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UNIVERSIDADE D  
COIMBRA

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**The Role of Knowledge  
Sharing in the Achievement of  
the UN's Agenda 2030  
Sustainable Developmental  
Goals and Sustainability: A  
Systematic Literature Review**

Dissertation in the ambit of the Master's in Organizational  
Psychology supervised by Professor Leonor Maria  
Gonçalves Pacheco Pais and presented to the Faculty of  
Psychology and Education Sciences of the University of  
Coimbra

February of 2023

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## Acknowledgements

This dissertation is a result of a collaborative effort of people for whom I have a deep feeling of gratitude. Whether directly or indirectly, these people contributed to the final product.

To my adviser, Professor Doctor Leonor Pais, thank you for all the guidance, patience and understanding during this process. Your wise and encouraging words were essential in preparing and writing this thesis. Thank you for providing me with the necessary tools to further develop my investigation and academic skills.

To Doctor Cláudia Melo, thank you for the support and for helping me understand myself a little bit better. Without the tools you have provided me with this thesis would not be anywhere close to what it is.

To my parents, thank you for your unconditional love and support and for always believing in me. Special thanks to all the trips to bring me homemade food and goodies during this time and for always making yourselves available. This would not be possible without you (also because you pay for my tuition). To my family, thank you for your support and encouraging words.

To my best friends, Xana, Gonçalo, Ana, and Francisca, thank you for always being in my corner. All the inside jokes, crying and panic sessions, dinners, and even the meaningless things mean the world to me. Thank you for believing in me, even when I doubted myself, and always reassuring and cheering me on. You are Coimbra's finest, and I could not have asked for a better chosen family.

To André, thank you for always being available no matter the time and for believing I can do great things. All the tears were turned into laughs every time I called.

To my roommates, Mariana, Carlota, and Matilde, thank you for all the laughs and all the joint crying. I cannot thank you enough for being my emotional support and putting up with my shenanigans during this stressful time. Thank you for keeping me in line and celebrating my small successes.

Last but not least, to my unofficial roommates, Sales, João, Tábuas and Custódio, thank you for knowing when not to ask questions and for making the stress go away, even if for a short period of time, either by comedic relief or encouraging words.

## **The Role of Knowledge Sharing in the Achievement of the UN's Agenda 2030 Sustainable Development Goals and Sustainability: A Systematic Literature Review**

### **Abstract**

This study examines the role of knowledge sharing in achieving Sustainable Development Goals (SDGs) and sustainability. To do so, we performed a systematic literature review comprising 22 articles. We adapted the PRISMA protocol, and complementarily we used the GRADE protocol to evaluate the quality of the articles. Knowledge sharing is one of knowledge management's processes, characterized by the mutual exchange of tacit and explicit knowledge between the various organizational actors, aiming to create more and better knowledge. As this is a relatively new theme, little literature is available. However, it is already possible to understand the positive and essential impact of knowledge sharing on the Sustainable Development Goals and sustainability, and their implementation. We found a prevalence of the organizational level of analysis among the reviewed articles, and a more frequent mention of Sustainable Developmental Goal 8 and Sustainable Developmental Goal 9. Additionally, we found that knowledge-sharing practices influence organizational sustainability. It is necessary to further investigate, namely in developing countries. Although they are present in most of our articles, they have not reached the expected results. Future research could benefit from investigating other knowledge management processes to assess if the results are similar or if there is another process more advanced than knowledge sharing. The replication of some of the reviewed studies on different regions/countries can diminish generalization difficulties, while adapting and thus implementing more knowledge-sharing practices.

*Keywords:* knowledge sharing; sustainable development goals; sustainability; Agenda 2030.

## **O Papel da Partilha de Conhecimento no Alcance dos Objetivos de Desenvolvimento Sustentável da Agenda 2030 da ONU e da Sustentabilidade: Uma Revisão Sistemática da Literatura**

### **Resumo**

Este estudo examina o papel da partilha de conhecimento no alcance dos Objetivos de Desenvolvimento Sustentável (ODS) e da Sustentabilidade. Para tal foi realizada uma revisão da literatura compreendendo 22 artigos. Foi utilizada uma adaptação do protocolo PRISMA para a escolha dos mesmos. Complementariamente, usámos o protocolo GRADE para avaliar a qualidade dos artigos. A partilha de conhecimento é um dos processos da gestão de conhecimento, caracterizado pela troca mútua de conhecimento tácito e explícito entre os vários atores organizacionais com o objetivo de gerar mais e melhor conhecimento. Como é um tema relativamente recente, ainda não existe muita literatura acerca do mesmo, mas já é possível perceber o impacto positivo e importante que a partilha de conhecimento tem nos ODS e na sustentabilidade, para a sua concretização. Encontrámos uma prevalência do nível de análise organizacional nos artigos analisados, e menções frequentes ao ODS 8 e ao ODS 9. Adicionalmente, concluímos que práticas de partilha de conhecimento influenciam a sustentabilidade organizacional. É necessário realizar mais estudos, nomeadamente nos países em desenvolvimento, uma vez que apesar de grande parte dos artigos desta revisão se focarem nos mesmos, estes ainda se encontram aquém das expectativas. Investigações futuras podem beneficiar em pesquisar acerca de outros processos de gestão de conhecimento para averiguar se os resultados serão similares ou se existe algum processo mais avançado do que partilha de conhecimento. A replicação de alguns dos estudos analisados em regiões/países diferentes pode diminuir as dificuldade de generalização, ao mesmo tempo que adapta e implementa novas práticas de partilha de conhecimento.

*Palavras-chave:* partilha de conhecimento; objetivos de desenvolvimento sustentável; sustentabilidade; Agenda 2030.

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## **The Role of Knowledge Sharing in the Achievement of the UN's Agenda 2030 Sustainable Development Goals and Sustainability: A Systematic Literature Review**

In 2015, the United Nations (UN) implemented the Agenda 2030, which comprised 17 Sustainable Development Goals (SDGs) (Meschede, 2020). This initiative addresses multiple and complex challenges society faces, such as climate change and social and economic tensions (Briceño & Santos, 2019). These goals, formalized into 169 targets, require global action to promote prosperity for all countries while protecting the environment (Wu et al., 2022). Furthermore, over 200 indicators within the SDGs can be altered among different countries, regions, or municipalities better to fit the needs of each Member State's development (Meschede, 2020).

Alongside international cooperation, the SDGs also demand multi and interdisciplinary research among all stakeholders, which translates into the planning and implementation of development strategies for each country, region, and/or municipality (Bellantuono et al., 2022). Each Member State must adapt the general goals according to its national, regional, and local assets, cultural background, resources, and criticalities. This means that each country has the autonomy to plan its policies regarding sustainability while maintaining the notion that all SDGs must be attended to. According to Cerf (2019), to successfully implement individual and collective SDGs, their integration and interdependence are crucial, i.e., advancing one SDG requires consideration of other related SDGs.

Previous research mentions that the SDGs and sustainability generally can only be achieved through stakeholder cooperation (Bellantuono et al., 2022; Cerf, 2019). This is the case specifically for organizations, as they thrive and benefit from local, regional, national, and international partnerships (Briceño & Santos, 2019). As such, Costa (2022) poses that knowledge management (KM) is a strategic factor contributing to organizations' survival and inter-organizational cooperation. Complementarily, Bloodgood (2019) states that improvements in KM are essential to sustainable organizational development.

Although the definition of knowledge management may differ from study to study, KM is generally considered a set of processes implemented to use the knowledge acquired within and outside a given organization to achieve specific organizational objectives (Ode & Ayavoo, 2020). KM is vital in maintaining an organization's competitive advantage (Martins et al., 2019).

Knowledge can be divided into two categories (Polanyi, 1958). Explicit knowledge is commonly expressed in a way that can be easily transferred to others, either in a written form or verbally (i.e., words, numbers, symbols). On the other hand, tacit knowledge is obtained by an individual's personal experience, the way one thinks and performs. Therefore, it is difficult to pass on this kind of knowledge, which many organizations lack: this knowledge can be lost once employees leave or retire. This is where KM comes in. Hence, it is necessary to transform tacit knowledge into explicit knowledge, which depends on an effective knowledge management strategy, as it is only possible if the people who already possess the knowledge are willing to share it with others (Abdillah et al., 2018).

Given that KM consists of several processes, the present study focuses on a specific one – knowledge sharing (KS). An organization's knowledge sharing is a dynamic process between employees, clients, groups, organizations, and other stakeholders (Muñoz-Pascual, Galende & Curado, 2020). In this process, all stakeholders exchange tacit and explicit knowledge (information, ideas, skills, and experience) to create new and better knowledge (Naicker et al., 2017). Furthermore, KS is a strategy used to develop better communications and cooperation between members of an organization to reach the best performance possible in terms of costs, quality, creativity, trust, etc. Creating an appropriate environment that allows this process to flow freely among employees will be discussed below (Cormican et al., 2021).

Knowledge sharing has an impact on several levels. An organization is a complex set of interactions – influences, motivations, behaviors, actions, and reactions – affecting individuals and their dynamics. The organization interacts with the various individuals and one another's objectives and intentions, which influences the KS intention and behavior among teams, contributes to organizational cohesion, and prompts a sense of belonging and trust (Obrenovic et al., 2020).

Due to the complexity of organizational factors influencing KS, their identification and whether they inhibit or support KS have been a primary research focus. For example, Ahmad & Karim (2019) state that KS positively affects individual performance, individual learning and creativity, and psychological aspects. At a group level, KS enhances team performance, creativity, and climate (Ahmad & Karim, 2019). Organizational performance, learning, innovation, and business process efficiency are also positively influenced by KS (Ahmad & Karim, 2019).



It is important to note that not only organizations, but society, in general, are paying more and more attention to the need to take responsibility for problems arising from societal, economic, and environmental imbalances. This drove all of the UN's member states to create and implement the Agenda 2030 previously mentioned – to address developmental issues endangering the future in terms of equity and sustainability (Davidescu et al., 2022). However, for this to be successful, it is crucial to use existing knowledge and research to create even more knowledge (Meschede, 2020). As such, we can try to look at the UN and all member states as a group of organizations and apply adapted knowledge management practices to achieve the SDGs.

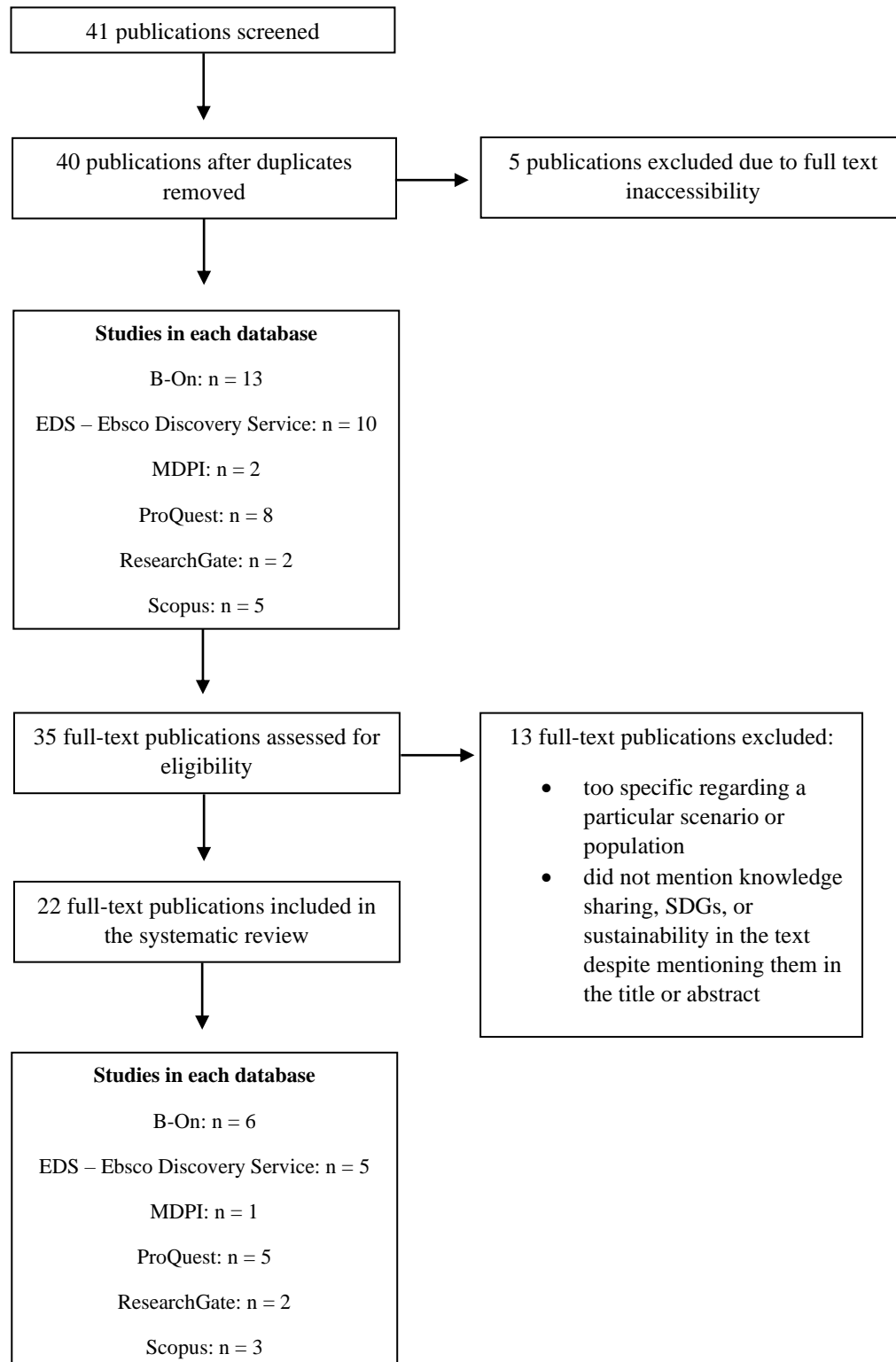
Knowledge sharing (one of the processes of KM) is seen as crucial to initiatives regarding sustainability in organizations since it enables organizational learning (Cormican et al., 2021; Leith & Yerbury, 2015). Knowledge sharing causes a shift in this context by redirecting concerns to social and environmental responsibilities, equating them to the same importance given to economic issues (Martins et al., 2019). Sustainability practices thrive with knowledge, skills, and influence as they promote changes that lead to innovation. Hence, the KS process is seen as a link between the UN, national government staff, and the population in the performance and fulfillment of the SDGs (Briceño & Santos, 2019). All stakeholders have information, knowledge, ideas, skills, and experience that can be useful in creating and developing implementation policies adapted to each country's structures, prioritizing targets, and identifying and directing adequate financial resources (Igbiovvia & Ikenwe, 2015).

The present study aims to compile the existing literature regarding the impact of KS on achieving the UN's Sustainable Development Goals. As this is a relatively recent research topic, we broadened our scope of the investigation to include the role of KS on sustainability, particularly organizational sustainability, to understand if that can lead to achieving the SDGs.

## Method

**Figure 1**

*The flow of information through the different phases of the systematic review*



This study systematically reviews the literature by applying some PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, granting higher methodological rigor. The article's search was performed in six electronic databases: B-On (Association for Computing Machinery, American Chemical Society, American Institute of Physics, Annual Reviews, Academic Search Complete, Business Source Complete, Cinahl, Coimbra University Press, Current Contents, Dynamed, Elsevier, Essencial Science Indicators, ERIC, Health Business Elite, IEEE, Institute of Physics, Journal Citation Reports, LISTA, Medline with full text, Nature, Psychology & Behavioral Science, Royal Society of Chemistry, Sage Premier, Society for Industrial and Applied Mathematics, Springer, Taylor & Francis, Teacher Reference Center, Web of Science, Wiley), EDS – Ebsco Discovery Service, MDPI – Multidisciplinary Digital Publishing Institute, ProQuest, ResearchGate, and Scopus.

Targeted research was conducted using the following Boolean expressions across all previously mentioned databases: “knowledge sharing” and “sustainability” in the title; “knowledge sharing or knowledge transfer or knowledge dissemination” and “Sustainable Development Goals or SDGs or SDG or Agenda 2030” in the title; “knowledge sharing” and “sustainability or Sustainable Development Goals” in the title; “knowledge sharing” in the title and “Sustainable Development Goals or SDGs or SDG or Agenda 2030” in the abstract; “Sustainable Development Goals” in the title and “knowledge sharing” in the abstract; “knowledge sharing” in the title and “Sustainable Development Goals” in the full text; “knowledge sharing” and “Sustainable Development Goals” in the full text. Despite searching for “knowledge transfer” and “knowledge dissemination”, we found no results.

Regarding the preliminary research, exclusion criteria were not defined. Therefore, all publications were considered, including academic journals, books, reports, conference proceedings, scientific journals, and “grey literature” (e.g., dissertations and thesis).

In total, 40 publications were retrieved from the databases. Given that the “full text” option was not checked in the initial research, although we could read their abstracts, we did not have full access to five articles despite having made several efforts. Upon reviewing the remaining 35 publications, we excluded which were too specific regarding a particular scenario or population group, namely the attitude of preschool teachers toward sustainable happiness or IT projects. We also excluded those who, despite mentioning either KS, SDGs, or sustainability in the title or abstract, did not mention them in the body of the research. With this exclusion

criteria, the present literature review comprises 22 publications. Albeit not limiting the language, all articles are written in English.

We retrieved information from each study concerning the author(s), year of publication, aim, the method (sample dimension and description, research design, data source, analysis level, and region), the main results, their limitations, practical implications, and suggestions for future research. In addition, we compiled information regarding the contribution of KS to the SDGs when mentioned in the articles.

To assess the quality of the reviewed publications, we applied the GRADE (Grading of Recommendations Assessment, Development, and Evaluation) protocol. According to the GRADE protocol, a study is classified as “high” if its results are unlikely to differ in future investigations, “moderate” if its results are likely to be similar in future research, “low” if its results may substantially differ in future studies, and “very low” if its results are likely to vary significantly in future analysis (Balslem et al., 2011). After this evaluation, the publications are also subject to several criteria, which may raise or lower the classification. For example, the assessment is lowered due to theoretical limitations (when they are not mentioned or do not provide information for replication), generalization difficulties, small sample, and risk of bias. On the contrary, the evaluation is risen due to theoretical relevance (relevant practical implications), large and specific sample, and methodological rigor (Balslem et al., 2011).

## **Results**

The articles were analyzed according to the following parameters: (a) aim of the study; (b) sample size and description; (c) source of the data; (d) type of study; (e) level of analysis; (f) country or region of the study; (g) main findings; (h) mentioned SDGs; (i) knowledge sharing contribution to said SDGs; (j) knowledge sharing contribution to the sustainability of the object of study; (k) study contributes; (l) study limitations; (m) practical implications; and (n) future research suggestions.

Table 1 comprises the aim of each study, the collected sample, the method used to retrieve data, the type of study, the analysis level, and the country/region where the investigations took place.

**Table 1**

*Aim, sample, data source, study type, analysis level, and country/region*

<b>References</b>	<b>Aim</b>	<b>Sample size</b>	<b>Sample description</b>	<b>Data Source</b>	<b>Study type</b>	<b>Analysis level</b>	<b>Country/Region</b>
Abdillah, M. R., Lin, C-T., Anita, R., Suroto, B., & Hadiyati (2018)	Explain the effects of attitude, norm subjective, and perceived behavioral control on bankers' knowledge-sharing behavior.	200	Banking officers	Survey	Qualitative	Individual and organizational	Indonesia
Bellantuono, L., Monaco, A., Amoroso, N., Aquaro, V., Lombardi, A., Tangaro, S., & Bellotti, R. (2022)	Investigate the ecosystem of interactions between the SDGs, comparing similar patterns related to sustainability, namely conceptualization, formulation, dissemination, perception, achievement, and monitoring.	N/A	N/A	Social media Databases	Qualitative	N/A	N/A
Bimbe, N., Brownlee, J., Gregson, J., & Playforth, R. (2015)	Raise awareness of critical issues and opportunities, and promote discussions regarding the future of societies and the processes by which knowledge and digital technologies are used to achieve the SDGs.	36	Researchers, ICT and development practitioners, and policymakers	Interviews	Horizon scanning study	Individual and organizational	Africa
Briceño & Santos (2019)	Analyze some knowledge management frameworks that SDGs can apply.	N/A	N/A	Database	Systematic literature review	Organizational	N/A
Cerf, M. (2019)	Analyze an implementation framework regarding SDG 3.	N/A	N/A	Databases	Qualitative	Interorganizational	N/A

Cormican, K., Meng, C., Sampaio, S., & Wu, Q. (2021)	Answer whether and how trust, communication, reward systems, and leadership impact KS.	104	High-tech service organization team members	Questionnaires	Cross-sectional Quantitative	Organizational	Ireland
De Bernardi, P., Bertello, A., & Venuti, F. (2019)	Test the hypothesis that online and on-site KS affects the success of a Food Assembly measured by customer sustainable behavior change.	2115	Food Assembly active customers	Semi-structures interviews Focus groups Questionnaires	Literature review Empirical analysis	Organizational	Italy
Igbinovia, M., & Osuchukwu (2018)	Investigate the predictors of knowledge-sharing behavior and its implication on SDGs among library personnel.	72	Library personnel	Survey	Qualitative	Individual, organizational and inter-organizational	Nigeria
Kawakubo, S., & Murakami, S. (2020)	Develop an online “Local SDGs Platform” that enables stakeholders to register, search and share their initiatives, efforts, and best practices.	N/A	Several local government officers working in the “SDGs FutureCity” initiative	Interview Survey	Qualitative	Individual, organizational and inter-organizational	Japan
Leith, D., & Yerbury, H. (2015)	Analyze knowledge-sharing practices.	21	Sustainability initiatives coordinated by local councils	Direct observation Interviews	Case study	Organizational and inter-organizational	Australia
Markopoulos, E., & Gann, E. L. (2021)	Formulate a solution to connect Multinational Corporations with local knowledge.	3	Leaders of Multinational Corporations	Interviews	Qualitative	Organizational	Middle East, South Africa, Brazil
Meschede, C. (2020)	Present an overview of research directly addressing the SDGs and facilitating KS among countries and academic fields.	4593	Research articles	Databases	Literature review	Organizational and inter-organizational	Europe, North America, Central America, South America, Asia, Africa, Oceania

Muñoz-Pascual, L., Galende, J., & Curado, C. (2020)	Examine how internal and external Human Resource Management contributes to KS to reach Sustainability-Oriented Performance.	367	Small and medium enterprises (SMEs)	Survey	Literature review Mixed methods approach	Individual, organizational and inter-organizational	Portugal
Naderi, N., Monavvarifard, F., & Salehi, L. (2022)	Analyze the way certain factors influence the knowledge-sharing process (KSM) and the sustainable entrepreneurship competencies (SEC) among students.	15	Research articles	Databases	Literature review Qualitative Quantitative	Individual, organizational	N/A
Naicker, V., Le Roux, S., Bruwer, J., & Bruwer, J-P. (2017)	Theoretically investigate whether KS initiatives influence the overall sustainability of South African SMMEs.	86	Journal articles, books, thesis/dissertations, professional websites, conference papers, reports, and legislation pieces	Databases	Literature review	Organizational and inter-organizational	South Africa
Negara, D. J., Ferdinand, F., Meitiana, M., Astuti, M. H., Anden, T., Sarlawa, R., & Mahrita, A. (2021)	Empirically study public servant knowledge-sharing intention by implementing the Theory of Planned Behavior of the SDGs.	126	Civil society and public sector respondents	Survey	Qualitative	Individual and organizational	Indonesia
Nugraha, A., Irwansyah, & Purwadi (2021)	Analyze the antecedent factors of digital KS that affect innovation work behavior and organizational innovation capability of employees.	400	Active employees of the Secretariat General, Ministry of Finance	Survey	Quantitative	Individual and organizational	Indonesia

Park, Y-C., & Hong, P. (2022)	Examine the corporate sustainability of sharing economy companies and how knowledge-sharing practices affect corporate sustainability in the context of emerging sharing economy firms.	38	Sharing economy firms	Questionnaires Semi-structured interviews Interviews	Qualitative Quantitative Case study	Organizational	Japan
Ricardo, M. A. (2020)	Explore and provide information on the state of knowledge management in the UN and its impact on fulfilling the 2030 Agenda.	N/A	Bibliographic and documentary sources, research journals, books, and postgraduate thesis	Databases	Literature review	Organizational	United Nations
Wang, S., Abbas, J., Sial, M. S., Álvarez-Otero, S., & Cioca, L-I. (2022)	Bridge the literature gap between green knowledge management, green organizational innovation, and sustainable development achievement.	351	Small businesses, medium-sized companies, and large-sized business employees	Survey	Quantitative Qualitative	Individual and organizational	N/A
Wu, X., Liu, J., Fu, B., Wang, S., Wei, Y., & Li, Y. (2022)	Propose the use of SDG bundles to identify the strengths and weaknesses of different regions when assessing SDG progress.	30	Provinces	Documental analysis	Case study	Interorganizational	China
Zhou, M., Govidan, K., & Xie, X. (2020)	Propose a novel framework to explore perceptions of fairness that include procedural and distributive approaches as antecedents.	225	Manufacturing firms employees	Survey	Qualitative Quantitative	Individual and organizational	China



Of the 22 retrieved articles, three were conducted in Indonesia, two in Japan, and another two in China. It is, therefore, noted as a more prominent focus of research in the Asian continent. Ireland, Italy, Nigeria, Australia, Portugal, and South Africa all had one study conducted each. One of the studies took place in Africa. However, the authors did not disclose the particular country or region (i.e., Bimbe et al., 2015). There was a study conducted across three different countries/regions – Middle East, South Africa, and Brazil (i.e., Markopoulos & Gann, 2021) – and one study conducted across all continents (i.e., Meschede, 2020). Ricardo (2020) investigated the context of the United Nations. Five of the 22 articles did not mention the country/region analyzed.

Regarding the level of analysis, which can be individual, organizational, and/or inter-organizational, there is a predominance of a combination of individual and organizational analysis verified in seven studies. Six studies investigated the organizational level alone, while two focused on an inter-organizational analysis. None of the studies focused solely on the individual level. Three studies investigated all levels of analysis, while another three collected information on the organizational and inter-organizational levels. The authors of one article did not specify the study's level of analysis.

Across the 22 articles, there are observed seven different study types. The most common are literature reviews (eight) and qualitative studies (seven). Three pieces are based on case studies, one is a horizon scanning study, and one is a cross-sectional study. While two articles are quantitative studies, another two present a qualitative and quantitative research combination.

For better understanding, the articles can be divided into four categories: “Variables”, “Interactions”, “Models”, and “Literature Analysis”. The “Variables” category refers to articles about the effects and relations between KS and other variables, such as trust, innovation, and organizational performance, with nine publications. The “Models” category includes seven articles that intend to create knowledge-sharing models or frameworks or adapt knowledge management models to more specific contexts (i.e., Briceño & Santos, 2019) to achieve SDGs and/or sustainable practices. For example, Wu et al. (2022) defend the creation of regional bundles to assess the progress related to the achievement of SDGs, while Kawakubo & Murakami (2020) research the creation of an online platform for all stakeholders to share information regarding SDG-related outcomes. This category also includes adapting classic theories in new settings designing adjusted models, as is the case with Negara et al. (2021), who investigated the effect of the Theory of Planned Behavior in SDG-related knowledge.

Finally, the “Literature Analysis” category comprises nine studies examining the specific and general state of the art regarding different topics. For example, Bellantuono et al. (2022) tried to understand SDG interactions. Ricardo (2020) and Meschede (2020) investigated knowledge management and KS within the United Nations and the subsequent implementation of the 2030 Agenda.

Given the number of articles, we analyzed several different samples. The most common sample is employees representing an organization (eight studies). Three investigations focused on government officials/facilities, while two focused on organizations as a whole (the authors did not specify a particular group within the organization). One study focused on the customers of a given organization, and another focused on Chinese provinces. Research articles and other publications, such as dissertations, academic journals, books, reports, and more, were utilized in four studies. The most common data sources were surveys (seven studies) and database retrieval (six studies). One of the studies combined database retrieval with social media information retrieval. Two studies relied solely on interviews, while other studies combined interviews with surveys (one study), direct observation (one study), questionnaires, and semi-structured interviews (one study). Other sources of data were considered, such as documental analysis and questionnaires, each with one study. Lastly, Park & Hong (2022) incorporated semi-structured interviews, focus groups, and questionnaires in their research.

Table 2 contains each article’s main findings and their respective classification following the GRADE approach. The classification also includes specific reasons to diminish or increase the evaluation.

**Table 2***Main findings*

References	Main findings	Classification	Reasons to diminish the evaluation	Reasons to raise the evaluation
Abdillah, M. R., Lin, C-T., Anita, R., Suroto, B., & Hadiyati (2018)	Personal attitude, subjective norms, and perceived behavioral control lead to KS intention.	⊕⊕⊕○ Moderate	Self-reporting bias Generalization difficulties	Theoretical relevance
Bellantuono, L., Monaco, A., Amoroso, N., Aquaro, V., Lombardi, A., Tangaro, S., & Bellotti, R. (2022)	The strongest connections involve Goal 9, Goal 17, Goal 12, Goal 13, Goal 8 and Goal 14. The weakest links are related to Goal 5, Goal 6 and Goal 7.	⊕○○○ Very low	No sample was used. Limited information Imprecision No mention of limitations, recommendations, or future research	Theoretical relevance
Bimbe, N., Brownlee, J., Gregson, J., & Playforth, R. (2015)	Relevance and need to find ways to identify better what users require. Need to build skills in ICT and KM regarding technology use.	⊕⊕○○ Low	Generalization difficulties Practical limitations Self-reporting bias	Theoretical relevance
Briceño & Santos (2019)	Outlines how and which KM frameworks may be applied to reach the 2030 Agenda.	⊕⊕⊕○ Moderate	Limitations	Theoretical relevance Methodology
Cerf, M. (2019)	This SDG implementation framework is particularly relevant and helpful in LMIC settings that are resource constrained to guide advancement.	⊕⊕○○ Low	Methodology Practical implications Limitations	Theoretical relevance

Cormican, K., Meng, C., Sampaio, S., & Wu, Q. (2021)	Employees are more willing to share their knowledge with those they trust, and carefully designed communication and reward systems can enable KS. Empowering and participatory leadership promote KS.	⊕⊕⊕○ Moderate	Sample size Generalization difficulties	Theoretical relevance Methodology
De Bernardi, P., Bertello, A., & Venuti, F. (2019)	Online KS significantly affects customer change towards more sustainable purchasing and consumption behaviors, while on-site KS positively affects sustainable purchasing behaviors.	⊕⊕⊕○ Moderate	Generalization difficulties Imprecision	Theoretical relevance Methodology
Igbinovia, M., & Osuchukwu (2018)	For library personnel to contribute significantly to the implementation of SDGs, they must ensure effective knowledge-sharing behavior on SDGs-related information.	⊕⊕⊕○ Moderate	Sample size Generalization difficulties	Theoretical relevance Methodology Conceptualization and hypotheses
Kawakubo, S., & Murakami, S. (2020)	Effective use of the platform and the local SDG indicators is expected to support connecting stakeholders, leading to the achievement of the SDGs.	⊕⊕○○ Low	Limited information Indirectness Sample	Theoretical relevance Future research
Leith, D., & Yerbury, H. (2015)	Sharing professional and/or disciplinary expertise on rules and ways of working was the most common primary activity, followed by Influencing, Information Work, and Coupling.	⊕⊕⊕○ Moderate	Sample size Lack of mention of practical limitations and implications.	Theoretical relevance Methodology

Markopoulos, E., & Gann, E. L. (2021)	Using bilateral KS, companies can transcend profit-generating activities into corporate social responsibility activities, achieving the four SDGs mentioned.	⊕⊕⊕⊕ High	Sample size	Theoretical relevance Contributions Methodology Conclusions
Meschede, C. (2020)	Research directly addressing the SDGs has constantly been growing since 2015.	⊕⊕⊕⊕ High	Limitations	Theoretical relevance Methodology Sample size Theoretical framework
Muñoz-Pascual, L., Galende, J., & Curado, C. (2020)	If firms succeed in implementing more robust internal and external Human Resource Management (HRM) mechanisms at different levels of analysis (individual, organizational, and inter-organizational), they may acquire essential sources for developing inter-organizational KS, which can be considered a new dynamic and changing capability obtained from two crucial internal and external HRM variables: affective commitment and a collaboration-oriented HRM system.	⊕⊕⊕○ Moderate	Sample size Limitations	Theoretical relevance Contributions
Naderi, N., Monavvarifard, F., & Salehi, L. (2022)	KS provides a better opportunity for students to improve SEC.	⊕⊕⊕○ Moderate	Limitations	Theoretical relevance

Naicker, V., Le Roux, S., Bruwer, J., & Bruwer, J-P. (2017)	Due to the socio-economical situation in South Africa, many employees are reluctant to share their knowledge to ensure job security. However, the creation of a culture that inspires trust can overcome this.	⊕⊕○○ Low	Lack of mention of limitations Conclusions	Theoretical relevance
Negara, D. J., Ferdinand, F., Meitiana, M., Astuti, M. H., Anden, T., Sarlawa, R., & Mahrita, A. (2021)	Attitude influences knowledge-sharing intention. Subjective norms towards knowledge-sharing behavior positively affect knowledge-sharing intent. Perceived behavioral control towards KS positively affects knowledge-sharing intention. Perceived environmental concerns positively affects KS's intention. Self-efficacy has a positive effect on KS attitudes. Extrinsic rewards had no significant relationship with KS activities.	⊕⊕⊕○ Moderate	Lack of mention of limitations	Theoretical relevance Methodology
Nugraha, A., Irwansyah, & Purwadi (2021)	The four antecedents of digital KS significantly affected innovation work behavior and organizational innovation capability.	⊕⊕⊕⊕ High	Sample size Generalization difficulties Limitations Self-reporting bias	Theoretical relevance Conclusions
Park, Y-C., & Hong, P. (2022)	Knowledge creation context has a role in the sharing economy industry. It positively affects KS with suppliers in the supply chain, which in turn has a positive impact on corporate sustainability.	⊕⊕⊕○ Moderate	Sample size Generalization difficulties Managerial implications	Theoretical relevance Future research

Ricardo, M. A. (2020)	Although some progress has been made, the results have not reached the expected levels yet, mainly due to the absence of a joint and integrated knowledge management strategy.	⊕○○○ Very low	Theoretical framework Sample Lack of mention of limitations, practical implications, and future research	Theoretical relevance Conclusions
Wang, S., Abbas, J., Sial, M. S., Álvarez-Otero, S., & Cioca, L-I. (2022)	Green knowledge management significantly strengthens green innovation and sustainable performance activities of manufacturing and service sampled firms.	⊕⊕⊕○ Moderate	Sample size and description	Theoretical relevance Methodology
Wu, X., Liu, J., Fu, B., Wang, S., Wei, Y., & Li, Y. (2022)	There were more synergies than trade-offs among SDGs, presenting a promising future to achieve all 17 SDGs simultaneously successfully.	⊕⊕⊕○ Moderate	Lack of mention of limitations Theoretical framework	Theoretical relevance
Zhou, M., Govidan, K., & Xie, X. (2020)	Fairness perceptions formed in procedural and distributive perception positively impact embeddedness in the sustainable supply chain, while they do not significantly affect KS between partners.	⊕⊕⊕⊕ High	Sample size Generalization difficulties Self-reporting bias	Theoretical relevance Theoretical framework Methodology Discussion Conclusions

The main focus of this systematic review was to determine the role of KS in implementing Sustainable Development Goals. However, while SDG research has been growing since 2015 (Meschede, 2020), only seven of the 22 reviewed articles directly regarded the impact of KS on such issue. Albeit few, research shows that, as there are synergies between SDGs, their achievement in the future is promising (Wu et al., 2022). In addition, Kawakubo & Murakami (2020) propose developing and implementing a “Local SDG Platform” to connect stakeholders, thus achieving the SDGs. This aligns with the need to ensure effective knowledge-sharing behavior regarding SDG-related information – to guarantee and facilitate their implementation (Igbinoia & Osuchukwu, 2018). Results from the review also stated that the SDG implementation is more relevant and useful in specific settings, for example, low and medium-income countries (Cerf, 2019).

While the majority of the investigation concerning SDGs mentions them in a general matter, some of the authors specify their research. For example, Markopoulos & Gann (2021) conclude that, at an organizational level, a bilateral knowledge-sharing model can transform profit-generating activities into social responsibility activities, therefore achieving four SDGs – SDG 1 (No Poverty), SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), and SDG 9 (Industry, Innovation, and Infrastructure). By investigating the interactions among the 17 SDGs, Bellantuono et al. (2022) state that the strongest connections are between Goal 9 and the following SDGs: 17 (Partnership for the Goals), 12 (Responsible Consumption and Production), 13 (Climate Action), 8 (Decent Work and Economic Growth), and 14 (Life Below Water). The weakest connections involve Goal 5 (Gender Equality) and Goals 6 (Clean Water and Sanitation) and 7 (Affordable and Clean Energy).

The remaining studies of our analysis illustrate that KS is essential to the sustainability and efficacy of an organization, which, in turn, can be theorized as contributing to the achievement of the SDGs, especially those related to the economy, sustainability, working conditions, and innovation. However, these studies do not focus on a specific SDG or analyze its implementation in a given organization. Instead, they focus either on the contribution of KS to sustainable practices within the organization or on the antecedents, enablers, and effects of KS among stakeholders. Despite the advancements made, as of 2020, results still needed to reach the expected levels, mainly due to the lack of an integrated knowledge management strategy (Ricardo, 2020). However, more and more investigations have been carried out since then.



Previous to actual KS, there is a knowledge-sharing intention, which is influenced by personal attitude, subjective norms, and perceived behavioral control (Abdillah et al., 2018; Negara et al., 2021). Additionally, perceived environmental concerns and self-efficacy influence knowledge-sharing intention (Negara et al., 2021).

The results show that the organizational environment contributes to KS and sustainability among employees by building trust, communication, and reward systems, as Cormican et al. (2021) highlighted. Based on communication, for example, Leith & Yerbury (2015) concluded that sharing professional and/or disciplinary expertise on rules and ways of working was the most common primary activity. This is complemented by Muñoz-Pascual et al. (2020), who state that more robust internal and external Human Resources Management mechanisms promote inter-organizational KS, affective commitment, and a collaborative-oriented HRM system within the organization and its employees. The organizational environment is also essential as it influences the knowledge creation context, affecting actual KS and corporate sustainability (Park & Hong, 2022).

Naicker et al. (2017) found a specific example of the importance of the employee's financial situation and sense of job security, as employees are reluctant to share their knowledge when there is no basis of trust between employees and management. Alongside trust, the perception of fairness positively impacts involvement in sustainable practices (Zhou et al., 2022).

Although the main focus of this study concerns KS in organizations, it is essential to note that the practice of KS benefits from being implemented, or at least mentioned, at a previous level, such as, for example, at the University level. Moreover, per Naderi et al. (2022), KS at a university level provides a better opportunity for students to develop and improve sustainable entrepreneurship competencies, an advantage for the future.

It is worth mentioning that, given today's technological advancements, digital KS is gaining attention as a research focus, particularly its antecedents. For example, in addition to face-to-face KS, digital KS affects innovative work behavior and organizational innovation capability (Nugraha et al., 2021). Not only that, but De Bernardi et al. (2019) compared online to on-site KS and found that while the former influences customers to change to a more sustainable purchasing and consumption behavior, the latter only affects purchasing behavior.

In a broader light, as KS is a part of KM, Briceño & Santos (2019) discuss the best framework to be applied to achieve the 2030 Agenda. Furthermore, knowledge management has a different

facet known as green knowledge management, which has implications for KS as research shows that it strengthens green innovation and an organization's sustainable performance (Wang et al., 2022).

Of the 22 reviewed articles, 11 mentioned KS and Sustainable Development Goals. Table 3 summarizes knowledge sharing's contribution to achieving SDGs. Nine of these articles investigated SDGs from a broader perspective, concluding either all SDGs (without specifying implications for each SDG) or about the SDGs in general.

The primary takeaway is that KS has an impact on the achievement of the SDGs. To do so, it is essential to create frameworks that can be adapted to each country/region. This can be ensured by following Kawakubo & Murakami's (2020) approach – creating a platform containing SDG indicators and their state on all levels, allowing and encouraging every stakeholder to share information regarding this issue.

There were fewer articles and investigations, in general, focusing on specific SDGs. SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation, and Infrastructure) were the most mentioned. The Third Goal (Good Health and Well-Being) was the only one with a whole article focused on it.

Although there was not a broad scope of research regarding only the role of KS on the SDGs' achievement, there were investigations focused on the role of KS on sustainability, which can indirectly lead to the achievement of the SDGs, as can be observed in Table 4.

Several studies reveal various types of sustainability within organizations, such as sustainable competitiveness, behaviors, and performance. Additionally, trust was the most mentioned organizational factor regarding implementing sustainable practices.

Change must be initiated at a management level to achieve organizational sustainability. Only then can it be expected and encouraged by the remaining employees (Muñoz-Pascual et al., 2020). One study in particular supports education for sustainability, i.e., the authors consider it crucial for University students to start developing their sustainable entrepreneurship competencies before entering the workforce (Naderi et al., 2022).

Following Tables 3 and 4, Table 5 concerns the contributions of each article, limitations, practical implications, and recommendations for future research. Note that not all studies mention all categories.

**Table 3***Knowledge sharing contribution to the achievement of the Sustainable Development Goals*

<b>References</b>	<b>SDG</b>	<b>KS's contribution to SDG</b>
Bellantuono, L., Monaco, A., Amoroso, N., Aquaro, V., Lombardi, A., Tangaro, S., & Bellotti, R. (2022)	All	While it does not mention a direct (practical) contribution, this article broadens the scope of literature regarding KS and SDGs, providing vital information.
Bimbe, N., Brownlee, J., Gregson, J., & Playforth, R. (2015)	General	KS can have a significant impact on the benefits of the development process.
Briceño & Santos (2019)	All	The completed KMEM will help sort and highlight what information is handed on each of the eight dimensions of knowledge management frameworks.
Cerf, M. (2019)	SDG 3	This SDG implementation framework can be adapted and refined over the SDG era as new knowledge is generated, advancing in meeting national, regional, continental, and global targets.
Igbinovia, M., & Osuchukwu (2018)	General	A significant relationship between social interaction and SDGs actualization.
Kawakubo, S., & Murakami, S. (2020)	General	Effective use of the platform and local SDG indicators are expected to support connecting stakeholders, understanding their actual local situations, and sharing information, leading to achieving the SDGs.
Markopoulos, E., & Gann, E. L. (2021)	SDG 1 SDG 4 SDG 8 SDG 9	Employ locals for product development efforts. Locals receive a solid and practical business education. Corporations can understand how to employ local youth, increasing their opportunities and economic growth. Foster innovation, industrial diversification, and growth
Meschede, C. (2020)	General	It is helpful to refer to the SDGs to facilitate KS directly.

Negara, D. J., Ferdinand, F., Meitiana, M., Astuti, M. H., Anden, T., Sarlawa, R., & Mahrita, A. (2021)	General	There is a significant relationship between organizational climate and SDGs, and there is a significant relationship between social interaction and KS.
Ricardo, M. A. (2020)	General	It has involved linking the UN member states' national strategies and development plans with the SDGs and orienting critical activities of all the organizations that make up the UN system regarding the SDGs.
Wu, X., Liu, J., Fu, B., Wang, S., Wei, Y., & Li, Y. (2022)	General	To balance sustainable development across different regions, regions in different SDG bundles may collaborate in complementary ways to holistically achieve sustainable development.
Zhou, M., Govidan, K., & Xie, X. (2020)	SDG 8 SDG 9 SDG 12 SDG 13	There is a meaningful relationship between embeddedness and KS. Subsequently, the positive effect of KS on green innovation is proved. KS plays a critical mediating role in stimulating green innovation in the sustainable supply chain via the antecedent of embeddedness.

**Table 4***Knowledge sharing contribution to sustainability*

References	KS's contribution to sustainability
Abdillah, M. R., Lin, C-T., Anita, R., Suroto, B., & Hadiyati (2018)	Importance of understanding a model on encouraging the KS behavior.
Cormican, K., Meng, C., Sampaio, S., & Wu, Q. (2021)	Managing organizational factors is critical for the improvement of an organization's overall effectiveness and for the enhancement of its sustainable competitiveness.
De Bernardi, P., Bertello, A., & Venuti, F. (2019)	Online KS positively affects sustainable behavior change in purchasing and consumption practices, while on-site KS only significantly affects change toward more sustainable purchasing behavior.
Leith, D., & Yerbury, H. (2015)	Decision-makers need to be aware of the importance of involving sustainability champions in the organization's projects.
Muñoz-Pascual, L., Galende, J., & Curado, C. (2020)	A collaboration-oriented Human Resources Management system always positively affects KS for Sustainability-Oriented Performance.
Naderi, N., Monavvarifard, F., & Salehi, L. (2022)	KS provides a better opportunity for students to improve sustainable entrepreneurial competencies and all they incite.
Naicker, V., Le Roux, S., Bruwer, J., & Bruwer, J-P. (2017)	Since South African SMMEs make limited use of KS initiatives, it becomes incumbent on managers to support the critical co-existence of both culture and trust in firms that support the willingness of employees to share knowledge to enhance the overall sustainability of their respective firms.
Nugraha, A., Irwansyah, & Purwadi (2021)	Digital KS can influence innovative work behavior and organizational innovation capability in government organizations.
Park, Y-C., & Hong, P. (2022)	KS with suppliers in the supply chain positively impacts corporate sustainability.
Wang, S., Abbas, J., Sial, M. S., Álvarez-Otero, S., & Cioca, L-I. (2022)	Green knowledge management is a significant positive predictor of sustainable corporate development.

**Table 5***Contributes, limitations, practical implications, and future research*

<b>References</b>	<b>Contributes</b>	<b>Limitations</b>	<b>Practical implications</b>	<b>Future research</b>
Abdillah, M. R., Lin, C-T., Anita, R., Suroto, B., & Hadiyati (2018)	Sustain and extend the Theory of Planned Behavior within a knowledge management context to understand the factors that encourage knowledge-sharing behavior.	The variables were measured through self-reporting. The results could not be generalized to other sectors. The results may not be confirmed when examining the same sector in different countries. Additional factors should be considered to explore the model of knowledge-sharing encouragement model.	Management should support employees and create an innovative climate and norms that build positive attitudes in organizations.	Include personal and environmental factors in the future analysis of this model.
Bellantuono, L., Monaco, A., Amoroso, N., Aquaro, V., Lombardi, A., Tangaro, S., & Bellotti, R. (2022)	Creation of a network-based approach to investigate the complex system of interactions among the 17 SDGs.	N/A	N/A	N/A
Bimbe, N., Brownlee, J., Gregson, J., & Playforth, R. (2015)	N/A	N/A	Major efforts must be made within the SDG timeframe to access the full range of views of the knowledge required for effective development outcomes. Data from a broader range of sources needs to be assessed.	Debate what knowledge and enabling systems are needed now to support SDGs. Examine the role of digital technologies in SDG outcomes.

Briceño & Santos (2019)	The model is not exhaustive or detailed for each SDG. Not all dimensions were included. The systematic review was done only under a single database. Lack of studies with the same objective as the present one, as it limits comparisons.	Some SDG areas deserve future attention and deep implementation with KM frameworks.	Apply the model to each SDG and other sectors to improve the evaluation process. Expand the databases.	Apply the Knowledge Spiral of Nonaka and Takeuchi over the SDGs using the KMEM model to assess the importance and linkage between the four-knowledge conversion forms on the UN 2030 Agenda. Apply the KMEM model in other sectors and contexts. Compare the KMEM model with other knowledge management models. Consider and add more components and frameworks to the KMEM model.
Cerf, M. (2019)	An agile SDG framework has been introduced to implement the integrated and interdependent SDGs, focusing on SDG 3 as a goal and UHC as a target. This SDG implementation framework is particularly relevant and helpful in LMIC settings that are resource constrained to guide advancement.	N/A	Robust alignment of the integrated and interdependent SDGs environment-economic-health nexus is required to enable implementation.	Apply the framework to other SDGs.
Cormican, K., Meng, C., Sampaio, S., & Wu, Q. (2021)	This study extends the literature on knowledge management by exploring whether and how key organizational factors impact KS.	The conclusions are restricted in their generalizability.	Heps scholars and professionals pay more attention to relevant factors and processes. Assists managers in concentrating on specific sustainable interventions.	Analyze factors in a broader range of scenarios. More in-depth examination of the factors analyzed. Adapt the questionnaire items to other contexts. Additional methods would be helpful. Longitudinal research design.

De Bernardi, P., Bertello, A., & Venuti, F. (2019)	This study contributes to social capital theory and knowledge-based view by expanding the literature by applying these two well-known theories to a new field, such as FAs.	The research was conducted only on a national basis. All Italian FAs were considered collectively. This study is based on behavior change at a given moment.	N/A	Extend the data collection out of Italy. Control for regional differences. Explore the data evolution over time. Analyze KS enhanced by blockchain within food systems.
Igbinovia, M., & Osuchukwu (2018)	Explores the contribution of attitude, perceived behavioral control, and subjective norm to the variance in SDGs actualization among library personnel.	N/A	N/A	N/A
Kawakubo, S., & Murakami, S. (2020)	Introduces an outline and the Development methodology of an online “Local SDGs Platform” that enables stakeholders to register, search and share their efforts and best practices toward achieving the SDGs.	50% of global SDG indicators were found to be challenging to use locally in the Japanese context. This percentage will be higher in places where national public statistical databases are not well established.	Although the platform and local SDG indicators were initially developed for Japan, the framework and its development methodology are universally applicable and relevant in any region or country.	Overcome the lack of high-resolution data.
Leith, D., & Yerbury, H. (2015)	Acknowledges the central importance of context or place in social life.	N/A	N/A	Need for further research on teams engaged in sustainable development in other settings while exploring their practices and investigating how emotions shed light on those practices.
Markopoulos, E., & Gann, E. L. (2021)	This paper extends the Democratic New Product Development model to make it valid for its application to developing economies.	Impact under different circumstances related to each country's social, economic, and political situations.	The proposed model provides a way for the private sector to significantly contribute towards achieving the SDGs without dependence on governmental actions.	Explore the differences between different developing markets and the differences between emerging and developing countries.



Meschede, C. (2020)	Assessment of the current status of research on the SDGs and demonstration of research gaps as well as the potential for further collaboration.	The databases do not cover every research item. The coverage between databases differs notably, but both show an over-representation of documents from English language journals. The records from 2019 are not complete. Searching “Sustainable Development Goals” does not include documents dealing with subtopics of sustainable development that do not directly refer to the SDGs but still support progress towards them. The abbreviation “SDG” was not included in the research.	If all research supporting the goals were directly linked to the SDGs, KS could be facilitated, and progress toward the goals would be supported. SDG 3 is well represented in research addressing the SDGs, while SDG 1, 5, 11, or 16 are barely represented.	Focus on the unique role of open access for the SDGs and other solutions for further facilitating KS on the SDGs. More research is necessary to map SDG-related research adequately. Practical solutions to broaden the network and foster collaboration are crucial. Analyze the types of funding bodies.
Muñoz-Pascual, L., Galende, J., & Curado, C. (2020)	Development of both KM and HRM literature.	It is necessary to consider aspects that support but also aspects that constrain KS. The sample size is small.	The success of KM initiatives is grounded on having employees and external partners prepared to share their knowledge for new opportunities.	Future studies may involve different variables. Future studies on other countries could extrapolate the present conclusions. Longitudinal studies could provide evidence of the causal relationships and interactions among different variables, contexts, and levels for KS.

Naderi, N., Monavvarifard, F., & Salehi, L. (2022)	This study fills the research gap regarding factors affecting the KS process related to SEC in universities.	The influential factors identified might be criticized. Due to cultural differences, some of the relationships outlined in the structural model might not be meaningful in all universities. The COVID-19 pandemic led educational activities to go online, delaying data collection and analysis.	The causal relations mentioned can contribute to developing theoretical models related to the theory of planned behavior. This study's findings suggest that university culture is of great significance in all university activities, including the development of KSP and the improvement of SEC, both directly and indirectly.	N/A
Naicker, V., Le Roux, S., Bruwer, J., & Bruwer, J-P. (2017)	The importance of KS, as a part of KM, was highlighted in this paper.	N/A	It becomes incumbent on managers to support the critical co-existence of both culture and trust in firms that support employees' willingness to share knowledge to enhance the overall sustainability of their firm.	Analyze whether the sustainability of South African SMMEs is negatively or positively influenced by their implemented KS initiatives.
Negara, D. J., Ferdinand, F., Meitiana, M., Astuti, M. H., Anden, T., Sarlawa, R., & Mahrita, A. (2021)	Dissemination of SDGs by investigating the predictors of public sector employees' KS behavior towards SDGs using the planned behavior approach.	N/A	This study would be useful for policymakers to build government policies by adopting sustainable behavior based on the theory mentioned. This research has provided insight into the important role of attitudes, subjective norms, perceived behavioral control, and perceived environmental concern.	More variables can be added to the model from other theories and fields, namely economic, environmental, and social factors.

Nugraha, A., Irwansyah, & Purwadi (2021)	This study led the digital KS, innovation works behavior, and organizational innovation capacity into a part of SDGs.	These findings can not be generalized to employees in other government organizations. Attitudes vary across national cultures. Subcultures within the national culture may limit the application of the findings to other countries or regions. Self-reporting bias.	This study can be a reference for leaders of government organizations to improve employee performance through the digital knowledge-sharing model.	Extending this study to a larger sample with more representation across government organizations will confirm this study's findings.
Park, Y-C., & Hong, P. (2022)	Provides a conceptual framework for sharing economy practices in general, presents a specific research model in a Japanese context, and reports the qualitative case study findings, discussing results with statistical validation.	Small sample size. Generalizing the findings of this study requires caution.	Business leaders are more likely to experience the success of their sharing economy firms by paying attention to exploitative knowledge-sharing practices for innovative problem-solving of current needs.	Refine the initial survey questionnaire. Conduct a comparative study with European and American companies. Examine diverse forms of sharing economy in Asian contexts, including emerging economies. Conduct a comparative survey between countries.
Ricardo, M. A. (2020)	Explores and provides information on a subject that has not been widely studied.	N/A	N/A	N/A
Wang, S., Abbas, J., Sial, M. S., Álvarez-Otero, S., & Cioca, L-I. (2022)	This research contributes to the rare body of knowledge about the relationship between green knowledge management, green innovation, and CSD.	Focused solely on middle and upper management data.	Policymakers should link green knowledge management initiatives with the overall business policies to accelerate their business and environmental performances.	Gradual convergence between knowledge management and green theory. Incorporation of data from multiple sources. Expanding the scope of study to other countries.

Wu, X., Liu, J., Fu, B., Wang, S., Wei, Y., & Li, Y. (2022)	The SDGS bundles could assist in assessing and understanding the SDG progress.	N/A	SDG bundles can further inform targeted sustainability actions for regions in specific bundles and promote collaborations between regions with different bundles by identifying regions' strengths and weaknesses in achieving all SDGs.	Focus on the complex mechanisms behind the trade-offs and synergies among SDGs and find solutions to address conflicts among them.
Zhou, M., Govidan, K., & Xie, X. (2020)	This study contributes to the sustainable development goals (SDGs) such as Decent Work and Economic Growth (SDG 8); Industry, Innovation, and Infrastructure (SDG 9); Responsible Consumption and Production (SDG 12), and Climate Action (SDG 13).	This research only examines embeddedness at the overall level as an essential predictor of green innovation of the sustainable supply chain in sampled manufacturing firms. This research does not consider the moderating effect related to internal capacity.	N/A	Focus on identifying the moderation relevant to the studied context and exploring different moderators. Examine the relationship of capital from networks, green innovation, and performance or competitive advantages.

All 22 offer theoretical contributions, mainly by investigating new topics and/or in different contexts or further developing previously studied topics.

Nine of the studies did not mention limitations. The authors mention the main limitations of self-reporting bias, sample size, lack of data, and generalization difficulties. Regarding generalization, it pertains to both populations and contexts. Even different regions within the same country prove to be a challenge. Several studies are too specific in their investigative context.

The 16 articles that mentioned practical implications generally provided new ways for management to better support employees by investigating different factors, which, in turn, benefits organizational needs. Some practical implications also provided new models that start and develop the implementation of the SDGs.

As shown in Table 2, we evaluated the quality of the reviewed articles. Most of them (12) rated at a moderate level. We classified four of them as high and another four with low. Two of them were considered deficient (very low) in quality. The quality of the articles has a very noticeable impact on the quality of a review, and it has a positive influence on this study globally.

### **Discussion**

Regarding knowledge management, Costa's (2020) results show that it is essential for achieving the SDGs. Additionally, in their systematic review, KS was the most mentioned process when investigating the achievement of the SDGs. Following that, this study deepens the scope of research by focusing on this knowledge management process – knowledge sharing.

This study's primary focus is the role of KS in implementing the UN's 2030 Agenda Sustainable Development Goals. As there is not a vast body of literature regarding this issue, we broadened our scope of research by also investigating the role of sustainability in the same achievement. Specifically, organizational sustainability can be attained via KS among stakeholders. This means that, albeit indirectly, KS affects sustainability, which, in turn, contributes to the achievement of SDGs – even if not all, at least SDGs related to working conditions and economy (Goal 8), industry (Goal 9), and sustainability in general (Goal 11).

Despite the literature gap regarding the role of KS in achieving SDGs, the reviewed articles provide an essential first step in the investigation's direction. As a result, researchers have a consensus about the importance of KS in developing practices to achieve the SDGs.

The results of this systematic review show a research prevalence in developing countries. This could be mainly due to the greater focus and attention previously given to European countries, not necessarily in KS, but in developing SDGs to the detriment of the rest of the globe. This could mean that developing countries are just starting to invest in their development, as they face more significant challenges than developed countries regarding SDGs. This corroborates the results found by Costa (2022) regarding knowledge management, only with knowledge sharing.

Another result that can be observed is the level of analysis. The most common was the organizational level, followed by the individual level. This prevalence showcases organizations' interest in developing knowledge-sharing practices that can contribute to achieving the SDGs, as they benefit from a regional and national level of implementation (Martins et al., 2019).

One interesting result is the grouping of SDGs. We reviewed two studies in which the investigation was the interaction of SDGs. While Kawakubo & Murakami (2020) research the development and launching of a local platform, Wu and colleagues (2022) propose the use of bundles (i.e., regions with similar performances on all SDGs) to achieve at least some of the SDGs. In the first study, Kawakubo & Murakami (2020) point out that the SDGs support cities in discovering their strengths; thus, integrating targets, goals, and indicators helps cities consider and implement local joint plans and measures. Furthermore, the proposed platform enables stakeholders to enter and retrieve information regarding initiatives, efforts, and practices to achieve the SDGs, i.e., all stakeholders work together for the same goal while helping one another. As SDGs benefit from regional initiatives, this development will contribute to solving local problems through the creation of innovation. This study occurred in Japan and found that only 5% of SDGs' indicators could be used without modification. Although it seems like a bad outcome, it is a great way to show that while each country/region will have to adapt the SDGs to each context, the generality of the SDGs can include (almost) every country/region.

Complementary to the previous results, Wu et al. (2022) also propose a way to monitor progress toward achieving the SDGs by compiling information and reviewing information regarding past and current conditions and interactions among SDGs. In this sense, the authors research the use of bundles to identify the strengths and weaknesses of different regions. This way, site-specific policies can be better developed to reduce trade-offs and to increase synergies among

SDGs, thus achieving them (Wu et al., 2022). These two studies (i.e., regarding the platform and the bundles) are the best overview of how KS can impact the achievement of the SDGs, as it is the basis for the two ideas to function. Furthermore, it is an innovative way of thinking beyond organizations, allowing for a wider variety of dialogues and ideas exchange and broadening the scope of individuals involved in the decision-making process by reaching the population and not just relying on a given organizational management.

As the organizational level of analysis is the most common among the reviewed articles, it makes sense that the most mentioned Sustainable Development Goals are Goal 8 (Decent Work and Economic Growth) and Goal 9 (Industry, Innovation, and Infrastructure). Additionally, as there is a more significant focus on developing economies, Markopoulos & Gann (2021) developed a Bilateral Knowledge-Sharing Model to connect multinational corporations with local knowledge. This model has several levels, enabling a two-sided learning experience between the organization and individuals. In the end, the organization develops a better understanding of the countries' markets, adjusting practices to its needs. The individual has the opportunity to learn organizational processes and essential business assets that can lead to further employment. By using this model, organizations can transform solely economic activities into corporate socially responsible activities, achieving four extremely important SDGs in a developing context – SDG 1 (No Poverty), SDG 4 (Quality Education), SDG 8, and SDG 9 (Markopoulos & Gann, 2021). This model is also a great example of how KS can work and how essential it is to find new ways to keep developing and implementing it, especially in these contexts.

Zhou et al. (2020) add to the results by stating that there is a positive relationship between embeddedness and KS, which also influences green innovation. This means that KS mediates green innovation with embeddedness as an antecedent. Besides contributing to organizational sustainability, this study also corroborates SDGs 8 and 9. This study correlates with the findings of Wang et al. (2022), as the more an organization can manage green knowledge, the more it can sustainably innovate.

It is interesting to note that, according to Costa (2022), knowledge management generally plays a principal role in achieving SDG 3 (Good Health and Well-Being). On the other hand, when we focus on knowledge sharing, the most mentioned SDGs are 8 and 9. One of the reasons for this to happen is the focus of the investigation. Knowledge management, a broad concept, can be developed and researched in more contexts than knowledge sharing. As for now, KS is

mainly focused on an organizational level, as KM is regarded as inter-organizational (Costa, 2022), thus reaching larger samples and more diversified ones.

It is possible to notice that few studies directly analyze KS's contribution to achieving the SDGs. This is a common occurrence as it also happens regarding a general concept such as knowledge management (Costa, 2022). This could be because, although still theoretically relevant, sometimes authors do not connect their work on KS with the SDGs, and vice-versa (Bellantuono et al., 2022; Meschede, 2020; Ricardo, 2020).

Although some of the effects of KS on achieving the SDGs are already apparent, there is still a vast scope of research to be investigated, which is understandable given this topic's novelty. One way to get past this limitation is to focus on the literature about sustainability. While it is not SDG-related per se, sustainable organizational practices can indirectly aid in achieving Sustainable Development Goals, as we observed in some of the reviewed studies.

By focusing on organizational enablers, we can reach sustainable knowledge-sharing practices. According to Cormican et al. (2021), trust is one of the most critical aspects of the relationship between organizational members, which is consistent with a previous study by Naicker et al. (2017). Trust allows one to accept others' opinions better, and it engages cooperative behaviors, i.e., knowledge sharing. Alongside trust, communication provides an environment conducive to exchanging values, norms, and culture. Reward systems also impact KS as they motivate employees to share knowledge since it takes time and energy – this is contradicted by Negara et al. (2021), which could mean that it needs further investigations. Another positive impact often ignored is the role of leadership. A team leader must be able to facilitate the flow of knowledge and lead by example.

In addition to organizational enablers, it is essential to denote individual aspects that influence KS, precisely KS intention. For example, research shows that personal attitude, subjective norms towards knowledge-sharing behavior, perceived behavioral control, perceived environmental concern, and self-efficacy all influence knowledge-sharing (Negara et al., 2021). This is consistent with the previous findings by Abdillah et al. (2018).

Although it is possible to establish a connection between KS and organizational sustainability, linking that to achieving SDGs is not prudent since most studies regarding the former connection cannot be generalized outside a corporate environment.



However, we can understand the role of KS in achieving the SDGs, albeit still with minimal research. Nonetheless, the existing literature provides a firm basis for developing research regarding improving knowledge-sharing practices and their adaptation to better fit each country's needs regarding Sustainable Development Goals, targets, and indicators. If the UN manages to disseminate this idea across all member states, we can create an even more robust set of goals for the future while relying on a sense of cooperation and sharing.

It is important to note that the quality of the articles in this review positively impacts the quality of information and subsequential conclusions (cf. Table 2). In this specific case, given that most studies had either a high or moderate classification, it is an advantage to our study. Furthermore, while all studies had theoretical relevance, some stood out in terms of practical implications and considerations for future research. On the other hand, one of the leading general limitations was the sample size, which was often considered too small. Again, this could be due to the novelty of this research topic and its main focus on organizations, as it is sometimes difficult to gather larger samples in this context.

### **Conclusion**

The present study analyzed knowledge sharing's role in achieving the SDGs and Sustainability. To do so, we systematically reviewed the literature comprising 22 articles.

We concluded that KS is an essential factor regarding our research question. By focusing on just one of the KM processes, we could better focus on more specific results rather than on a broader concept. Furthermore, it became apparent that developing countries are at a different level than developed countries, thus explaining the wider variety of research on the former than the latter.

Our study offers relevant contributions by providing an overview of the literature on KS, its involvement in the Agenda 2030, and its role in sustainable organizational practices. With this, our review can be a starting point to investigate other contexts. Our adaptation of the GRADE protocol is also noteworthy as it is not common practice in this type of research, increasing our study's innovative value. Considering one of the limitations of Costa's (2022) research, our study used more than one database, which proves to be an advancement. Using "grey literature" and not defining exclusion criteria is essential as there is not much research on these topics.

However, our study still has some limitations. The main one refers to the lack of literature surrounding this topic. Another limitation is the existing studies' lack of diversity in contexts and populations.

To overcome these limitations, future research could focus even more on developing countries. Furthermore, it could be helpful to perform this kind of research on developed countries, as there were few studies to come up in our search about them. Therefore, like Costa (2022), most studies were conducted in developing countries. Additionally, future research could focus on other KM processes to assess if the results are similar or if there is another process more advanced than KS. Further investigations should also try to replicate a few reviewed studies on different regions/countries to diminish generalization difficulties while striving to adapt and thus implement more KS practices. This may lead to more research on the achievement of the SDGs.

To better understand how we should implement KS practices in achieving the SDGs and sustainability, more investigation could be done in countries with a high index of targets and indicators. This way, we can understand what works and what does not while adapting to each country's needs.

### **Declaration of Competing Interest**

The authors have no conflicts of interest to disclose.

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