



Article

Social Media Analysis to Enhance Sustainable Knowledge Management: A Concise Literature Review

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Abstract: Although knowledge management relying on data from social networks has become an integral part of common practices, there needs to be a well-defined body of knowledge that explicitly addresses the process and the value generated. Sustainable knowledge management practices, which promote responsible and ethical knowledge sharing between different stakeholders, can also be facilitated through social media. This can foster a culture of continuous learning and innovation while considering the social implications of knowledge sharing. The main goal of this study is to critically and holistically discuss the impact of social media analysis in the knowledge management process holistically and maximize its value in a given context. More concretely, we conducted a systematic literature review (2012-2022) based on the PRISMA guidelines. We first approached the ideal phases of the knowledge management process and then discussed key issues and challenges from an application perspective. Overall, the study points out the positive impact of social network analysis on knowledge sharing, creativity and productivity, knowledge formulation, building trust, and cognitive capital. Additionally, value is provided in knowledge acquisition by simplifying and massively gathering information, reducing uncertainty and ambiguity, and organizing knowledge through storage, retrieval, and classification practices. At an application level, such knowledge may improve the quality of services and encourage creativity. Finally, this study analyzed specific domains, such as healthcare, marketing, politics, tourism, and event management, focusing on the potential and added value.

Keywords: knowledge management; social media; social network analysis; knowledge acquisition; knowledge sharing; knowledge organization; knowledge application



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1. Introduction

The extensive utilization of user-generated content on the Internet has led to a substantial expansion of potentially accessible data [1]. Easy access to online social platforms has generated a constantly increasing popular trend that has resulted in the pervasive use of the social network in our everyday lives during the last decade [2]. Each social site is potentially a treasure chest of knowledge as the number of active members grows. According to recent statistics, roughly 85% of Northern Europeans have a social media account, followed by 84% in Western Europe and 82% in Northern America [3]. Furthermore, almost 77% of people check product reviews, trusting them 75% more than direct suggestions (e.g., family or friends). More holistically, 80+% people find information from social media helpful [4].

Because of its vast potential, social media analysis (SMA) has recently attracted attention at both academic and business levels [5]. According to the most common definitions, SMA collects, analyzes, and identifies valuably hidden information from social media data [6]. SMA typically aims to create and evaluate tools, frameworks, and techniques for

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gathering, tracking, analyzing, and presenting data from social networking platforms and is often guided by application-specific criteria and objectives [7].

For instance, in a commercial context, SMA is fundamental in allowing brands to most efficiently understand what their customers or audience prefer and what impacts their decisions. As a result, SMA boosts communication and marketing, thus allowing different entities such as organizations, education institutions, and business enterprises to enhance and change their operations to align with their audience [8]. Knowledge management (KM) aims at improving organizational performance by establishing a process that effectively and efficiently adopts organizational resources to find, create, capture, organize, store, represent, and reuse knowledge [9,10]. Knowledge is currently considered among the most valuable assets within a knowledge-based, competitive economy [11]. A critical and evolving approach to KM contributes to solving existing problems and addressing related challenges by identifying and exploiting relevant sources of information to create profitable opportunities [12]. All organizations need to constantly learn from customers, focusing on changes in their needs [13]. Specific knowledge of customers and their behavior is considered a critical business factor and asset. Such knowledge can contribute, among others, to develop a more effective relationship between organizations and customers [14].

Integrating analysis into knowledge management processes is crucial in the digital landscape [15]. It empowers organizations to gain valuable insights [16], make decisions [17], foster collaboration [18], and drive innovation [19]. By harnessing the power of platforms, organizations tap into collective intelligence, streamline knowledge management practices, and establish a sustainable knowledge ecosystem [20]. This integration enhances organizational performance and aligns with sustainability principles, enabling responsible creation and management and leveraging knowledge for long-term success [21].

With the gravity and magnitude previously discussed, SMA can inspire KM practices by enhancing creativity and assisting organizations and enterprises to improve and polish their brands and operations [22]. On the other hand, although KM relying on data from social networks has become an integral part of common practices, there needs to be a clearly well-defined body of knowledge that explicitly addresses the process and the value generated. This study aims to critically discuss the role of social media analysis in enhancing the KM process and maximizing its value in a given context. The application of such an emerging approach to KM is expected, in general terms, to improve the operations and to consolidate the know-how, as well as foster an adaptive and continuously evolving culture within an organization [23].

According to the author's research, no recent systematic review specifically and holistically addresses the proposed topic. However, several studies focus on specific aspects. For instance, Merolli [24] and Razmerita [25] deal with the relevance and role of online surveys, while a scientometric analysis by Zarei and Jabbarzadeh [23] has assessed the relevance and concrete contribution of social media to KM. Additionally, different studies have approached the topic from an application perspective, such as education [26,27] and business [28,29].

The proposed study aims to analyze the impact of social media on the different aspects of KM to enhance effective communication and knowledge building and establish consistent and reliable knowledge sharing practices. This contribution is expected to be suitable for a broad audience by providing a broad understanding of key factors, enablers, and barriers. Additionally, discussing the main research gaps contributes to a better understanding of the main challenges in the field that are discussed in context.

The paper follows with an analysis of the theoretical background (Section 2), and 91 methodological aspects are discussed in Section 3. The core part of the literature review is presented in Section 4. Challenges and opportunities, including gap identification and related open research issues, are discussed in Section 5. Finally, the paper ends with a concluding section.

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2. Background

This section briefly addresses four key broad concepts separately: social media, social network analysis, knowledge management, and cutting-edge technology with knowledge management evolution. We aim to provide a concise overview of these background concepts, although a detailed discussion is beyond the scope of this paper.

2.1. Social Media

Despite having several definitions, social media can be commonly understood as a collection of online tools, activities, and networks that people use to generate and share their ideas, thoughts, feelings, and perspectives [30]. Web technology enables a participation, sharing, engagement, and cooperation process globally [28]. Given the scale and the nature of information in the modern era, content on social media is produced constantly, as people engaged in different activities continuously act as prosumers [27]. Throughout the last decade, the purpose of social media has gained importance in a broad range of disciplines, including business [31]. Indeed, social media is often considered the most significant communication channel in most work organizations [32].

Additionally, social media is a tool for organizations to access and retrieve relevant information [8]. The concrete role played by social media depends on the organizational culture and scope, including employee engagement within their workplace [32]. According to recent statistics (January 2022), there are around 436 million active Twitter users, over 2.6 billion people use YouTube monthly, and there are 2.6 billion active Facebook users worldwide [3]. It intrinsically allows people with similar interests, beliefs, and goals to connect and share experiences in everyday life. The massive growth in social media usage has also resulted in substantial data, commonly known as "Social Media Big Data" [33]. This naturally emphasizes social network analysis's relevance and potential [34].

2.2. Social Network Analysis

Social network analysis (SNA) is commonly known as the practice of collecting and analyzing data from social networks to improve business decisions [35] or to generate additional knowledge [36]. The social network analysis process can be modeled in different ways. Commonly, it is a three-stage process that includes the phases "capture", "understand", and "present" [6,31].

The capturing phase is related to the data retrieval process, which should isolate datasets functional to a given purpose or goal [6,34]. It typically addresses large amounts of relevant data obtained from various sources by application programming interfaces [37]. Typical sources include wikis, Internet forums, blogs, and well-known platforms such as YouTube, LinkedIn, Twitter, and Facebook [38]. Several more fine-grained sub-phases may be identified within the main capturing process, typically pre-processing, structuring/modeling, linking data, and extracting relevant information [7]. "Understanding" is ideally part of the process and is ranked in the second position. In this process, collected data should be understood in context and closely linked to operations, services, and products [39]. In this phase, information is typically processed depending on the intent and extent of the aimed analysis. Commonly, keyword extractors and text classifiers [40] are applied. The aimed output should provide the input to more sophisticated techniques, including statistical analysis, machine learning, data mining, text mining, and network analysis [41]. Additional modeling involves other aspects, for instance, domains and preferences [42]. The outcome of the understanding stage should ideally support the presenting stage, thereby allowing decision-making and similar high-level processes [36,43]. In the last phase, outcomes are synthesized to provide an asset to support application-level activities. Standard methods are based on visualizations that aim to provide some summary or exploitable conclusion [44,45].

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2.3. Knowledge Management (KM)

Knowledge management refers to creating, storing, retrieving, transferring, and applying knowledge in specific domains [46]. According to previous research, the success of any organization also depends on its ability to deal with knowledge management [47].

For instance, the relationship between performance and knowledge management practices within an organization has been recently addressed [48]. Indeed, organizations may have different approaches to knowledge management to gain and share knowledge at various levels to increase their productivity [48]. Enabling an effective knowledge management process [49] allows organizations the proper internal level of knowledge sharing and contributes to achieving objectives [50].

Knowledge management has far-reaching benefits for organizations including, among others, enhancing product and process innovations [50], fostering cooperation [47], optimizing efforts [11], leveraging current skills [51], and increasing operational efficiency and cost reduction [52]. Because of its comprehensive purpose and scope, several models can be adopted for knowledge management in different domains. A simple yet effective understanding distinguishes three key components: people, process, and technology [53]. Within an organization, people are essential to lead, sponsor, and encourage knowledge creation and sharing. Processes should be in place to manage and evaluate the flow of knowledge, while information technology further enhances processes and internal dynamics involving people [54].

Knowledge development takes place both within and outside the organization. Internally, knowledge creation is intricately connected to organizational culture and collective experience [55]. For instance, according to Kandampully [56], the most effective way for employees and the company to maintain the asset "knowledge" is by continuously seeking and updating information throughout the experience. Additionally, businesses can use and adequately integrate external sources of knowledge to achieve goals, which may include suppliers, customers, and consultants [53].

2.4. Cutting-Edge Technology and Knowledge Management Evolution

Looking at the progressive digitalization of our society, which is becoming more and more data-intensive, advanced technology is contributing in a determinant way to complex tasks, such as problem analysis/solving, decision-making, and predictions.

For instance, data mining extensively addresses large amounts of data to provide added value [57]. In the field of knowledge management, data mining assists in increasing the effectiveness of knowledge discovery, generation, and integration [58]. Additionally, the enormous potential of "Big Data" further contributes to the creation of valuable knowledge [59] through analytics [60]. The generation of knowledge from "Big Data" is a relatively new concept that more and more organizations are embracing [61].

Recent advances in artificial intelligence allow a learning approach on a large scale to solve problems and gain insights [62]. Artificial intelligence and knowledge management may have a strong relationship and can be seen as symbiotic [63]. On the one hand, knowledge management aims to generate and maintain a continuous knowledge definition and integration process. At the same time, artificial intelligence contributes unprecedentedly to the application, expansion, and generation of knowledge [47]. Because of the continuous evolution of AI technology, knowledge management is expected to evolve accordingly [64].

3. Methodology

3.1. The Review Method

This study proposes a systematic literature review adopting the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) [65] to summarize current studies on the topic comprehensively. The chosen method aims to improve the reporting of systematic reviews by meta-analysis [66].

Following typical guidelines to adopt the method in practice, the review should include different phases: planning, conducting, and reporting. Overall, the method encour-

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ages objective definition, review design, the definition of inclusion and exclusion criteria, evaluation, data extraction, and discussion of the evidence. A PRISMA diagram is proposed in Figure 1.

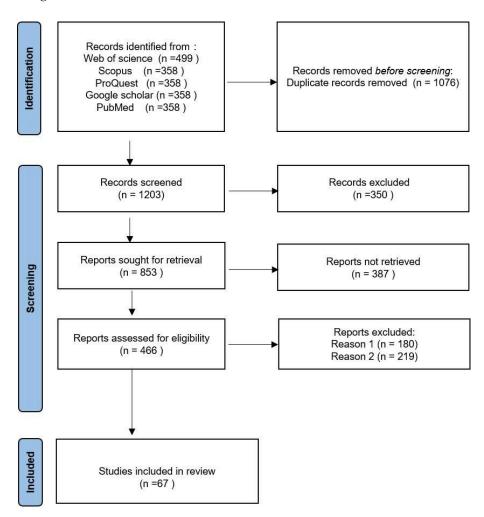


Figure 1. Overview of the process.

3.2. Search Strategy

A systematic search within electronic databases has been conducted by combining three sets of keywords (K1, K2, K3) as follows:

- K1 = {Social Media, Social Networks, Social Platforms, Facebook, Twitter, Blog, Wiki}
- K2 = {Knowledge Management, Knowledge Sharing, Knowledge Transfer, Knowledge Distribution, Knowledge Capturing, Knowledge Acquisition, Knowledge Application, Knowledge Creation, Knowledge Organization}
- K3 = {Data Analysis, Data Analytics, Text Mining, Artificial Intelligence, Big Data, Information technology}

Contributions were retrieved from various popular databases such as Google scholar, Web of Science, Scopus, IEEE Xplore, and PubMed. The time frame of interest was restricted to the period of 2012–2022.

3.3. Screening and Eligibility

Only articles in English that were published between 2012 and 2022 have been considered.

The main eligibility criterion was the relevance of the studies. Of the 2279 articles retrieved, 67 papers were considered in scope. See Figure 1 for the review process.

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4. Social Media Analysis to Enhance Knowledge Management

Social Media Analysis may enhance knowledge management differently depending on the context. For instance, the widespread usage of social networks has led organizations to apply analysis techniques to evaluate prospects that may improve sales [39]. Other studies, such as [67], point out the relationship between the success of a given organization and the understanding of consumers and their needs. Social media analysis plays a key role as it facilitates a mainstream of understanding, discovering, organizing, and exploiting knowledge [43]. Because of the broad scope and complexity of the topic, this section is structured in two main parts: a life-cycle perspective (Section 4.1) and an application perspective (Section 4.2).

4.1. A Life-Cycle Perspective

This section presents the emerging trends in the literature on how social media analysis can support a range of KM practices. Because of the intrinsic complexity of KM, the proposed analysis and discussion assume Lindvall's model [68], which distinguishes different phases: knowledge sharing, knowledge acquisition, knowledge organization, and knowledge application. Each phase is addressed separately in the following subsections.

4.1.1. Knowledge Sharing

Knowledge sharing refers to a generic process of sharing within a given context, including experiences, know-how, know-whom, skills, and retaining understanding among individuals, teams, or organizations [69]. Table 1 reports contributions in the literature explicitly related to knowledge sharing.

Table 1. Studies specifically addressing social filedia in the context of knowledge sharm	Table 1. Studies specifically addr	ressing social media i	in the context of knov	vledge sharing
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Title	Objective	Main Findings
Knowledge Management and Social Media: A scientometrics survey [23]	Role of social media in knowledge sharing	Improved internal and external communication for companies
Social Media for knowledge-sharing: A systematic literature review [27]	Understanding and analysis of social media for knowledge sharing	SM is used effectively for knowledge sharing
The effectiveness of Social Media as knowledge Management sharing tool in government agency: a case study [70]	Assessing social media's value in administrative knowledge management	Sharing information and building trust using social media helps knowledge management
Social Media, knowledge Sharing, and innovation: Toward a theory of communication visibility [71]	Communication visibility theory	Social media increases communication visibility and meta- knowledge
The contradictory influence of Social Media affordances on online communal knowledge Sharing [28]	Social media in engaging the public and enhancing knowledge conversation	Triggered attention, meta-voicing, and network-informed associating improve conversation and knowledge sharing
How does social software change knowledge Management? toward a strategic research agenda [29]	Knowledge management and strategic implications	Improved knowledge formulation, capture, and sharing
Introducing Social Media for knowledge Management: Determinants of employees' intentions to adopt new tools [30]	SM in information exchange and business success	SM accelerates organizational knowledge sharing and boosts creativity and productivity
Better knowledge with Social Media? exploring the roles of social capital and organizational knowledge Management [10]	SM's effect on institutional knowledge quality	SM directly affects cognitive and structural capital, improving knowledge management and organizational knowledge quality

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Table 1. Cont.

Title	Objective	Main Findings
Management of knowledge creation and sharing to create virtual knowledge sharing communities: a tracking study [72]	Indirect management and collateral knowledge generation	SM enables organizational participation, which is one of the foundational aspects of knowledge management
Impact of Social Media on knowledge Sharing: A systematic literature review [73]	SM in knowledge sharing	SM enhances persistence, actuality, and effective enabling of knowledge sharing
Opportunities and challenges of Social Media for health knowledge Management: A narrative review [74]	Tacit knowledge sharing	SM introduces effective knowledge sharing
The impact of knowledge Sharing through Social Media among academic [75]	Knowledge sharing among academicians	SM enhances the knowledge sharing process by enhancing academician knowledge management
Artificial intelligence and knowledge sharing: Contributing factors to organizational performance [76]	The role of artificial intelligence in knowledge sharing	Integrating AI with knowledge sharing (KS) creates a more sustainable approach to business operations in a dynamic and digitized society
Social Media and Fake News in the 2016 Election [77]	The impact of fake news on social media in the 2016 US presidential election	Fake news had negative impacts on data during the United States 2016 presidential elections
What factors influence knowledge sharing in organizations? In Social Media communication [78]	SM factors influence knowledge sharing	The significant identified barriers are change in behavior, lack of trust, and lack of time

Social media naturally encourages and facilitates a medium for knowledge sharing among individuals or within an organization [79]. Knowledge sharing via social media is an added value and asset [73], as reported by individuals, companies, and businesses. Different forms of knowledge sharing have been identified. They usually include metaknowledge, meta-voicing, triggered attendance, tagging, and voting.

Various forms of knowledge sharing have been identified by exploring the structure of social media. These forms include meta-knowledge, meta-voicing, triggered attendance, tagging, and voting. Meta-knowledge refers to the memory of an individual that entails the location and label of aspects of information regarding the knowledge of other group members [80]. Therefore, meta-knowledge refers to "the knowledge of who knows what and who knows whom" [71]. Meta-voicing is understood as engaging in a conversation by responding to the presence, profiles, content, and actions of others [81]. The use of meta-voicing on social media is made possible by typical features provided by online platforms. A typical situation is a re-tweet on Twitter that is supported by another member within the same organization [28].

Social media can improve knowledge management by providing timely and relevant information to users triggered by their attendance on the platform [28]. For example, suppose an individual expresses interest in a particular topic or follows a specific subject on a social media platform. In that case, they can receive notifications or updates about new information related to that subject, which helps keep them updated [82]. This can lead to more efficient and effective knowledge management, as information is easier to find and access [70]. Tagging and voting systems enable users to categorize and evaluate shared content. Tagging involves labeling posts with relevant keywords or topics, facilitating easier searching and knowledge organization. Voting allows users to express their opinion on shared content's quality, relevance, or usefulness, guiding others in identifying valuable knowledge [83]. Moreover, social media facilitates knowledge formulation, capture, and

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sharing [29]. Studies confirm that social media accelerates knowledge sharing within an organization, enhancing creativity and productivity [30].

Furthermore, social media use directly affects cognitive and structural capital, improving the overall quality of organizational knowledge [10]. Cognitive capital refers to the accumulated knowledge, skills, and experiences held by an individual or an organization. Social media has been crucial in developing and disseminating such capital [10,84]. On the other hand, structural capital refers to how companies use the platform to build and maintain customer relationships [84].

Social media is crucial in promoting organizational participation, a fundamental aspect of knowledge management [72]. Organizational participation involves employees, stakeholders, and other members of an organization in the various processes linked to creating, sharing, and utilizing knowledge [85]. Social media primarily reinforces persistence and actuality, making it an efficient catalyst for knowledge sharing [73]. This aspect is of particular significance in academic environments, where social media has demonstrated its capacity to enhance the knowledge sharing process by augmenting knowledge management among academics [75].

In the context of recent advances, the adoption of artificial intelligence (AI) is expected to have a significant impact on knowledge sharing [76]. Platforms offer users a vast space for communication, collaboration, and information sharing. AI-powered recommendation algorithms on platforms such as TikTok, Twitter, and Instagram analyze users' interests, preferences, and actions to provide personalized content recommendations [86]. This integration of AI enhances knowledge exchange among users by curating relevant content, improving search results, and fostering community interaction [86]. Furthermore, AI-powered chatbots and virtual assistants facilitate effective communication and enable quick retrieval of information [87]. Additionally, emerging business intelligence (BI) tools significantly impact knowledge sharing on social media. These tools facilitate knowledge sharing by providing monitoring and listening capabilities, allowing organizations to stay updated with the latest conversations and trends.

Despite the advancements in technology and, more holistically, in knowledge sharing and management, recent years have witnessed the rampant spread of misinformation, disinformation, fake news, and propaganda. Fake news's impact on misinformation and misleading data creation is well-known [88] and was an issue during the US presidential election in 2016 [77]. Similarly, fake news affects other domains, such as marketing, by instilling fake experiences through posts [89].

Research has revealed that how information is shared on platforms is influenced by various human factors, including behavior change, time constraints, and the presence of lurkers who passively consume content without active engagement [78]. These human factors are a clear obstacle to efficient knowledge transfer. One direct consequence is the establishment of information bubbles, which refer to the phenomenon in which individuals or groups are exposed primarily to information and perspectives that align with their existing beliefs, values, and preferences. In an information bubble, people are surrounded by likeminded individuals or sources of information, resulting in a limited range of viewpoints and a lack of exposure to diverse perspectives [78]. Cognitive biases, such as echo chambers and confirmation bias, further restrict exposure to diverse perspectives within information bubbles [77,89]. Furthermore, privacy concerns, trust issues, and online harassment can hinder open and meaningful discussions [90]. These factors collectively contribute to the challenges associated with platform information sharing and knowledge exchange.

4.1.2. Knowledge Acquisition

Knowledge acquisition, which revolves around acquiring new information, skills, and understanding, can be achieved through various means, including direct experience, study, or interaction with others [91,92]. The acquisition of knowledge is a process that can be enhanced by utilizing social media platforms, which offer diverse channels for accessing information.

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Through social media platforms, individuals can peruse posts, comments, and articles, engage in online discussion forums, view multimedia content, and monitor expert contributors within relevant fields, among other activities [93]. These dynamic platforms also allow individuals to pose queries and receive peer feedback, enhancing their knowledge base and comprehension [81]. Using SM platforms can facilitate and accelerate the knowledge acquisition process. Table 2 presents contributions in the literature specifically focused on knowledge acquisition.

Table 2. Studies specifically addressing social media in the context of knowledge acquisition.

Title	Objective	Main Findings
A framework for dealing with fundamental knowledge problems through social media [22]	Social media's role in knowledge management as a barrier-breaker	Social media simplifies and gathers information to reduce uncertainty, ambiguity, and complexity
The impact of information technology on knowledge creation: An affordance approach to Social Media [94]	The role of IT and social media in organizational knowledge creation	Social media enables unprecedented behaviors compared with traditional computer-mediated communication
Overcoming cross-cultural barriers to knowledge Management using social media [95]	The role of SM to evaluate the barriers to knowledge management	Social media's interactive capabilities can break down barriers and clarify knowledge management
New ICTs for knowledge Management in organizations [96]	The impact of SM on organizational knowledge management and communication	SM boosts knowledge acquisition, storage, and dissemination.
Customer knowledge Management via social media: the case of Starbucks [79]	Social media's influence on consumer knowledge management	SM boosts customer knowledge management by transforming them into innovation contributors
Social Media for Knowledge Acquisition and dissemination: The impact of the COVID-19 pandemic on collaborative learning driven Social Media adoption [97]	Assessing social media use for collaborative learning during the COVID-19 pandemic	Social media reinforces collaborative learning during the pandemic
The use of social media for Knowledge Acquisition and dissemination in B2B companies: an empirical study of Finnish technology industries [98]	SM for knowledge acquisition in B2B companies	Companies are unaware of using social media for external knowledge acquisition
Perceived role of social media in urologic Knowledge Acquisition among young urologists: a European survey [99]	Assessing SM's role in knowledge acquisition for European urologists	YouTube is a significant platform for young European urologists to acquire knowledge
Acquisition of knowledge with time information from twitter [100]	Use social media for extracting knowledge about daily occurrences	Knowledge extracted from SM has advantages for dialogue systems, text mining, and social media behavior research
Brand innovation and social media Knowledge acquisition from social media, market orientation, and the moderdating role of social media strategic capability [101]	Examines the relation- ships between knowledge acquisition from social media and brand innovation	Brand innovation is impacted by both social media-driven knowledge acquisition and market orientation

Social media simplifies and gathers information, which can help reduce uncertainty, ambiguity, and complexity [22]. This simplification results from social media's vast ability to share content in different formats, such as text, images, and videos [102]. The profusion of information accessible through social media platforms enables users to access diverse sources, facilitating knowledge acquisition and informed decision-making about a specific subject matter [22]. Social media enables new behaviors that are impossible with traditional computer-mediated communication, such as real-time conversations, cooperative projects, and sharing ideas with a worldwide audience [94]. These forms of interaction were previously unattainable through email, forums, or chat rooms [95]. The interactive capabilities

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of social media allow it to overcome barriers and improve knowledge management [95]. This is attributable to providing a virtual platform for individuals to express new ideas, opinions, and expertise [93]. Social media users can readily pose questions and obtain responses in real-time, ultimately facilitating a comprehensive comprehension of complex topics [81].

Social media elevates customer knowledge management by empowering customers to contribute to innovation [96]. Organizations can refine their offerings by soliciting feedback, ideas, and recommendations and even devise new ones grounded in customer needs [79]. This kind of customer engagement is crucial for organizations that want to maintain a competitive advantage in a business environment full of competition [100]. Social media strengthens collaborative learning, especially during the pandemic when face-to-face interactions were constrained [97]. This has enabled individuals and organizations to persist in learning and exchanging knowledge despite the obstacles presented by the pandemic [98].

For instance, YouTube has emerged as a vital social media platform for knowledge acquisition, especially among young urologists in Europe [99]. The profusion of video content on YouTube allows users to learn from subject matter experts and access invaluable resources [103]. Moreover, other studies have indicated that brand innovation is influenced by both social media-driven knowledge acquisition and market orientation [101]. Social media can be a valuable source of knowledge that can be extracted and applied to various fields, including dialogue systems, text mining, and research on social media behavior [101]. Moreover, through advanced analytics and segmentation features, BI tools support knowledge acquisition by extracting insights from data, enabling businesses to understand customer preferences, market trends, and competitive landscapes. These tools can analyze trending topics on platforms, identifying the popular discussions and current trends most relevant to their industry. By leveraging these insights, organizations can enhance their knowledge acquisition by staying informed about the latest developments and accessing relevant knowledge that is in high demand or widely discussed. This integration of BI tools and trending topics further strengthens the ability of businesses to acquire valuable knowledge and make informed decisions based on data [104]. This knowledge can ultimately contribute to the development of innovative strategies, products, and services [105].

However, despite these potential benefits, companies often need to be made aware of social media's potential as a pathway for the external acquisition of knowledge [93]. Consequently, they may miss opportunities to improve their processes and products through social media use [101].

4.1.3. Knowledge Organization

Knowledge organization is a concept linked to a management approach in which structures and procedures are utilized to create, handle, utilize, transmit, and transform knowledge-based products and services to achieve organizational goals [51]. Table 3 presents contributions in the literature specifically focused on knowledge organization.

Social media has transformed how knowledge is organized and managed [10]. Social media platforms such as blogs, wikis, and social networking sites offer users the ability to accumulate, classify, and store knowledge on specific topics of interest [106]. This, in turn, facilitates the sharing of insights and experiences among individuals, creating a shared knowledge base within a particular community [102]. Users can easily access and discover relevant information by employing tools such as tags, hashtags, and keywords, resulting in more efficient knowledge discovery [106]. In addition, social media platforms enable enhanced collaboration, which can lead to improved service quality [107]. For instance, employees can use these platforms to share information, work together, and solve problems more efficiently, resulting in better overall services [20].

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Table 3. Studies specificall	v addressing socia	al media in the context of	knowledge organization.

Title	Objective	Main Findings
Knowledge Management using social media: A comparative study between blogs and Facebook [106]	Comparing Facebook and blogging in knowledge management facilitating different activities	Blogging and Facebook improve knowledge organization by organizing information, categorizing, storing, and reflecting on experiences
Harnessing social media as a knowledge Management tool [20]	The role of social media tools in knowledge management and knowledge organization	SM enables organizations to monitor hashtags/thought leaders and share information with their communities
The interaction between social media, knowledge Management and service quality: A decision tree analysis [107]	Evaluate how service providers use social media to promote cooperation and knowledge management	Social media improves the quality of services through enhanced cooperation
strategic knowledge Management and enterprise social media [11]	The role of enterprise social media in an organizational strategic knowledge management context	ESM can be integrated as a complement to an organizational traditional strategic KM
Is knowledge Management dead (or dying)? [108]	The role of social media, ESM, and IBM Watson in knowledge management	ESM, crowdsourcing, and cognitive computing are key for content and collaboration, facilitating knowledge management

In knowledge management, social media can supplement traditional practices through various tools and techniques, including enterprise social media, crowdsourcing, and cognitive computing [11]. Crowdsourcing involves harnessing the collective intelligence and skills of a large group of people, often through online platforms, to complete tasks or solve problems [109]. Meanwhile, cognitive computing uses advanced algorithms and machine learning techniques to simulate human thought processes and enable computers to learn, reason, and make decisions [110]. By integrating these tools with traditional knowledge management practices, organizations can enhance the quality of information and collaboration among members, resulting in better access to information and services. Thus, social media has significantly impacted knowledge organizations, and organizations can leverage these technologies to improve their knowledge management practices [107].

AI algorithms and data analytics revolutionized knowledge organizations on social media by empowering organizations to identify knowledge gaps, enhance content creation and distribution, and shape their knowledge management strategies [111]. With the ability to process massive volumes of data, AI effectively organizes and structures knowledge, ensuring its accessibility and usability [112]. By leveraging AI's capabilities, organizations can extract valuable insights from data, enabling them to optimize knowledge management practices and make informed decisions [113]. Furthermore, BI tools aid in organizing knowledge by providing comprehensive analytics and reporting, helping businesses structure and categorize data for effective decision-making [114]. AI-driven knowledge organization paves the way for efficient knowledge sharing, collaboration, and innovation within organizations [115].

4.1.4. Knowledge Application

The utilization of acquired knowledge in practical situations to solve problems and make decisions is known as knowledge application [116]. It entails taking information and using it in a relevant and meaningful way [117]. Table 4 presents contributions in the literature specifically focused on knowledge application.

There are several ways in which social media can improve knowledge applications. Firstly, social media supports information sharing, discussion, and exchange, which fosters creativity [19]. This creates opportunities for individuals to learn from one another and expand their knowledge base through collaboration and shared learning experiences [26]. Moreover, social media creates a dynamic, knowledge sharing, recursive socio-technical

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information system [118]. This system makes it easier for individuals to access and share information and enables the collaborative creation of new knowledge [72].

Table 4. Studies spec	cifically addressin	ig social media in th	ne context of knowl	edge application.

Title	Objective	Main Findings
Knowledge Management, social media and employee creativity [19]	The relationship between creativity and social media use through a knowledge management approach	SM enhances the exchange, discussion, and reading of information, encouraging creativity
The nature of knowledge in the Social Media age: Implications for knowledge Management models [118]	SM tools and their significance in forming conceptual foundations of knowledge management	Social media creates a dynamic, knowledge-sharing, recursive socio-technical information system
The impact of social media on knowledge Management [119]	SM's roll in knowledge management	Social media disrupts knowledge management. This type of KM gives companies a strategic advantage
Social Media and knowledge Management disruptive technology [120]	SM and knowledge management as disruptive technologies	Social media disrupts traditional knowledge management practices
Knowledge and knowledge Management in the Social Media age [46]	The role of social media on individuals to interacting through conversations and communication networks	Social media tools are crucial in the evolving knowledge management ecosystem for forming KM models
Exploring the role of Social Media in collaborative learning, the new domain of learning [26]	SM's role in knowledge sharing among academics	Social media promotes student engagement and academic performance

Additionally, social media disrupts traditional knowledge management practices, providing organizations with a strategic advantage [119]. This is because social media supports knowledge management dynamically and flexibly, giving companies a competitive edge [120]. In addition to social media being a communication tool, it is also a disruptive technology that offers benefits beyond these applications [46]. It is crucial in the evolving knowledge management ecosystem to develop knowledge management models by exploring the social aspects of knowledge creation [46].

Moreover, combining AI and social media offers robust support for knowledge applications by leveraging chatbots and virtual assistants to deliver personalized assistance, guidance, and pertinent information [121]. These AI-powered tools enhance user experiences by providing tailored support and facilitating the practical application of knowledge [122]. Moreover, social media platforms enabled the identification of subject matter experts and thought leaders, fostering collaboration and creating opportunities to implement knowledge [123] effectively. By harnessing the potential of AI and social media, organizations can enhance knowledge utilization, drive innovation, and promote collaborative learning within their ecosystems [124].

Lastly, social media enhances student engagement and academic performance. This is because social media tools provide students with a platform to interact with their peers, collaborate on projects, and participate in discussions that enrich their learning experiences [26].

4.2. An Application Perspective

Social media has been shown to enhance knowledge management across various applications by promoting effective communication among organizations, fostering greater comprehension, and facilitating the sharing and acquisition of information. Each organization within a given domain may have distinct metrics and objectives for assessing the role of social media in knowledge management practices. Notably, in social media, knowledge management can be facilitated in various domains, such as healthcare, marketing, politics, tourism, and events involving temporary mass gatherings. Each domain is addressed separately in the following subsections.

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4.2.1. Healthcare

The healthcare industry has recognized social media's value in enhancing employee knowledge and competencies through knowledge sharing, collaboration, and training opportunities [49]. Thus, it has the potential to benefit healthcare organizations as a whole, spanning from patient care to professional development [24]. Table 5 presents contributions in the researched literature specifically focused on how to enhance knowledge management in healthcare.

Table 5. An overview of studies evaluating social media's effects on knowledge management in healthcare.

Title	Objective	Main Findings
Social Media and online survey: Tools for knowledge Management in health research [24]	Social media's influence in improving health outcomes and managing chronic diseases	SM improves healthcare practices and patient outcomes
Bibliometric analysis of twitter knowledge Management publications related to health promotion [49]	Evaluating the significance of Twitter in knowledge management	Twitter has highly contributed to knowledge application in the health sector by enhancing health contribution
Social Media use for health purposes: systematic review [125]	Review of SM usage for health purposes	SM promotes healthcare activities including social mobilization and the facilitation of offline health-related events
Information needs, communication and usage of social media by cancer patients and their relatives [126]	Evaluating the use of SM of cancer patients	SM enables patients to obtain information and enhance the accuracy of data obtained within healthcare systems
Infodemiology and infoveillance: framework for an emerging set of public health informatics methods to analyze search, communication and publication behavior on the internet [127]	Significance of social media in aiding infoveillance in public health	SM infoveillance in healthcare is crucial for analyzing and surveilling unstructured existing information on the Internet to inform public policy and health
Using reports of symptoms and diagnoses on social media to predict COVID-19 case counts in mainland China: Observational infoveillance study [128]	Assessing the significance of SM in enhancing infoveillance during the COVID-19 pandemic	SM is crucial for enhancing infoveillance whereby diagnosis and symptoms of COVID-19 were predicted and responses were taken
Proactive suicide prevention online (pspo): ma- chine identification and crisis management for Chinese Social Media with suicidal thoughts and behaviors [129]	Testing acceptability of proactive suicide prevention online (PSPO) through SM for crisis management in health	SM enhances PSPO, which is critical for identifying suicide cases and reducing them. SM increases information accessibility
Twitter reveals human mobility dynamics during the COVID-19 pandemic [130]	Assessing SM's role in enhancing human mobility dynamics during the pandemic	SM data can inform medical practice and research by providing geographic and demographic characteristics of people at risk of infection
Communicating about infectious disease threats: Insights from public health information officers [131]	Evaluating the role of SM in detecting and minimizing infectious disease threats	SM enables the communication of disease outbreak side effects, discussion of immunization and healthy living significance, and rapid instruction provision
Pregnancy-related information seeking and sharing in the social media era among expectant mothers: qualitative study [132]	SM in information seeking and sharing among pregnancy-related health services	SM enables patients and users to seek and share identified information to improve the quality of services offered at health centers

Based on research, social media has the potential to serve as a complementary tool in the management of chronic diseases, augmenting conventional approaches to treatment Sustainability **2023**, 15, 9957 14 of 30

and care [24]. As such, the utilization represents a valuable strategy for enhancing chronic disease management [128]. Platforms such as Twitter have significantly contributed to the application of knowledge in the health sector [49]. In addition, social media contributes significantly to promoting healthcare activities and information dissemination [125]. By facilitating social mobilization and offline health-related events and services and advancing health practices and research, healthcare professionals can reach a wider audience and educate the public on important health topics [126].

Moreover, social media provides patients with access to information and improves the quality of data available in healthcare systems [126]. Monitoring unstructured information on the Internet is critical in informing public policy and health decisions [127]. Social media use with infoveillance has proven crucial, particularly in predicting and responding to outbreaks, such as the COVID-19 crisis [128].

Furthermore, social media is vital in enhancing proactive suicide prevention online (PSPO), which helps identify and reduce suicide cases [129]. The accessibility of information on social media platforms has increased, making it easier for healthcare professionals and the public to communicate and share important information [131]. Finally, social media platforms enable the utilization of geographic and demographic data, which can inform medical practices and research [130]. By allowing patients and users to seek and share information, the quality of services offered at health centers can be improved [133].

4.2.2. Marketing

Social media can contribute significantly to enhancing knowledge management in marketing by providing access to valuable information and facilitating communication and collaboration among marketers [10,71]. Table 6 presents contributions in the research that are specifically focused on how social media enhances the management of knowledge in marketing.

Table 6. An overview of studies evaluating social media's effects on knowledge management in marketing.

Title	Objective	Main Findings
A computational framework for social-media- based business analytics and knowledge creation: empirical studies of cytrass [134]	Assessing social media's impact on customer knowledge management for enhanced customer experience	SM enables SMEs to deliver valuable information to their target customers through customer knowledge management
Better knowledge with social media? exploring the roles of social capital and organizational knowledge Management [10]	Social media's effect on organization's knowledge quality via resource exchange and social capital	SM directly impacts cognitive and structural capital. Subsequently, higher organizational knowledge quality can be attained
Knowledge Management and Social Media: A scientometrics survey [23]	SM's role in knowledge sharing in business enterprises	The increased integration of SM platforms by companies have enhanced both internal and external communication
Social Media for knowledge-sharing: A systematic literature review [27]	Providing a detailed understanding of SM usage in enhancing knowledge sharing	SM's use for knowledge sharing in marketing attracts new audiences and attention
The contradictory influence of Social Media affordances on online com- manual knowledge Sharing [28]	SM's role in engaging the public and enhancing knowledge conversation	Triggered attending, meta-voicing, and meta-knowledge have a positive impact on knowledge sharing in marketing
Introducing social media for knowledge Management: Determinants of employees' intentions to adopt new tools [30]	SM usage in enhancing knowledge exchange within an organization	SM speeds up knowledge exchange in organizations, leading to the adoption of new technologies that enhance creativity and productivity

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Social media can support customer knowledge management by providing valuable information to target customers of small- and medium-sized enterprises [134]. This can help businesses better understand their customers' needs and preferences, and they can tailor their marketing efforts accordingly [135]. Social media has a direct impact on both cognitive and structural capital, thereby improving organizational knowledge management efforts [10]. The concept of cognitive capital refers to the accumulated knowledge, skills, and experiences held by an individual or an organization. The utilization of social media has proven to be a crucial tool in the development and dissemination of such capital [84]. Structural capital refers to the way in which companies use the platform to build and maintain relationships with their customers. Social media provides organizations with a means to interact with their customers, gather insights into their needs and preferences, and create personalized marketing experiences that foster brand loyalty [136]. By combining cognitive and structural capital, organizations can achieve better knowledge management and marketing outcomes, leading to higher-quality knowledge and more effective decision-making [10].

Incorporating social media with businesses has enhanced internal and external communication and collaboration, resulting in improved knowledge sharing and successful marketing outcomes [23]. Social media usage and knowledge sharing in marketing can attract new people and attention [27]. The literature highlights some key factors that positively affect knowledge conversations in marketing, including triggered attending, meta-voicing, and meta-knowledge [28]. Social media can quicken and improve the exchange of information within organizations, leading to higher levels of productivity and creativity, and can potentially revolutionize how knowledge is managed by providing access to novel information sources and technologies [30].

4.2.3. Politics

Social media has revolutionized the way political information is shared and disseminated, leading to a new era of knowledge management in politics. Table 7 presents contributions in research specifically focused on how social media enhances knowledge management in politics.

Table 7. An overview of studies evaluating social media's effects on knowledge management in politics.

Title	Objective	Main Findings
Digital media and traditional political participation over time in the us [137]	Assessing the link between SM use and political participation	Social media can enhance political functions, such as sharing information
The use of social media on political participation among university students: An analysis of sur- vey results from rural Pakistan [138]	Studying the impact of online political events on real-life political participation and efficacy	The use of SM supports online events and practices that relate to offline political participation
Youth, new media, and the rise of participatory politics [139]	Studying how SM has transformed communication for political and civic engagement	Advanced technology enables widespread SM use, resulting in broader information coverage and the development of democracies

The extensive adoption of the Internet has led to an increase in the utilization of social media platforms for political motives, including the dissemination of crucial news and occurrences and the facilitation of virtual events and activities linked to real-world political engagement [137]. Advanced technology has been helpful as it has become a valuable tool for promoting widespread information coverage and advancing democracy [27]. The accessing ease of serving large audiences and the ability to freely share information locally and globally have made social media an essential component of modern political discourse [140]. By utilizing social media, political organizations and individual politicians

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can reach a larger and more diverse audience, promoting transparency and accountability in the political process [27]. Moreover, social media platforms offer citizens a space to discuss political events and issues, which promotes community building and motivates them to participate in politics and share different views actively, engage in debates, and exchange ideas, leading to a better-informed and more involved public [139].

4.2.4. Tourism

The tourism industry increasingly acknowledges the importance of SM in knowledge management [141]. This is evident from various studies and literature reviews showing social media's impact on knowledge management in the tourism industry, as shown in Table 8.

Table 8. An overview of studies evaluating social media's effects on knowledge management in tourism.

Title	Objective	Main Findings
How and why organisations use social media: five use types and their relation to absorptive capacity [142]	Studying how organizations use SM to enhance absorptive capacity	SM promotes absorptive capacity, which helps the tourism industry thrive by fostering sociability
Social Media in tourism [143]	Assessing the role of SM in promoting tourism	SM facilitates advertisement and information sharing, which are critical for enhancing tourism
Social Media information benefits, knowledge Management and smart organizations [144]	"Studying the importance of SM in promoting tourism through information sharing."	Social media promotes tourism by positively influencing institutional performance via social communication
What do we know about Social Media in tourism? a review [145]	Studying the role of SM in decision-making and promotion within the tourism industry	The use of SM impacts tourism by improving marketing for tourist attractions and enhancing tourism management
Review of Social Media Potential on knowledge Sharing and Collaboration in Tourism Industry [146]	Understanding knowledge sharing on SM within the tourism sector	Social media serves as a significant tool in pre-trip travel planning and decision-making
knowledge Management and Social Media in Tourism Industry Indus- try [147]	The role of social media for knowledge management in the tourism industry	Social media plays a substantial role in promoting destination sustainability and enhancing competitiveness in tourism
Customer knowledge Management in Social Media: application of the SMARTUR Framework for the proposition of smart solutions [148]	Exploring tourist experiences on SM using the SMARTUR framework	SM improves the intelligent management of tourist experiences, creating smart solutions that enhance these experiences

Social media utilization in the tourism sector has facilitated the promotion of absorptive capacity, which contributes significantly to ensuring the flourishing of the tourism industry by fostering sociability between tourists and local communities [142]. This results in the exchange of valuable information and knowledge about various tourist destinations, making the process of trip planning easier for tourists and promoting the offerings of local communities [148].

Moreover, social media serves as an efficient platform for advertising and the dissemination of information, both of which are crucial in enhancing the tourism industry [143]. Tourists can access an array of information regarding different tourist destinations, including pictures, videos, and reviews from other travelers, allowing them to make informed decisions about their travels [146]. On the other hand, tourism businesses can leverage social media to advertise their offerings and reach a wider audience, thereby increasing their visibility and attracting more tourists to their destinations [147].

Furthermore, social media can also positively impact institutional performance in the tourism industry through social communication [144]. By connecting tourists and local

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communities, social media can facilitate the building of strong relationships and increased cooperation among stakeholders, thus improving the overall performance of the tourism businesses [145].

Finally, social media use in the tourism industry significantly impacts marketing efforts for tourist attractions and tourism management [145]. Social media provides a cost-effective and efficient way to reach potential customers and promote tourist destinations, making it a valuable tool for tourists and tourism businesses [148].

4.2.5. Temporary Mass Gathering Events

Temporary mass gathering (TMG) events are defined as grouping individuals in a particular area for a given reason and for some time [149]. TMG events, such as concerts, sports events, and religious gatherings, pose significant challenges to knowledge management, as information may be diverse and complex [150]. Social media platforms have emerged as key players in enhancing knowledge management at TMG events [151]. This discussion will examine how social media platforms can enhance knowledge management at TMG events by drawing on the literature review findings in Table 9.

Table 9. An overview of studies evaluating social media's effects on knowledge management at TMG events.

Title	Objective	Main Findings
An analytical study of mobile applications for hajj and umrah services [152]	Assessing social media's role in Saudi Arabia's performance of the Hajj event	Technological advancements and SM usage have led to the development of mobile applications that simplify the Hajj event
Association between two mass-gathering outdoor events and incidence of SARS-CoV-2 infections during the fifth wave of COVID-19 in north-east Spain: A population-based control-matched analysis [151]	Exploring how social media managed public gatherings and COVID-19 transmission	SM played a crucial role in reducing mass gatherings and minimizing COVID-19 risks through improved communication
Crowd detection in mass gatherings based on Social Media data: A case study of the 2014 shanghai New Year's Eve stampede [153]	Evaluating social media's significance on festivals through crowd detection	SM is a significant tool in managing mass gatherings and enables law enforcement agencies to detect and manage public opinions
Using mobile technology to optimize disease surveillance and health- care delivery at mass gatherings: a case study from India's Kumbh mela [150]	Exploring SM use in social movements, demonstrations, and protests	SM is significant in obtaining news and political information, enhancing mobilization
A crowd monitoring framework using emotion analysis of social media for emergency management in mass gatherings [154]	Using social media to monitor crowds	Identifying crowd types quickly and accurately using social media emotion analysis

Firstly, technological advancements and social media use have contributed to the development of mobile applications that simplify the management of temporary mass gatherings, such as the Hajj event [152]. These applications provide valuable information to attendees and enable them to plan and organize their trips, reducing chaos and confusion during the event [155]. This has enabled a more efficient and streamlined communication process between organizers and attendees [152,156].

Secondly, social media has critically helped in reducing mass gatherings during the COVID-19 crisis. By offering real-time updates on COVID-19 protocols and guidelines, social media has enabled attendees to comply with them and steer clear of large crowds [151]. Social media use has allowed organizers to communicate effectively with attendees and implement measures to reduce the risks associated with the virus [128]. For example, organizers used social media platforms to communicate guidelines on social distancing,

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mask wearing, and hygiene [97]. This helped minimize the virus's spread and reduce the risks associated with large gatherings [151].

Thirdly, social media presents positive possibilities for law enforcement agencies to detect and manage the public and their views during TMG events [153]. Social media monitoring and analysis tools enable law enforcement agencies to identify potential security threats and monitor the public's sentiment toward the event [157]. This has enabled law enforcement agencies to proactively prevent security incidents and manage potential risks associated with TMG events [153].

Fourthly, social media platforms have become significant in obtaining news and political information, thus enhancing mobilization during TMG events [158]. Social media platforms enable attendees to access news and political information and mobilize and participate in political discourse [150]. This has enabled attendees to be more informed about political issues and participate in political events, enhancing political knowledge management [150].

Finally, social media platforms can identify crowd types quickly and accurately using emotion analysis [154]. Emotion analysis involves using machine learning algorithms to analyze social media data and identify feelings expressed by attendees [159]. This enables organizers to understand the emotions and sentiments of attendees, enabling them to make informed decisions about how to manage the event [154].

5. Discussion and Gap Identification

Social media has contributed significantly to enhancing and consolidating the knowledge management process within organizations. As shown in Figure 2, social media has added value in the previously mentioned four theoretical phases. In the context of knowledge sharing, sustainable knowledge management refers to practices that promote long-term environmentally and socially responsible knowledge sharing between companies, employees, and the public [160]. Social media can be an effective tool for sustainable knowledge sharing because it allows for quick and easy communication between stakeholders, promotes open dialogue, and encourages collaboration [161]. Sustainable knowledge sharing practices aim to foster a culture of continuous learning, knowledge creation, and knowledge transfer while considering the ethical and social implications of such sharing [162].

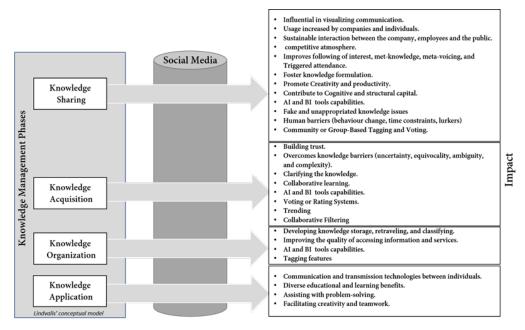


Figure 2. The impact of social media analysis on KM practices.

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In addition, social media can also contribute to sustainable knowledge management practices by enabling the development of meta-knowledge, which refers to knowledge about knowledge [28]. Meta-knowledge can help organizations better understand how knowledge is created, shared, and used within their company and can guide future knowledge management strategies [163]. Furthermore, social media can facilitate meta-voicing, which involves actively sharing and discussing knowledge within an organization [28]. This can help to identify knowledge gaps, generate new ideas, and promote innovation [164].

Sustainable knowledge management practices can also contribute to developing organizational cognitive and structural capital [10]. Cognitive capital refers to individuals' knowledge, skills, and abilities within an organization, while structural capital refers to the systems, processes, and structures that support knowledge sharing and collaboration [84]. By promoting sustainable knowledge management practices, organizations can create a supportive environment that fosters cognitive and structural capital development, which can lead to improved productivity, creativity, and innovation. The aforementioned effects are supported by research [28,70,165].

The convergence of social media and artificial intelligence (AI) in the digital age has greatly influenced knowledge sharing. By utilizing AI-powered recommendation algorithms, social networks analyze users' interests, preferences, and actions to offer personalized content suggestions [76]. This integration of AI and social media enhances knowledge exchange by curating relevant content, improving search results, and promoting community interaction [86].

On the other hand, there are several negative impacts associated with knowledge sharing on social media. Research has revealed that human behavior and time constraints play a significant role in hindering effective knowledge transfer [78]. These limitations make it challenging for information to be shared and understood in a meaningful way. Consequently, individuals often find themselves trapped in what is known as "information bubbles", where their exposure to diverse perspectives is limited due to cognitive biases [78].

Another detrimental aspect of social media is the rapid dissemination of false information and fake news [77]. This widespread circulation poses a significant problem as it undermines the accuracy and reliability of widely accepted knowledge [89]. Distinguishing between truth and falsehood becomes increasingly challenging, leading to confusion and the perpetuation of misinformation.

Moreover, privacy concerns, trust issues, and online harassment further impede the potential for open and constructive discussions on social media platforms [90]. Individuals may feel hesitant to express their opinions honestly due to fears of privacy breaches or backlash. The lack of trust among users can also hinder the establishment of meaningful dialogues [166]. Furthermore, online harassment and cyberbullying create a hostile environment that discourages authentic and productive interactions [167].

Research suggests that social media plays a significant role in all three phases of the knowledge management process: knowledge acquisition, knowledge organization, and knowledge application. During the knowledge acquisition phase, social media and utilizing BI tools and trending topics foster trust, overcome knowledge barriers, promote collaborative learning and brand innovation, and clarify knowledge among individuals [22]. Furthermore, it has been found to promote collaborative learning and brand innovation [101].

In the knowledge organization phase, social media has been found to assist in developing knowledge storage, retrieval, and classification [106]. It has also been found to improve the quality of accessing information and services, making it easier for individuals to find relevant information [107]. Furthermore, AI algorithms and data analytics transform knowledge organization within social media [111]. They empower organizations to identify gaps in knowledge, improve the creation and distribution of content, and shape their overall knowledge management practices [113]. During the knowledge application phase, social media, along with the utilization of AI, leverages communication transmission technologies [19], diverse educational and learning benefits, chatbots, and virtual assis-

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tance to facilitate personalized assistance, problem solving [26], creativity, teamwork, and collaborative project work among individuals [72].

Social media has become a valuable tool in managing knowledge in various fields such as healthcare, marketing, politics, tourism, and temporary mass gathering (TMG) events. Analysis conducted in these areas has shown that social media has revolutionized how information is accessed, analyzed, and disseminated, leading to more effective and efficient knowledge management. These findings are summarized in Figure 3.

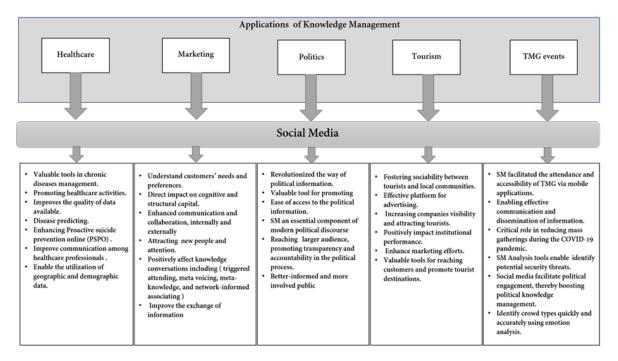


Figure 3. The impact of social network analysis on the applications of knowledge management.

Social media has significantly impacted knowledge management in various fields [24]. In healthcare, it has been beneficial in managing chronic diseases [128], promoting healthcare activities [125], improving the quality of data [126], predicting diseases [128], and implementing proactive suicide prevention online (PSPO) [129]. Social media has also enhanced communication and collaboration among healthcare professionals by utilizing geographic and demographic data [131,133].

In marketing, social media has allowed organizations to understand customer needs and preferences [135], impacting cognitive and structural capital [84]. It has improved communication and collaboration, attracted new customers [27], and positively influenced knowledge conversations such as triggered attending, meta-voicing, and meta-knowledge [28]. Social media has also enhanced the exchange of information, thus improving knowledge management [30].

Social media has revolutionized political information access and dissemination in politics, becoming essential for promoting political agendas, easing access to information, and reaching a larger audience [137]. It promotes transparency and accountability in the political process, creating a more informed and involved public [27,140].

In tourism, social media has increased sociability between tourists and local communities [142], providing an effective platform for advertising [143], increasing companies' visibility [146], and attracting tourists [147]. Social media has also improved institutional performance [143], enhanced marketing efforts [145], and become a valuable tool for reaching customers and promoting tourist destinations [148].

In temporary mass gathering (TMG) events, social media has facilitated attendance and accessibility through mobile applications [152]. It has enabled effective communication and information dissemination [155], played a critical role in reducing mass gatherings

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during the COVID-19 pandemic, and provided tools for identifying potential security threats [151]. Social media has also facilitated political engagement, boosted political knowledge management, and enabled quick and accurate identification of crowd types using emotion analysis [154].

5.1. Gap Identification

In general terms, relatively limited research focuses explicitly on the impact of social media analysis on knowledge management. Significant gaps may be summarized as follows:

- There needs to be more knowledge and understanding of the impact of SNA in various knowledge management (KM) contexts. This knowledge needs to be structured or modeled formally. More research is required to understand better the potential benefits and limitations of SNA in KM, including actual practices within organizations.
- There needs to be more explicit research on how new emerging knowledge is systematically extracted, modeled, and integrated. More research could be used to explore this field, including potential benefits and limitations in different organizational contexts. To better understand how organizations can acquire knowledge from social networks, more research is required to identify the key drivers, barriers, and enablers of effective and systematic knowledge acquisition.
- The value of social media in specific KM contexts and applications, such as temporary
 mass gathering events, needs to be better understood. Research should be conducted
 to explore how social media can add value to KM in specific contexts.
- There needs to be more research addressing the specific needs and requirements of different countries and cultural contexts. For example, large religious events may have unique requirements that must be addressed in the existing literature.
- There need to be more studies addressing the needs and requirements in specific countries and cultural contexts (for instance, large religious events).
- Despite the considerable interest, the challenges faced by governmental organizations still need to be thoroughly investigated, or at least extensive research in the literature needs to be performed.
- In many countries, there must be more advanced techniques in the field (e.g., the Kingdom of Saudi Arabia).

The findings suggest that there needs to be more research on the impact of social media analysis on knowledge management, which is a cause for concern. As shown in Figure 4, the gaps identified in the research suggest that more studies are needed to better understand the potential benefits and limitations of social network analysis in knowledge management and how new emerging knowledge can be systematically extracted, modeled, and integrated. Additionally, the need for more research on the value of social media in specific knowledge management contexts and applications, such as temporary mass gathering events, suggests the need to explore how social media can add value to knowledge.

The findings also highlight the need for more research on the specific needs and requirements of different countries and cultural contexts. For example, large religious events may have unique requirements not addressed in the existing literature. This underscores the importance of conducting research tailored to specific cultural management in these contexts rather than relying solely on findings from other regions or industries. Furthermore, the lack of research on the challenges faced by governmental organizations in the field of knowledge management is a significant gap that needs to be addressed. This highlights the need for more studies focusing on governmental organizations and their challenges in managing knowledge effectively. Overall, the findings suggest a need for more research on social media analysis and its impact on knowledge management. This research should be tailored to specific organizational and cultural contexts and address the gaps identified in the literature.

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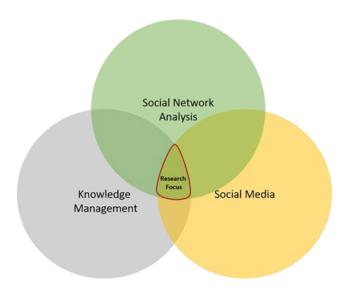


Figure 4. Research Focus.

5.2. Challenges and Future Direction

The usage of social media analysis in knowledge management presents several challenges for organizations, including those related to the structure of social media and human behaviors, which include the following:

- Data overload: The enormous volume of social media data can be overwhelming, and extracting meaningful insights from it requires effective tools and techniques to filter out irrelevant data [168].
- Lack of standardization: There needs to be a standard format for social media data, making it difficult to compare and aggregate data from various sources [169].
- Privacy concerns: Organizations must ensure compliance with data protection laws and regulations and avoid violating individuals' privacy rights when collecting and analyzing social media data [170].
- Time sensitivity: To make informed decisions, organizations must analyze social media data in real-time to extract timely insights [171].
- Limited access: Privacy concerns, platform restrictions, or other factors can limit access to social media data [172].
- Technical expertise: Analyzing social media data requires specialized technical skills and expertise, which may require additional training or personnel [163].
- Cost: The tools and techniques used in social media analysis can be expensive, especially for smaller organizations with limited resources [173].
- Fragmented and dispersed knowledge: Knowledge of social media is often fragmented across various platforms, communities, and individuals. This fragmentation makes it challenging to consolidate and integrate knowledge from different sources, hindering effective knowledge organization and application [174]. Social and semantic web convergence may generate a critical nexus via interoperability [175,176].
- Fake news: There is a growing concern about spreading misinformation. The authors in [177] provided a detailed analysis of the fake news phenomenon.

As scholars seeking to advance the field of knowledge management, it is worth investigating the potential impact of social network analysis (SNA) in different organizational contexts. One promising avenue for future research is examining the current contributions of SNA to KM and exploring the challenges and opportunities of adopting SNA for KM. In addition, researchers could focus on identifying the potential benefits and challenges of integrating SNA to enhance KM processes in organizations while also studying the role of SNA in promoting collaboration and knowledge sharing within and between organizations.

Another area for future research is extracting and modeling emerging knowledge from social networks. This line of inquiry would entail identifying the key drivers that have led

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to the need for social media data in KM and exploring the factors that influence knowledge acquisition from social networks in organizational settings. Furthermore, researchers could investigate how organizations can overcome the barriers associated with implementing advanced SNA techniques in KM, including assessing the current state of SNA adoption in governmental organizations in Saudi Arabia. The research could also identify potential opportunities and challenges related to utilizing advanced SNA techniques in KM and examine how they can extract and model new emerging knowledge from social networks in these organizations.

Another promising research direction could be to explore the challenges and opportunities of using social media to enhance KM in temporary mass gathering (TMG) events, particularly religious events. A potential study could investigate how social media can be leveraged to enhance KM at TMG events and how SNA can contribute to the application of KM to TMG events. This may involve analyzing how SNA techniques can be used to identify patterns and trends related to TMG events and exploring the current state of SNA adoption in religious events in Saudi Arabia. Additionally, examining how SNA can be used to promote knowledge sharing and collaboration among attendees, organizers, and other stakeholders at religious events is essential. The findings of this research could provide valuable insights and guidelines for leveraging SNA to enhance KM at TMG events, particularly religious events in Saudi Arabia.

6. Conclusions

In conclusion, this research sheds light on the crucial role of social media analysis in enhancing the sustainable knowledge management process and maximizing its value. The extensive utilization of social media and the abundance of user-generated content has significantly expanded the availability of data, making social media platforms valuable sources of knowledge. By leveraging social media analysis techniques, organizations can gain valuable insights, make real-time decisions, foster collaboration, and drive innovation. All these are vital aspects of sustainability in today's interconnected world.

The study points out the positive impact of social network analysis on sustainable knowledge sharing, creativity, productivity, knowledge formulation, building trust, and cognitive capital. It highlights the value of knowledge acquisition by simplifying and massively gathering information, reducing uncertainty and ambiguity, and organizing knowledge through storage, retrieval, and classification practices. When applied at an application level, this knowledge has the potential to improve the quality of services and encourage creativity within organizations.

Additionally, this research analyzes specific domains, such as healthcare, marketing, politics, tourism, and event management, focusing on the potential and added value of social network analysis within these domains. By exploring the application of social media analysis in specific contexts, the research demonstrates its practical relevance and ability to address domain-specific challenges, unlock opportunities, and enhance sustainable knowledge management practices.

The research identifies several challenges in integrating social media analysis into sustainable knowledge management. These challenges include data overload, lack of standardization, privacy concerns, time sensitivity, limited access, technical expertise, and cost. Understanding and addressing these challenges are essential for organizations seeking to effectively harness the power of social media for knowledge management purposes.

This research presents several directions for further development in the field that have implications for sustainable knowledge management. It emphasizes the need for developing advanced analytics techniques, such as natural language processing and sentiment analysis, to extract deeper insights from social media data. Automation and machine learning can streamline the analysis process and improve the efficiency of knowledge management practices, contributing to more sustainable decision-making. Integrating structured and unstructured data from different sources can provide a comprehensive understanding of knowledge resources and aid in identifying sustainable opportunities

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and challenges. Collaboration and co-creation facilitated through social media platforms can foster stakeholder engagement in sustainability-related knowledge sharing activities, promoting collective action toward sustainable goals. This research is a foundation for further studies and offers valuable insights for practitioners and researchers interested in leveraging social media analysis to enhance sustainable knowledge management practices. By integrating sustainability considerations into knowledge management processes, organizations can create a more sustainable future, leveraging the power of social media to drive positive change.

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