Nowoczesne Systemy Zarządzania
Zeszyt 17 (2022), nr 3 (lipiec-wrzesień)
ISSN 1896-9380, s. 65-80
DOI: 10.37055/nsz/155322

Instytut Organizacji i Zarządzania
Wydział Bezpieczeństwa, Logistyki i Zarządzania
Wojskowa Akademia Techniczna
w Warszawie

Modern Management Systems
Volume 17 (2022), No. 3 (July-September)
ISSN 1896-9380, pp. 65-80
DOI: 10.37055/nsz/155322

Institute of Organization and Management
Faculty of Security, Logistics and Management
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Managing innovation for sustainability in public administration: the challenges of capacity-building

Zarządzanie innowacjami na rzecz zrównoważonego rozwoju w administracji publicznej: wyzwania związane z budowaniem potencjału

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Abstract. There is a continuous discussion on the role of public administration and on how its management should be structured to meet current societal expectations, such as adopting sustainability. More than a trend, sustainability seems to have become the new absolute necessity of any management strategy and organizational statement. Business enterprises seem to be one step in advance in terms of adopting sustainability, especially with the rise of the ESG criteria implemented mainly by companies. Public sector entities also seem to follow the same path but with less evident speed and visibility. Based on a semi-structured narrative literature review approach, this opinion paper addresses the complexity of public administration capacity building to adopt sustainability through innovation by emphasizing the interdependencies between leadership, orientation towards innovation, values, and organizational challenges. The authors identify barriers and opportunities in adopting sustainability by public administration and propose an empirical capacity-building model for public institutions oriented toward sustainability through innovation.
Keywords: public administration's strategic management, sustainability adoption, innovation strategies, capacity building

Abstrakt. Nieustannie toczy się dyskusja na temat roli administracji publicznej oraz tego, w jaki sposób zarządzanie nią powinno być zorganizowane, aby spełniało obecne oczekiwania społeczne, takie jak przyjęcie zrównoważonego rozwoju. Wydaje się, że zrównoważony rozwój stał się czymś więcej niż trendem, stał się nową absolutną koniecznością każdej strategii zarządzania i świadczenia organizacyjnego. Przedsiębiorstwa wydają się być o krok do przodu pod względem przyjęcia zrównoważonego rozwoju, zwłaszcza w związku z zaostrzeniem kryteriów ESG wdrażanych głównie przez przedsiębiorstwa. Podmioty sektora publicznego również wydają się podążać tą samą drogą, ale z mniej widoczną szybkością. Niniejsze opracowanie, opierające się na częściowo ustrukturyzowanym podejściu do przeglądu literatury przedmiotu, dotyczy złożoności budowania zdolności administracji publicznej do przyjęcia zrównoważonego rozwoju w wyniku innowacji, podkreślając współzależności między przywództwem, orientacją na innowacje, wartościami i wyzwaniami organizacyjnymi. Autorzy identyfikują bariery i możliwości w przyjmowaniu zrównoważonego rozwoju przez administrację publiczną i proponują empiryczny model budowania potencjału dla instytucji publicznych zorientowanych na zrównoważony rozwój w wyniku innowacji.
Słowa kluczowe: zarządzanie strategiczne administracji publicznej, przyjęcie zrównoważonego rozwoju, strategie innowacyjne, budowanie potencjału

Introduction

In 2015 the members of the United Nations adopted the 2030 Agenda for Sustainable Development to provide a blueprint for prosperity and peace for people and the planet for the present and the future. The seventeen sustainable goals of the agenda (no poverty; zero hunger; good health and well-being; quality education; gender equality; clean water and sanitation; affordable and clean energy; decent work and economic growth; industry, innovation, and infrastructure; reduced inequalities; sustainable cities and communities; responsible consumption and production; climate action; life below water; life on earth; peace, justice, and strong institutions; partnerships for the goals) concentrate on ending poverty, and other deprivations going hand-in-hand with strategies to improve health and education, spur economic growth and reduce inequality, all of the above while managing climate change and working to preserve the oceans, seas, and forests (United Nations, 2022). Since then, sustainability has become almost mainstream, everyday practice for many organizations, transforming into reality the basics of the concept that initially was discussed, in the 1990s, as "a call for change in firm practices" (Van Holt, Statler, Atz et al., 2020). The topic was not new for academia but imposed itself on the day-to-day plans after the mentioned milestone. The business environment currently favors the implementation of the ESG criteria in structured approaches, partially because of the orientation of professional investors towards sustainable finance (Păun, Pînzaru, 2021). In many situations, advancing the direction toward sustainability depends on leadership (Fullan, 2004) and organizational values (Buchanan, Fitzgerald, Ketley et al., 2005) and is catalyzed by innovations that reshape managerial practices and instruments (Fagerberg, 2018). Such innovations are, in many cases, technical, providing decision-makers instruments to efficiently implement sustainable practices, such as the digital advancements that have reshaped society and economy during the last decennia.

Discussions on how to stimulate the capacity building of the public administration to adopt sustainability could seem obvious: it is the purpose of any civil servant and, consequently, of public organizations to advance sustainable development. In reality, things might differ, mainly because public administration tends to be rigid to various degrees (Painter, 2010), despite an obvious de-bureaucratization as part of many administrative reforms (Caiden, 2001).

In the following pages, the authors develop an empiric analysis of the challenges of capacity building of the public administration to manage innovation as a driver of sustainability. The approach is based on a semi-structured narrative literature review, covering the triad of innovation, sustainability, and capacity building in the larger context of the public administration's management. The conceptual framework of the relation between innovation and sustainability is first discussed. The authors continue by presenting the current understanding of capacity building in public administration, correlating it with innovation and sustainability. Finally, the paper investigates how innovation could be efficiently managed in public administration to advance sustainability adoption and proposes future research directions.

The complex relationship between innovation and sustainability

Any discussion about the relationship between innovation and sustainability can be understood from the perspective of the metaphor of the egg and the chicken: who was first? We know from theory that innovation can lead to sustainability, as well as that sustainability advances innovation. Considering the UN Sustainable Development Goals mentioned previously and the changes happening swiftly worldwide, we can see that there is a need for private and public sectors need to adapt with agility. One of the responses is the innovation in general and the innovation for sustainability in particular.

Of the various definitions of innovation, the one that fits better in the context of sustainability and its goals is the one of Gopalakrishnan and Damanpour (1997), for whom innovation is related to novelty: a new idea, a new product, or process, a new way of organizing a structure/system, a new technology. In addition to the influence, innovation exerts on economic growth; it also has a special significance for social well-being. For Gray and Milne (2017), sustainability is a sum of economic activities based on ecological fundaments and a system of fair distribution of resources for the existing and the next generations. Rennings (2000) states that sustainable innovation entails creating and implementing new practices that contribute to achieving sustainability goals.

The literature discusses two possible relations between innovation and sustainability: innovation for sustainability (abbreviated furthermore as IfS) and sustainability-driven innovation (shortened similarly as SdI). IfS considers innovation an

engine for sustainability, while SdI explores innovations resulting from sustainability adoption.

The plethora of understandings of the innovations for sustainability (IfS) can be summarized according to typologies previously presented in the academic literature (Albareda, Hajikhani, 2019): strategic IfS; operational IfS; organizational IfS; collaborative IfS; systemic IfS. When investigated from a strategic perspective, IfS covers aspects of sustainable value creation and core competencies, tackling challenges to reach such aims and new approaches to traditional strategic management. Operational IfS, on the other hand, discusses more aspects related to how organizations transform operational processes into more eco-efficient procedures. Waste management, circular economy practices, and eco-innovation practices are some examples of operational IfS. Organizational IfS is the concept that encompasses how organizational transformation is enhanced by IfS, while collaborative IfS considers different societal and environmental partners and stakeholders. Finally, systemic IfS covers sustainable systems transformation to create opportunities for the poorest socioeconomic groups.

Sustainability-driven innovation (SdI) is discussed in literature mainly from the perspective of its benefits for organizations (Kiron, Kruschwitz, Reeves, Goh, 2013), also tackling aspects such as how organizations strive to create economic value by combining social and environmental goals (Sarkar, Pansera, 2017). However, some authors state that solving sustainability challenges should lead to innovations while simultaneously discussing the delay in seeing widespread organizational changes (Van Holt, Statler, Atz et al., 2020). An explanation for such a reality can be found in organizational culture: internal drivers seem more influential than external drivers in adopting both sustainability and sustainability-driven innovation, and adopting sustainability KPIs matters (Van Holt, Statler, Atz et al., 2020; Pînzaru, Dima, Zbuchea, Veres, 2022).

Leadership is one of the critical factors to consider, no matter what type of innovation for sustainability or, on the contrary, what sustainability-driven kind of innovation we discuss. Nevertheless, it is only of the mandatory elements for a successful outcome (see figure 1).

Innovation is not made for its sake but should support reaching a competitive advantage for organizations. However, data is contradictory on this aspect. For instance, analyzing innovations and patents of a panel of 440 UK firms over the period 1972-1982, Geroski (1995) found out that "the benefits from innovation are more likely to be indirect, namely for user industries. However, innovative firms seem to be less susceptible to cyclical pressures than non-innovative firms". Verburg (2019) points out various challenges for leadership when it comes to sustainable innovation, starting with the concept itself of sustainable leadership, an expression beyond semantics and covering different perspectives. Thus, the sense of purpose of leaders, combined with an articulated sense of direction toward sustainability and

innovation, seems to be compulsory to inspire joint efforts. Transformational ethical leadership is found in many examples of sustainable innovations that are developed, in many cases, by the challenges in adopting sustainability itself (Verburg, 2019).

Fig. 1. Understanding frameworks for using innovation for the benefit of sustainability
Source: Bocken, Ritala, Albareda, Verburg, 2019

In all situations, sustainable innovation requires a significant leadership involvement because of its complexity, as it is considered more complex than "conventional" innovation (Weissbrod, 2019): sustainable innovation requires thinking out of the box when considering more dimensions (such as the societal and ecological ones) than in the traditional organizational frameworks. Considering an example, we can see that there are "several decision support methods/tools with an explicit and original purpose to support sustainability considerations in product development. However, the level of implementation in product development of these methods/tools is low, and their generic applicability has not yet been verified" (Zetterlund, Hallstedt, Bromann, 2016). Therefore, in a reality where choosing methods and instruments requires test and trial, as well as experience and intuition beyond knowledge, leadership is fundamental for decision-making and support to implement any project – and this also applies to sustainable innovations.

In the end, a discussion about the relationship between sustainability and innovation leads to evidence of the necessity to discuss the managerial framework of organizing the two and their short, medium, and long-term results. Leadership is mandatory to make both happen, along with relevant resources' allocation and

capabilities' development. Shortly said, it is about capacity building, a concept and a reality that will be tackled further in the paper for the specific context of public administration.

The specific situation of adopting innovation and sustainability in public administration

Innovation is discussed widely in the context of public administration as a part of the broader understanding of the "new public management" (abbreviated furthermore as NPM), characterized by „the introduction of economic rationalism and market logic into public service" (Desmarchelier, Djellal, Gallouj, 2019). The NPM paradigm favors some forms of public service entrepreneurship and intrapreneurship that translate into innovation skills from the perspective of understanding problem-solving skills that are, thus, deployed. The NPM paradigm promotes employee-driven innovation when redefining the citizen as a customer and strengthening decentralization: the operational staff is therefore involved in the innovation dynamics. However, the success of the NPM in promoting innovation in practice varies from one case to another. In a study on the diffusion of innovation of NPM in the local Danish government, Hansen (2011) found out that different aspects of the NPM have different outcomes in terms of innovation. For instance, creation happened more in the public administration when public managers were empowered: the "»let the managers manage« message associated with management by objectives and the less ambitious management by budget control have had the most significant impact of all the NPM innovations and have either been institutionalized or had a powerful influence in more than one-third of the municipalities". Other dimensions of the NPM paradigm, such as privatization and outsourcing, had the weakest effect on the diffusion of innovation in the Danish local public government. Previous studies on the English public administration showed that the adoption of innovation in public organizations is more likely to be successful "where populations are relatively dispersed, where adoption is concentrated upon a relatively limited number of services, and where there was a prior experience of aspects of the program of innovative management reform" (Boyne, Gould-Williams, Law, Walker, 2005). The adversity can explain such results to risk, as well as by the adoption of the NPM paradigm in practice in an "ad hoc and inconsistent ways" and, consequently, "the »newness« of elements of complex public management-reform programs may vary between adopting services, and between units within services".

The next step in understanding the adoption and diffusion of innovation in public administration relates to the translation from the NPM paradigm to the "new public governance" one, abbreviated furthermore as NPG (Desmarchelier, Djellal, Gallouj, 2019). The NPG paradigm introduces the idea of innovation networks

in public services. Co-production for innovation becomes almost a norm in the NPG paradigm, with "citizen engagement that goes into developing innovative services in special public spaces: the citizens of Amsterdam are asked to materially create a sensor, those of Turin are invited to develop and test ICT-based services in a crowdsourcing logic, and those of Boston to gather and generate affordable housing solutions" (Sorrentino, Sicilia, Howlett, 2018; citing: Nesti, 2018). The collaborative innovation specific to the NPG paradigm is explained for public administration by the fact that this is how resources, capabilities, transformative capacities, and political authority can be put together with better results (Bommert, 2010), especially in a temporal moment like the present, when digital technologies facilitate exchanges and co-working. Nevertheless, despite the advantages of the NPG paradigm for the adoption and diffusion of innovation by public administrations, challenges remain in translating it into practice, such as the necessity to develop capacities "that relate to the transfer of authority to determine public value in innovation" (Bommert, 2010). It is difficult but not impossible to define who has the right to decide in a public network with multiple stakeholders collaborating on the effectiveness and usefulness of innovation – and it has to do with the complex capacity-building framework.

Understanding the adoption of sustainability in public administration is also related to the idea of capacity-building, as in the case of the diffusion of innovation, being correlated with a paradigm that influences mindsets, allocation of resources, and organizing teams and activities. In the case of public administration, there is no immediate pressure, such as the ESG criteria for big enterprises or banks; therefore, adopting sustainability practices in this sector seems to be related mainly to legislation, managerial orientation, and employees' values. In all cases, "there is a strong influence of political values" (Marques, Leitão, Carvalho, Pereira, 2021) on adoptingnability in public administration. Marques et al. (2021) show in a recent bibliometric study that cultural and ethical values are also relevant, followed by the emergence of ecological importance, while leadership support is mandatory for adopting and developing sustainability in public administration, as "organizational factors are vital determents of decision-making behavior in the civil service" (Trondal, 2021).

The adoption and operationalization of sustainability in public administration vary according to systems. For instance, Figueira, Domingues, Caeiro et al. (2018), studying the adoption of sustainability in the case of the Portuguese central public administration, found out that policies are implemented. Still, with no distinct strategy or organizational structures: "in 83% of the cases, this policy is incorporated into the organization's global strategy, and it does not represent an independent policy. Only 5% of the organizations have an environmental and 2% a social policy. (…) More than half of the respondent organizations (55%) do not have any department responsible for the management of sustainability matters. In most of these organizations, no staff member is responsible for this area".

In the case of the Swiss public administration, sustainability practices vary according to sustainability governance (abbreviated further as SG) specificities, as presented by Bornemann and Christen (2019)*:* problem-oriented SG; management-oriented SG; strategy-oriented SG; network-oriented SG. For instance, in the case of problem-oriented SG, sustainability problems are politically defined, activities are engaged in the problem-solving framework, and the organizational structure comprises mainly a specialized unit within the hierarchical administrative structure, with a formal legitimation based on an internal task assignment mandate. In the case of the management-oriented SG, the focus is on optimizing procedures, activities considered mainly defining targets and indicators for controlling and monitoring, and the administrative structure is close to the decision center, being centralized and having a solid formal legitimation. The same centralized unit in an executive department with a robust legal legitimation but with more considerable proximity to political decision-makers and power-center can also be found in the case of the strategy-oriented SG, which focuses mainly on sharing opportunities through activities of pro-active agenda setting. In the case of the network-oriented SG, which concentrates on creating societal support, actions especially follow goals of supporting policy-making through externalized contracted offices with a weak legitimation basis and contingent relationship to political decision-makers and power centers.

Adopting sustainability in public administration should go beyond what other entities do, as is the case for enterprises, the financial sector, etc. Public administration is at the core of the system that promotes sustainable development; therefore, its readiness for pushing further sustainable development goals at the levels of policy, strategy, and execution is of utmost importance. Again, it varies from one public system to another and can be interlinked into meta governance approaches (Meuleman, 2021): "For example, energy governance is currently dominated by market governance in many countries. It is linked to climate action, which often leans toward hierarchical solutions (legally binding agreements)". Such interconnections can lead to difficulties: for instance, in network-based SD, there is a genuine concern regarding the possibility of „endless talks with no results (…) and a lack of clear lines of responsibility" (Meuleman, 2021).

Accelerating the adoption of sustainability in public administration seems an obvious necessity, but its efficiency varies according to many factors, as we have highlighted above. Sustainability is conditioned in many cases by how mature, agile, and robust the entity that operationalizes it is, and innovation is critical to put it to practice. We advocate here that a flexible yet strong system should be developed for such a reality, focusing on capacity building, as presented below.

The challenges of capacity-building in public administration to manage innovation as a tool for sustainability

Capacity-building is a complex reality for public organizations seeking continuous development and adaptation of skills, abilities, processes, and resources needed to thrive in our fast-changing world. The concept of capacity-building is challenged by numerous understandings, deriving mainly from the necessity to address it from the perspective of a new paradigm comprising new attitudes that should be developed (Kaplan, 2000). Such an approach is not new: Honadle (1981) signaled four decades ago that capacity-building is more than about a choice between survival and service: a complete capacity-building framework in the case of public administration should comprise making policies, developing programs, attracting, absorbing, and managing resources, accumulating experience, applying lessons for future activities, and anticipating change to restart the process all over again. As Honadle (1981) stated, capacity is reflected in institutions, and its management needs standards with a clear understanding of implications on policy and future applications.

"Capable organizations are forward-thinking (…) and do more than simply attract resources" (Honadle, 1981). The US National Academy for Public Administration (2022) states that public organizations are challenged by ongoing processes such as managing technological changes, protecting and advancing democracy, strengthening social and economic development, and ensuring environmental sustainability. All these ambitious goals require proper policies, resources, management, operations, skills, and lessons learned: simply said, we advocate for an appropriate capacity framework focusing on sustainability, digitalization, and innovation as a levier of the overall system. Public administration should focus, therefore, more on innovation and sustainability in the light of current developments in our world – by using innovation as a tool for sustainability. "First, the government must develop the capacity to explore its innovation needs. These needs might be detected inside or outside government and top-down or bottom-up. Second, to identify innovation resources, the government needs to build the capability to look across and outside the organization. Third, having identified the innovation resources government needs to be able to motivate and enable actors to apply their resources. Finally, the government needs to coordinate the application of resources to innovate public value" (Bommert, 2010).

In our opinion, capacity-building of public administration should focus on sustainable development as the ultimate goal, using all available resources and lessons learned from constructing e-government policies, operations, and frameworks. Such an idea is consistent with the opinions of other authors, such as Fiorino (2010) and Nica (2015), but its practice is still an ongoing process. An important aspect that remains to be also included in some cases, such as in countries in development, is

transparency. In countries where nepotism and corruption vitiate public service, capacity-building for sustainable development is corrupted, not to mention that including innovation in the equation is debatable. It is the case of the general administration of Bangladesh, for instance, where the first step toward cleaning the system and making it efficient with depoliticization and eradication of corruption, as signaled by Sarker, Bingxin, Sultana et al. (2017).

If, in the case of developing countries, the main challenge for capacity-building remains corruption and politicization, in the case of developed countries, we can observe other issues, such as the necessity to involve more communities in the process or the difficulty of addressing sustainability in a practical and shared way. Forecasting and innovating accordingly add to the complexity: the recent pandemic of COVID-19 showed how unprepared organizations are for different scenarios that could happen rarely but are not impossible. Academia discusses "future-ready" companies (Yu, Shan, Boutalikakis et al., 2022), so maybe the next step would be a similar discussion in the case of public administration, starting with goals and capacity-building and focusing on innovation as a mindset and an organizational flow. In this light, an integrative conceptual model of capacity-building could comprise, in our opinion, elements at the individual, organizational, communal, and government levels (see figure 2).

Figure 2 presents the author's empiric proposal, based on a literature review, on significant elements that should be integrated into the effort of capacity-building to incorporate innovation as an instrument for adopting sustainability in public administration. Thus, as discussed previously in academia and presented in precedent pages, the role of leadership is crucial: a formal and perseverant adoption of sustainability as a primordial goal would be the first step, followed by continuous communication on the topic from the top to bottom and by cascading correlated management objectives.

In some cases, such an adoption can be enhanced by regulations or the pressure of public opinion. Still, in the long term, genuine values oriented toward the sustainability of leaders and similar attitudes would make the difference, as signaled by Gerard, McMillan, and D'Annunzio-Green (2017) when discussing the challenges of sustainable leadership. The same authors state that "the successful implementation of sustainable leadership arguably depends on an effective, sustainable culture within the organization and how this is affected by the external environment". Therefore, when declaring sustainability the essence of the institution's focus to be developed through innovation, leaders must act simultaneously by attracting and using the right resources, constructing and operationalizing the adapted processes, and, overall, actively promoting an innovation-oriented culture toward sustainability. For such an approach, employees should be educated on innovation and sustainability, both at the level of knowledge and skills, in the hope of continuously adjusting values.

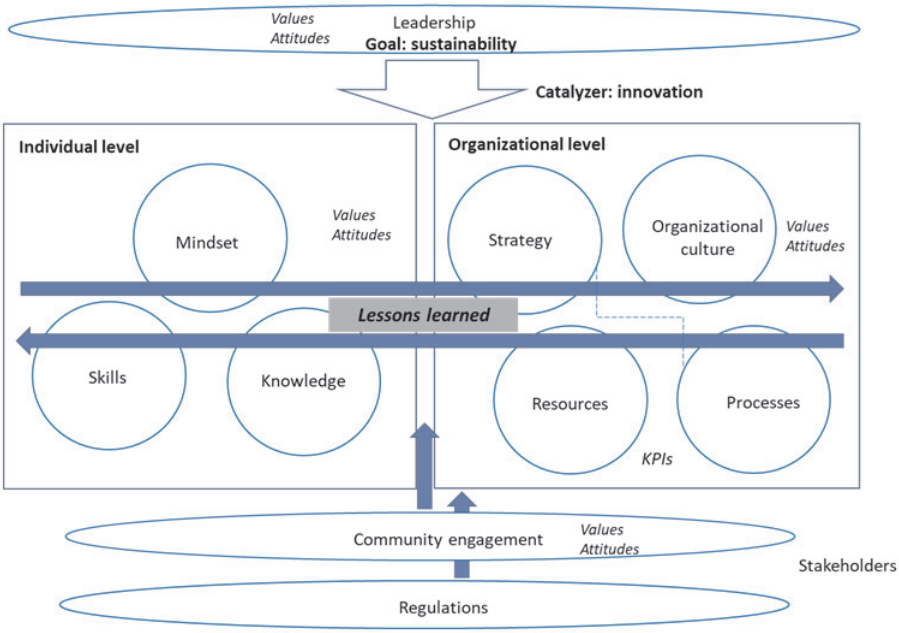

Fig. 2. Authors' proposal of a conceptual model of capacity-building to integrate innovation for sustainability in public administration

Source: own elaboration

At the organizational level, capacity-building for adopting sustainability through innovation is, in our proposal, a correlative reality between strategy, organizational culture (driven by leadership and employees), resources, and adapted processes. To enhance lessons learned and to find new opportunities, including community (in the large sense) into generating innovation-oriented toward sustainability is a must, through well-established processes and efficient communication. Last but not least, the overall framework should be correlated with regulations, and constant adaptation should be considered, adjusting KPIs in strategy accordingly. This last element is essential, as defining proper KPIs is critical in shaping strategy and operations. If in the case of enterprises, this aspect is evident – Păun and Pînzaru showed in 2021, citing Berg, Schleg, and Stuchtey (2015), that the adoption of sustainability in business is, in many cases pragmatic, driven by the necessity to reduce costs, to take advantage of new business opportunities, things tend to be debatable in the case of public administration. Therefore, the proper definition of cascaded objectives correlated with KPIs should result from a careful analysis when defining the orientation of specific public institutions toward sustainability through innovation.

Instead of conclusions: discussions, and future research considerations

Literature remains scarce for the time being on discussing the adoption of sustainability in public administration, and its correlation with innovation seems to be more evident in the case of business. However, public administration should promote the concept of sustainability as the primordial infrastructure for the development of society. As known from previous research, mainly from the business field, sustainability is driven by innovation and leads to more creation. Public administration has significantly evolved during the last decades into embracing innovation. Therefore, adopting sustainability into practice through innovation seems to be the next logical step for public administration, as we advocate in this paper. Beyond such evidence, work must be done: our conceptual, empirical model of capacity-building integrates elements discussed separately in the literature, such as leadership, individual, and organizational challenges, correlating them with the integration of community and stakeholders' involvement and respect for regulations. As a manifesto with a practical proposal, this paper does not validate the specific correlation between the dimensions of our model. Thus, future research could be oriented to define and test which elements are more critical and in what situations. Our approach did not consider national cultural differences, but they could also be investigated in the future.

Beyond the limitations presented above, our paper synthesizes three significant aspects of much importance for public administration: innovation, sustainability, and capacity-building. By putting them together coherently, the authors have tried to signal the importance of adopting sustainability in public administration as a core focus. Moreover, through the proposed integrative model presented empirically, leaders of public administrations can find a working framework of how to operationalize the adoption of sustainability through innovation for robust development. Last but not least, the proposed empirical model suggests practical solutions for different barriers that could be encountered in adopting both sustainability and innovation in public administration, making it useful for public managers of different levels.

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