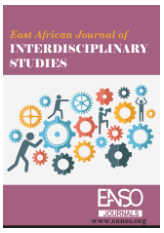

East African Journal of Interdisciplinary Studies
eajis.eanso.org
Volume 8, Issue 1, 2025
Print ISSN: 2707-529X | Online ISSN: 2707-5303
Title DOI: https://doi.org/10.37284/2707-5303

EAST AFRICAN NATURE & SCIENCE ORGANIZATION

Original Article

Strategic Science Communication and Technology: Fostering Sustainable Development Through a Rapid Review

Dr. Ann Gaceri Kaaria, PhD[1*]

[1] Kiriri Women's University of Science and Technology, P. O. Box, 49274-00100, Nairobi, Kenya.
*Author's Email: ann.gaceri.k@gmail.com

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

Date Published:

07 February 2025

Keywords:

Strategic Science Communication, Science Policy, Sustainable Development, Digital Communication.

ABSTRACT

Global challenges like COVID-19 and climate change demand a robust, interdisciplinary, and international scientific response. Collaborative efforts are essential to address these issues, requiring solutions that transcend national and disciplinary limits. However, the rapid technological advancements of the Fourth Industrial Revolution also introduced new economic, social, and geopolitical hurdles that impeded scientific collaboration. To address these, the Global Future Council on Scientific Collaboration is developing innovative partnerships and strategies to foster international cooperation in research. Their work includes assessing the current state of global collaboration and proposing resilient frameworks to sustain these partnerships amid evolving global risks. Moreover, promoting scientific communication and integrating scientific insights into policymaking is critical to enhancing preparedness for future crises. The COVID-19 pandemic underscored the need for continuous dialogue between scientists and policymakers to build trust and integrate evidence-based solutions. With initiatives like open science and ethical data-sharing frameworks, the scientific community is working to enhance transparency, accessibility, and global cooperation. Through these efforts, science can play a pivotal role in driving sustainable solutions and achieving the Sustainable Development Goals (SDGs). In order to bridge the gap between research and its application, strategic scientific communication is essential, especially while working towards the Sustainable Development Goals (SDGs). By emphasising efficient information transmission, stakeholder engagement, and interdisciplinary collaboration, this rapid review explores how strategic scientific communication improves research efficiency and effect, particularly in the social sciences. In order to emphasise the tactics, advantages, and difficulties of using scientific communication tools to boost research productivity, influence policy, and address urgent global sustainability issues, the review synthesises recent literature. Central to strategic science communication is its capacity to clarify complex scientific information for diverse audiences, including policymakers, practitioners, and the public. Science communicators increase the possibility of well-informed decision-making that supports sustainable development goals by using customised messages, eye-

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

catching imagery, and easily understood language to make research findings more relatable and intelligible. Consistent with sustainable development objectives, strategic science communication acts as a stimulant for the impact of research. In order to optimise research contributions to sustainability, this quick overview emphasises the necessity of continuous investment in scientific communication infrastructure and expertise.

APA CITATION

Kaaria, A. G. (2025). Strategic Science Communication and Technology: Fostering Sustainable Development Through a Rapid Review. *East African Journal of Interdisciplinary Studies*, *8*(1), 108-119. https://doi.org/10.37284/eajis.8.1.2680.

CHICAGO CITATION

Kaaria, Ann Gaceri. 2025. "Strategic Science Communication and Technology: Fostering Sustainable Development Through a Rapid Review". *East African Journal of Interdisciplinary Studies* 8 (1), 108-119. https://doi.org/10.37284/eajis.8.1.2680.

HARVARD CITATION

Kaaria, A. G. (2025) "Strategic Science Communication and Technology: Fostering Sustainable Development Through a Rapid Review", *East African Journal of Interdisciplinary Studies*, 8(1), pp. 108-119. doi: 10.37284/eajis.8.1.2680.

IEEE CITATION

A. G., Kaaria "Strategic Science Communication and Technology: Fostering Sustainable Development Through a Rapid Review", *EAJIS*, vol. 8, no. 1, pp. 108-119, Feb. 2025.

MLA CITATION

Kaaria, Ann Gaceri. "Strategic Science Communication and Technology: Fostering Sustainable Development Through a Rapid Review". *East African Journal of Interdisciplinary Studies*, Vol. 8, no. 1, Feb. 2025, pp. 108-119, doi:10.37284/eajis.8.1.2680.

INTRODUCTION

A coordinated, interdisciplinary, and international scientific response is essential to address global challenges like COVID-19 and climate change. These complex issues require collaborative solutions that go beyond national and disciplinary boundaries. While the Fourth Industrial Revolution has fueled rapid technological advancement, new economic, social, and geopolitical obstacles are emerging, which complicate efforts to sustain and enhance scientific collaboration. The Global Future Council on Scientific Collaboration is committed to exploring innovative forms of public-private partnerships and finding solutions to counter these challenges. The Council's key initiatives include conducting a comprehensive assessment of the current state of global scientific collaboration and developing actionable strategies to safeguard and foster international research partnerships. This work will help build resilient frameworks that can sustain scientific collaboration amid evolving global risks, ensuring that research efforts are able to adapt and thrive in a complex and interconnected world. By identifying both the barriers and the opportunities in global collaboration, the Council aims to support a future in which science and innovation can effectively contribute to solving the world's most pressing issues (Weforum, 2022; Rautela, 2024).

What if we could be prepared for a crisis before it strikes—and even prevent it? Science is essential to achieving this, but to improve future preparedness and resilience, we must rethink how scientists and policymakers engage. The COVID-19 pandemic has highlighted the need for closer collaboration, yet scientists are often neither recognized nor incentivized to dedicate time to relationship-building with policymakers. This lack of engagement frequently sidelines science from key discussions about future challenges. Imagine mobilizing one million scientists to contribute 100 million hours annually to bridge this gap (Ekwebelem et al., 2020). The pandemic underscored the critical role of science in guiding complex decisions in uncertain, rapidly changing situations. While scientific input is now widely accepted as vital to policymaking, effective integration requires time and sustained dialogue. For decision-making to be genuinely informed by scientific data, theories, and insights, continuous conversations between scientists and global leaders

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

are essential to build strong, trust-based networks. However, scientists often face significant barriers to engaging with policymakers, not least the pressure to meet conventional research productivity measures (Bennett et al., 2019; Besley et al., 2019). As a result, the scope of scientific insight in policymaking risks falling short, and we miss the diverse perspectives from the scientific community needed to address today's complex, global challenges. Ensuring a future where science plays a central role in policy decisions will require institutional support for long-term, interdisciplinary partnerships, ultimately fostering a more resilient and informed world (Weforum, 2022; ScienceEurope, 2024).

Achieving a future where science and policy are fully integrated is neither quick nor easy. Building meaningful relationships takes time, depends on context, and often lacks immediate, measurable outcomes. Progress requires rethinking how we measure and reward scientific contributions (Rautela, 2024). The DORA initiative and Project TARA have raised awareness about the limitations of rigid, narrow metrics in evaluating scientific excellence, sparking a global conversation on moving forward. This dialogue needs to continue, be actively championed, and receive greater attention.

Importantly, this conversation must address the real-world impact of science, both direct and indirect, and explore ways to change current systems to support the next generation of scientists. Enabling young researchers to engage in policy discussions not only enriches decision-making but also empowers science to contribute meaningfully to a more sustainable and equitable world. By fostering opportunities for science-informed policy, we bring scientific insights closer to those responsible for creating a better future. If one million scientists—roughly 10% of the world's active scientific workforce in public service—each committed just two hours per week to engaging with society and policy, this would equate to 100 million hours annually dedicated to fostering science-informed decision-making. This modest 5% of their working time could significantly enhance the integration of scientific insights into policy, creating a powerful force for addressing complex global challenges. By devoting this time to meaningful engagement, scientists could contribute to a future where evidence-based solutions are central to global governance and societal progress. The Stick to Science campaign calls for greater scientific collaboration to address global challenges. Over 240 prominent scientists, including 12 Nobel laureates and three Fields medalists, have signed on as "first signatories," highlighting the campaign's credibility and urgency. Notable supporters include Pascal Lamy, former EU commissioner and ex-director-general of the World Trade Organization, Robert-Jan Smits, a key architect of Horizon 2020, and Cedric Villani, a celebrated mathematician and politician. Their support underlines the campaign's goal of bridging science and policy for impactful change.

Research Objectives

This research aims to:

- Perform a thorough analysis of current science communication procedures used in multinational and transdisciplinary partnerships. Determine the current methods' advantages, disadvantages, and gaps.
- Find and evaluate successful science communication tactics from top research institutes and cooperative initiatives. Pay attention to strategies that improve public participation, accessibility, and transparency.
- Develop plans to incorporate science communication into the fundamental frameworks of scientific partnerships. This comprises specialised communication positions, scientific training programs, and the use of digital tools to promote information exchange.

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

- Offer practical suggestions for implementing and promoting integrated science communication methods at research universities, international councils, and policy-making organisations. Make sure your suggestions support consistent, strategic communication efforts and cater to the demands of a variety of audiences.
- Create evaluation frameworks and metrics to gauge how well-integrated science communication tactics are working. Examine their effects on policy influence, public awareness, and the general efficacy of scientific partnerships in tackling global issues.

Research questions

- How might institutional frameworks be created to encourage and facilitate scientists' interactions with decision-makers?
- How might science communication be formalized as a fundamental element of international and multidisciplinary scientific cooperation?
- What are the main obstacles to international and multidisciplinary scientific cooperation, and how may they be successfully removed?
- How can the principles of open science be used to increase the contribution of scientific research to the accomplishment of the Sustainable Development Goals (SDGs)?
- In light of global issues, how might science communication promote public confidence and interest in scientific innovation?

LITERATURE REVIEW

The report further highlights the use of data in achieving the SDGs, but it also points out that interdisciplinary cooperation and putting research into practice continue to be difficult tasks. Narrowing the divide between research, politics, and society has become crucial in light of the pressing "grand challenges" that the world is currently confronting. Open science is essential in this situation. Open science encourages unfettered access to scientific knowledge and data-sharing made possible by ICT capabilities. It is based on ideals like quality, equity, and collaboration. It produces an accessible, transformative knowledge base that facilitates multidisciplinary study and group/collective problem-solving (Ihlen, 2020). The goal of UNESCO's final open science recommendation, which Member States will approve, is to bring research practices into line with the Sustainable Development Decade of Action. Open science adoption is encouraged at research universities in order to hasten the SDGs' progress ((Weforum, 2021).

The European Research Council's (ERC) president, Jean-Pierre Bourguignon, highlights that science requires an open, cooperative environment to flourish. Bourguignon is concerned about the tendency to reshape international scientific cooperation in ways that ignore the special nature of research, where cooperation cannot be governed by the same rules as military or economic competition. Scientific collaborations need to be sustained and are based on openness and trust rather than mistrust. Relationships built over years or even decades can rapidly and sometimes irrevocably disintegrate when these interactions are examined or restricted. Since transparency is crucial for producing high-quality science, scientists must maintain agency in their collaborations and respond globally to global concerns (Nisbet, & Scheufele, 2009).

Johnson & Johnson Vice President of Innovation Seema Kumar emphasises that science is at a turning point, spurred by unprecedented cooperation and restored public confidence. Our global connection and the vital role that scientific collaboration plays in preserving world health were highlighted by COVID-19. Since the beginning of the epidemic, scientists from all areas and industries—public and private—have quickly come together to collaborate on the development of

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

vaccinations that give hope to innumerable communities. This massive, global endeavour has restored public trust in science and highlighted the crucial role that scientists play in solving society's most difficult issues. According to Kumar, we now have a duty and an opportunity to capitalise on this momentum. Influential research is built on the basis of unfettered, unrestricted exchanges of ideas and knowledge. The ERC upholds this principle, which is reflected in its motto, "Open to the world." As it supports the capacity of research to enhance the welfare of people everywhere, Bourguignon exhorts the scientific community to promote this openness globally. Science can only reach its full potential for societal benefit in an open world (WeForum (2021b).

Maintaining confidence in vaccinations and health precautions, as well as remaining prepared to address other urgent issues like cancer and Alzheimer's, are essential to putting an end to COVID-19. Science can continue to create revolutionary impacts on resilience and health globally by building on the collaborative foundation established during the pandemic (WeForum, 2021a).

The Novo Nordisk Foundation's Senior Vice President, Lene Oddershede, supports a global code of conduct to govern moral data exchange. International collaboration faces difficulties in ensuring that data is shared, processed, and interpreted in an ethical and effective manner due to the enormous volumes of data generated every day. Oddershede emphasises the significance of public-private collaborations and a shared commitment to ethical data practices in order to get past this obstacle. Data security and privacy must be given top priority by researchers, businesses, and governments everywhere to prevent the exploitation of important data for financial gain or immoral ends (WeForum, 2021a; Nothhaft, 2016). Building trust between the public and private sectors is crucial since these partnerships constitute the foundation of citizen-driven research, digital transformation, and society's overall digitisation. However, for these collaborations to be reliable and successful, a consensus definition of ethical data sharing is required. Transparency, cooperative international efforts, and worldwide education centred on responsible data use will be necessary to accomplish this. The foundation for a moral, safe, and cooperative digital future would be established by such a code of conduct (Rahmat & Purwaningrum, 2018).

The existing body of literature underscores the vital need for coordinated, interdisciplinary, and international scientific collaboration to address global challenges, from pandemics to climate change. While the importance of collaboration is well recognized, numerous barriers, including economic, social, and geopolitical tensions, hinder sustained and effective partnerships. Additionally, while the COVID-19 pandemic has highlighted the need for scientific engagement in policy discussions, current systems lack robust incentives for scientists to dedicate time to building relationships with policymakers. This gap limits the integration of scientific insights into policy, diminishing science’s potential to address pressing issues effectively (Ekwebelem, et al.,2020; Parisotto & Elsheikhi, 2020).

Existing frameworks, such as the Global Future Council on Scientific Collaboration and initiatives like DORA and Project TARA, have sparked important conversations about these issues. However, a research gap remains in understanding how to institutionalize science communication as a core component of collaboration across scientific, policy, and public domains. Few studies address how interdisciplinary, science-driven policies could be systematically embedded into decision-making at both local and global levels. Future research should explore mechanisms for incentivizing science-policy engagement and assess the impacts of these collaborations on advancing sustainable development goals. This gap highlights an opportunity to build frameworks that support and

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

reward science communication as integral to global problem-solving efforts.

RELATIONSHIP BETWEEN TECHNOLOGY, AI, SUSTAINABILITY AND STRATEGIC SCIENCE COMMUNICATION

Strategic science communication, sustainability, artificial intelligence (AI), and technology all have complex and complementary relationships. While improving the effectiveness of the others, each element is essential in tackling global issues. Technology serves as a potent facilitator, offering platforms and instruments to facilitate successful science communication. Scientific knowledge is becoming more widely available and accessible thanks to digital advancements including social media, data visualisation software, and virtual reality (Kulkov et al., 2024). These tools are especially important for sustainability initiatives, where green innovations, smart cities, and renewable energy systems are crucial technologies. Strong science communication techniques are needed to illustrate the advantages and adoption procedures of these developments, assisting a range of stakeholders in realising their potential. In this ecosystem, AI acts as a catalyst, enabling the analysis, customisation, and distribution of scientific knowledge. Trends and audience preferences can be found, and communication tactics can be improved for maximum effect. AI has made significant contributions to sustainability by facilitating more intelligent resource management and environmental conservation through predictive analytics and tracking the advancement of sustainability objectives. Chatbots and recommendation engines are examples of AI-powered tools that enable communicators to customise messages for certain audiences, guaranteeing relevancy and engagement. By facilitating multilingual communication and removing language obstacles, AI also promotes inclusivity and international cooperation in sustainability science. The priority of sustainability itself emphasises the necessity of creative solutions and broad public involvement. Sustainable technologies must be developed and adopted in order to address issues like social justice, resource depletion, and climate change ( ).

These efforts are accelerated by AI-driven research and data insights, which guarantee useful and significant answers. However, effective and strategic communication is essential to promoting business adoption, legislative reforms, and changes in individual behaviour. In order to motivate action and cooperation, science communicators need to craft gripping stories that link the environmental, social, and economic facets of sustainability. Strategic science communication bridges the gap between public comprehension and scientific achievements, serving as a uniting factor. It puts complicated findings in context for all parties involved, including the public, business executives, and legislators. These communication efforts are enhanced by technology and artificial intelligence (AI), with platforms for AI-driven narrative and real-time data visualisation offering strong arguments for action. These initiatives promote a systems-thinking approach by highlighting the connections between sustainability, technology, and society. By integrating technology, AI, sustainability, and strategic science communication, societies can address global challenges holistically (Kulkov, et al., 2024). This integration nurtures interdisciplinary partnerships, inspires public engagement, and accelerates progress toward sustainable development goals, ultimately enhancing innovation and global cooperation.

HOW DOES THE RELATIONSHIP BETWEEN TECHNOLOGY, AI, SUSTAINABILITY AND STRATEGIC SCIENCE COMMUNICATION BOOST RESEARCH IN WORKFORCE MANAGEMENT?

The link between technology, artificial intelligence (AI), sustainability, and strategic science communication contributes considerably to workforce management research by providing innovative tools, data-driven insights, and successful communication techniques. This

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

integration enables organisations to address issues like as employee well-being, productivity, diversity, and the implementation of sustainable practices in dynamic workplaces (Pandey, Balusamy, & Chilamkurti, 2023) Technology enables real-time data collection and analysis, which serves as a solid platform for labour relations and management research. Employee management systems, productivity tracking software, and remote collaboration platforms are among the tools that academics use to get insight into workplace dynamics (Ejibe, Nwankwo, Nwankwo, Okoye, & Scholastica, 2024). Wearable devices, for example, can monitor employee health and well-being and provide data to help designers create wellness programs that increase performance. Furthermore, technology developments such as augmented reality (AR) and virtual reality (VR) improve training and skill development by providing immersive learning experiences that meet the different workforce needs. AI has a transformational impact on workforce management by analysing large datasets to identify patterns and predict trends (Sova, Bieliaieva, Antypenko, & Drozd, 2023; Conte, & Siano, 2023).

AI-powered solutions, like as natural language processing and machine learning algorithms, can analyse employee feedback, performance metrics, and industry trends to assist researchers in identifying opportunities for improvement. For example, AI can identify aspects that influence employee retention, allowing organisations to adopt tailored interventions. It also aids workforce planning by forecasting future skill demand and coordinating hiring and training strategies with changing organisational objectives. Sustainability in workforce management focuses on building equal, inclusive, and environmentally responsible work environments (Cooke, Dickmann, & Parry, 2022). Sustainable practices, such as flexible work arrangements, green office efforts, and diversity-focused policies, not only increase employee satisfaction but also correspond with larger social aims. Technology and artificial intelligence (AI) help to support research in these areas by providing tools for measuring and tracking the impact of sustainability activities. For example, AI may estimate carbon footprints in remote work environments or evaluate the efficacy of diversity and inclusion programs (Kulkov, et al., 2024).

Human-centred HRM is one method of executing the International Labour Organization's (ILO) human-centred agenda for the future of work in a world marked by a number of great challenges. This agenda aims to "strengthen the social contract by putting people and their work at the heart of economic and social policy and business practice" (ILO, 2019). It is made up of three 'pillars of action' that are expected to drive growth, equity, and sustainability for current and future generations: increasing investment in people's capabilities; increasing investment in workplace institutions; and increasing investment in decent and sustainable work (ILO, 2019). A 'human-centred' approach to HRM aligns with the societal goals established by the United Nations' 17 Sustainable Development Goals (SDGs), which are anticipated to be met by 2030. Business organisations, particularly those in the private sector, play an important role in accomplishing the SDGs (Ghauri & Cooke, 2022). A 'human-centred' approach to HRM is also required to achieve a human-centred Covid-19 recovery that is inclusive, sustainable, and resilient, as advocated by the ILO (ILO, 2021; Samans, 2021; Parisotto & Elsheikhi, 2020).

Strategic science communication helps to bridge the gap between research and practice in workforce management by transforming complex findings into usable insights. Data visualisation, tailored messaging, and storytelling can help researchers effectively convey their findings to stakeholders like HR professionals, CEOs, and policymakers. Communication tactics, for example, can demonstrate how using AI-driven workforce data improves decision-making or emphasises the long-term benefits of implementing sustainable work practices (Chowdhury, Budhwar, & Wood, 2024). The combination of these disciplines promotes data-

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

driven, forward-thinking workforce management. By combining technology, artificial intelligence, sustainability, and strategic science communication, research may solve workforce concerns holistically, resulting in more resilient, adaptive, and future-ready organisations (Cooke, et al.,2022).

HOW TO COMMUNICATE THE BENEFITS OF SCIENTIFIC INNOVATION? / SCIENCE COMMUNICATION: A KEY TO INNOVATION AND GROWTH.

Similar to how communications can backfire on CEOs or politicians, they can also negatively affect scientists, with long-term consequences for public confidence and the welfare of humanity. Science's susceptibility to conspiracy theories and the possibility of misunderstandings, which can skew public opinion and hamper upward mobility, are two of its biggest problems. The issue facing today's innovators in science and technology is more urgent than it has ever been. (Weforum, 2023; Besley & Dudo, 2022). The world is facing a number of existential crises that require novel, first-of-a-kind solutions, such as climate change and global health concerns. However, there is a genuine chance that these innovations would be misinterpreted or rejected if they are not well communicated, which would hinder their potential from reaching their full potential.

Public opposition, false information, and the failure to implement life-saving or planet-saving remedies can result from inadequate communication. As science develops, scientists must communicate the importance and advantages of their work in a way that is understandable, engaging, and reassuring to the general public. Even the most innovative ideas may find it difficult to acquire the confidence and backing required for broad adoption in the absence of efficient communication (Rzheuskyi, Matsuik, Veretennikova, & Vaskiv, 2019; Bennett, Dudo, Yuan, & Besley, 2019).

With specific knowledge and abilities, science communication has become a separate field in recent years. It entails interacting with audiences outside of the scientific community in addition to educating the public and increasing awareness of science-related issues. This procedure makes science more approachable and relatable by bridging the gap between the general audience and complicated scientific topics (Besley, O'Hara & Dudo, 2019).

The importance of science communication in boosting science's ability to address societal issues is acknowledged by Science Europe. The public can have a greater understanding and appreciation of the significance of research in resolving global concerns through the successful dissemination of scientific discoveries. In order to make science communication more powerful and successful, Science Europe is committed to working with its Member Organisations. The objective is to promote a conversation culture between the general public and the scientific community in order to increase public involvement with science and enable informed decision-making. (Rahmat & Purwaningrum, 2018; Servaes & Lie, 2014). Cizelj (2024) affirms that Research and innovation systems play a pivotal role in generating new knowledge and translating fundamental scientific discoveries into tangible, real-world applications. As society faces pressing challenges such as pandemics, artificial intelligence, big data, food security, and climate change, the importance of investing in research and utilizing evidence-based solutions becomes ever more critical. However, even the most groundbreaking science cannot speak for itself. It is essential that scientific evidence is accessible, clearly communicated, and easy to understand in order to drive meaningful change (Pinkin & Leitch, 2005; Cizelj, 2024).

Researchers now face particular difficulties as a result of the increasingly polarised, varied, and unstable environment in which scientific communication takes place. Science communication needs to be strategic and tailored to the different demands of different audiences, such

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

as other academics, policymakers, and the general public, in order to effectively inform research-driven policy and contribute to social discussions. All phases of the research process should incorporate communication, not just to improve public comprehension but also to promote cooperation and openness (ScienceEurope, 2024; Cizelj, 2024).

In response to these difficulties, the function of researchers and research organisations is changing. Science communication now entails actively interacting with stakeholders and the general public in addition to sharing discoveries with the scientific community. Researchers may make sure that their work is better understood, more broadly accepted, and ultimately more helpful in tackling the complex issues that society faces by embracing varied opinions and encouraging candid discussions.

(Cizelj, 2024; Zerfass et al., 2020). Science communication is playing a bigger role in promoting innovation and societal success in an era where quick advancements demand strong public awareness and policy support. At its core, science communication bridges the divide between complex scientific ideas and the general public, politicians, and interdisciplinary researchers. By making science relatable, clear, and approachable, science communication fosters an environment where scientific discoveries can inspire innovation, direct public policy, and promote long-term social and economic prosperity.

One of the primary duties of science communication is to translate specialised and technical knowledge into language that non-experts can comprehend (Botan, 2017; Werder et al., 2020). The public gains more faith in science as a result of this process since they can understand how scientific discoveries and innovations impact their daily lives. Public trust is essential for the adoption of innovative solutions in fields like artificial intelligence, environmental research, and healthcare. For example, the rapid development and dissemination of COVID-19 vaccinations required not just scientific expertise but also effective communication strategies that refuted myths, clarified the benefits, and calmed public anxieties (Ruão, & Silva, 2021).

Promoting legislative proposals that improve scientific applications, raising money, and inspiring others are all possible with effective science communication. Similarly, science communication plays a major role in facilitating interdisciplinary collaboration, which is crucial for tackling complex global concerns including resource scarcity, health inequalities, and climate change. By encouraging knowledge exchange across disciplines, science communication fosters a culture of open, cross-functional creativity, which in turn helps to develop new ideas and enhance preexisting ones. Open science, which promotes unfettered access to research data and findings, is one instance of how science communication can stimulate innovation. By encouraging openness and collaboration, open science contributes to the development of a collective knowledge base that accelerates discovery and bridges the gap between research and practical applications (Thomas & Stephens, 2015; Bennett et al., 2019).

Research agendas are shaped in part by science communication to satisfy societal demands. Science communicators are crucial in converting research into practical policy recommendations since policymakers frequently lack the scientific training required to comprehend emerging technology and concerns (Werder et al., 2020). For example, communicators are essential in climate policy because they help decision-makers prioritise sustainable behaviours by demonstrating the long-term effects of environmental studies. Establishing laws and incentives that support innovation and meet societal demands requires this kind of congruence between research and politics. Effective science communication is now required in a world where public opinion has a big impact on how scientific endeavours develop. Promoting a knowledge-based economy and an informed public that can embrace and support innovation requires

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

this crucial strategy. By promoting transparency, building trust, and aligning science with social goals, science communication lays the foundation for scientific discoveries that not only enhance our quality of life but also boost resilience and economic growth (Thomas & Stephens, 2015).

CONCLUSION

Realising a future where research and policy are tortuously dishevelled requires a common vow to ethical behaviour, strategic communication, and long-term partnerships. By reevaluating scientific evaluation metrics, fostering global trust, and motivating new researchers to engage with policy, the scientific community can ensure that research has an impact and is widely accepted. Science communication and public-private partnerships are essential to building a resilient, informed society capable of tackling complex global challenges. Only through open, collaborative, and trust-based approaches can science significantly contribute to a just and sustainable world. To solve global concerns, a coordinated, multidisciplinary, and multinational scientific approach is necessary. This project intends to contribute to a future where scientific innovation successfully informs policy and public action by integrating science communication into the foundation of collaborations and cultivating trust-based networks. The results will aid in the creation of robust frameworks that maximise societal benefit and improve international scientific collaboration.

REFERENCES

Bennett, N., Dudo, A., Yuan, S., & Besley, J. (2019). Scientists, trainers, and the strategic communication of science. In *Theory and best practices in science communication training* (pp. 9-31). Routledge.

Besley, J. C., O'Hara, K., & Dudo, A. (2019). Strategic science communication as planned behavior: Understanding scientists' willingness to choose specific tactics. *PloS one*, *14*(10), e0224039.

Besley, J. C., & Dudo, A. (2022). *Strategic science communication: A guide to setting the right objectives for more effective public engagement*. JHU Press.

Botan, C. H. (2017). *Strategic communication theory and practice: The cocreational model*. John Wiley & Sons.

Cizelj, B. (2024). How effective communication drives public understanding and economic success. https://www.meer.com/en/81965-science-communication-key-to-innovation-and-growth

Chowdhury, S., Budhwar, P., & Wood, G. (2024). Generative artificial intelligence in business: towards a strategic human resource management framework. *British Journal of Management*.

Conte, F., & Siano, A. (2023). Data-driven human resource and data-driven talent management in internal and recruitment communication strategies: an empirical survey on Italian firms and insights for European context. *Corporate Communications: An International Journal*, *28*(4), 618-637.

Cooke, F. L., Dickmann, M., & Parry, E. (2022). Building sustainable societies through human-centred human resource management: Emerging issues and research opportunities. *The International Journal of Human Resource Management*, *33*(1), 1-15.

Ejibe, I., Nwankwo, T. C., Nwankwo, E. E., Okoye, C. C., & Scholastica, U. C. (2024). Advancing environmental sustainability in the creative sectors: A strategic HR framework based on data analytics and eco-innovation. *World Journal of Advanced Research and Reviews*, *21*(3), 050-060.

Ekwebelem, O. C., Ofielu, E. S., Nnorom-Dike, O. V., Iweha, C., Ekwebelem, N. C., Obi, B. C., & Ugbede-Ojo, S. E. (2020). Threats of COVID-

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

19 to achieving United Nations sustainable development goals in Africa. *The American Journal of Tropical Medicine and Hygiene*, *104*(2), 457.

Ihlen, Ø. (2020). Science communication, strategic communication and rhetoric: the case of health authorities, vaccine hesitancy, trust and credibility. *Journal of Communication Management*, *24*(3), 163-167.

ILO. (2019). Work for a brighter future–Global Commission on the Future of Work.

Kulkov, I., Kulkova, J., Rohrbeck, R., Menvielle, L., Kaartemo, V., & Makkonen, H. (2024). Artificial intelligence-driven sustainable development: Examining organizational, technical, and processing approaches to achieving global goals. *Sustainable Development*, *32*(3), 2253-2267.

Nisbet, M. C., & Scheufele, D. A. (2009). What's next for science communication? Promising directions and lingering distractions. *American journal of botany*, *96*(10), 1767-1778.

Nothhaft, H. (2016). A framework for strategic communication research: A call for synthesis and consilience. *International Journal of Strategic Communication*, *10*(2), 69-86.

Rahmat, S. R., & Purwaningrum, F. (2018). Science communication for sustainable development in Malaysia. *DEVELOPMENT BULLETIN*, 106

Pandey, A., Balusamy, B., & Chilamkurti, N. (Eds.). (2023). *Disruptive artificial intelligence and sustainable human resource management: Impacts and innovations - The future of HR*. CRC Press.

Parisotto, A., & Elsheikhi, A. (2020). *COVID-19, jobs and the future of work in the LDCs: A (disheartening) preliminary account* (No. 20). ILO Working Paper.

Pinkin, C., & Leitch, A. (2005). A More Participative Approach to Science Communication: Case Studies from Regional Australia. In *Presentation paper for the PCST2005 Beijing Symposium*.

Rautela, G. S. (2024). Science Communication and Sustainable Development. In *Role of Science and Technology for Sustainable Future: Volume 1: Sustainable Development: A Primary Goal* (pp. 347-360). Singapore: Springer Nature Singapore.

Ruão, T., & Silva, S. C. M. (2021). Strategic science communication: The “Flatten the Curve” metaphor in COVID-19 public risk messaging.

Rzheuskyi, A., Matsuik, H., Veretennikova, N., & Vaskiv, R. (2019). Selective dissemination of information–technology of information support of scientific research. In *Advances in Intelligent Systems and Computing III: Selected Papers from the International Conference on Computer Science and Information Technologies, CSIT 2018, September 11-14, Lviv, Ukraine* (pp. 235-245). Springer International Publishing.

Servaes, J., & Lie, R. (2014). New challenges for communication for sustainable development and social change: a review essay. *Journal of Multicultural Discourses*, *10*(1), 124–148. https://doi.org/10.1080/17447143.2014.982655

ScienceEurope (2024). Science Communication. https://scienceeurope.org/our-priorities/science-communication/

Sova, O., Bieliaieva, N., Antypenko, N., & Drozd, N. (2023). Impact of artificial intelligence and digital HRM on the resource consumption within sustainable development perspective. In *E3S Web of Conferences* (Vol. 408, p. 01006). EDP Sciences.

Thomas, G. F., & Stephens, K. J. (2015). An introduction to strategic

Article DOI: https://doi.org/10.37284/eajis.8.1.2680

communication. *International Journal of Business Communication*, *52*(1), 3-11.

Weforum (2023). How to communicate the benefits of scientific innovation? __https://www.weforum.org/stories/2023/07/how-to-communicate-the-benefits-of-scientific-innovation/

Weforum, (2022): Here's how 1 million scientists and 100 million hours could revolutionize policy- making. https://www.weforum.org/stories/2022/02/to-prevent-a-future-crisis-we-must-mobilize-one-million-scientists/

WeForum (2021a). Science needs to capitalize on a moment of great opportunity and momentum. https://www.weforum.org/stories/2021/06/4-views-on-why-scientific-collaboration-is-key-for-the-future/

WeForum (2021b). Science needs an open world to thrive' https://www.weforum.org/stories/2021/06/4-views-on-why-scientific-collaboration-is-key-for-the-future/

Werder, K. P., Nothhaft, H., Verčič, D., & Zerfass, A. (2020). Strategic communication as an emerging interdisciplinary paradigm. In *Future Directions of Strategic Communication* (pp. 5-23). Routledge.

Zerfass, A., Verčič, D., Nothhaft, H., & Werder, K. P. (2020). Strategic communication: Defining the field and its contribution to research and practice. In *Future Directions of Strategic Communication* (pp. 159-177). Routledge.

