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EDITORIAL

Tackling the global challenges using data-driven innovations

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Abstract
The data revolution transforms operations, innovation, and society through artificial intelligence and advanced analytics. Data-driven innovations (DDI) have the most potential to tackle global challenges, including poverty, healthcare, climate actions, disaster management, gender inequality, peace and justice and others. This paper identifies the sources of DDI capabilities to address various global challenges. The findings show three major foundations of DDI capabilities: market orientation, infrastructure orientation, and talent orientation. Theoretically, these findings highlight the role of dynamic DDI capabilities to sense, seize and transform global challenges. Practically, we present guidelines for developing DDI in an agile and efficient manner that is fair and inclusive.

Keywords Data-driven innovation · Capabilities · Market orientation · Infrastructure orientation and talent orientation

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1 Introduction

> *Data-driven innovation forms a key pillar in 21st century sources of growth. The confluence of several trends, including the increasing migration of socio-economic activities to the Internet and the decline in the cost of data collection, storage and processing, are leading to the generation and use of huge volumes of data—commonly referred to as "big data." These large data sets are becoming a core asset in the economy, fostering new industries, processes and products and creating significant competitive advantages (*OECD, 2015*).*

The global economy has experienced unprecedented "datafication" across innovation, operations, education, public governance, healthcare, agriculture, and the environment. Data-driven innovation (DDI) emerges as a catalyst in addressing the formidable challenges of the 21st Century. We define DDI as an innovative process to create value using artificial intelligence (AI) and advanced analytics. Sultana et al. (2022) assert that DDI is associated with the extraction of meaning from data, with the help of technologies and techniques like big data analytics, AI and machine learning (ML) to produce meaningful and novel outcomes. Indeed, DDI is an innovative process that takes inspiration and information from big data technologies, users, stakeholders, innovator, processes, and systems which lessen ambiguity and enhance creativity (Luo, 2022). Wessel (2016) supports this notion and argues that DDI facilitates organizational capacity to adapt to and sustain in a dynamic environment. The applications of technologies like advanced analytics, AI, and data science techniques boost the performance and efficiency of DDI. Although DDI gains momentum in recent years, there is a paucity of research on its innovation capability dimensions.

Innovation capability refers to a firm's ability to develop creative ideas, identify untapped market opportunities, and execute commercially sustainable developments utilizing existing resources and competencies (Hii & Neely, 2000). Such competencies are gained over time and considered as dynamic since they assist firms in creating innovation by integrating internal knowledge of the organization with external industrial disruptions (Wang et al., 2015). Hence, data-driven innovation capabilities (DDIC) can be referred to as the organizations' capacities to exploit the available data with the help of digital technologies, analytical techniques and other resources for developing innovative products, processes, and techniques, that enhance value for firms as well as the relevant stakeholders (Sultana et al., 2022). From the dynamic capability view, data-driven firms should be capable of adapting to the agile and dynamic business environment while pursuing DDI projects.

Almost every sector, including information and communication technology (see Kalid et al., 2018; Liu & Yuan, 2015); healthcare (i.e., Pietronudo et al., 2022; Kondylakis et al., 2020); financials (i.e., Arthur & Owen, 2022; Hani et al., 2022); industrials (see Zillner et al., 2016; Yin & Kaynak, 2015); and energy (i.e., Herman et al., 2018; Zhou et al., 2016) is creating DDI, from developing a simple data-driven product to thoroughly shifting the entire business model (Zolnowski et al., 2016). Nevertheless, there is a dearth of empirical evidence manifesting the implications of DDIC in addressing the ground challenges like poverty and hunger, climate change, lack of peace and justice, gender inequality, etc. (Shiva, 2016). Though several studies strived to examine how big data, analytics, and other relevant technologies were put together to identify various social (Bibri, 2019), economic (Bag &

Pretorius, 2022), and global problems (Agbehadji et al., 2020), most of them are anecdotal, fragmented, and conceptual in nature. Moreover, no single study has attempted to scrutinize the relationship between DDI and its capability to address global challenges. Hence, there remains an urgent call for pursuing a concerted effort to demonstrate how DDIC can best be implemented to tackle the various global challenges which are not only impeding the well-being of the earth but also threatening its sustainable existence.

2 Data-driven innovation capability

Without establishing a strong capability base, providing a sustainable solution for recognizing and managing the current global challenges are impossible. This research has considered market orientation (MO) capability, infrastructure capability, and innovation talent capability as the dimensions of data-driven innovation capabilities (DDIC) for addressing and managing global challenges (Sultana et al., 2022).

2.1 Market orientation capability

Kohli and Jaworski (1990) defined MO from organizational learning viewpoint, where firms continuously learn from its internal as well as external environments, including customers and competitors, in order to generate and disseminate organization-wide market intelligence. However, Narver and Slater (1990) considered MO as the organizational culture that emphasizes achieving and maintaining superior customer value through gathering and distributing market intelligence data such that it can bring sustainable competitive advantage. Firms having their strategic focus on the market must take both internal and external factors into consideration while developing novel products and processes (Atuahene-Gima, 1996). Based on these notions, firms that are pursuing DDI projects should build a strong market intelligence base (Kohli & Jaworski, 1990) by accumulating substantial information on market sensing and customer-agility (Day, 1994), and at the same time, build internal organizational abilities (Mikalef et al., 2019); while recognizing and deciphering distinct ground challenges.

Through its market-sensing capabilities, MO can construct and define the ways in which market-intelligence-based data can strengthen firms' and other stakeholders' capacities to identify the challenges as well as develop strategies and actions for responding to those challenges (Ngo & O'Cass, 2012; Raub, & Martin-Rios, 2019). For example, local government, along with other stakeholders (i.e., international government, NGOs, policymakers, researchers, and financial institutions), can collect, exchange, and integrate the huge amount of market-based real-time data gathered from diverse sources such as social media, weather reports and forecasts, other forms of media, and relevant institutions and organizations for managing disasters from early warning to post-disaster management (Sarker et al., 2020).

2.2 Infrastructural capability

Based on the infrastructural standpoint, the capabilities of a data-driven firm are not only limited to capturing, storing, processing, and analyzing the data but also include the management of appropriate analytical methods to deduce meaningful insights from those data

(Müller et al., 2018). As such, the significant drivers for DDI within organizations include data and technology, along with other tangible resources (Gupta & George, 2016; Kühne et al., 2019). In line with the previous studies (Akter et al., 2023; Duncan, 1995; Sultana et al., 2022; Wang et al., 2018), this research recognizes data and technology as the fundamental constituents of infrastructure capabilities for addressing and managing various global challenges. For example, big data can provide valuable insights into issues such as poverty and hunger by analyzing data on food production and distribution (Lajoie-O'Malley et al., 2020; Hani et al., 2022), while digital technologies can enable the efficient delivery of aid and resources to those in need (Bucci et al., 2019).

Prior literature indicates that big data and advanced analytics can make an unparalleled contribution to recognizing and measuring various global challenges and implementing sustainable development programs (Kharrazi et al., 2016; Wu et al., 2020). For instance, Abelson et al. (2014), and Varshney et al. (2015) integrated ML algorithms with satellite imagery and crowd-sourced assistance to discover poor villages in Kenya. The point of analysis in their studies considered computing the proportion of thatched and metal roofs in different villages of Kenya, and accordingly, the villages with a higher proportion of thatched roofs were denoted as hunger-stricken and poor. In a similar fashion, Xie et al. (2016) trained a convolutional neural network (CNN) to anticipate light intensities at night time based on satellite imagery in the daytime and then distinguished the areas that are "in-poverty" or "no-poverty" using learned filters. Similarly, one can also track deforested areas by combining the techniques of crowd-sourced information, satellite images, and open-sourced data.

2.3 Innovation talent capability

Skill development has been recognized as an essential prerequisite for sustainable development (King, 2016). The inclusion of a broad range of skill sets needed for accomplishing sustainable goals suggests that talents who want to proactively involve in managing different global challenges must develop a variety of technical, non-technical as well as foundation skills beyond their employment (Comyn, 2018). Hence, having requisite skills and, knowledge, and talents can help accelerate progress in recognizing and handling global challenges on time, which leads to sustainable and equitable development of socio-economic structure as well as peaceful and inclusive societies (Chankseliani & McCowan, 2021).

This paper recognizes technical skills, technology management skills, business skills, and relational skills as four distinctive areas of skills and expertise that innovation talents should develop for dealing with diverse global issues. *Technical skills*, as applied to this research, is further defined as the know-how relevant to the technical factors, including data processing skills, programming language, predictive capabilities, and management of databases that is required to gain insights into various global challenges as well as building capabilities to provide solutions. For example, by applying their statistical (i.e., qualitative and quantitative comparison) and analytical abilities (i.e., analysis and synthesis) to economic indicators data, talents can identify the most vulnerable or challenging sectors in a given economy (Dalevska et al., 2019) based on which critical development-related decisions can be made. *Technology management skills*, in this study, is defined as the knowledge about big data resource management, which helps in planning, creating, and implementing the strategic objectives and operational goals of different projects. For instance, a deep-learning (DL) model was applied by a group of scientists during the Covid-19 crisis in order

to identify the available drugs in the market for developing a "drug repositioning" process, which further suggested an instant drug strategy for immediate application on the infected patients (Beck et al., 2020).

Business skills refer to the degree of expertise, experience, and abilities necessary to comprehend both the internal functions and the external environment of business. For example, in addition to the real-time monitoring of gender indicators, policymakers must gain knowledge to understand the social norms and political realities concerning females while creating plans and proposing actions for establishing women's equality (Women, 2018). *Relational skills* indicate the communication and networking skills of talents that they can utilize to connect with relevant stakeholders and develop mutually beneficial relationships with them. These types of skills also play a critical role in resolving conflicts and settling disputes. For example, "Data Collaboratives," is a unique form of collaboration where stakeholders from different areas, including private and public sectors, research and education, as well as specialized agencies, can build a network by exchanging data and data expertise to help address and solve diverse global challenges (Hoffman, 2019).

3 Addressing the global challenges using data-driven innovation capabilities

To tackle the global challenges, the world has embarked on a new set of development programs bolstered by sustainable development goals (SDGs), such as zero hunger and poverty, good health and well-being, gender equality, climate actions, peace and justice, and many more (Nations, 2015). However, achieving such goals demands unified and comprehensive actions along with collaborative participation from various stakeholders (Monkelbaan, 2019) in terms of identifying and managing different social, environmental, and economic challenges, including biodiversity, pollution, climate change, poor health, inadequate access to healthcare, lack of education and training, etc. With its increasing application in various business aspects, DDIC, including market orientation capability, infrastructure capability, and innovation talent capability, can make remarkable contributions to addressing and solving distinct global challenges.

3.1 Poverty and hunger

Based on the findings from the World Bank Group survey of SDG-related big data projects (Ballivian, 2015), eradicating poverty and hunger gained the most attention from big data projects. The extant literature identifies poverty as one of the most crucial global challenges to eradicating hunger, obtaining better health and food sustainability, and advancing sustainable micro-entrepreneurship (e.g., Sunderland et al., 2019). DDIC can create unprecedented contributions in figuring out and solving such global issues (Hani et al., 2022; Lokhande, 2021). For instance, Akter et al. (2023) presented a big poverty data analytics capability model to offer creative new services tackling poverty through microfinance institutes in the developing world. Ntiamoah et al. (2022) used a data-driven framework to examine the relationship between food insecurity, climatic and financial crises, growing populations, urbanization, and mass migration in all West African countries. To anticipate food insecurity in the West African nations, these researchers constructed a long short-term memory

(LSTM) recurrent neural network (RNN) algorithm and suggested food insecurity prevention measures for the countries based on the results of the algorithm. The application of big data, IoT infrastructures, automation, and data analytics is playing an increasingly critical role in smart agriculture, precision agriculture, digital farming, and targeted watering (Khan et al., 2021). For example, methods like Farmbeats, an IoT-based infrastructure for data-driven agriculture, enable data gathering from digital technologies and interconnected sensors that help farmers to adapt to climate change (Vasisht et al., 2017). These solutions minimize costs, boost farmers' profitability, allow quicker and more reliable supply chain administration, as well as enhance accountability. Vadapalli et al. (2020) also found that to increase crop productivity, Indian farmers have embraced smart agricultural technologies. The farmer can evaluate agricultural landscapes' production by compiling data from sensors, actuators, and contemporary electronic devices. With sensors connected to the processing module Arduino-UNO, smart agriculture can predict weather data by turning on the pump motor and recognizing the soil's moisture in the parameters of moisture levels (Vadapalli et al., 2020).

3.2 Health and well-being

By capitalizing on DDIC, local governments, and other organizations can build effective measures to address the challenges that are hindering the maintenance of health and wellness (Betts et al., 2021; Wu et al., 2021). Data-driven healthcare systems can mitigate bottlenecks in resource mobilization and facilitate rapid prognosis, surveillance, online checkup, and medical consultation. As an example, a data-driven warning screening tool proposed by Wu et al. (2021) integrated ML techniques and data on prior biomarkers research which facilitated an earlier and more accurate prediction of gestational diabetes. Additionally, in spite of the substantial decline in the neonatal death rate in the last three decades, a number of 2.4 million children died globally in 2020 (World Health Organization, 2020). As such, anticipating deaths in intensive care units (ICUs) is considered as one of the significant measures in terms of benchmarking and evaluating healthcare services in neonatal intensive care units (NICUs). According to some recent studies (Betts et al., 2021; Kefi et al., 2019; Sheikhtaheri et al., 2021), NICUs can benefit from AI-based data-driven decision-support tools with regard to foreseeing the mortality rate in ICU that is reasonably priced, readily available, and absolutely reliable.

3.3 Climate actions and disaster management

Data plays a critical role at almost every step of disaster management, including establishing early warning, gathering real-time information, calculating potential damages, and managing during and post-disaster situations (Hristidis et al., 2010). However, the conventional system of disaster management does not support collecting, storing, and analyzing multi-sources real-time data (Baham et al., 2017), which in turn, leads to uncertainty and delays the quick decision-making process. Big data and advanced analytics combined with IOT provide more accurate tools for predicting, understanding, and monitoring the disaster situation (Shah et al., 2019), and therefore, "empower decision makers during a crisis to make more informed decisions, take appropriate actions, and better manage the response process and associated risks" (Mehrotra et al., 2013, p. 6). Mitra et al. (2016) suggested an IOT

and ML-based model that integrated wireless sensor networks (WSNs) and artificial neural network (ANN) for collecting and analyzing remote-sensing data to envision the probability of floods in riverside areas.

3.4 Gender inequality

Big data and analytics enable the tracking of gender inequality in real time by collecting and processing large amounts of data from various sources as well as visualizing patterns and trends through machine learning algorithms and analytical tools (Garcia et al., 2018). For example, a bias-free ML-based model can identify the areas where women are underrepresented by analyzing data on employment rates and wages (Prince & Schwarcz, 2019). Additionally, scrutinizing data on women's financial transactions can identify their spending patterns and reveal the impacts of economic shocks on their lifestyles (Hassani et al., 2021). Moreover, gender bias in employee selection can be detected and reduced as well with the application of advanced technologies like AI-based digital hiring (Oberst et al., 2021; Palomar et al., 2021). Through aiding with minimizing hiring discrimination, ensuring fair compensation and benefits, and providing equal training and development, AI enhances diversity and inclusion in the workplace (Jora et al., 2022). The contributions of big data-driven capabilities are also evident in the realm of measuring women's empowerment (see Al Shehab & Hamdan, 2021; Chopra & Purohit, 2022). One example can be Unilever's Project Shakti in India, where the company used data-driven market sensing capability to identify opportunities to create a direct-to-consumer distribution network for its products in rural areas (Mirvis & Googins, 2018). The company employed women entrepreneurs as direct sellers and provided them with the required training and support to better comprehend and meet the needs of local communities, resulting in increased sales for the company and improved livelihoods for the women involved.

3.5 Partnership and collaboration

Similar to other capabilities of DDI, establishing partnerships among various stakeholders, including financial institutions, local and international governments, and other organizations has been an inevitable way of addressing and mitigating diverse global challenges, especially where local authority's stand-alone policy does not work out. In doing so, such partnerships can capitalize on data-driven market sensing capabilities (Ghasemaghaei & Calic, 2019) to enhance their capacities for identifying the untapped needs of marginalized groups in society and develop products and services accordingly, such as creating menstrual hygiene products or launching gender-sensitive education programs for underprivileged women (Jabeen et al., 2022). Having collaboration with Agricultural Technical Vocational Education and Training (ATVT), the government of Benin introduced a gender-sensitive agricultural training program to women who lagged behind in the agriculture sector due to their possession of limited resources and lack of education on crop production (Eissler et al., 2021). In Ghana, the local government and financial institutions collaborated to implement mobile money systems that enable people to access financial services, such as savings and loans, through their mobile phones. This has helped address the challenge of financial exclusion in rural areas and provide a more convenient and secure way for people to manage their money (Senyo et al., 2022).

3.6 Education and training

Considering the groundbreaking contributions that DDIC can make in identifying and deciphering global challenges, educating and training individuals with the necessary skills to engage them in the data-driven economy (Kitagawa & Vidmar, 2022) would make a difference. Such initiatives can also substantially reduce the talent gap that the world has been experiencing for the last several years (Akhtar et al., 2019). Data analytics, visualization, and machine learning are important data-driven skills that can be used to address global challenges by identifying patterns and insights in complex data, communicating these insights to others, and developing predictive models that can inform prompt decision-making (Majeed & Hwang, 2022). For example, EmpoderaData project a successful data-driven and research-led data fellowship program in Latin America, is working to build statistical capacity and data literacy as a part of strengthening the qualitative skills pipelines in countries (Carter et al., 2021). This is necessary for handling existing global challenges as well as achieving sustainable goals (Nations, 2015). With the aim of enhancing the impact of nation-based actions, the United Nations Institute for Training and Research (UNITAR) provides specialized training and capacity development programs to the developing and least developed countries (Citaristi, 2022) that are in the most vulnerable and conflicting situations. Additionally, (UNDP) offers some tailor-made procurement training and professionalization courses (Sibinga et al., 2021) to the employees from the UN system, NGOs, international financial institutions, and governments to assist the nations on strong policy building, skill development, and networking so they can sustain the progress (Montiel et al., 2021).

3.7 Peace and justice

The prospects of DDIC have increasingly stoked interest in cognitive and governmental initiatives to promote peace and justice (Hassani et al., 2021). For researchers and politicians, building such capabilities toward peace and security also presents the scope to predict conflicts and insecurities ahead of time. The current mission of international peacekeeping organizations is to build capabilities based on data-driven technologies like, advanced analytics, AI, machine learning, deep learning, and other computing systems for peace-building, security, and humanitarian assistance (Bell et al., 2021; Wählisch, 2020). For instance, third-party electoral monitoring can work as an influential mechanism in peace building and crisis management (Smidt, 2021). Alongside, E-government service systems can play a critical role in enhancing the citizen–state relationship and reducing corruption through delivering various public services (Knox & Janenova, 2019). Such initiatives can further contribute in measuring social inclusion, transparency, and citizen empowerment in society.

4 Future research directions and conclusions

To address global issues and sustainability concerns, companies and institutions must integrate ecological and social considerations alongside economic ones—the "triple bottom line." Therefore, organizations need to develop new capabilities to adapt and generate innovative strategies to confront these multifaceted challenges. The dynamic capabilities

approach shows promise for enhancing our understanding of managing innovation in the face of various global challenges. Dynamic capabilities (DCs) refer to an organization's ability to intentionally create, expand, or alter its resource base (Helfat et al., 2007) and entail sensing, seizing, and reconfiguration capabilities (Teece, 2007). The dynamic capabilities theory elucidates the constantly changing factors required for firms to continuously adapt to transient conditions, which are contingent on ongoing evolutionary alignment, to remain viable (Teece, 2007, 2018). Hence, it can be effectively used in future research directions, as discussed below.

Dynamic capabilities can take diverse forms based on the context and evolving external factors. Previous research has examined traditional dynamic capabilities in the context of sustainability and global concerns (e.g., Akter et al., 2023; Mousavi et al., 2018), while others have studied specific and distinct capabilities, such as dynamic capabilities for sustainability (Amui et al., 2017) and green dynamic capabilities (Chen & Chang, 2013). As argued by Buzzao and Rizzi (2021, p. 136), clarifying the rationale behind differentiating unique DCs from conventional DC constructs utilized in sustainability contexts and comprehending the types of performance that they are more adept at predicting could enhance coherence in future research. In this regard, we emphasize the significance of DDIC and its impact on other distinct DCs and organizational outcomes in providing sustainable solutions to address current global challenges.

DDIC, through its sub-capabilities of market orientation, infrastructural, and innovation talent management, can potentially contribute to numerous traditional and distinct capabilities that are vital for addressing global challenges. For instance, researchers could investigate how organizations can use market orientation capabilities to improve their green dynamic capability, which refers to "the ability of a company to exploit its existing resources and knowledge to renew and develop its green organizational capabilities to react to the dynamic market" and thereby improve company's green product development performance (Chen & Chang, 2013, p. 112). Similarly, the research could explore how market orientation capabilities can contribute to green absorptive capacities, which have been shown to influence the green innovation performance of organizations (Pacheco et al., 2018). Other areas where higher sensing DCs can potentially be improved through DDIC, particularly market orientation, include environmental insight capabilities (Qiu et al., 2020), environmental market sensing capabilities (Demirel & Kesidou, 2019) and organizational learning capabilities, such as sensing strategic partners (Mousavi et al., 2018; Zhao et al., 2019).

Based on DDIC research, infrastructural capabilities can also significantly enable organizations to address diverse global problems. For instance, several studies have previously showcased the high impact of big data management capabilities on numerous operational aspects that can also be useful in understanding how to tackle global issues. Some of these issues include advancing humanitarian supply chains and relief operations (Dubey et al., 2018; Wamba et al., 2015), tackling environmental issues (e.g., air pollution management; Zhang et al., 2022), revamping sustainable supply chain outcomes (Bag et al., 2020; Mandal, 2018), improving sustainable manufacturing (Bag et al., 2021; Sahoo, 2022), and enhancing health care services (Wang et al., 2019) and cyber protection (Obitade, 2019). These examples provide insights into how infrastructural capabilities can provide significant solutions to global problems. Future research can extend these findings to different contexts, as we identified in Sect. 3. Furthermore, researchers can examine the impact of infrastructural capabilities on other DCs. For instance, they could investigate how infrastructural capabili-

ties can enable sensing and seizing capabilities for radical and evolutionary business model innovation (Inigo et al., 2017), or how they can enhance resilience capabilities in managing operations (Rauer & Kaufmann, 2015).

Lastly, the significance of innovation talent management capability as part of DDIC lies in its potential to create novel solutions for numerous challenges outlined before. The new challenges we face today require individuals to upskill or reskill in technical, technology management, business, and relational skills. It is evident that innovative talent management capability can have transformative effects on the sensing, seizing, and dynamic reconfiguration capabilities of firms (Sultana et al., 2022). For instance, improving relational skills such as relationship building, collaboration, networking, and cooperation has been identified as critical for a firm's seizing DCs (Akter et al., 2019; Kiefer et al., 2019; Mousavi et al., 2018). Interestingly, researchers are identifying distinct capabilities such as dynamic talent capability (Akter et al., 2019), ethics-focused dynamic capabilities (Arend, 2013) and analytics empowerment capabilities (Akter et al., 2021). These further highlight the importance of innovation talent management capability.

To extend our discussion on future research avenues in this topic area, we have provided further research directions, which are identified in Table 1. In conclusion, this article attempts to highlight some of the evolving global challenges that threaten the sustainable future of the planet and highlights some of the solutions we can create through DDIC. We propose that the elements of DDIC (i.e., market orientation, infrastructural capability and innovation talent management capability), when combined with other distinct DCs, may provide promising answers to business leaders, practitioners and other institutions dealing

Table 1 Further insights on research avenues

Future research agenda	References
Explore processes and mechanisms in which businesses can develop and mold their DCs and routines to adapt to changing circumstances and establish regular practices to achieve sustainability through innovation.	Inigo et al. (2017), Kabongo and Boiral (2017), Mousavi et al. (2018),
Examination and comparative analysis of different industry and social contexts to understand distinct DCs that can address globally faced challenges.	Beske et al. (2014), Buzzao and Rizzi (2021), Mousaviet al. (2019)
Investigate antecedents and outcomes of DDIC in multiple contexts, especially in the context of different global challenges.	Bresciani et al. (2021), Sultana et al. (2022), Trabucchi and Buganza (2019)
Analyze various practices and approaches to talent management (e.g., inclusive, exclusive, global, green), and examine their effects on innovation talent management and creating a sustainable workforce.	McDonnell et al. (2017), Mitosis et al. (2021), Tarique and Schuler (2010)
Identification of social dimensions-related DCs, which have received less attention when investigating DDIC, sustainability, and social challenges.	Inigo and Albareda (2019), Tiberius et al. (2021)
Examination of emerging infrastructural capabilities and their potential benefits and pitfalls that can have serious implications for managing global issues and threats.	Cioffi et al. (2020), Pan et al. (2018), Park and Li (2021)
Identification of new distinct DCs related to sustainability and emerging challenges, and the development of new measurement tools to accurately capture their elements that have been overlooked due to the inadequacy of conventional measurement models.	Hair et al. (2020), Hulland et al. (2018), Sarstedt et al. (2019)
The use of different methodological choices to examine complex social, environment, and economic problems that extend beyond cross-sectional and regression-based methods (e.g., longitudinal studies, configurational comparative methods, mixed-methods research).	Braun and Clarke (2006), Cervelló-Royo et al. (2020), Kassinis et al. (2016)

with complex social, ecological, and economic issues. For researchers, we provide insights and directions for further research in this area.

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