From Crowdsourcing to Global Networks: The Hellenic OCR Team as a Best Practice of Volunteer-Driven Parliamentary Innovation

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Abstract
This article presents the Hellenic OCR Team as a model of innovation in parliamentary studies, tracing its evolution from a crowdsourcing initiative into an international and interdisciplinary collaborative network. Particular emphasis is placed on the team's voluntary character and on the productive interaction between younger members' fresh perspectives and the expertise, institutional knowledge, and experience of long-standing members, a synergy that strengthens collaboration and knowledge production. The research adopts a single case study approach, using survey data collected from team members and in the analysis of its collaborative digital platform. It explores practices related to open parliamentary data, interdisciplinary and intergenerational collaboration, and collective knowledge creation. The findings suggest that shared scientific purpose, voluntary participation, and knowledge exchange are key factors supporting the sustainability of the initiative and its contribution to parliamentary innovation.

Keywords: crowdsourcing, parliamentary innovation, open government, open parliamentary data, collaborative knowledge production.

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Del *crowdsourcing* a las redes globales: el Hellenic OCR Team como una buena práctica de innovación parlamentaria impulsada por el voluntariado

Resumen[3]

Este artículo presenta al Hellenic OCR Team como un modelo de innovación en los estudios parlamentarios, analizando su evolución desde una iniciativa de crowdsourcing impulsada por voluntarios hasta una red colaborativa internacional e interdisciplinaria. Se presta especial atención al carácter voluntario del equipo y a la interacción productiva entre las perspectivas innovadoras de los miembros más jóvenes y la experiencia, el conocimiento institucional y la trayectoria de los participantes de larga duración, factores que fortalecen la colaboración y la producción de conocimiento. El estudio adopta un enfoque de estudio de caso único, basado en datos de encuesta recopilados entre los miembros del equipo y en el análisis de su plataforma digital colaborativa. Se examinan prácticas relacionadas con los datos parlamentarios abiertos, la colaboración interdisciplinaria e intergeneracional y la creación colectiva de conocimiento. Los resultados sugieren que el propósito científico compartido, la participación voluntaria y el intercambio de conocimientos constituyen factores clave para la sostenibilidad de la iniciativa y su contribución a la innovación parlamentaria.

Palabras clave: *crowdsourcing*, innovación parlamentaria, gobierno abierto, datos parlamentarios abiertos, producción colaborativa de conocimiento.

3 The Spanish version of the title, abstract and keywords was generated using machine translation.

1. Introduction

In recent years, increasing research interest has emerged around forms of collaborative knowledge production based on networks of voluntary participation, interdisciplinary cooperation, and the use of digital tools, particularly in environments related to open government, emphasizing transparency, participation, and openness (Noveck, 2009) and open parliamentary data (Fitsilis & Mikros, 2025; Inter-Parliamentary Union, 2020). Within this context, the Hellenic OCR Team[4] constitutes a distinctive case of parliamentary innovation, as it combines elements of a crowdsourcing initiative, expert network, and collaborative digital governance.

It was founded in late 2017 as "the first scientific crowdsourcing initiative that aims exclusively at the processing and study of parliamentary data" (Fitsilis, 2018) and completes a decade of continuous operation in 2026. Initially, it was developed as a voluntary initiative for processing parliamentary data through Optical Character Recognition (OCR) technologies, aiming to transform parliamentary documents into open, and digital data. However, its organizational evolution appears to have gradually exceeded the characteristics of a simple crowdsourcing community, displaying features associated with a more stable, interdisciplinary, and research-oriented expert network. The operation of the team is based on the collaboration of members from different scientific fields, professional experiences, and age groups, creating an environment of collaborative knowledge production and exchange.

Previous research by Fitsilis and Mikros (2025) has examined demographic characteristics and participation motives of the team's members. However, an understanding of the deeper organizational, collaborative, and intergenerational dynamics developing within the team remains limited. This research seeks to fill this gap by approaching the Hellenic OCR Team as an evolving network of collaborative knowledge production and parliamentary innovation.

To investigate these issues, the research adopts an exploratory single-case study design focusing on the Hellenic OCR Team. The empirical analysis is based on survey data collected through a structured questionnaire administered to the initiative's individual members. Section 1 introduces the study, Section 2 reviews the relevant literature and develops the theoretical framework, Section 3 presents the research methodology, Section 4 reports the empirical findings, Section 5 discusses the results in relation to existing literature, and Section 6 concludes the paper.

2. Literature review

2.1 Digital transformation and good governance

The relationship between digital transformation and parliamentary institutions has attracted growing scholarly attention, reflecting a broader recognition that legislatures actively engage with technological developments. The capacity of parliaments to generate, process,

4 https://hellenicOCRteam.gr

and share structured information is increasingly viewed as a fundamental condition of democratic accountability (Berkovitz et al., 2023; Koryzis et al., 2021). Modern parliaments face continuous pressure to adapt their traditional and bureaucratic processes to a society that increasingly expects open and accessible information from its governing institutions. This systemic expectation has gradually reshaped how parliamentary administrations approach data production and dissemination (Hong et al., 2022, p. 1; Inter-Parliamentary Union, 2020, p. 23). The concept of open government data has been identified as a foundational element of good governance, mainly, because it creates the informational conditions under which democratic deliberation can be meaningfully conducted (Lathrop & Ruma, 2010, p. 107).

The literature on open government offers a broader normative framework to situate these developments. Meijer et al. (2012) connect transparency (through access to information) and participation (in decision-making) in a way that goes considerably beyond the narrow notion of openness as mere data publication, creating the theoretical space for thinking about voluntary expert networks as a distinctive form of civic engagement. Collaborative democracy requires institutions to facilitate citizens to create teams of self-selected participants (e.g., experts, scientists, professionals etc.) and promote engagement in diverse ways, thereby replacing traditional structures with collaborative practices for gathering and evaluating critical information (Noveck, 2009). Saalfeld et al. (2022) have examined the implications of digital transformation for democratic representation more broadly, arguing that the development of open parliamentary data ecosystems can enhance the capacity of both citizens and researchers to hold legislators accountable.

The integration of advanced digital technologies into the parliamentary workspace has been the subject of a growing body of specialized literature, a considerable part of which is stemming from research within the Hellenic OCR team. Leventis et al. (2021) have demonstrated how traditional parliamentary control functions can be facilitated using structured and machine-readable data when supported by appropriate software agents and interoperable architectures. Varlamis and Dalas (2022) and Kallipolitis and Katrakazas (2022) have explored the potential of recommender systems and evidence-based visualization frameworks, respectively, to enhance the searchability and traceability of parliamentary content, while Ziouvelou et al. (2022) have examined the broader role of artificial intelligence in parliamentary research. Berkovitz et al. (2023) have proposed open frameworks for the systematic analysis of parliamentary data across multiple institutional contexts. What is common to all of these contributions is the recognition that the effective deployment of advanced technologies in the parliamentary workspace requires – besides technical expertise – a deep understanding of legal and political frameworks. By extension, parliamentary digitalization seems to depend critically on forms of interdisciplinary diversity that cross the boundaries between computer science, linguistics, law, and political science, amongst others. When these complex interdisciplinary requirements cannot always be provided through formal institutional structures, the literature suggests that legislatures may benefit

by turning to crowdsourcing and other forms of distributed knowledge production as mechanisms for mobilizing external expertise (Fitsilis & Mikros, 2025; Noveck, 2009; Prpić et al., 2015).

2.2 Crowdsourcing and collaborative networks

The term crowdsourcing itself was introduced by Howe (2006) to describe a model of distributed problem-solving in which an organization directs work towards an undefined network of participants through an open call, and it was rapidly taken up by scholars working on public administration and digital governance. Brabham (2008) developed this concept into a model for organizational problem-solving, and subsequent work by Prpić et al. (2015) identified several distinct forms of public sector crowdsourcing, ranging from information aggregation and service co-production to policy design and citizen-led solution creation. Liu (2017) extended this taxonomy further, demonstrating that crowdsourcing in governance may encompass a wide range of participatory configurations depending on the nature of the task, the degree of institutional involvement, and the profile of the contributing community.

Citizens and voluntary contributors can substantially augment the analytical and productive capacity of government institutions by bringing diverse knowledge and fresh perspectives to problems that traditional bureaucracies find difficult to address alone, as Noveck (2009) suggests. A related phenomenon is what Orozco (2016) terms "lawsourcing", i.e. the use of crowdsourced input to optimize legal and regulatory frameworks, which suggests that participatory mechanisms can reach into areas traditionally regarded as the exclusive domain of legal expertise. These parallels remind researchers that crowdsourcing is a form of collective inquiry that can have significant educational and civic dimensions.

Regarding the internal social dynamics of crowdsourcing communities, including the role of motivation, identity, and intergenerational interaction, research on citizen science participation suggests that sustained engagement depends heavily on the alignment of tasks with individual interests, the availability of opportunities for community belonging, and the sense that participants are contributing to something of genuine scientific or social value (Allf et al., 2022). Prpić et al. (2015) note that the success of public sector crowdsourcing depends on task design and quality control, but also on the cultivation of a reciprocal relationship between the sponsoring organization and the contributing community, a relationship that resists the unidirectional logic of commercial data extraction platforms. This observation points towards a more socially oriented understanding of crowdsourcing, one that is close to the traditions of collaborative knowledge production and communities of practice.

Building on this, the literature raises the further possibility that crowdsourcing initiatives are not static in form but may themselves evolve over time, moving from an open-call contribution by an undifferentiated crowd towards a more structured, expert-driven colla-

boration. This evolutionary trajectory shifts the initiative closer in nature to a structured expert network or a community of practice (Liu, 2017; Prpić et al., 2015).

2.3 Volunteering communities of practice

A dimension that is central to the present study, is the role of voluntary participation and its specific organizational dynamics. The sociology of voluntary associations has established that volunteers are motivated by a combination of altruistic commitment to a valued cause, professional interest in the domain of activity, desire for social connection and community belonging, and the satisfaction derived from contributing to a meaningful collective project (Cnaan et al., 1996; Wilson, 2000). It also distinguishes between episodic (one-time, short-term) volunteering, and sustained forms of participation, pointing to the importance of organizational identity, reciprocity, and public-goods orientation in digital volunteer networks (Cnaan & Handy, 2005; Cnaan et al., 2022; Wilson, 2000; Zhang & Zhu, 2011).

A community of practice that operates within a specialized research domain is defined as a group of individuals who share a common concern, a set of problems, or a sustained passion for a particular domain, and who deepen their knowledge and expertise through ongoing interaction and engagement with that domain (Lave & Wenger, 1991; Wenger et al., 2002).

This perspective emphasizes the social character of learning: knowledge is not simply transferred from one person to another but is produced and reproduced through the shared practices, tools, and narratives that a community develops over time. Wenger et al. (2002) identify three constitutive elements of any community of practice: the domain, which defines the area of shared interest and creates a sense of common identity; the community, which provides the social fabric for interaction and relationship-building; and the practice itself, which includes the specific methods, tools, and accumulated knowledge that members collectively develop and maintain.

A related but distinct dimension concerns the generational composition of such communities, which shapes both the nature of knowledge exchange and the conditions under which sustained collaboration becomes possible. Kuyken and Costanza (2025) argue that knowledge sharing in contemporary workplaces, including voluntary and digital environments, must be understood as a bidirectional and co-constructive process rather than a one-way transmission from experienced seniors to less experienced juniors. This framing challenges the traditional succession model of organizational knowledge[5] and replaces it with an interactional model in which different age groups bring genuinely different but

5 The traditional succession model of organizational knowledge refers to a linear and largely unidirectional view of knowledge continuity in which experienced are treated as the primary holders of organizational knowledge, skills, values, and role-specific resources, while younger or incoming employees are expected to acquire and preserve this knowledge through succession, prioritizing continuity and the retention of accumulated organizational knowledge rather than reciprocal learning or the joint creation of new knowledge (Bjursell, 2015; Joshi et al., 2010).

complementary forms of expertise to shared tasks. Joshi et al. (2010) suggest that intergenerational interaction is a primary mechanism through which values, skills, and tacit knowledge are communicated across career stages, and Bjursell (2015) has shown how organizations that consciously cultivate intergenerational learning create conditions for greater innovation and institutional resilience.

Despite these advances, little research examines how volunteer-based parliamentary initiatives evolve into sustainable expert networks, or how intergenerational collaboration, interdisciplinary diversity, and collaborative knowledge production jointly advance parliamentary innovation and open-governance objectives.

3. Methodology

To address this gap, our research follows a single case study design focusing on the Hellenic OCR Team. This initiative combines characteristics that create an information-rich case for theoretical and organizational investigation and provides an opportunity to address the identified gap.

The research investigates in depth the organizational, collaborative, and intergenerational dynamics that develop within the team (Creswell & Creswell, 2018). More specifically, the study focuses on the way knowledge is collectively produced, on the collaboration among different scientific and age groups, on the transition of the team from a crowdsourcing initiative to an expert network, as well as on its alignment with principles of open governance and participatory knowledge production.

The aim is to provide analytic generalization (Yin, 2018), namely the extraction of theoretical and organizational conclusions that can also be utilized in similar initiatives of parliamentary, scientific, or voluntary collaboration.

The study addresses the following research questions:

- RQ1: In what way does intergenerational collaboration and the diversity of individuals with different disciplinary and professional backgrounds influence knowledge production within the Hellenic OCR Team?
- RQ2: What factors and mechanisms enabled the transformation of the Hellenic OCR Team from a crowdsourcing initiative into an organized expert network?
- RQ3: To what extent and in what ways does the Hellenic OCR Team incorporate the principles of open governance practices, as perceived by its members?

Given the small and well-defined population of the initiative, the questionnaire was distributed to all active individual members (population) of the Hellenic OCR Team (N=65). Institutional members, i.e., partner organizations, universities and private firms that take the form of legal entities, were excluded from the survey.

Data collection was conducted exclusively through a structured questionnaire using Google Forms, and took place between April and May 2026. A total of 27 completed

questionnaires were returned, corresponding to a response rate of 41.5%. The questionnaire consisted of a total of 15 closed-ended questions. Thirteen questions were organized around the three research questions of the study, evaluating participants' organizational perceptions, participation experiences and forms of collaboration within the team, and the potential transferability of the organizational model to other parliamentary or research environments. Two questions were included to collect demographic information.[6] Participation was voluntary and anonymous.

The terms "junior" and "senior" were intentionally left undefined in the questionnaire, allowing respondents to interpret these concepts according to their own experience and perception of participation within the Team.

The quantitative data were analyzed using descriptive statistical techniques, with emphasis on frequencies, percentages, and comparative trends among participant categories. The findings were subsequently interpreted in relation to recurring organizational and institutional patterns, particularly regarding mentoring, collaborative knowledge production, organizational evolution, and perceptions of open government. As an exploratory single-case study based on self-reported responses, the research does not aim at statistical generalization. Instead, consistent with the case study approach (Yin, 2018), its findings contribute to the analytical generalization and should therefore be interpreted within the specific context of the Hellenic OCR Team.

4. Findings

4.1 Basic demographics

The findings presented below summarize the principal results of the study, based on the original survey responses, which are openly accessible online (Vittou & Angelopoulou, 2026).

The survey respondents include both core team members, as well as members that joined the Team at various periods, and at different career stages, ranging from students and doctoral candidates to senior experts, academics, and institutional representatives (see Table 1). This diversity is also evident in the disciplinary and professional backgrounds of the Team's members as they come from a wide range of fields, including political science, law, computational linguistics, computer science, artificial intelligence, parliamentary studies, digital governance, public administration, economics, engineering, and parliamentary practice.

6 Further demographic information such as profession or academic background, therefore the interdisciplinary composition of the team, is provided through its public institutional profile https://hellenicOCRteam.gr. It is also well documented in the Fitsilis and Mikros (2025) research.

Table 1
Demographic characteristics of Hellenic OCR Team members (n = 27)

Variable	Category	n	%
Year of joining the Hellenic OCR Team	2017–2019 (core members)	9	33.3
	2020–2021 (pandemic period)	5	18.5
	2022–2023 (post-network transformation)	2	7.4
	2024 or later	11	**40.7**
Primary career stage when joining the Team	Student/doctoral candidate	6	22.2
	Early-career professional (<5 years)	1	3.7
	Mid-career specialist (5–15 years)	2	7.4
	Senior expert/academic	12	**44.4**
	Institutional representative	6	22.2

Source: Author's own.

One third of the Team's members (33.3%) joined during the team's core formation period (2017–2019); the largest group (40.7%) joined in 2024 or later, indicating recent growth and renewed engagement. Regarding career stage at the time of joining, the team is mainly composed of senior experts and academics (44.4%), followed by institutional representatives and doctoral-level researchers/students (22.2% each). The representation of early-career professionals (3.7%) and mid-career specialists (7.4%) is limited.

4.2 Intergenerational collaboration and knowledge production

Intergenerational collaboration appears to be a defining characteristic of the Hellenic OCR Team, as a substantial majority of respondents (77.8%) evaluated positively or very positively the contribution of the mix of junior and senior members to the team's scientific output.

Twenty-five people out of the twenty seven participants answered the mentoring question. Five of the respondents (20%) reported having experienced both mentoring and mentee roles at different stages of their participation; ten respondents (40%) indicated that they primarily learn through informal collaboration with colleagues; six respondents (24%) reported being primarily guided (mentees) and another two respondents (8%) having worked mainly as mentors. Only a small proportion of two respondents (8%) reported working independently within the team.

With regards to knowledge and value flows between junior and senior members, participants were asked to select from six predefined dimensions, indicating all that applied. The

most frequently endorsed dimension associated with senior members was quality control and scientific rigor (55.6%), whereas for junior members it was fresh perspectives on research questions (37%). Almost one third of the respondents (29.6%) characterized the exchange as genuinely bidirectional. These results point to a range of coexisting channels through which knowledge and value are exchanged, with no single dimension endorsed by a large majority of respondents (Figure 1).

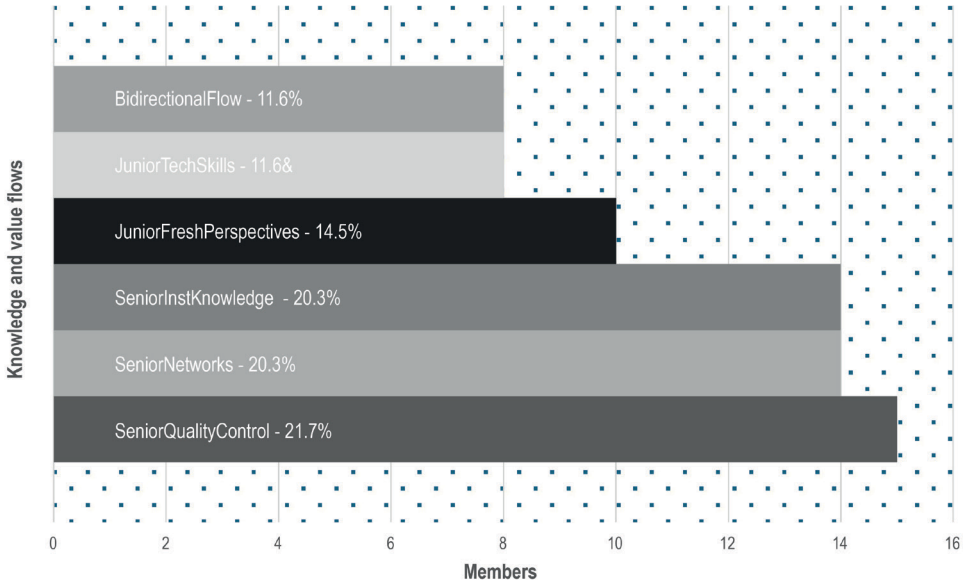

Figure 1. Knowledge and value flows between junior and senior members. Source: Author's own.

4.3 Organizational identity and evolution

With regards to the organizational mechanisms that enabled the Hellenic OCR Team to evolve from a crowdsourcing initiative into an organized expert network: more than half of the respondents (55.6%) described the Team as an international expert network in parliamentary studies. However, multiple organizational identities continue to coexist: 22.2% of the respondents characterized it as a volunteer scientific community around parliamentary research and 18.5% as a hybrid collaborative initiative. In fact, senior members view the Team primarily as an expert network, while junior and early-career members tend to see it more as a volunteer community (Table 2).

Table 2
Career stage vs. how members perceive the Team today

	Expert network	Volunteer community	Hybrid	Other	Total
Junior/early/mid (n=9)	33.3%	44.4%	11.1%	11.1%	100%
Senior/institutional (n=18)	66.7%	11.1%	22.2%	0%	100%
Total (n=27)	55.6%	22.2%	18.5%	3.7%	100%

Source: Author's own.

Respondents also identified several developments that, in their view, contributed to the evolution of the initiative during recent years. The most frequently mentioned options were international institutional partnerships (16 respondents; 66.7%), broadening of research themes (12 respondents; 50.0%), and publication of collective scientific outputs (10 respondents; 41.7%). Twenty – four respondents answered this question, as participants who joined in 2024 or later were instructed to skip it.

Figure 2 gathers the factors that best explain why the initiative has remained active over time: respondents most frequently selected the interdisciplinary composition of its members (14 respondents; 51.9%), a shared sense of mission (13 respondents; 48.1%), the voluntary character of participation (11 respondents; 40.7%), and the continued production of scientific outputs (11 respondents; 40.7%). With regards to their current motivation for remaining active in the team, respondents most frequently selected the intellectual quality of the research activities (13 respondents; 48.1%), opportunities for professional and academic networking (12 respondents; 44.4%), and a sense of contributing to a broader scientific and social purpose (12 respondents; 44.4%).

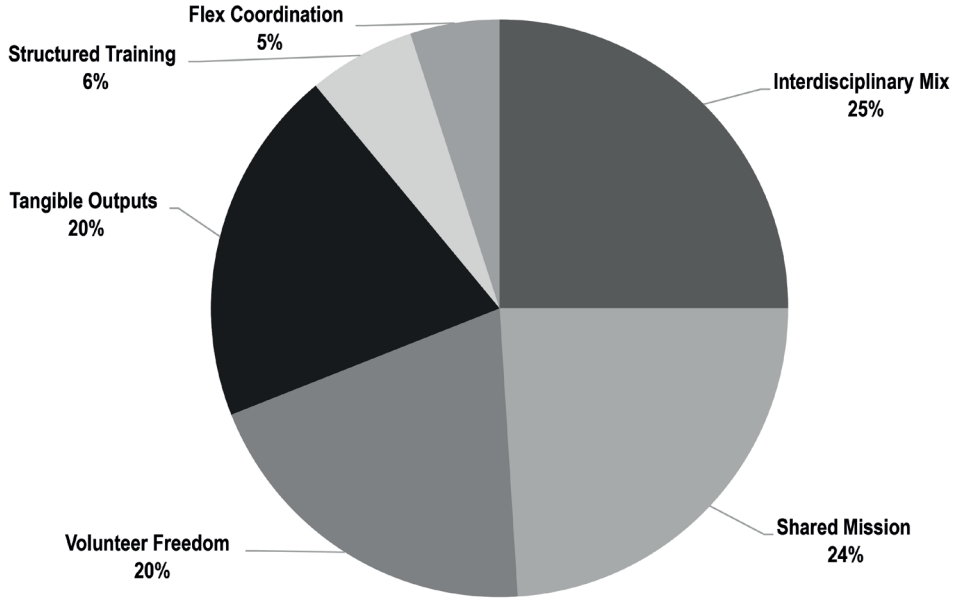

Figure 2. Factors explaining the Team's longevity. Source: Author's own.

4.4 Open data

The survey, finally, examined participants' perceptions regarding the contribution of the Hellenic OCR Team to open government and open parliamentary data (see Figure 3). A substantial majority of the respondents (88.9%) evaluated the contribution of the team to open parliamentary data and open-government practices positively or very positively. However, participants differed in the extent to which open parliamentary data and open access influenced their participation in the initiative. Twelve respondents (44.4%) identified support for open data as one of their primary motivations for participation, while another nine (33.3%) find it an important, though not primary, factor. Only two (7.4%) reported that their involvement was motivated primarily by scientific or professional interests. Respondents also expressed positive views regarding the Team's collaborative organizational model. Twenty-one respondents (77.8%) expressed positive or very positive views regarding the model of collective and voluntary knowledge production.

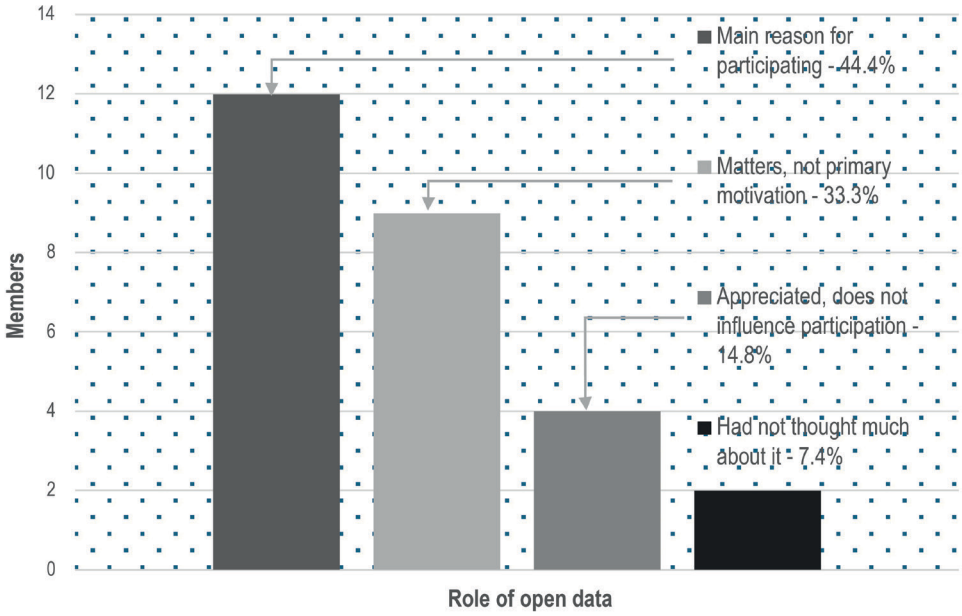

Figure 3. Role of open parliamentary data in members' motivation to participate. Source: Author's own.

Additionally, almost all participants (96.2%) believe that similar initiatives could operate in other public-sector or governance contexts, with the most important prerequisite for replicating this model elsewhere being a shared scientific mission that is genuinely interesting to diverse experts (40.7%) and a founding leader who commits long-term without seeking personal credit emerging as the second most important one (29.6%).

5. Discussion

In relation to RQ1, the findings presented in section 4.1 indicate that knowledge exchange within the Hellenic OCR Team is perceived primarily as complementary rather than hierarchical. Instead of reflecting a strictly one-directional transfer of expertise, the responses point to a reciprocal process combining methodological, institutional, and technical knowledge.

This interpretation is consistent with the communities of practice perspective, according to which knowledge is developed through participation, interaction, and shared practice rather than through the simple transmission of expertise (Wenger, 1998; Wenger et al., 2002). This pattern of reciprocal engagement, in which less experienced members progressively take on more central roles through interaction with more experienced peers, resonates with the concept of legitimate peripheral participation (Lave & Wenger, 1991), and

with broader accounts of intergenerational knowledge sharing in organizational settings (Bjursell, 2015; Joshi et al., 2010). This perspective is directly relevant to the Hellenic OCR Team, where members at varying career stages and backgrounds learn through working together on real parliamentary issues.

Our findings also suggest that, in volunteer parliamentary initiatives, generational complementarity itself may function as a mechanism of knowledge production. This interpretation builds on the patterns of international collaboration reported in section 4.3. The Hellenic OCR Team therefore illustrates how institutional experience, scientific knowledge, and technical competencies can be integrated within a stable volunteer research community, contributing to collaborative knowledge production over time.

In relation to RQ2, the findings suggest that participants primarily perceive the Hellenic OCR Team as an expert network, while also recognizing characteristics associated with a volunteer scientific community and a hybrid collaborative initiative. Although the majority described it as an expert network, a substantial proportion continued to characterize it as either a volunteer scientific community or a hybrid collaborative initiative. These different organizational perceptions suggest that characteristics associated with both crowdsourcing and expert networks continue to coexist, and may suggest that the evolution of the initiative has been gradual rather than abrupt. The survey specifically names international partnerships (66.7%), broader research themes (50.0%), and growing scientific output (41.7%) as the factors respondents most often credited with turning the Team into a network (section 4.3).

This again resonates with communities of practice (Wenger et al., 2002) and networked forms of organization (Castells, 2010), which emphasize the gradual development of collaborative expertise through sustained interaction, and resonates with prior accounts of crowdsourcing initiatives gradually acquiring more structured, expertise-based forms of organization as they mature (Brabham, 2008; Liu, 2017). Read through Wenger's (1998) domain–community–practice framework, these elements are readily identifiable in the case of the Hellenic OCR Team: its founding domain is the digital processing and analysis of parliamentary textual corpora; the community is the network of volunteers, researchers, and institutional actors who participate in this work; and the practice includes the technologies, annotation frameworks, quality-control procedures, and analytical methods that members have developed through years of collaborative work.

The findings further suggest that the long-term sustainability of volunteer expert networks is supported by continued voluntary participation, interdisciplinary collaboration, and a shared scientific purpose. This interpretation draws on participants' views regarding interdisciplinarity, shared scientific purpose, voluntary participation and continued scientific output reported in section 4.3. In the Hellenic OCR Team, these factors appear to have facilitated the gradual consolidation of the initiative while maintaining active member engagement and continued collaborative knowledge production over time. This is supported by prior research suggesting that volunteer-initiative sustainability depends more on enga-

gement, shared goals, and collaborative knowledge production than on formal structure (Wilson, 2000).

As for RQ3, the findings presented in section 4.4 suggest that the Team's activities are perceived as making a meaningful contribution to improving the accessibility and dissemination of parliamentary information. This interpretation is supported by participants' positive evaluations of Team's contribution to open parliamentary data, collaborative knowledge production, and the transferability of the model discussed in section 4.4.

This view aligns with approaches that view open data as a mechanism for strengthening democratic engagement and transparency (Inter-Parliamentary Union, 2020; Noveck, 2009), and resonates further with the framework of transparency, participation, and collaboration through which open government initiatives are commonly assessed (Meijer et al., 2012). At the same time, the emergence of open parliamentary data does not necessarily seem to constitute the primary motivation for participation, suggesting that civic, professional, and scientific motivations coexist within the team, and that contributions to open government may emerge as an outcome of collaborative voluntary engagement instead of exclusively as its initial objective.

Finally, respondents see the Team's model as replicable under the right conditions, not inherently tied to the parliamentary setting. This primary factor for the transferability of the Team's model is a shared scientific mission capable of engaging diverse experts and, secondarily, a committed, long-term founding leadership.

6. Conclusion

This study examined the Hellenic OCR Team as a case of voluntary parliamentary innovation, collaborative knowledge production, and contributor of open parliamentary data. The research suggests that the decade-long development of the Hellenic OCR Team extends beyond the characteristics of a crowdsourcing initiative. The Team appears to have gradually developed characteristics associated with collaborative expert networks, including sustained participation, interdisciplinary cooperation, knowledge exchange, and the production of scientific and technological outputs. Furthermore, the study highlights the role of intergenerational interaction, voluntary engagement, and shared purpose in supporting the continuity of the initiative.

The findings also demonstrate the potential contribution of similar initiatives to the accessibility and reuse of parliamentary information. The positive evaluation of the Team's contribution to openly available parliamentary data suggests that voluntary research communities may complement institutional efforts aimed at transparency, public accessibility, and knowledge dissemination.

The present study's main contribution lies in documenting, through members' own empirical perceptions, the internal mechanisms of intergenerational collaboration, organizational transformation, and open-data engagement that sustain the initiative. This account

is intended as a point of reference for similar initiatives rather than as a generalizable organizational model.

Future research could further map and explore the long-term evolution of similar initiatives in different institutional and national environments, examining the conditions under which collaborative expert networks emerge, develop, and remain sustainable over time.

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Transparency in the use of artificial intelligence

The authors used generative AI tools (Claude and LLM for Zotero) to improve the clarity and fluency of academic text and to identify relevant literature within their digital library. They checked and approved all outputs and retain full responsibility for the manuscript's accuracy, originality, integrity and conclusions.

Authorship roles notice

The authors declare that they have fulfilled the following authorship roles: **Angelopoulou, A.:** methodology, investigation, formal analysis, data interpretation, questionnaire design, writing — original draft, writing — review and editing. She developed the methodological design of the study, prepared the initial version of the questionnaire, analyzed and interpreted the survey data, and was primarily responsible for the Introduction, Findings, Discussion, and Conclusion sections. **Vittou, F.:** conceptualization, literature review, theoretical framework development, questionnaire design, writing — original draft, writing — review and editing. She developed the Literature Review section, conducted the literature search and theoretical grounding of the study, contributed to the final design of the questionnaire and the findings section.
Both authors contributed to the overall conception of the study, the refinement of the research instrument, the interpretation of the findings, and the final revision and approval of the manuscript.

Ownership statement

The authors state that the submitted manuscript is their own original and unpublished work.

Conflict of interest notice

The authors are members of the Hellenic OCR Team, the subject of this study. This affiliation gave direct access to team members and internal processes. To minimize potential bias, the authors relied on verifiable survey data, transparent reporting of the findings and established case study methodology to maintain objectivity throughout the research and reporting process.