjects such as smart cities, city branding, and digital marketing. In particular, there is a growing emphasis on engaging different stakeholders, including consumers, in these studies. This shift underscores the intricate interrelationship between city branding and digital media, and highlights the significance of incorporating consumer perspectives and interests in the formulation of efficacious city branding strategies. Future research should endeavor to examine the interactive influences within these interdisciplinary domains in greater depth in order to effectively guide urban branding practices and harness the potential of digital media. Such an investigation will facilitate a more profound comprehension of the intricate interrelationship between urban branding and digital media, offer valuable insights for practical applications, and provide a foundation for future research directions.

CONCLUSION

The present paper offers a comprehensive overview of the trends and developments in digital media and city branding research, with an analysis of 689 articles from the WOS database. This bibliometric study identifies the countries that have produced the most research output and engaged in the most international collaboration. The United States, Spain, and the United Kingdom are the leading countries in this regard. Moreover, the study identifies the most prolific authors in the field, including Foroudi, Camp, and Adhikari. The analysis encompasses co-authorship, co-occurrence of keywords, and author keywords in order to offer insights into the evolution of digital media and city branding research over time.

The field of research on "digital media and city branding" experienced a period of significant growth from 2013 to 2020, followed by a period of fluctuation due to the impact of the pandemic in 2020-2022. This was followed by a decline in 2022-2023 due to saturation of the research landscape The term "keyword bursting" refers to a notable shift in the focus of a particular keyword over a relatively short period. This is exemplified by the CiteSpace bursting keyword co-occurrence map for digital media and city branding research, which

illustrates the evolving emphasis from digital society and communication technology (2013-2017) to social media and brand management (2017-2021), and more recently to digital marketing and urban development (2021-2023). This indicates a proclivity towards interdisciplinary research domains, such as smart cities and city branding.

This research employs a bibliometric approach based on the WOS database to contribute to the existing literature by mapping the historical and developmental trajectory of creative accounting studies. The study identifies key principles, models, and trends within the field, providing a chronological analysis of keyword congruence, significant journals, institutions, countries, and scientific partnerships.

From a practical standpoint, this paper offers guidance for companies in formulating strategies to leverage digital media and city branding for competitive advantage. For managers, an understanding of the historical development of city branding research is crucial for the identification of areas for enhancement of their organisation's performance. Theoretically, this paper addresses gaps in previous studies by applying a bibliometric analysis to the field of city branding. In the digital age, one area of research could focus on strategies and practices that cities can employ to effectively manage and enhance their brand equity. This could entail the analysis of successful case studies, the identification of best practices, and an understanding of the role of digital media in this process.

In the digital age, city and destination branding has emerged as a significant field of study, underscoring the crucial role of brand equity management in ensuring the long-term health of a brand. Moreover, consumer attitudes and behaviors are of paramount importance in determining the success of digital marketing. Consequently, a comprehensive examination and comprehension of the interconnections between these domains will empower cities to strategically leverage digital media and devices, enhance brand equity, attract consumers, achieve success in digital marketing, and facilitate the sustainable growth of city brands. This research contributes to the advancement of knowledge in the field of digital media and city branding. Consequently, the researchers for an interdisciplinary approach to smart city branding. In the future, the authors propose four possible research topics: (1) Interdisciplinary research, (2) Consumer engagement, (3) Global collaboration, (4) Long-term branding strategy. In light of the growing convergence of disciplines, including smart cities, city branding, and digital marketing, a study could investigate the intersections between these fields and their contributions to overall smart city branding strategies. This research could investigate the manner in which digital media and devices are employed to construct and sustain brand equity in the context of smart cities while also considering the perspectives and

behaviors of consumers in this domain. One avenue for further inquiry could be to examine the manner in which consumer attitudes and behaviours influence the efficacy of city branding strategies in the digital age. This could include an examination of consumers' perceptions of cities, their engagement with digital media related to city branding, and the influence of these factors on their overall impression and loyalty to the city.

It should be noted, however, that the study is limited to the WOS database. Further research could be enhanced by the examination of additional databases, such as Scopus, and the undertaking of comparative studies between databases such as Scopus and WOS. Subsequent studies might also concentrate on particular timeframes, such as the previous two decades, or specific journals, such as Tourism Management. Furthermore, an expansion of the scope beyond titles and abstracts to include studies addressing city branding under different terminologies, such as destination image and engagement, would be beneficial. Such an approach could facilitate a more comprehensive understanding of the field.

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