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Innovative Public Procurement Failure: A Case Analysis from Poland

Abstract

Objectives: The rising popularity of Innovation Public Procurement (IPP) raises questions about its effectiveness as a tool for transformative policies, including governance levels, coordination, and strategic development. The purpose of the article is to explore the failure of governance in a Polish IPP to present how IPP guidelines are implemented empirically.

Research Design & Methods: The research article presents conclusions from the case study of first large-scale trial of public procurement procedure with respect to an innovative partnership in Poland.

Findings: The case is a rarely analysed example of policy failure and shows that ignoring stakeholders' needs, timeline constrains, and market capacity can result in policy failure. Programme history highlights that proper risk analysis and adaptation to the market context can prevent programme failure.

Implications/Recommendations: The article opens up a field for considering what steps are crucial in formulating IPP, especially in country with lower level of innovativeness. The analysis leads to the main conclusion that transformative policy frameworks using demand-pull tools need to be embedded in the market realities and capabilities of national innovation systems.

Contribution/Value Added: The article strives to fill a gap in the literature on implementing transformational innovation policies in peripheral countries, which are less frequently described. The other contributions refer to merging the DARPA's approach and IPP.

Article classification: research article

Keywords: innovation policy, innovation public procurement, policy failure

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Introduction

Innovation policy plays a pivotal role in shaping the relationship between research and development (R&D) and industrial policies, aiming to foster the journey of ideas from inception to market implementation. There are numerous factors that encourage or discourage innovations, so innovation policy involves selecting the right combination of variables that contribute to the development of the innovation process, particularly those that are significant for society and the state (Edler & Fagerberg, 2017). In the new paradigm of innovation policy, which addresses broad societal challenges, policymakers are given a large responsibility for setting or shaping the direction of socio-technical transitions (Bergek et al., 2023). The so-called demand-pull instruments stimulate such a process by creating a market, e.g. using innovative public procurement (IPP), subsidies for consumer purchases of new technologies, or stronger intellectual property protection to increase appropriability (Edquist, 2014; Leibowcz, 2016).

Articulating a demand through public procurement increases the chances of an innovation being accepted and adopted, shaping and legitimising the innovation process (Frenken, 2017; Grillitsch et al., 2019). The IPP could be carried out in a two-stage process, starting with a precommercial procurement where a Research and Development (R&D) service contract is awarded, and followed by a procurement procedure of the already developed innovative solution (construction, services, goods) on a commercial market (Andrecka, 2017). Among them, special attention is currently paid in Europe to Pre-commercial Procurement (PCP; which only includes an R&D phase to prototype), Public Procurement of Innovative Solutions (PPI; includes a purchase of innovative solutions which are not yet available on a large-scale commercial basis), and Innovation Partnerships (IP; which combine an R&D phase with buying results) (Iossa et al., 2022).

The purpose of the article is to explore the failure of programme's governance in a Polish IPP to present how IPP guidelines are implemented empirically. The research problem considers the first application of an IP in the first large-scale initiative in Poland, with the demonstration of the flaws resulting in the failure of the conducted procedure. It should be noted that failure is often embedded in taking risks in such innovative ventures, which is part of the learning process. The selected example is analysed mainly at the level of public governance. The article strives to fill a gap in the literature on implementing transformational innovation policies in peripheral countries, which are less frequently described.

This paper is composed of three parts. The first part analyses the state-of-the-art on innovative procurement and its usage in innovation policy. The second part includes the context and the story behind the case. The third part, in turn, presents an in-depth analysis of the case as well as conclusions, and discusses the potential future dilemmas.

Innovative public procurement as a policy tool

The European Commission decided to stimulate a critical mass of demand for greener goods and services, which otherwise would be difficult to get onto the market, by setting a non-binding target of 50% of public tendering to be compliant with its sustainability requirements by 2010. The rationale behind it was to favour improvements in the environmental, energy, and social performance of products and services (Russ et al., 2009). It means that we can place the innovation procurement among tools for transformative innovation policy, which focuses policy efforts on issues around system change and structural transformations (Schot et al., 2017).

According to 2018 data, IPP investments were concentrated in a few domains of public sector activity: general public services (35%), health care (21%), public transport (10%) and public order, safety, and security (8%). Evidence demonstrates higher levels of IPP expenditure in public sector activity domains where a higher level of competition with the private market exists (e.g. transport and health), under a higher pressure to innovate (security) or where there are clear political ambitions to innovate (e.g. investments in transport focused mainly on ‘greening’ mobility services) (EC 2021).

Public administration plays a central role in creating an enabling environment for innovation-driven public procurement. By defining needs, shaping the market, engaging stakeholders, and undertaking institutional work, it fosters innovation, drives technological advancement, and contributes to addressing societal challenges and regional development. Successful public procurement-driven innovation requires clear contract specifications that address a consistent set of needs, prioritising quality over price in tenders, providing an assured market for early products with uncertain commercial possibilities, and fostering information-sharing and competition among contractors to stimulate technology diffusion (Geroski, 1990). IPP can effectively address narrower societal challenges if certain factors are considered, such as the type of IPP, market intelligence collection, stakeholder engagement, specifying functional requirements, operational expertise, and balancing competition and cooperation with suppliers (Edquist & Zabala-Iturriagoitia, 2012). However, regulatory issues may hinder IPP implementation (Wesseling & Edquist, 2018).

Additionally, Uyarra et al. (2019) explore the complexities and institutional work involved in the implementation of IPP across four dimensions: political, regulatory, organisational, and cultural. This institutional work refers to actions taken by actors to create, maintain, or disrupt institutional structures (Lawrence & Suddaby, 2006; Lawrence et al., 2009). Political work involves securing sufficient support for the policy, delineating clear roles and responsibilities, and mobilising resources to address costs and risks. Regulatory work focuses on defining rules and procedures and adapting the existing practices to facilitate adoption. Organisational changes are necessary to support the management, monitoring, and evaluation of the practice, as well as to create intermediation structures to facilitate links across the public sector (Edler & Yeow, 2016). Lastly, cultural changes aim to improve the technical skills and training of procurers and create a critical mass of professionals to institutionalise the practice.

Zabala-Iturriagoitia’s (2022) case study on a Spanish health care agency using IPP to support regional intelligent specialisation (RIS3) in Galicia highlights the importance of public sector capabilities in advancing regional economic development. In peripheral regions, characterised by institutional thinness and the lack of technological capabilities and critical mass, the public sector’s role in driving innovation is particularly crucial due to the less dynamic and innovative private sector. The study provides a framework of public sector capabilities required for successful IPP implementation, including knowledge of local players and companies, effective communication of public needs, linking actors to technologies, identifying necessary specifications, designing tenders, and coordination with other policy levels. It emphasises the need for openness and willingness to experiment to effectively implement IPP in such regions.

These papers collectively highlight the significance of clear contract specifications, quality-focused tenders, and stakeholder engagement in public procurement-driven innovation. They also emphasise the importance of institutional work, regulatory considerations, and capacity-building in successfully implementing IPP to address societal challenges and promote regional economic development.

Table 1. The literature review about the IPP's effective implementation

Paper	Main Focus	Key Findings
Geroski (1990)	Successful conditions for IPP implementation	<ul style="list-style-type: none"> – clear and consistent needs specified in the contract; – emphasis on quality over price in tenders; – assured market for early products with uncertain commercial potential; – forced information sharing and entry of new competitors to stimulate technology diffusion.
Uyarra et al. (2019)	The complexity of IPP implementation and institutional work	<p>Institutional work associated with IPP implementation in four dimensions:</p> <ul style="list-style-type: none"> – political support and resource mobilisation; – regulatory work needed to define rules and adapt existing practices; – organisational changes to support management, monitoring, and evaluation; – cultural change to improve technical skills and training of procurers and create critical mass of professionals.
Edquist and Zabala-Iturriagoitia (2012)	IPP for addressing societal challenges	Success factors include type of IPP, market intelligence collection, stakeholder engagement, specifying functional requirements, operational expertise, and balancing competition and cooperation with suppliers.
Zabala-Iturriagoitia (2022)	IPP for regional economic development	Public sector's capabilities for IPP includes knowledge of local players, effective communication of public needs, linking actors to technologies, specifying necessary requirements, designing tenders, and coordination with other policy levels.

Source: Own elaboration based on Geroski (1990), Uyarra et al. (2019), Edquist & Zabala-Iturriagoitia (2012)x, Zabala-Iturriagoitia (2022).

Research methodology

The study applies the qualitative case studies approach to the first large-scale IPP initiative in Poland, where there was a clear link between national strategy and execution level.

The National Centre for Research and Development (NCRD, Polish: NCBR), the governmental executive agency for funding R&D and innovations, has implemented the electromobility research programme “Zero-Emission Public Transport” (ZEPT) by the public procurement procedure of innovative partnership as the first public institution in Poland.

The reason for conducting this case study was exploratory, in particular, because of the need for a deeper understanding of challenge-based innovation policy's complexity in a market context (Eisenhardt, 1989; Yin, 2003). The case study approach also allows the researcher to gather information from a wide range of sources such as documents, interviews, and observations (Bryman & Bell, 2003; Flyvbjerg, 2006). This study relies most on desk research analysis and interviews with NCRD managers. The information gathered on these occasions was documented on an ongoing basis as memory notes. These notes were gradually processed in subsequent contacts with managers, but also elaborated and verified by published articles, interviews, and comments on the NCRD's procurement.

The case study of IPP

In 2016, the IP was entered into the Polish Public Procurement Law (2016) as a mode employed when desired products or services are unavailable in the market. In practice, innovative public procurement has rarely been used in Poland, with only 0,01% of contracts awarded under this mode in 2017 and 2018 (Przetargowa, 2021).

The IP mode has specific stages according to the Polish Public Procurement Law (2016). During the first planning stage, market research is conducted to confirm the absence of the required item in local and international markets. The subsequent analysis explores the potential creation of the product or service through innovative partnerships, with the final stage involving estimating the order's value within this framework.

Article 189(2) defines innovative partnerships as a method allowing all interested bidders to participate. However, the broader verification scope for innovative partnerships, assessing contractors' capabilities in research and development, financial stability, and technical proficiency can pose limitations. The contracting authority invites qualified bidders for negotiations, specifying essential project elements, and bids are later invited for research and development work. This method streamlines the procurement process into a single contract covering both research and development and implementation phases. Consortiums can deliver products or services, allowing specialisation in different project stages. The innovative partnership mode allows for the presence of multiple partners to stimulate competition. However, a given contractor may have concerns in a larger group about securing their interests in the long term, as the contracting authority may choose multiple offers (Czaja, 2022).

The unique aspect of this procedure is the immediate purchase of the developed innovation from the supplier without the need for another tender. R&D financing allows for the clients' strong influence over the final product's appearance and technical parameters. Additionally, the IP procedure provides flexibility in procurement aspects through specific contract agreements, such as intellectual property rights. According to Article 206(2), the contracting authority ensures that the partnership structure reflects the innovation level and necessary timelines and actions for the innovation solution (Dziadecki & Miętek, 2018).

The DARPA's approach

The analysed case of innovation procurement was also a way to test a new innovation financing approach in Poland using the Defense Advanced Research Projects Agency (DARPA) model in the European reality. Governmental support to innovative activities through public procurement (PP) is seen as a fundamental driver for implementing crucial technologies, as it happened in the case of general-purpose technologies, which were driven by defence-related procurement in the USA (Ruttan, 2006). The DARPA was formed in 1958 as a research and development (R&D) agency within the US Department of Defense. It uses an ambitious innovation organisation model, operating as public sector intermediaries between science and industry to pursue mission-oriented, high-risk/high-reward, breakthrough research. Mazzucato (2018) proposed using the DARPA model to boost mission-oriented innovation policies in Europe. According to this idea, the state has an active role in creating innovations, instead of the traditional economist "fixing market" approach. The state has often actively co-shaped markets, and taken high risks, before the private sector was willing or able.

The ZEPT financing model was based on solutions developed by the DARPA. It assumed that the scientific and business community proposed an innovative solution to the problem reported by the public sector contracting authority (NIK, 2019). The NCRD had to cooperate with many potential contractors, because it applied the so-called funnel method, which eliminates competing contractors along with implementing individual stages of public procurement. As part of the IP, the contracting authority sets goals to be achieved after each stage or milestones. If suppliers' deliverables after each stage do not meet the requirements, they are eliminated from the programme. In the final phase, i.e. implementation, only one contractor should be "the winner". This procedure was to ensure a higher product innovation quality at an unchanged proposed purchase price. The advantage of this solution is that several entities, commissioned by the NCRD, work on a given solution simultaneously. These entities then create a portfolio of projects that compete in achieving the assumed goal and mitigate the risk of failure of the entire venture if something goes wrong.

The strategic context

In 2010, the European Commission emphasised "Resource-efficient Europe" as a priority in the "Europe 2020" strategy, focusing on a low-carbon economy and improved transportation. Member States were encouraged to use public procurement and market-based instruments to drive sustainable changes. In 2011, the Commission adopted the "Roadmap to a Single European Transport Area," with a focus on clean urban transport and better commuting options. Poland understood how the future transport has to change and since 2016, the Polish government has been working on a national "Responsible Development Strategy". Within this strategy, one of the flagship projects is the "E-bus" with goals of stimulating the design and production of Polish electric vehicles for the needs of public transport. Its goal is also to build strong entities at all stages of the value chain in the production sector of public transport rolling stock: electric buses and trams. It was a basis for launching the ZEPT.

Polish cities with a population of over 50,000 will require entities providing public transport services to have a 30% share of zero-emission buses in their fleet. The Polish government aimed to explore new methods of managing research and development programmes while preparing the market for this rule. The NCRD Director decided that the outcome of the ZEPT programme would be the production of these buses after discussions with the Minister of Development and the Minister of Science and Higher Education (NIK, 2019). The overall goal of the ZEPT programme was to develop and deliver around 1,000 innovative, emission-free public transport buses to local government units by 2023. It was decided that a bus prototype would be created as a research product, which would provide a competitive advantage on the market for entities interested in participating in the programme.

The planning stage

The IP model required the NCRD to seek programme co-contractors. The call for public partners for the IPP was issued on December 5th, 2016, resulting in 21 cities, the Upper Silesian Industrial District, and three other entities expressing their initial interest in the project. For efficient ZEPT programme management, a specialised e-platform facilitates communication with cities. A crucial platform component was a survey with 169 questions filled out by city representatives, identifying primary needs in modern, emission-free public transport. Initially, cities indicated

the potential purchase of around 430 modern buses. However, the survey did not yield highly innovative solutions for the required R&D phase of the IPP.

In that situation, the NCRD conducted a state-of-the-art diagnosis to find novelty requirements and two innovative features of the final product were defined: (i) the use of interchangeable components (modules) ensuring mutual substitutability of various types of energy storage; and (ii) the ability of the vehicle, at least in the depot area, to drive autonomously at the SAE level 3¹. As the programme's rules, most intellectual property rights should stay with the NCRD, as this agency, as a co-contracting authority, finances the ZEPT programme in the R&D field.

In the period from June to July 2017, the agreement on the joint implementation of ZEPT was signed by the authorities of 23 cities and the Communications Communal Union of the Upper Silesian Industrial District. The cities declared an intention to purchase six buses in total and 201 buses in the event of obtaining a non-returnable subsidy for the purchase of vehicles in the intensity of at least 60%. They also obtained the right to use the option to purchase 871 buses. The programme implementation period was set at 60 months, until the end of 2023. The total value of the contract comprised:

1. The research part, during which research projects were carried out to develop prototypes of vehicles. For this part, the budget was estimated at 20 million EUR, for which the NCRD obtained funds from the EU budget.
2. The implementation part, during which vehicles should have been purchased. The budget was estimated at over 0.5 billion EUR, such was a response to the demand of the signatory cities for innovative vehicles. The National Fund for Environmental Protection and Water Management had to participate in the co-financing of this stage.

The tender stage

In August 2018, the NCRD published the specification of the electric bus to be built under the tender. Even before the end of 2018, news had begun to circulate that the largest players on the bus market may not be interested in participating in the competition, because it was unacceptable for them that intellectual property rights to the results would be owned by the NCRD, not by them, and in future they would have limited capacity to produce the created solutions.

In November 2018, when the bids were opened, it turned out that no major bus manufacturer has joined the procedure. Bids were submitted only from three consortia: one headed by Polish technology university, one small company, and one larger with financial problems. Additionally, all

¹ The provisions of the Public Procurement Act defining an innovative product required the final product to be innovative. The required innovation of the final product was specified, i.e. the bus should have two necessary innovations:

- the use of interchangeable components (modules) in the field of vehicle power sources that ensure the interchangeability of various types of energy storage: traction batteries and hydrogen fuel cells with a hydrogen reservoir;
- the ability of the vehicle, at least in the depot area, to drive autonomously, i.e. conditional driving automation at SAE level 3 according to the classification of document J3016 Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles of SAE International. Level 3 vehicles have “environmental detection” capabilities and can make informed decisions for themselves, such as accelerating past a slow-moving vehicle. But – they still require human override. The driver must remain alert and ready to take control if the system is unable to execute the task (source: https://www.sae.org/standards/content/j3016_202104, accessed: 4/14/2022).

three have exceeded the budget. However, in the end, the NCRD granted money for the research and development phase to all three entities. Nevertheless, at the beginning of 2019, upon inspection from the Public Procurement Office, the bids of the smaller company and the university were rejected. Only one player remained in the game, but at that time, the company had already fallen into deep financial problems and started the restructuring process.

In June 2019, the NCRD decided to cancel the entire procedure. However, the NCRD announced that the funds would not be lost and that a technical dialogue will begin to allow to re-approach the implementation of the idea to build a Polish electric bus. Thus, in July 2019, the NCRD announced the second procedure of innovative partnership for the supply of new electric buses for Polish cities.

The IP implemented using the EU cohesion funds imposed strict time and financial limits for performing the task. These limits, however, did not correspond to the technology development cycle, which additionally requires ensuring high security standards. As a result, the contractors expected the R&D phase to be extended to a minimum of 24–30 months, which was not considered by the NCRD when drawing up the schedule for the second procedure. In this procedure, the R&D phase was shortened from 30 to 21 months. This reduced the attractiveness of the contract to potential contractors, as it transferred the risk of delayed implementation of the R&D phase to them.

The basic rules have not changed in comparison with the failure of the first competition, but the NCRD added over 90 million EUR to the budget pool. Some suppliers wanted to participate in the new procedure, but it was not possible to complete it either. In April 2020, the second procedure remained invalidated, which was a premise to close the programme, as ZEPT was financed from EU funds, so it was a formal constraint to complete it until the end of 2023. In the context of the order's scale and the time necessary for implementation stages, there was no possibility to reach the programme's goals, and as a result, the ZEPT programme was officially closed.

Lessons learnt

After this story, the agency abandoned IP in favour of the pre-commercial procurement (PCP) mode. The PCP mode differs from IP in that the contracting authority specifies the framework requirements of the innovation to create a demonstrator, but the tender is not immediately connected to the purchase of the produced solutions. Intellectual property rights are shared between the contracting authority and the contractor. The PCP model reduces the risks associated with the implementation to the contractor, but does not immediately create a purchasing market.

Results

The situation being discussed is a rarely studied instance of policy not achieving its intended outcomes. As noted by McConnell (2015), “failure” is seen at the far end of a spectrum between success and failure, characterised by a complete lack of accomplishment. The goal of the ZEPT programme, which was the development and delivery of about 1,000 innovative, emission-free public transport buses to local government units by 2023, was burdened with a high risk of implementation failure. When there is a disconnect between policy goals and the methods put in place, it is referred to as “implementation failure” (Uyarra et al., 2016).

Hudson et al. (2019) identified four main contributors to policy failure: unrealistically high expectations, implementation across various governing bodies, insufficient collaborative policymaking, and the influence of political cycles. It appears that three out of these four factors are present in the case under scrutiny.

Overoptimism

First, all aspects of overoptimism (i.e. unrealistically high expectations) can be seen, e.g. in the area of complexity (underestimating the delivery challenges); in evidence base (insufficient amount of objective, accurate and timely information on costs, timescales, benefits, and risks); misunderstanding the stakeholders (optimism about the ability to align different views); behaviour and incentives (interested parties boosting their own prospects); and challenge and accountability (decision-makers seeking short-term recognition) (Hudson et al., 2019). It appears that these mistakes were made in terms of gathering knowledge of local players, companies, their cultural aspects, and, therefore, their potential to address the particularities of the future (public and private) demand. It eliminated both small entities and key producers from the conducted public procurement, because it required to book production lines for all period of choosing the best bid.

In addition, the NCRD failed to recognise that companies with the potential to execute the contract quickly have different interests than political decision-makers. When selecting a complex end product in the ZEPT programme (an electric bus) and implementing a programme dedicated to charging infrastructure, the NCRD did not carry out prior reliable analyses verifying the adopted assumptions (regarding, among others: a new formula for running programmes, determining the needs of potential recipients, innovative nature of the applied solutions, risk of multiple stakeholders, expectations and capacity of the producers' market). During the implementation stage of the programme, in turn, an evaluation approach was not used regarding the beneficiary level and external context. Self-learning processes were limited, as the programme did not implement the monitoring and evaluation framework. The lack of due diligence in making key decisions about the shape of the ZEPT programme, in turn, resulted in creating of a very complex and multi-threaded programme, burdened with a significant risk of not being implemented within the assumed time and financial framework. According to Dolfisma and Seo (2013), technologies either develop discretely, independent of what specific knowledge has been developed in the past, or they develop cumulatively, and governments should keep these characteristics in mind when designing policies to support innovation. The issue of the pace of innovation development seems to have been ignored in the case of the public procurement under review (Dolfisma & Seo, 2013).

Inadequate collaborative policymaking

The next factor contributed to policy failure in this case was inadequate collaborative policymaking, i.e. the needs of the participating cities were not sought or heard, which translated into a failure to create a market for the sale of innovations. Ansell et al. (2017) emphasised the need for policies to be designed in a way that “connects actors vertically and horizontally in a process of collaboration and joint deliberation.” It seems that the relationship between the NCRD and the cities was not exactly a partnership due to the asymmetries of the negotiating position: the NCRD had the last word in choosing the innovation to be created. This did not meet

Zabala-Iturriagoitia's (2022) recommendation to skilfully combine technology with the needs of transformation stakeholders.

The mission's focus on zero-emission transport, driven by the EU and national strategies, was determined at the ministry and agency level despite cities being the ultimate recipients of innovations. While centrally supported, the local engagement varied, leading to diverse needs at the city level. The top-down decision-making process, centred around the imposed IP formula, lacked proper dialogue with cities. The mission's defined solution was not universally applicable, as cities had diverse transport needs and expectations for the final product. The adopted technological solutions determined to a large extent the price and costs of vehicle use and could indirectly influence the small number (six units) of orders placed by cities as part of the mandatory purchase. The cities primarily expected an inexpensive, reliable, and low-emission vehicle with charging infrastructure. Adopting the two innovations made the product more expensive and did not have a significant impact on meeting the needs of the cities.

Consequently, it reduced the attractiveness of the ZEPT programme for potential contractors, who would have to put two innovations into production in a short timeframe. This ambitious goal eliminated both small entities and key producers from the conducted public procurement. Because of the low number of purchases guaranteed by cities, in turn, there was a risk that the assumption of guaranteeing a market for producers would not be met.

This conclusion is very close to an observation from Georghiou et al. (2014) that innovation policies' goals are not always well-rooted in governance terms. The goals are often owned by ministries or agencies responsible for innovation policy, while successful implementation depends on the sub-national level. These actors do not necessarily have the same commitment or understanding of innovation, which creates a much bigger challenge to secure the diffusion of the policy.

The political cycle vagaries

The last important contributor to failure is the impact of the political cycle vagaries. The concern here is that policymakers are more likely to get credit for legislation that is passed than for implementation problems that have been avoided. One consequence of this is that decision-makers are too easily attracted to the prospect of short-term results. This can lead to the pushing through of policies as quickly as possible rather than getting involved in the messy, protracted, and frustrating details of how things might work out in practice (Hudson et al., 2019).

It seems that the Ministry and the agency wanted a quicker success without a prior modest pilot with a smaller impact. The case also shows the important dilemmas of transformational policies in the context of delivering rapid change results, i.e. whether there is a willingness to create new product segments through start-ups or small and medium-sized companies, or whether they want to support large companies with the potential for rapid implementation. An important part of designing such policies should be considering designing a roadmap for transformation. The conclusions show that it is important to have a long-term vision of a public investor to create a new market rather than just trying to place itself on the map of competitive production with the short-term profits.

Conclusions

The NCRD's intermediation between contracting cities and contractors, coupled with project funding provision, appears to have led to excessive opportunism in the utilisation of innovative partnerships. This intervention has also disrupted the planning phase, as per public procurement law, where the Contracting Authority assesses whether the innovation partnership aligns with its requirements. In fact, the lack of adequate preparatory analyses in accordance with legal requirements has been blamed on the NCBR by the National Audit Office (NIK, 2019). The research results revealed that the programme attempted to address three distinct challenges within a very limited timeframe, which turned out to be non-complementary: testing new ways to support R&D activities in the DARPA model, stimulating the demand and supply of a specific solution through public procurement, and promoting the Polish electromobility industry. As a consequence, there was an inconsistency between the actual needs of the co-contractors, the vision of the final innovative product, and the assessment of business risk by the programme participants. Buses were too complex a product to take any risk in purchasing by cities. It is noteworthy that, in accordance with regulations, bidders were rejected if they failed to meet the legal prerequisite of having the potential to implement and sustain the production of the developed innovation.

It seems that it is not the law that is an obstacle to the successful application of innovative partnerships, but, rather, the public sector's aversion to establishing a test market for highly innovative technological solutions. The described case shows that radical innovation is not possible in an innovation partnership, in particular in products that require certification and repeatability. The market is prepared for incremental innovations, and this is also expected by customers who need proven, reliable solutions. Innovative partnership would allow for the creation of radical innovations in areas where the recipient is open to testing new products, perhaps on a much smaller, pilot scale. It would be interesting to ask a question whether the innovations required in the ZEPT programme would have been able to solve any climate issues. It seems that they were rather features that would upgrade the technological frontier of e-buses.

The programme history also shows an extremely important element of programme implementation risk management, e.g. by setting unrealistic implementation assumptions. Properly conducted risk analysis could prevent the failure of the programme, which was also required by law. Additionally, capacity-building investments in skills and competencies will be sustainable in meeting future implementation challenges. Training, peer learning, information, guidance, project management skills, and other such interventions could all have a part to play to prevent possible failures.

This article makes three contributions to the literature. The first aspect pertains to utilising innovative public procurement as a tool for effecting a transitional change in the system. Its second contribution is presenting empirical consequences of when the transition's goal is not embedded into the socio-technical reality. The paper has illustrated different contexts of IPP implementation with the lower public procurement's capabilities. The other contributions refer to merging the DARPA's approach and IPP. It seems that policymakers should assess more carefully whether the targeted market would be attractive to compete in, especially when project risks refer mainly to IPP conditions, i.e. IPR, budget or timeframe, not to R&D works. The article opens up a new field for considering which instruments of transformative innovation policies are legitimate in countries with a lower level of the national innovation system development and what steps are crucial in formulating innovative public procurements.

The study has some limitations in terms of using the single case approach. Moreover, it was concentrated on the tender process, without analysing the capacity on the agency side. One area that requires additional research is the link between public administration capabilities with the designed shape of transformative innovation policies. Another question is to what extent the freedom of stakeholders to shape solutions is important, and to what extent the solutions imposed by the administration are preferred to depend on public administration's capabilities. The analysed case presents the weight of such dilemmas in relation to the success of transformative policies. The identified reasons for failure are relevant to the context of the case study, while their universality should be confirmed by further research, including issues related to needed legislative changes and governance in complex ventures such as IPs.

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