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Research Paper

The Contributions of Knowledge Management to the Sustainable Development Goals

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LEONOR PAIS[1*]
DANIELA COSTA[2]
PAULO NOGUEIRA RAMOS[3]

ABSTRACT

Purpose (mandatory): This study aims to analyze the contributions of knowledge management to Sustainable Development Goals (SDGs). A systematic literature review was carried out using the keywords "Knowledge Management" in the title and "Sustainable Development Goals" throughout the text on the B-On database.

Design/methodology/approach (mandatory): A literature review was conducted in this study. In total, 31 articles were analyzed, most from developing countries. Just 11 of them were focused on only one goal**.** This was done by resorting to the PRISMA protocol and adapting the GRADE protocol.

Findings (mandatory): The results show little investigation on knowledge management for sustainable development goals. However, there is an agreement among authors that knowledge management is essential for the present 2030 Agenda. It is necessary to invest in knowledge management in developing countries for them to make progress toward the SDGs.

Research limitations/implications (if applicable): Only one database was used, Knowledge Management was identified as a global construct, and the resort to the expression "Sustainable Development Goals" can have a narrowing effect on the results. Future research may focus on the knowledge management processes or surveying each Sustainable Development Goal.

[1*]Corresponding author. Center for Research in Neuropsychology and Cognitive and Behavioral Intervention (CINEICC), Faculty of Psychology and Education Sciences, University of Coimbra, Portugal. Email address: leonorpais@fpce.uc.pt

[2] Faculty of Psychology and Education Sciences, University of Coimbra, Portugal. Email address: danielapintodacosta98@gmail.com

[3] Faculty of Psychology and Education Sciences, University of Coimbra, Portugal. Email address: paulo.nogueira.ramos@gmail.com

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Practical implications (if applicable): In this study, the contributions of knowledge management for poverty eradication, quality of health, drinkable water and sanitation, decent work and economic growth, industry, infrastructure and innovation, and action for climate change are clear, which can be a starting point for future research and to intervene in this field.

Originality/value (mandatory):

As for originality, it is the first systematic literature review on knowledge management's contributions to achieving sustainable development goals within the United Nations 2030 Agenda framework. As for the value, which also stems from its originality, emphasis is placed on the possibility of making decisions based on evidence, in theoretical and practical terms, considering the results obtained.

Keywords: Knowledge Management, Sustainability, Sustainable Development Goals, 2030 Agenda, Systematic literature review.

1. Introduction

In recent years, efforts have been made to take advantage of the contribution of knowledge management to sustainability (Kudratova, Huang & Zhou, 2018). Sustainability is a complex concept, but knowledge management can be a way to deal with this complexity (Bucci & El-Diraby, 2018) and be the basis for sustainable development practices. Moreover, using knowledge management in the context of sustainability will help comply with the sustainable guidelines. (Chang et al., 2018).

In 2015, the United Nations (UN) proposed the 2030 Agenda, which includes 17 Sustainable Development Goals (SDGs). The realization of this agenda depends on overcoming the multiple and complex challenges that society faces, such as social, economic, and environmental tensions. The objective is to achieve the prosperity of all countries while protecting the environment (Wu et al., 2022), and it is considered that knowledge management can play an essential role in achieving the 2030 Agenda (Bucci & El-Diraby, 2018).

However, knowledge management in the context of sustainability can be considered a new paradigm (Chang et al., 2018) and is still little explored (Martins et al., 2019). In this context, this study aims to identify the contributions of knowledge management to achieving the SDGs through a systematic literature review. It is also expected that this systematic review will prove relevant to identify general and specific scopes considering the SDGs as an object of study, revealing if there is a tendency to think only one goal or if the pattern is to observe the goals more holistically.

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2. Literature Review

2.1 Knowledge Management

The concept of knowledge management was introduced in 1990 (Martins, Rampasso, Antaholon, Quelhas & Leal, and Filho, 2019) and has evolved considerably since 1999 (Sashi, Centobelli, Cerchione & Merigo, 2022). The seminal literature was produced mainly in three regions: Europe, Japan, and the United States (Cardoso, 2007), and more research is currently emerging in the United States, United Kingdom, and China (Sashi et al., 2022). There are several definitions of knowledge management. First, it can be defined as a set of processes that allow transforming data into organizational knowledge, providing it value (Nonaka & Takeuchi, 2015). Second, Cardoso (2007) defines it as a set of daily activities related to creating and developing organizational conditions, which facilitate all knowledge management processes as an essential resource for reaching the objectives of an organization.

Knowledge management integrates several processes, coexisting models that incorporate a greater or lesser number (Cano-Kollman, Thomas, Mudambi & Song, 2016; Krylova, Vera & Crossan, 2016; Valmohammadi, Sofiyabadi & Kolahi, 2019). In the present study, we will use the integrative model, proposed by Cardoso in 2007 and updated in 2011 (Cardoso & Peralta, 2011), which identifies seven processes, namely: knowledge creation and acquisition, sense-making, sharing and dissemination, organizational memory, measurement, retrieval, and use of knowledge. The implementation and coordination of all these processes imply the existence of an organizational culture oriented towards the creation, sharing, and use of knowledge, allowing the implementation of strategies to mobilize all workers so that they can develop, promote and utilize their full potential (Valmohammadi et al., 2019; Cano-Kollman et al., 2016).

The importance given to knowledge management stems from the advantages that its implementation provides. For Sashi et al. (2022), it is a strategic factor that guarantees the survival of organizations. Other authors emphasize that it allows cooperation between organizations (Santoro, Ferraris & Bresciani, 2019; Singh & El Kassar, 2019). Organizations adopt knowledge management for various reasons and to achieve different goals. In this sense, it is possible to highlight the creation of wealth, the promotion of organizational performance, and the effective response to stakeholders (Cardoso, 2007). Several authors have empirically demonstrated that improvements in knowledge management are reflected in organizational performance, highlighting its importance for sustainable organizational performance

(Bloodgood, 2019). This can happen through formally instituted practices (e.g., conferences or employee training or more informal ones (e.g., conversations or sharing of stories and ideas) (Brito et al., 2017).

2.2. SDGs

Sustainable development can be defined as development that meets the needs of the present without compromising the ability of future generations to meet their needs (Brundtland, 1987). This concept encompasses three dimensions: social, economic, and environmental.

In 2015, 191 United Nations Member states signed the 2030 Agenda, including 17 goals and 169 sustainable development targets. This agenda is formulated based on the consensual idea that shared responsibility exists to create a more inclusive, equitable, prosperous, and sustainable future (Davidescu, Petcu, Curea & Manta, 2022). Therefore, this agenda intends to be a guideline for human development until 2030 (Ferraro et al., 2016). Furthermore, the Sustainable Development Goals are a collective of directions for promoting prosperity and sustainability across organizations, governments, and communities. Therefore, it is essential to realize that action in one of the SDGs will influence all others (Diaz-Lopez, Martín-Blanco, Bayo, Rubio-Rivera & Zamorano, 2021).

Some research has been carried out on sustainable development goals, but the one that is the subject of most research is SDG 3, health and wellbeing (Meschede, 2020). The attention given to each SDG varies from country to country and their priorities (Salvia, Filho, Brandli & Griebeler, 2019). Complementarities and trade-offs between the SDGs must be considered; otherwise, progress in one of them will not correspond to progress in another and may even harm this progress, a topic not so often viewed in research (Barbier & Burgess, 2019). Knowledge management may generate a positive input for this challenge, mainly if it is operationalized with an adequate strategy.

3. Methodology

A systematic review of the literature was carried out by adapting the guidelines of the PRISMA *(Preferred Reporting Items for Systematic Reviews and Meta-Analyses)* Protocol, which gives the work methodological rigor. The bibliographic search was carried out in the *B-On* database *(Academic Search Complete, American Chemical Society, American Institute of Physics, Annual Reviews, Association for Computing Machinery, Business Source Complete, Cinahl, Coimbra University Press, Current Contents, Dynamed, Elsevier, ERIC, Essential Science*

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Indicators, Health Business Elite, IEEE, Institute of Physics, Journal Citation Reports, LISTA, Medline with full text, Nature, Psychology & Behavioral Science, Royal Society of Chemistry, Sage, Society for Industrial and Applied Mathematics, Springer Taylor & Francis, Wiley, Zentralblatt), using the keywords "Knowledge Management" in the title and "Sustainable Development Goals" throughout the text. For this research, publications in academic journals, with peer review, published between 2015 and November 2021 were defined as inclusion criteria. This research returned 47 studies. The collection of the studies under review ended on November 15, 2021.

The exclusion criteria referred to conferences and publications that only had the keyword "Sustainable Development Goals" in the references. Three results were excluded because they came out from conferences, and twelve articles were excluded because they only had "Sustainable Development Goals" in the references. Finally, a document that, despite meeting the selected criteria, was an opinion article and not a scientific study was excluded making a total of sixteen excluded articles in the screening process. For the analysis, the 31 final articles were retained. No limits were placed on the language in which the article was written. However, these publications are almost exclusively written in English, as only one of the articles was written in Spanish.

The GRADE (Grading of Recommendations, Assessment, Development, and Evaluation) Protocol was adapted to verify the analyzed articles' quality. According to this protocol, a rating is assigned to studies, which ranges from 'high', when future research is very unlikely to yield different results, 'moderate', when future research is likely to yield different results, 'low', when future research is very likely to yield different results, and 'very low', when the results obtained are very unstable, and further investigation may reveal different results. After this classification is assigned, the studies are evaluated using criteria that can increase or decrease the given classification. The criteria that reduce these assessments are theoretical limitations (heterogeneity is not theorized; study limitations are not mentioned; information relevant to study replication, such as sample and method, is not provided); generalization problems (data were collected in a particular context and results are not generalizable); small sample size (e.g., problems related to data extrapolation), and the risk of bias (e.g., data collected through self-response methods; cross-sectional study). The criteria that increase this classification are theoretical relevance (the study results have a high applicability or relevant practical

implication, a large and specific sample, and methodological rigor (use of various data collection methods to guarantee their triangulation; careful selection of control variables).

4. Results

We begin presenting the study results with the main results and the assessments made to analyze the articles' quality, as shown in Table 1.

Table 1: Country, main results, and GRADE Protocol application

Reference	Country/Region	Main results	Classification	Reasons for downgrading
Acosta-Prado, López-Montoya, Sanchis-Pedregosa & Vásquez-Martínez (2020)	Colombia	GC significantly mediates the relationship between management capacity and innovative performance	⊕⊕⊕ Moderate	Risk of bias; not generalizable
Atkociuniene & Mikalauskiene (2019)	Not applicable	Production of a model with four components: knowledge maturity level; main expressions of GC; elements that influence sustainable development, and components of the sustainable knowledge organization.	Not applicable	Not applicable
Briceno & Santos (2019)	Not applicable	Creation of the KNEM model (K Management Excellence Model), which consists of eight dimensions: leadership; people; strategies and plans; Lawsuit; resources; information and knowledge; society	Not applicable	Not applicable
Chi, Yu, Qi & Xu (2018)	China	Participants quickly absorbed information about healthy eating and were more likely to adhere to a healthy diet.	⊕⊕⊕⊕ High	
Chisita & Fombad (2020)	Zimbabwe	Demonstration of the importance of KM for adapting to climate change and the need for closer cooperation between the various	⊕⊕⊕⊕ High	

		stakeholders, including governments, environmental organizations, public libraries, and urban farmers in Harare.		
Concepción & Praiva (2019)	Not applicable	Although efforts have been made to implement KM at the UN, the results do not reach the expected levels due to the lack of a common strategy for all sub-organizations that are part of the UN.	Not applicable	
Cummings, Kiwanuka, Gillman & Regger (2018)	Switzerland	Emergence of a fifth generation of 'Knowledge Brokering' and the need for a new conceptualization that includes the SDGs	⊕ Very low	Theoretical limitations; Small sample; risk of bias
Delfau (2018)	Australia and Asia Pacific Region	Online communities of practice produce better results when there are options for face-to-face interaction.	⊕⊕ Low	Theoretical limitations; Risk of bias; small sample
Doskočil& Lacko (2018)	Czech Republic	Identification of 21 reasons for not carrying out post-project phases	⊕ Very Low	Theoretical limitations; Risk of bias; not generalizable
Doskočil& Lacko (2019)	Czech Republic	The leading causes for not carrying out post-project phases are the lack of knowledge and the negligence of its existence and importance.	⊕ Very Low	Theoretical limitations; Risk of bias; not generalizable
Fombad (2018)	South Africa	Communication Sciences and Technologies (ICT) is essential for the eradication of poverty	⊕⊕⊕ Moderate	Theoretical limitations
Fombad & Onyancha (2017)	South Africa	In South Africa, there is little research on KM that integrates national development issues.	⊕⊕ Low	Theoretical Limitations
Henao-Calad, Montoya & Ochoa (2017)	Not applicable	The built model includes knowledge processes: identification; creation;	⊕⊕⊕⊕ High	

		storage; sharing; Warranty; diffusion; transfer, and acquisition.		
Iqbal & Malik (2019)	Pakistan	Companies with a greater entrepreneurial orientation are more likely to engage in sustainable development practices, and KM mediates this relationship	⊕⊕⊕ Moderate	Risk of bias; not generalizable
Israilidis, Odusanya & Mazhar (2021)	Spain/Barcelona	The literature on smart cities highlights five main themes: strategy and vision; reading grids; enablers and inhibitors; citizen participation; benefits	⊕⊕⊕ Moderate	not generalizable
Karamat, Shurong, Ahmad, Waheed & Mahamood (2018)	Pakistan	Identification of 18 facilitators of the adoption of KM	⊕⊕⊕ Moderate	Risk of bias; not generalizable
Karamat, Shurong, Ahamad, Waheed & Lebohn (2018)	Pakistan	Distinction of 18 barriers to KM adoption in the health sector	⊕⊕⊕ Moderate	Risk of bias; not generalizable
Karamat et al. (2019)	Pakistan	Government incentive is a critical factor in the adoption of KM	⊕⊕⊕⊕ High	
Mikalauskiene & Atkociuniene (2019)	Not applicable	KM is essential for society to prioritize sustainable development and make it viable	⊕ Very Low	theoretical limitations
Nazam, Baig & Shabir. (2020)	Pakistan	The main barriers to KM in supply chains are those derived from management, innovation, and technologies	⊕⊕ Low	Risk of bias; small sample; not generalizable
Ngulube (2020)	Not applicable	Only 1.1% of GC research uses 'mixed methods	⊕ Very Low	Risk of bias; small sample
Pineyrua, Redondo, Pascual	Spain	Identification of 45 KM indicators and 102 of corporate social	⊕ Very low	Theoretical limitations; small sample; not

& Gento (2021)		responsibility in organizations		generalizable
Pribadi et al. (2021)	Indonesia	There are no information integration systems that allow its use to improve infrastructure	⊕⊕⊕ Moderate	Theoretical limitations
Pukhovskaya, Vignali & Hallier (2017)	Mexico	The success of GC initiatives depends on their implementation conditions	⊕⊕ Low	Theoretical limitations; risk of bias; not generalizable
Razzaq et al. (2019)	Pakistan	Organizational commitment partially mediates the relationship between KM and knowledge worker performance	⊕⊕⊕⊕ High	Risk of bias; not generalizable
Russ (2021)	Literature revision	The proposed KM model will facilitate learning and decision-making by managers	Not applicable	Not applicable
Sanguankaew & Ractham (2019)	Bibliometric literature review	The literature on KM for sustainability emerged in 1994 and reached its peak of publications in 2018	⊕⊕⊕⊕ High	
Sapta, Sudja, Landra & Rustiarini. (2021)	Indonesia	KM has a mediating effect on the relationship between organizational culture and organizational performance and on the relationship between sustainable performance and leadership styles.	⊕⊕ Low	Risk of bias; not generalizable
Unyal, Mangla, Srma, Tseng & Patil (2021)	India	The management of the organization is the main factor in the adoption of sustainable consumption and production	⊕ Very low	Risk of bias; small sample; not generalizable
Wu et al. (2019)	India	Aligning the aspects of organizations' relationship, operation, and economy with their main objective will allow sustainable performance.	⊕⊕ Low	Risk of bias; small sample; not generalizable

Yousif, Grondys, Gad & Elsayed (2020)	Bangladesh, United States, Australia, Denmark, United Arab Emirates, Brazil	The adoption of inter-organizational KM practices makes it possible to increase the efficiency of non-governmental organizations	⊕⊕ Low	Theoretical limitations

Source: Own elaboration

Table 2 displays the knowledge management processes and sustainable development goals mentioned in each study.

Table 2: Knowledge management processes and sustainable development goals.

Reference	General	Creation and acquisition	attribution of meaning	sharing and diffusion	Memory	Measurement	Recovery	Use	Core for the SDGs	SDGs
Acosta-Prado et al. (2020)		✓		✓				✓	none featured	1*,3*,9*
Atkociuniene & Mikalauskiene (2019)		✓		✓				✓	Creation and acquisition, and use	All
Briceno & Santos (2019)		✓	✓	✓ ✓		✓		✓	none featured	All
Chi et al. (2018)		✓		✓ ✓		✓			Acquisition and recovery	3*
Chisita & Fombad (2020)		✓		✓ ✓				✓	Memory	13*
Concepción & Praiva (2019)	✓								none featured	All
Cummings et al. (2018)		✓		✓					none featured	General
Delfau				✓ ✓				✓	sharing	6*

(2018)											
Doskočil& Lacko (2018)				✓	✓		✓		✓	memory and sharing	General
Doskočil& Lacko (2019)	✓									none featured	General
Fombad (2018)		✓		✓	✓				✓	sharing, acquisition, and use	1*
Fombad & Onyancha (2017)		✓		✓					✓	sharing	General
Henao-Calad et al. (2017)		✓		✓	✓		✓		✓	none featured	General
Iqbal & Malik (2019)	✓									none featured	9*
Israilidis et al. (2021)		✓		✓	✓					sharing	9*, 11*, 13*, 17*
Karamat et al. (2018) to		✓			✓					Memory	3*
Karamat et al. (2018) b		✓		✓	✓				✓	none featured	3*
Karamat et al. (2019)				✓	✓					none featured	3*
Mikalauskiene & Atkociuniene (2019)		✓	\	✓	✓				✓	Use	1*,3*,8*,9*
Nazam et al. (2020)				✓						none featured	General
Ngulube (2020)		✓		✓	✓				✓	none featured	General
Pineyrua et		✓		✓					✓	sharing	General

al. (2021)										
Pribadi et al. (2021)				✓				✓	Use	9*
Pukhovskaya et al. (2017)		✓		✓				✓	none featured	2*
Razzaq et al. (2019)		✓		✓	✓			✓	none featured	General
Russ (2021)				✓	✓				sharing	8*
Sanguankaew & Ractham (2019)		✓		✓	✓			✓	none featured	General
Sapta et al. (2021)	✓								none featured	General
Unyal et al. (2021)		✓		✓				✓	none featured	9*, 12*
Wu et al. (2019)		✓			✓			✓	none featured	General
Yousif et al. (2020)		✓		✓				✓	none featured	General

Source: Own elaboration

Note 1: *Mentioned directly in the study.

Legend: General - The SDGs are generally mentioned, and their existence or adoption by the country in question is mentioned. All - SDGs are listed.

1 - Eradicate poverty; 2 - Eradicate hunger; 3 - Quality Health; 4 - quality education; 5 - Gender Equality; 6 - Potable Water and Sanitation; 7 - Renewable and accessible energies; 8 - Decent work and economic growth; 9 - Industry, Innovation, and Infrastructure; 10 - Reduce inequalities; 11 - Sustainable Cities and Communities; 12 - Sustainable production and consumption; 13 - Climate action; 14 - Protect Marine Life; 15 - Protect Earth Life; 16 - Peace, Justice, and Effective Institutions; 17 - Partnerships for the Implementation of the objectives.

Knowledge management has a mediating role in the relationship between different variables, namely, among the following: management capacity and innovative performance; entrepreneurial behavior and sustainable practices; organizational culture and organizational performance; organizational performance and leadership styles. Organizational commitment

mediates the relationship between worker performance and knowledge management. The results reveal the need for improvements in knowledge management systems and practices and identify facilitators and barriers to its adoption, of which implementation conditions and government incentives stand out. The literature on knowledge management and sustainability has increased. However, only six studies focus on using knowledge management for the SDGs. They focus on quality health, climate change, water management, poverty eradication, sustainable consumption and production, and smart cities. The literature reviews on knowledge management demonstrate the need to use new methods in research to integrate new themes, such as national development. Of the analyzed studies, four of them resulted in knowledge management models.

The knowledge management process that emerged the most in the analyzed studies was knowledge share and dissemination, appearing in 22 studies. Next was the knowledge creation and acquisition process, appearing in 20 of the studies, and in third place, the utilization of knowledge, mentioned in 18 studies. The process considered essential for the SDGs is knowledge sharing and dissemination. Organizational memory is considered necessary, but it is the process in which most failures are often described as a process in more need of investment.

The SDGs most often mentioned in the studies were good health and wellbeing (SDG 3) and industry, innovation, and infrastructure (SDG 9), which were mentioned in six studies. Poverty eradication (SDG 1) was identified in three studies, and climate action (SDG 13) in two studies. Other SDGs that emerged were the eradication of hunger (SDG 2), clean water and sanitation (SDG 6), decent work and economic growth (SDG 8), and partnerships for the goals (SDG 17). Some studies only mention the existence of the 2030 Agenda or the SDGs or that knowledge management can contribute to their implementation and achievement without mentioning any specific SDG. In a total of 31 studies, 16 (approximately 51.61%) were either general or contemplated all SDGs, four (approximately 12.90%) considered more than one, and 11 (about 35.48%) were based on just one of them. With this, it can be denoted that there is a powerful tendency to consider several SDGs in the mentioned studies, which shows a trend in this field of literature to consider systemic thinking concerning trade-offs and complementarities of the SDGs.

Highlighting the results from high-quality articles is relevant (Chi et al., 2018; Chisita & Fombad, 2020; Henao-Calad et al., 2017; Karamat et al., 2019; Razzaq et al., 2019;

Sanguankaew & Ractham, 2019). The results from these articles show the relevance of knowledge management for a healthy diet and climate change. The authors also highlight the importance of governmental support in adopting knowledge management. Furthermore, Razzaq et al. (2019) reveal that organizational commitment partially mediates the relationship between knowledge management and knowledge workers' performance. Finally, the study from Sanguankaew and Ractham (2019), which also has a high quality, shows the evolution of this topic.

5. Discussion and Conclusion

Knowledge management is essential for the implementation of the SDGs and for the achievement of the 2030 Agenda. It can contribute to all the SDGs or provide specific contributions to each.

The studies analyzed were mainly carried out in developing countries. This fact may be an indicator of the commitment placed by these countries to research focused on the SDGs to promote their development. An additional reason may be that most developed countries have already achieved or are close to achieving the SDGs' targets (Halkos & Gkampoura, 2021). However, developing countries face more challenges related to the SDGs and need more work and action to achieve them. According to Salvia and coworkers (2018), the areas of interest of each country regarding the SDGs depend on local problems. For example, in South Africa, poverty is a big problem, and there are several policies to eradicate it, but they have not been very successful. Therefore, it makes sense that the literature on SDGs in South Africa is related to SDG 1 (Fombad, 2018). In Pakistan, the government invests thousands of euros in healthcare. However, this investment does not translate into positive results. Therefore, SDG 3 and using knowledge management to achieve it is one of Pakistan's concerns (Karamat, 2019). On the other hand, according to Karamat (2019), the predominance of articles from developing countries may also reveal a late adoption of knowledge management.

The SDG present in more studies is SDG 3 (quality health). This result is congruent with Meschede's (2020) results, who came to the same conclusion. Sweileh (2020) demonstrated that the focus on each SDG varies from country to country. In Europe, the most studied are SDGs 12, 13, and 17; in Africa, SDG 3; and in Asia-Pacific, the most common is SDG 13. This reveals a greater need and concern to invest in the healthcare system in Africa. It also shows concern about the highest pollution levels in the Asia Pacific. As mentioned, SDG 3 is the most cited in the studies analyzed. However, there is more research on that in Asia. This

demonstrates the need to develop health systems in this region, particularly Pakistan (Karamat, 2019). Studies in Africa reveal concern about climate change, highlighting its effects on agriculture in the region (Chisita & Fombad, 2020) and eradicating poverty (Fombad, 2018). The second most mentioned sustainable development objective was SDG 9, industry, infrastructure, and innovation, and these studies were carried out in Colombia, Pakistan, Barcelona, Mexico, and India. Once again, it is possible to identify the predominance of developing countries. The prevalence of this SDG may be due to the purpose of our study. Knowledge management is an enabler of innovation. Knowledge creation affects innovation's speed, quality, and quantity (Acosta-Prado, 2020). However, it is also relevant to note that most studies have shown consideration for more than one SDG or challenge, which reveals a more general view of the goals concerning their scope of research. Future studies may be carried out to prove whether this trend continues or is verified in other fields.

The most mentioned process in the analyzed studies was knowledge sharing and dissemination. This process is considered essential for achieving SDGs. However, it is also called the process that needs more work in organizations. This result agrees with Chisita and Fombad's (2020) investigation, which demonstrates the importance of knowledge sharing to achieve the SDGs. The knowledge creation and acquisition process is also mentioned several times. It might be due to its importance in allowing organizations and countries to develop strategies to achieve sustainable development. For Davidescu and coworkers (2022), achieving the SDGs depends on creativity and innovative processes, as these will allow efficient and effective action at the social and economic levels. Organizational memory frequently emerges in these studies. This might be because the authors consider that organizations need to develop more efficient methods of storing knowledge, allowing access to all parts of the organization, and organizing knowledge in an integrated rather than fragmented way. Meschede (2020) underlines the importance of global, transnational, and interdisciplinary partnerships to realize the 2030 Agenda. These partnerships need information/knowledge storage and integration systems to enhance results. Pribadi and coworkers (2021) point out that when the process of constituting organizational memory is not designed effectively, the information acquired is fragmented and its use compromised, which can have consequences for the country. Fragmented information delays progress toward the SDGs.

Some of the studies analyzed refer to the SDGs only in general terms, mentioning their existence or the need for integration. Therefore, it is possible to perceive that few studies

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analyze the direct contributions of knowledge management to the SDGs. However, there is a consensus among the authors that knowledge management is essential for achieving the SDGs. One of the reasons for this is that, sometimes, authors do not relate their work to the SDGs, although they develop research that contributes to them (Meschede, 2020). However, more empirical research is needed to sustain this affirmation and to be able to relate these indirect contributions to SDG targets.

The GRADE analyses show a need for more integrative research on this topic. The high-quality articles highlight relevant topics like the importance of governmental support for knowledge management adoption or the effects of knowledge management on healthy eating and climate change.

The present study sought to analyze the contributions of knowledge management to the SDGs. To this end, a literature review was conducted in the B-on database, analyzing 31 articles. The main conclusion of this study is that it is necessary to invest in knowledge management in developing countries for them to make progress toward the SDGs.

This study is not without limitations. The first point is that it was carried out using only one database, although it integrates several others. Second, it focused on knowledge management as a global construct. The research on different processes that knowledge management encompasses may obtain different results. Third, the expression “Sustainable Development Goals” is also a limitation since some studies contribute to the SDGs without mentioning them directly. SDG was not used because it can have other meanings, such as spatial distribution of gradients. However, future research may use this abbreviation in search expressions. The last limitation of the study is related to publication bias.

Considering the information above, future investigations may focus on each knowledge management process and its contributions to sustainable development goals, using the processes in the search keywords. Another possibility is to carry out a survey focusing on each of the sustainable development objectives and their impacts, even if the SDG itself is not mentioned. Finally, there is a need to produce empirical research on the effects of knowledge management in achieving sustainable development goals. Therefore, a critical contribution of this study is to provide an overview of the literature on knowledge management and its relationship with the SDGs, which can serve as a starting point for further research.

References

Barbier, E. B., Burgess, J. C. (2019). Sustainable development goal indicators: Analyzing trade-offs and complementarities. *World Development, 122*, 295-305. https://doi.org/10.1016/j.worlddev.2019.05.026.

Bloodgood, J.M. (2019). Knowledge acquisition and firm competitiveness: the role of complements and knowledge source. *Journal of Knowledge Management*, *23*(1), 46-66. https://doi.org/10.1108/jkm-09-2017-0430.

Brito, Elisabeth, Pais, Leonor & Rebelo dos Santos, Nuno (2017). Measurement invariance of the Knowledge Management Questionnaire in local authorities. *European Journal of Applied Business Management, 3*(1), 2017, pp. 1-25. https://doi.org/10.13140/2.1.4815.1846.

Brundtland, G. H. (1991). Our common future. In *Earth and Us* (pp. 29–31).

Bucci, M., & El-Diraby, T. E. (2018). The functions of knowledge management processes in urban impact assessment: the case of Ontario. *Impact Assessment and Project Appraisal*, *36*(3), 265–280. https://doi.org/10.1080/14615517.2018.1445179.

Cano-Kollmann, M., Cantwell, J., Hannigan, T. J., Mudambi, R., & Song, J. (2016). Knowledge connectivity: An agenda for innovation research in international business. *Journal of International Business Studies*, *47*(3), 255–262. https://doi.org/10.1057/jibs.2016.8.

Cardoso, L. (2007). *Gerir conhecimento e gerar competitividade. Estudo empírico sobre a gestão do conhecimento e seu impacto no desempenho organizacional*. Penafiel: Editorial Novembro. ISBN: 978-989-95185-9-9.

Cardoso, L., & Gomes, A. D. (2011). Knowledge management and innovation: Mapping the use of technology in organizations. In *Technology for creativity and innovation:Tools, techniques and applications* (pp. 237-266). IGI Global.

Cardoso, L., & Ferreira Peralta, C. (2011). Gestão do conhecimento em equipas: Desenvolvimento de um instrumento de medida multidimensional. *Psychologica, (55),* p. 79-93. https://doi.org/10.14195/1647-8606_55_5.

Chang, D. L., Sabatini-Marques, J., Da Costa, E. M., Selig, P. M., & Yigitcanlar, T. (2018). Knowledge-based, smart and sustainable cities: A provocation for a conceptual framework. *Journal of Open Innovation: Technology, Market, and Complexity*, *4*(1), 5.

Davidescu, A. A., Petcu, M. A., Curea, S. C., & Manta, E. M. (2022). Two faces of the same coin: Exploring the multilateral perspective of informality in relation to Sustainable Development Goals based on bibliometric analysis. *Economic Analysis and Policy*, *73*, 683–705. https://doi.org/10.1016/j.eap.2021.12.016.

Díaz-López, C., Martín-Blanco, C., de la Torre Bayo, J. J., Rubio-Rivera, B., & Zamorano, M. (2021). Analyzing the Scientific Evolution of the Sustainable Development Goals. *Applied Sciences*, *11*(18), 8286. https://doi.org/10.3390/app11188286.

Ferraro, Tania, Rebelo dos Santos, Nuno, Pais, Leonor & Mónico, Lisete. (2016). Historical landmarks of decent work. *European Journal of Applied Business Management*. 2. 77-96.

Krylova, K. O., Vera, D., & Crossan, M. (2016). Knowledge transfer in knowledge-intensive organizations: the crucial role of improvisation in transferring and protecting knowledge. *Journal of Knowledge Management*, *20*(5), 1045–1064. https://doi.org/10.1108/jkm-10-2015-0385

Kudratova, S., Huang, X., & Zhou, X. (2018). Sustainable project selection: Optimal project selection considering sustainability under reinvestment strategy. *Journal of Cleaner Production*, *203*, 469–481. https://doi.org/10.1016/j.jclepro.2018.08.259.

Martins, V., Rampasso, I., Anholon, R., Quelhas, O., & Leal Filho, W. (2019). Knowledge management in the context of sustainability: Literature review and opportunities for future research. *Journal of Cleaner Production*, *229*, 489–500. https://doi.org/10.1016/j.jclepro.2019.04.354.

Meschede, C. (2020). The Sustainable Development Goals in Scientific Literature: A Bibliometric Overview at the Meta-Level. *Sustainability*, *12*(11), 4461. https://doi.org/10.3390/su12114461.

Nonaka, I., & Toyama, R. (2015). The Knowledge-creating Theory Revisited: Knowledge Creation as a Synthesizing Process. In *The Essentials of Knowledge Management* (pp. 95–110). Palgrave Macmillan UK. https://doi.org/10.1057/9781137552105_4.

Salvia, A. L., Leal Filho, W., Brandli, L. L., & Griebeler, J. S. (2019). Assessing research trends related to Sustainable Development Goals: local and global issues. *Journal of Cleaner Production*, *208*, 841–849. https://doi.org/10.1016/j.jclepro.2018.09.242.

Shashi, S., Centobelli, P., Cerchione, R., & Merigo, J. M. (2021). Mapping Knowledge Management Research: A Bibliometric Overview. *Technological and Economic Development of Economy*, *28*(1), 239–267. https://doi.org/10.3846/tede.2021.14088.

Santoro, G., Ferraris, A., & Bresciani, S. (2019). Assessing the breadth of open innovation practices: the impact on innovation performance. *Sinergie Italian Journal of Management*, *37*(1), 63–83. https://doi.org/10.7433/s108.2019.05.

Valmohammadi, C., Sofiyabadi, J., & Kolahi, B. (2019). How do Knowledge Management Practices Affect Sustainable Balanced Performance? Mediating Role of Innovation Practices. *Sustainability*, *11*(18), 5129. https://doi.org/10.3390/su11185129.

Wu, X., Liu, J., Fu, B., Wang, S., Wei, Y., & Li, Y. (2022). Bundling regions for promoting Sustainable Development Goals. *Environmental Research Letters*, *17*, 044021. https://doi.org/10.1088/1748-9326/ac5c9d.