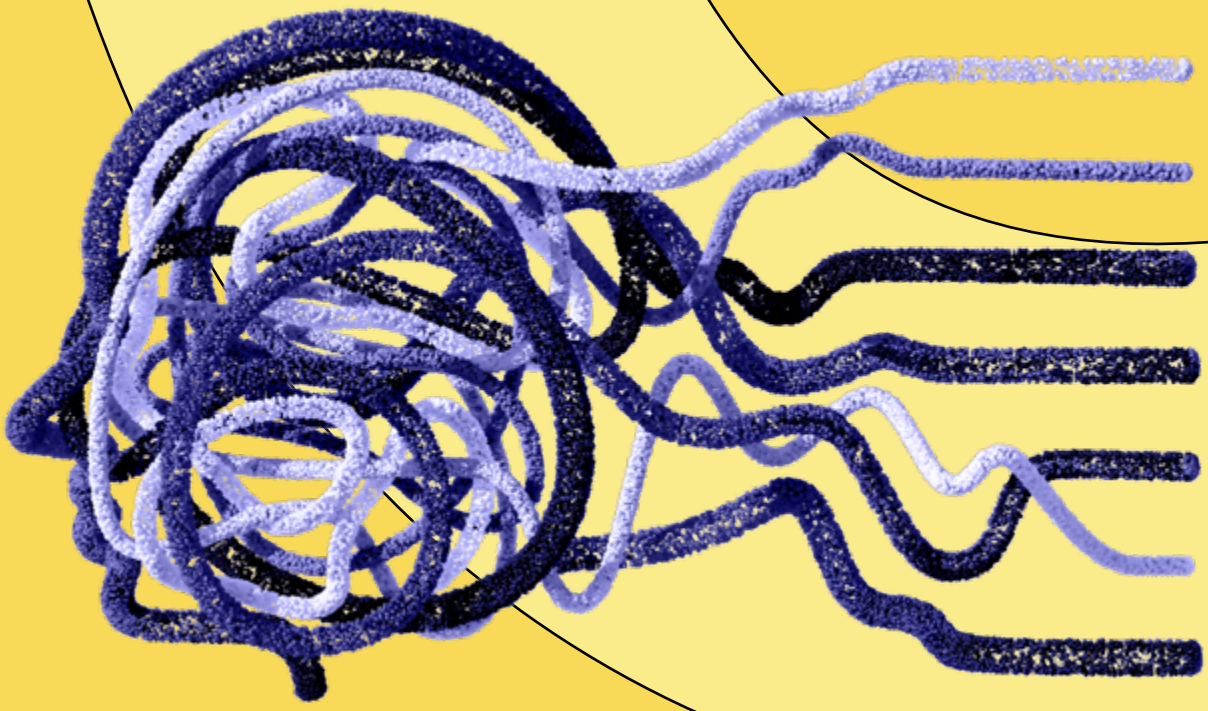


Exploring Potential of CHATBOTS for Local Governments

PRACOWNIA ZMIANY

CEE Digital Democracy Watch

Barcelona En Comú

CIVIC INNOVATION LAB

Pracownia Zmiany
2025

Exploring Potential of CHATBOTS for Local Governments

The report and whole project was possible thanks to financial support from the Civic Innovation Fund by THE CIVICS Innovation Hub.

We also thank our partners from Barcelona en Comú and CEE Digital Democracy Watch that enabled us to make it an international endeavour and supported us with their valuable expertise.

PRACOWNIA ZMIANY

CEE Digital Democracy Watch

Barcelona En Comú

CIVIC INNOVATION FUND

Lab of Change
(Pracownia Zmiany) 2025
www.zmiany.org

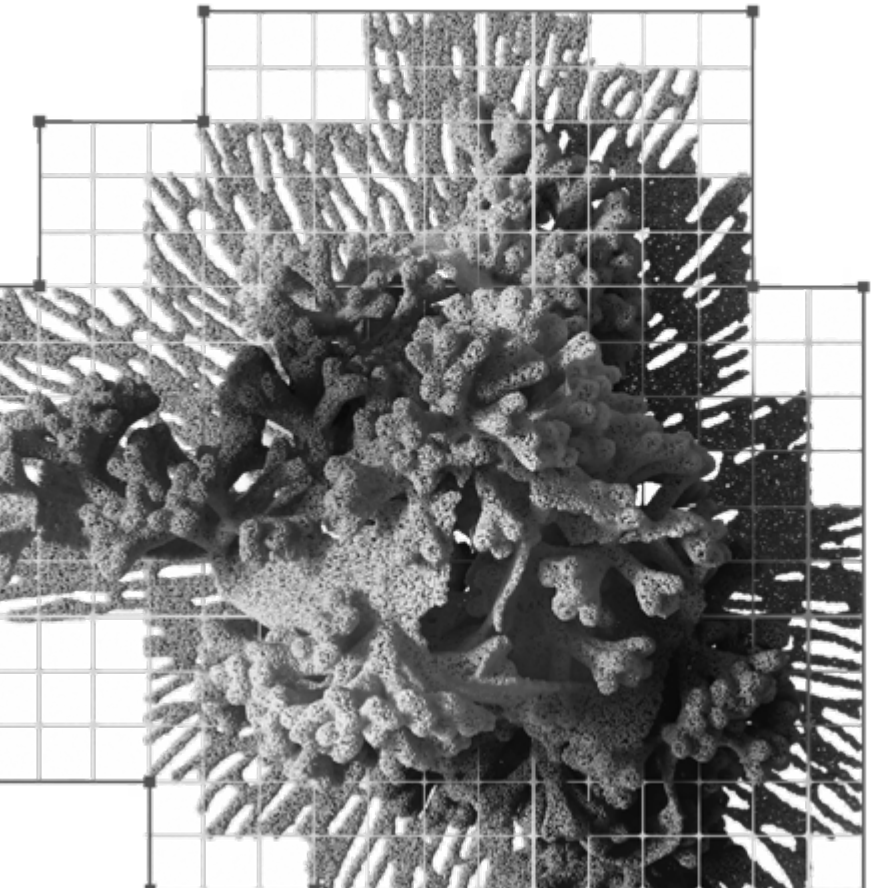
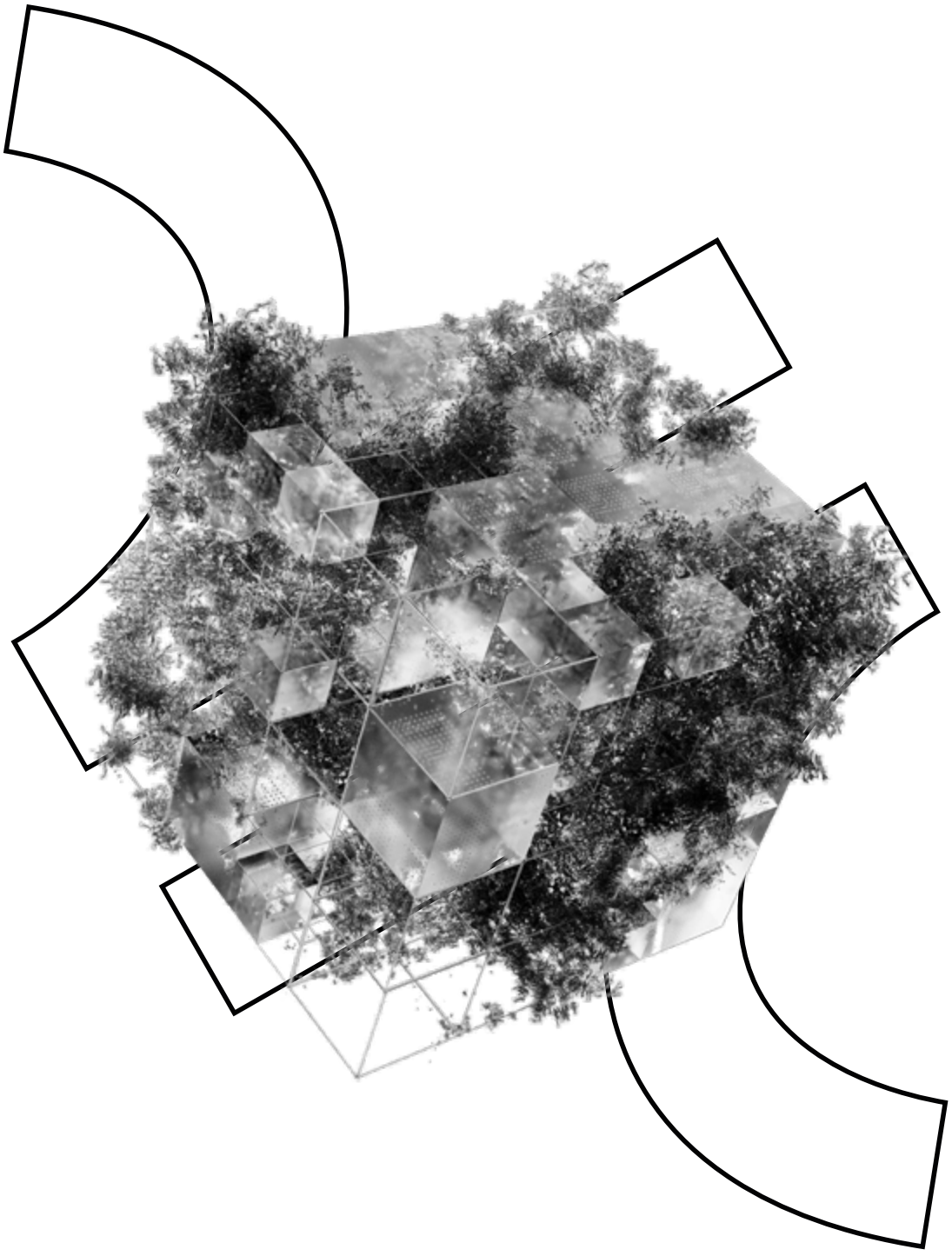


Table of contents



Foreword

Technological advancements are transforming how local governments operate, with chatbots emerging as **a promising tool for communication with citizens**. Their potential seems enormous, but the challenges are also serious: just like other tools, chatbots must integrate seamlessly into existing institutions, support staff in their mission, and ultimately make life easier for citizens. Otherwise, they are going only to complicate and hinder already functioning processes. This is far more complex than implementing a technical solution – it's about creating systems that work for everyone involved.

The idea to make this task easier for local governments drives this report. It aims to highlight both the promise of AI-supported chatbots and the broader context in which they function. To explore the issue in real life, our team developed **a mock platform** and tested it with local governments representatives from **five cities**. The process was insightful, rewarding, and full of lessons we are eager to share. We hope the results will spark meaningful discussion about how AI can gather data, engage citizens, and help public administrators design more effective policies.

The report opens with perspectives from four experts, who analyse the issue through different lenses with complementary functions:

- **Business innovation** – explores how cities can attract private-sector collaboration by embracing new approaches
- **Technological integration** – investigates how AI can modernise traditional methods and identifies key design principles for successful implementation
- **User Experience (UX)** – highlights how thoughtful design determines whether new tools are embraced by citizens and administrators
- **Regulatory perspective** – examines safety and outlines essential requirements for future compliance

The second part of the report shares insights from interviews with officials from five cities conducted at the end of 2024. Using the platform, participants explored how to design their own research and saw results of an exemplary project – producing actionable results within a single day, without significant upfront investments. These experiments showcased **which processes can be simplified** and how **prior experiences with technological adaptations** influence their success. While feedback was overwhelmingly positive and inspiring, we also uncovered critical considerations. For AI solutions to succeed, they must align with organisational cultures and avoid overwhelming citizens. Trustworthy technology must balance innovation with practical realities, addressing regulatory, design, and cultural factors.

We hope the report will serve as a foundation for future discussions with European and national regulatory agencies. We welcome collaboration with anyone passionate about shaping technological solutions that benefit local governments and their citizens.

Konrad Kiljan
Lab of Change Executive Director

Aleksandra Wilczyńska

Business innovation

How can local governments facilitate technological innovation?

Collaboration between local governments and entrepreneurs has great potential to effectively address urban challenges. Oslo exemplifies a new approach that enhances accountability at the grassroots level of city administration while fostering a culture of experimentation.

As urban challenges grow in complexity, the collaboration between local governments and entrepreneurs offers exciting opportunities for innovation that can enhance city living. However, testing new technologies often proves difficult. Local governments are primarily focused on delivering essential services and maintaining infrastructure, which can limit their capacity for experimentation. Bureaucratic red tape slows decision-making processes, and the need for consensus among various stakeholders complicates timely responses. Additionally, siloed operations hinder cross-departmental collaboration, while reliance on external funding sources can delay project execution. Finally, cultural resistance can impede progress. Shifting towards an agile mindset requires significant cultural change within organisations, often facing pushback from established practices and leadership styles.

Despite these challenges, the potential benefits of cooperation with local governments make them **attractive partners for entrepreneurs**. Companies usually try to create a tailored solution for governmental needs based on their insights and observations of the public sector. In other cases, they see local government (or their contractors) as an interesting use case for their existing technology. In both scenarios, potential benefits include:

- market opportunities from the scale of implementation,
- access to valuable data that is otherwise stored in closed databases or not collected at all,
- long-term partnerships that provide steady business and ongoing support,
- social impact through improving governmental services and enhancing the daily lives of citizens,
- opportunities to showcase innovation that can lead to scaling technology with other governments and organisations,
- regulatory advocacy that facilitates wider adoption of disruptive technologies.

This long list makes it tempting to verify the collaboration potential with local governments. Entrepreneurs can adopt various strategies to implement their technologies. One of the most effective approaches is participating in open pilot or acceleration programs organised by governments, which provide structured opportunities for collaboration. However, it is important to emphasise that the success of these initiatives largely depends on the involvement and alignment of relevant city departments throughout the process. There are other, less direct strategies that require patience and resilience but can also yield significant results. For example, building partnerships with municipal leaders who are interested in innovation or proposing pilot programs with

well-defined objectives can be beneficial. Networking at city events offers avenues for direct engagement with decision-makers, while submitting formal proposals or responding to requests for proposals (RFPs) enables entrepreneurs to align their technology solutions with municipal goals. Ultimately, it is crucial to clearly demonstrate how a technology addresses specific municipal challenges to gain approval and foster successful partnerships.

The question then becomes: which cities are most likely to attract entrepreneurs who can help address their most pressing problems? Effective and well-communicated innovation strategies will determine which cities are seen as the most attractive partners.

How are local governments trying to attract innovation?

Most frequently, cities adopt centralized models of leadership and coordination in their innovation efforts, complemented by decentralised mechanisms for implementing and testing new technologies. Centralised innovation departments serve as the primary visionaries and contributors, playing a crucial role in fostering parti cipation from various municipal departments. To facilitate innovation efforts, several mechanisms and tools are employed:

Innovation Zones are designated areas within cities that act as proving grounds for new technologies, allowing municipalities to pilot smart city solutions and providing companies with the opportunity to test innovations in real-world environments while gathering valuable data and feedback prior to broader implementation.

Public-Private Partnerships (PPPs) are collaborations between local governments and technology companies that are vital for addressing specific urban challenges; they enable the testing and deployment of innovative solutions, effectively sharing both the risks and rewards.

Vendor Summits are events that invite technology providers to showcase their solutions, facilitating direct engagement between city officials and companies, and are instrumental in exploring new products and identifying potential testing opportunities.

Pilot Programs involve small-scale, controlled deployments of new technologies in urban settings, allowing municipalities to assess effectiveness in a limited environment. By evaluating the impact on urban services and operations, cities can make informed decisions about broader rollouts. These mechanisms collectively enhance the capacity of municipalities to innovate and adapt to emerging challenges while fostering collaboration between public and private sectors.

Despite ongoing efforts, many local governments still lack effective frameworks for defining innovation, which hampers public-private cooperation. According to OECD only 16% of cities systematically evaluate their innovation outcomes, revealing significant gaps in performance assessment and strategic alignment[1]. While 52% have formal innovation goals, approximately 50% possess comprehensive strategies to engage external partners[2]. This absence of clear direction and evaluation mechanisms stifles collaborative efforts, preventing cities from leveraging available data and resources for impactful innovation initiatives.

How to foster innovation effectively? While it is natural for both centralised and decentralised elements to coexist, random pilots and occasional public-private

1 Kamal-Chaoui, L., & Anderson, J. "Innovation and data use in Cities: a road to increased well-being" OECD Publishing, Paris. (2021)

2 Methodology. (n.d.). City Innovation. Https: //cities-innovation-oecd.com/methodology/?t&utm

partnerships do not adequately support innovation at the necessary scale. Cities serve as critical catalysts for change; therefore, it is crucial for municipal leaders to create stable conditions that nurture innovation, particularly in addressing critical challenges such as climate adaptation and mitigation.

A Shift Toward Decentralisation: Enhancing Innovation in Oslo

Acknowledging these inefficiencies, the City of Oslo is experimenting with granting more ownership and independence to the city's agencies.

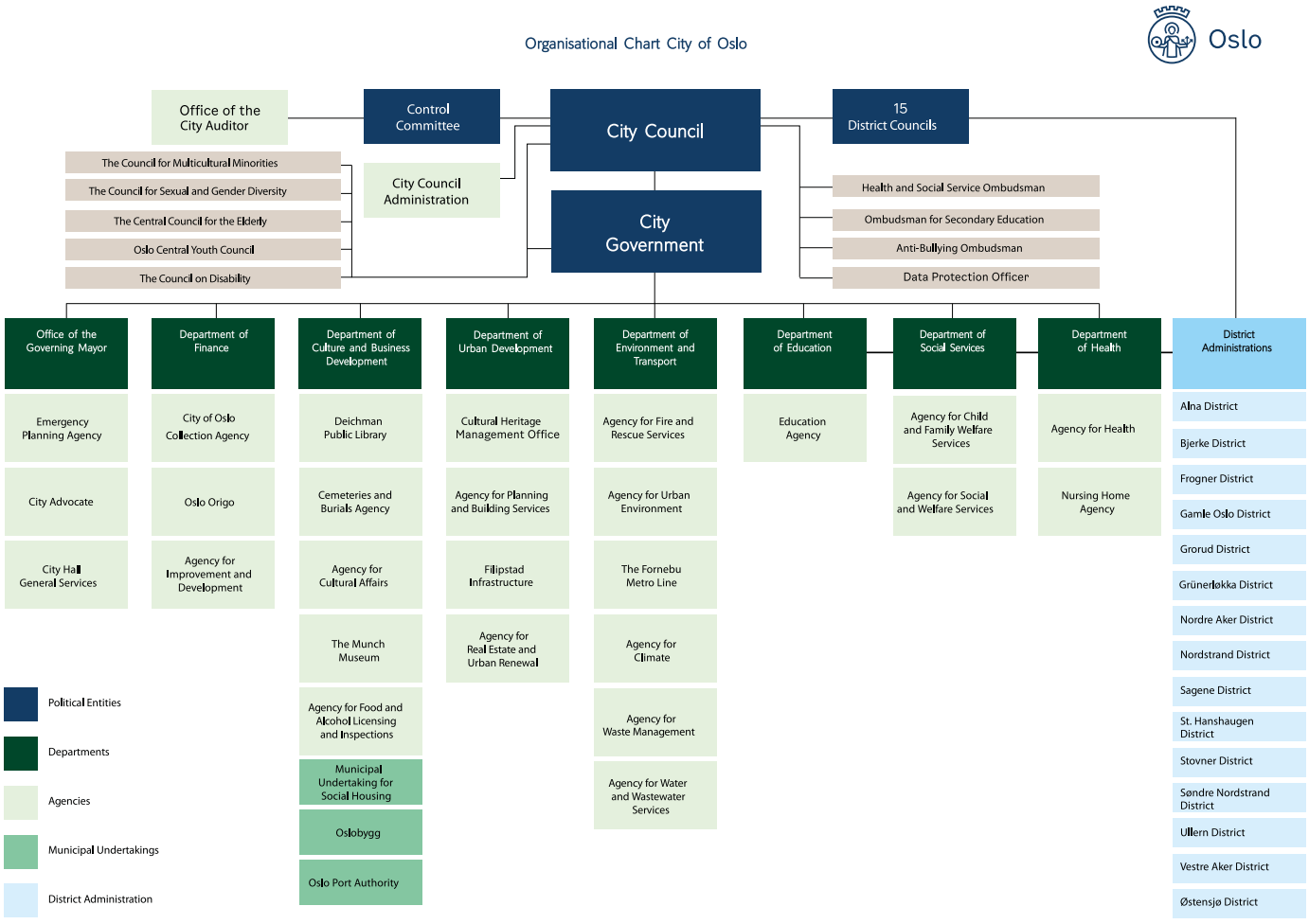


Figure 1: Organisational Chart City of Oslo www.oslo.kommune .no/politics-and-administration/politics/city-governance/

As the city began to operationalise its main innovation strategy, it became evident that an important pillar of this approach – testing technology within three innovation districts (Oslo Science City, Punkt Oslo, and Hovinbyen) – is not efficient due to its geographical limitation. Instead, the emphasis should shift towards problem owners – individuals within the agencies who directly address everyday challenges faced by Oslo's citizens.

Therefore, city representatives decided to invest in an effective knowledge transfer process that allows

the centralised innovation unit to function as a strategic entity that supports operational agencies. This approach empowers agencies to define their needs and implement innovative solutions independently and systematically.

To empower smaller operational units in their innovation efforts, the Oslo team has identified crucial elements:

Integration into Strategic Frameworks: Wovening innovation into each agency's broader strategy, involving all relevant stakeholders in its development.

Systematic Identification of Needs: Adopting a structured approach to clearly articulate their technological requirements.

Information Publishing Mechanisms: Creating channels for technology providers to match solutions with agency's needs encouraging ongoing collaboration and innovation.

Clear Accountability: Assigning clear responsibilities for innovation projects, establishing accountability within their ranks.

Robust Networking and Facilitation Skills: Building strong connections among stakeholders – clerk, entrepreneurs, and academics – is essential, as is developing effective communication and facilitation skills.

Necessary Infrastructure: Identifying and creating infrastructure needed to support innovation initiatives, including digital infrastructure for data collection and storage.

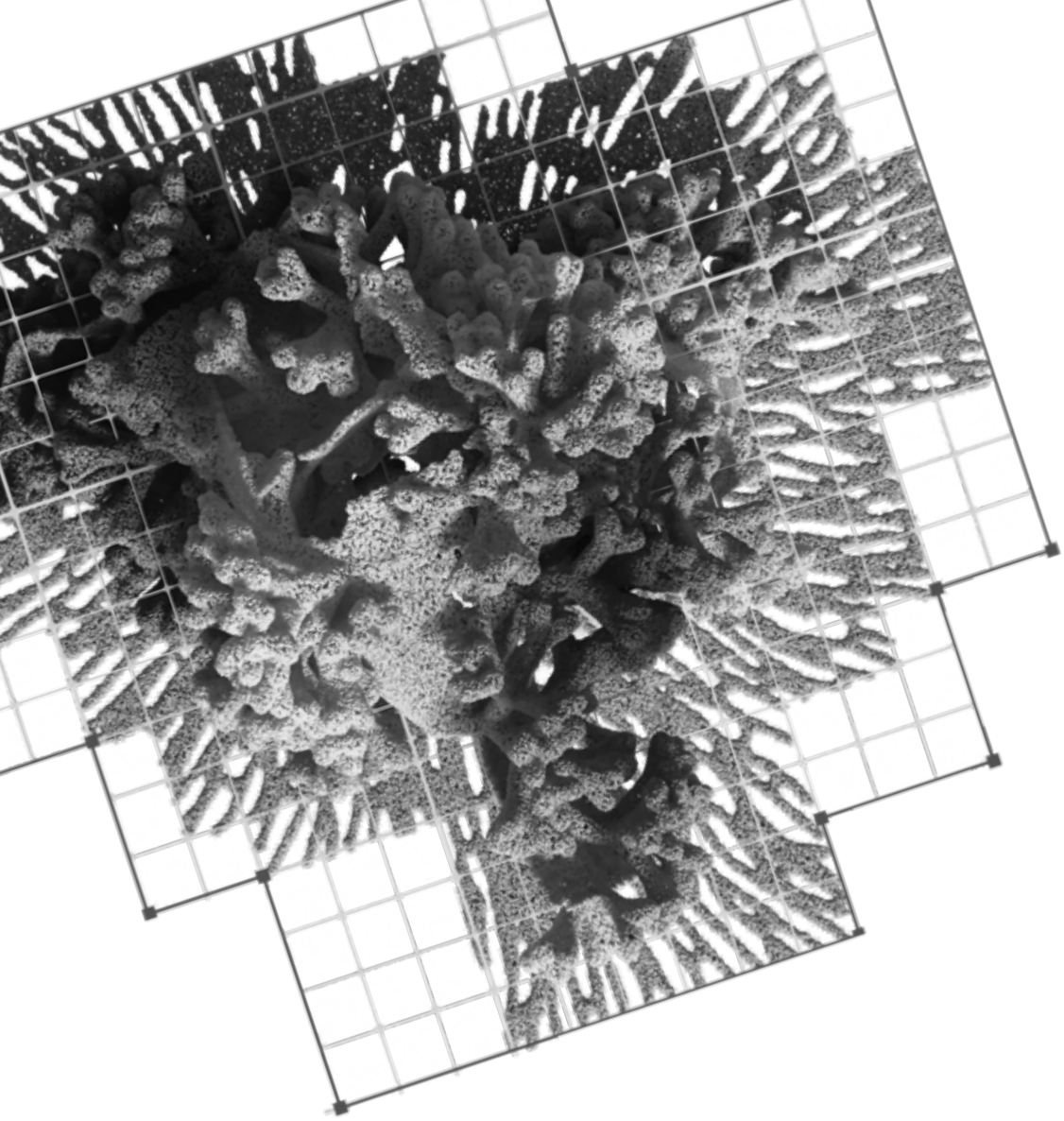
Designated Budget for Innovation: Allocating specific funds for innovation to ensure adequate resources for experimentation and implementation.

Knowledge of Funding Sources: Granting easy access to information about various funding sources.

Public Procurement as a Strategic Tool for Pilots: Using procurement strategically to facilitate pilot projects that test innovative solutions while engaging startups and academia.

This approach is currently being piloted with the Cemeteries and Burials Agency, which manages green spaces across the city. Alongside various stakeholders, they are confronting critical challenges in water management, particularly excessive flooding that overwhelms the sewage system, leading to contaminated runoff entering the fjord. City representatives have highlighted the department's lack of tools and resources to effectively tackle these pressing issues. It reveals a crucial gap in connectivity between agencies and external entities, including academia and the entrepreneurial community, which could offer vital support and innovative solutions.

This case illustrates the significance of a decentralised model, bringing the visibility of real problems and problem owners to the forefront and highlighting a pressing need for innovative solutions, especially as traditional methods fall short. Oslo's commitment to empowering city agencies and uniting diverse stakeholders to address pressing needs through innovative approaches marks significant progress toward fostering change.



Stanisław Wasilewski

Technological integration

Is AI-Driven Data Collection the Key to Smarter Municipal Decision-Making?

Data-driven decision-making is transforming municipal services, and AI-powered chatbots offer a promising tool for gathering citizen input more efficiently. While they enhance engagement and automate data processing, concerns around security, adoption, and integration with existing systems must be carefully addressed.

Technological Transition in Municipal Data Collection

Data-based solutions and decision making have become **fundamental to maintaining high quality and trustworthiness of public institutions**. Advances in artificial intelligence and natural language processing open new possibilities for gathering and processing citizen input. As municipalities face growing pressure to make evidence-based decisions while optimising resources, the methods of collecting citizen data are evolving to meet these challenges. To examine these approaches, we developed a web-based platform for municipal workers to create AI-augmented forms. While rule-based conversational platforms like Dialogflow were considered, we opted for a pure large language model approach that allows users to describe conversation goals in natural language.

Traditional forms, both digital and paper-based, remain the most widely used approach to data collection in public administration. Their standardised structure enables straightforward processing and analysis, as demonstrated by recent research showing higher internal consistency in web-based forms compared to newer alternatives (Zarouali et al., 2024). However, **this approach suffers from significant limitations** – the rigid structure restricts context gathering capabilities, while the one-way communication flow can discourage citizen participation. Despite these drawbacks, traditional forms maintain advantage in completion time, with web surveys averaging 270 seconds compared to 384 seconds for alternative, interactive methods (Zarouali et al., 2024[3]).

Interview-based collection represents a more in-depth approach to gathering citizen input. This method excels at collecting rich contextual data, allowing for immediate clarification of responses, leading to higher quality information gathering (Proden et al., 2023[4]). The possibility of probing responses and adapting questions based on previous answers results in more comprehensive data collection. However, this approach faces scalability limitations – it requires significant staff resources, extensive training, and substantial time investment, making it impractical for

3 Zarouali, Brahim, et al. "Comparing chatbots and online surveys for (longitudinal) data collection: an investigation of response characteristics, data quality, and user evaluation." *Communication Methods and Measures* 18.1 (2024)

4 Proden, Elena, Dilek Fraisl, and Linda See. "Citizen Science: What is in it for the Official Statistics Community?." *Citizen Science: Theory and Practice 8.1 (2023)*

large-scale data collection efforts. Though interviews yield higher-quality data, their demands for staff time and training limit scalability.

Chatbot-augmented forms **combine the benefits of traditional forms with using** large language models to turn conversations into structured data. Recent studies have shown mixed but promising results. While chatbots achieve better performance in attention checks (62.19% vs 50.00% for web surveys) (Zarouali et al., 2024), they take longer to complete – about 384 seconds compared to 270 seconds for web surveys. **Despite the longer completion time, nearly 70% of users still preferred the chatbot interface.** The key advantage lies in chatbots' ability to scale without proportional resource requirements, offering constant availability while maintaining consistent interaction quality and automated data processing. However, this approach raises new concerns about data privacy and security, especially for sensitive municipal information.

Promise of chatbots

From the citizen perspective, chatbot-augmented data collection offers several significant advantages. The most immediate benefit is the **constant availability of service**, allowing citizens to engage with services at their convenience. The conversational interface eliminates the need for complex form navigation, while enabling immediate clarification of unclear fields. Research reveals a multi-dimensional picture of user engagement and effectiveness. In healthcare settings, Soni et al. (2022)[5] found strong user preference for chatbots (69.9%),with users particularly valuing the conversational nature of interactions. Meanwhile, in municipal implementations, users report comparable ease-of-use between chatbots and traditional web surveys and show better attention check performance (62.19% vs 50.00% for traditional forms) (Zarouali et al., 2024), though with lower perceived enjoyment levels in day-to-day interactions.

Chatbots can make administrative work more efficient, **reducing the resource burden on municipal staff**. Quality control becomes automated, with standardised validation processes and real-time error checking. Studies show that while chatbots may require longer completion times, they help collect more complete answers by guiding users through questions one at a time (Soni et al., 2022) with accuracy similar to traditional methods (Zarouali et al., 2024). The efficiency gains are particularly evident in processing open-ended questions, where responses can be automatically classified (Xiao et al., 2020)[6]. The custom platform we have created demonstrates this efficiency through an analysis dashboard that automatically identifies common themes in responses allowing municipality workers to quickly process citizen input. The analysis and results were simulated on a LLM-generated dataset of mock responses, showcasing the capabilities of the system for the participants of the experiment.

From a governance perspective, chatbot-augmented data collection helps understand citizen needs better by collecting more detailed information. For example, when reporting a neighborhood issue, a chatbot can ask follow-up questions about the exact location or time patterns. Such details might be missed in a standard form, while still being relevant. As a result, the technology allows

5 Soni, Hiral, et al. "Virtual conversational agents versus online forms: patient experience and preferences for health data collection." *Frontiers in Digital Health 4* (2022)

6 Xiao, Ziang, et al. "Tell me about yourself: Using an AI-powered chatbot to conduct conversational surveys with open-ended questions." *ACM Transactions on Computer-Human Interaction (TOCHI)* 27.3 (2020)

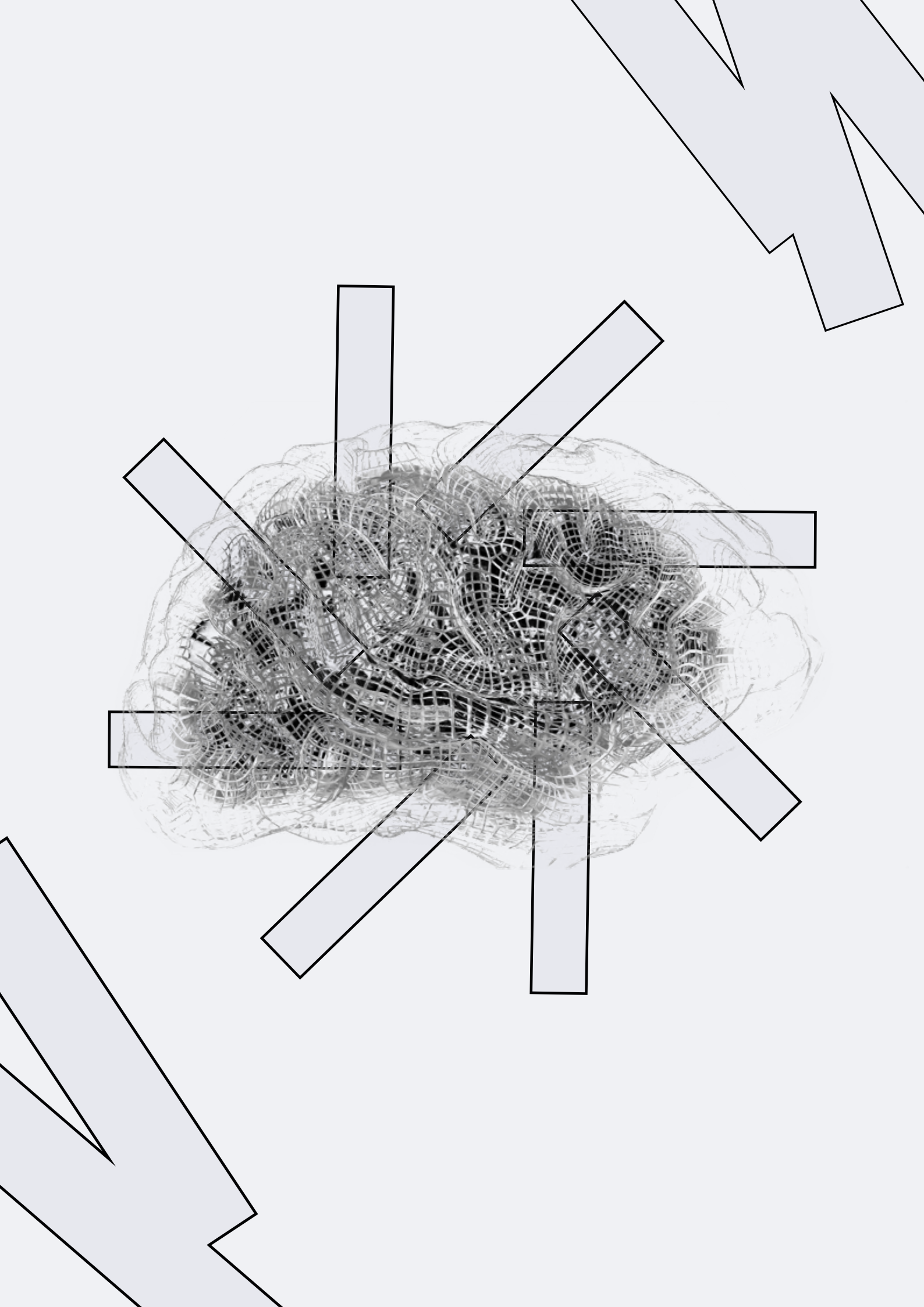
us to gather richer information without sacrificing the response rate. (Proden et al., 2023). This approach provides **clearer metrics** for citizen engagement, allowing municipalities to track and analyse participation patterns more effectively. For example, a chatbot-based system can track which city services get the most inquiries and what specific aspects citizens ask about most often, while also collecting suggestions for improvements. When implementing our platform, we focused on making this data immediately accessible by **providing searchable individual responses** alongside the AI-generated summaries of common themes, allowing users to both look into specific concerns as well as identify broader patterns in the answers. This allows for identification of both immediate needs and long-term trends in citizens' preferences. Research confirms these benefits: Soni et al. (2022) found that sequential question presentation leads to more complete responses, while Xiao et al. (2020) demonstrated improved response specificity in open-ended answers. Automated processing, as shown by Xiao et al. (2020), reduces analysis time from weeks to days, accelerating municipal responses.

Challenges and Limitations

Implementation of chatbot-augmented data collection presents several significant challenges for municipal institutions. Integration with existing systems requires substantial technical expertise and resources, often demanding modifications to established data management processes. Security and privacy concerns are particularly significant in the municipal context – research shows that users perceive chatbot systems as less secure than traditional web surveys (Zarouali et al., 2024). This perception is stronger when sharing personal information through chat-based interfaces (Soni et al., 2022). While chatbots offer automation benefits, their implementation and maintenance costs may require more investment than traditional forms to ensure reliable operation.

Implementation barriers extend beyond technical considerations to include organizational and human factors. Quality assurance approaches vary significantly between institutions – from basic screening protocols to comprehensive multi-stage validation processes (Proden et al., 2023). Staff training requirements are substantial, as employees need to understand both the technical system and the new way of interacting with citizens. Citizen adoption presents another challenge – research shows **mixed user perceptions**, with lower ratings for perceived usefulness and enjoyment compared to traditional methods (Zarouali et al., 2024).

As municipalities consider implementing chatbot-based data collection systems, they need to balance costs with potential benefits. The success of such solutions depends on aligning technical capabilities with practical concerns like accessibility and security.



Oriol Corbella

User Experience (UX)

How Can Local Governments Use UX to Improve Citizen Engagement?

By prioritising the user's perspective and maintaining trust, chatbots can become valuable tools in public administration, improving accessibility and engagement. To enhance the way public institutions communicate with citizens through chatbots, they need to create a user experience (UX) that is intuitive, efficient, and builds trust without overwhelming the user with unnecessary complexity.

Proactive or reactive?

When would a citizen choose to interact with a chatbot provided by a public administration? What needs are they trying to fulfill through this action? When a chatbot proactively reaches out to the user, for example on apps like WhatsApp or Facebook Messenger, the user is doing **zero effort** on receiving this information. The connection is done without the human having to perform any actions. So, instead of the user having to ask the chatbot its request, it is the chatbot that pops up to the user asking what is the need. If the chatbot offers a one-tap option to navigate with buttons with frequently asked questions, then it is even easier for the user to get the information needed. But in order to do this, the sender needs the contact information previously (for example, the phone number) and the consent to these communications. For example, a public institution may send a notification on WhatsApp when a citizen's participation process is taking place in the citizen's neighbourhood. Not only can notify neighbours about this in their phone, but can give them options to follow up, sign up, or receive more information using interaction (via buttons or links).

When the users are the ones who initiate the conversation, several challenges arise. If the chatbot is not integrated on the website, but there's a link to a WhatsApp chat instead, the first barrier we will find is the user having to switch between different apps (browser to WhatsApp). Another barrier is that they might be hesitant to use the chatbot because they think they're communicating with an AI rather than a human, which can lead to **distrust**. If the information they need is available on a website, they may prefer accessing it there. But users typically engage with a chatbot proactively only when they haven't found answers elsewhere and hope the chatbot can provide assistance, either through automated responses or by connecting them to a human agent.

Human perspective at the center

When designing a chatbot initiated by the user, we need to have in mind that the user might be:

- tired of exploring a complex website
- frustrated for not having found the information
- untrusting the chatbot because knows it's not a human

The worst thing the chatbot can do to the user is sending **long unstructured texts** and trying to imitate

a human's narrative. Since generating huge blocks of text is not a problem, designer can fall into a trap of allowing the chatbot to explain all the reasons for a given decision. This might seem like a safe strategy (better not to avoid any information, give user full perspective) but proves to be ineffective. A typical user is impatient, tired and doesn't trust you, let's make it easy for they to find what they are looking for. While it might seem counterintuitive, pretending to be human can actually undermine trust. Users appreciate transparency and efficiency over artificial friendliness. Therefore, chatbots should aim to offer an experience similar to navigating a well-designed website: information presented clearly and concisely, allowing users to find what they need with minimal effort.

Visual design plays a significant role in enhancing the user experience. Utilising bold titles, brief texts, and emojis can make information more digestible and navigation more intuitive. Buttons with clear labels and accompanying icons help users quickly select options without typing. This visual clarity reduces cognitive load and streamlines the interaction.

Personalisation should be handled with care, specially for public institutions. Using known data to personalise the experience – such as greeting the user by their first name – can be effective if the user expects it and has an existing relationship with the institution. Studies like *Invesp 2021*[7] show that emails with the name of the recipient in the subject line have an increase of 18,7% its open rate. However, over-personalisation or unexpected use of personal data can raise privacy concerns. Even if the data is secure, the perception of privacy and trust is essential. For example, one WhatsApp chatbot created by an European institution targeted to migrant people seeking information about legal procedures, decided not to use the name of the user (they could get it from the WhatsApp account name) on their messages. Talking to them by their name would arise concerns about the security and privacy for the users that were expecting an anonymous and private service.

Efficiency implications of design

Artificial intelligence can enhance the chatbot's ability to understand user queries, but it shouldn't be the only means of interaction. Users appreciate having control, so offering menus or options with buttons allows them to navigate efficiently without relying only on free-form text inputs. This hybrid approach combines the efficiency of AI understanding with the reliability of predefined options.

Efficiency is crucial. Avoid unnecessary steps in the conversation flow, such as follow-up messages like "Do you need anything else?" sent hours later. The chatbot should always be ready to assist whenever the user returns, without requiring them to start over. This on-demand accessibility mirrors the convenience of a well-designed website where information is readily available. The rule should be: the less steps a user has to do, the better. If you can avoid one click to the user, avoid it.

For public institutions, chatbots are best for providing general information rather than handling transactions or procedures that involve personal data. They are particularly effective for specific campaigns or services, like providing updates on public health matters, event information, or basic customer inquiries. By understanding when and why citizens choose to interact with a chatbot, institutions can improve their offer to meet those needs effectively: being direct and concise in communication, having intuitive visual elements, and avoiding imitating human conversation.

7 www.invespcro.com/blog/email-subject-lines-statistics-and-trends/

Aleksandra Wójtowicz

Regulatory perspective

How Can Local Governments Ensure AI Compliance and Transparency?

AI is transforming local governments, offering opportunities for efficiency and citizen engagement, but also posing significant risks if implemented without oversight. To harness its benefits while mitigating threats like bias and privacy breaches, clear regulations and increased public awareness are essential.

The use of artificial intelligence will significantly impact the local governments. Currently, it seems that at least some local governments are eager to use the tools offered and to incorporate AI into their daily work and communication with citizens. Some would even argue that AI is playing a pivotal role in urban services, influencing the future of city development[8]. However, AI can be both an opportunity for the local governments **to govern more efficiently or to enhance their communication with the citizens**, as it can be a threat. When not implemented **responsibly**, AI presents considerable risks. This gap in knowledge can result in unintended consequences, such as worsening existing inequalities or jeopardising privacy[9].

With the multiple use cases of AI in the local governments, some could depict potential threats adequately. For example, Rotterdam has implemented an AI system to assess the likelihood of welfare recipients committing fraud in 2017. The system, however, developed biases, disproportionately labeling individuals as "high risk" if they were female, young, had children, or had limited Dutch language proficiency[10]. It was thus discriminating based on ethnicity and gender.

A study was conducted by the Queensland University of Technology regarding the AI use by the local governments. It included 262 cases of AI adoption across 170 local councils, spanning a wide array of technologies and services. However, out of the group of over 170 local governments, only 26 had published their AI policies. The majority, however, were implementing advanced AI systems without a publicly accessible framework for oversight or accountability[11].

This lack of regulation raises significant concerns about ethical breaches, systemic biases, and unchecked data usage. These are also relevant in creating chatbots by the local governments. Two things are thus needed: effective regulations and enhancing the knowledge about the use of AI both within the local governments and the citizens.

Knowledge gap

To be able to effectively and ethically implement AI technologies for the sake of bettering the communication and services, narrowing the knowledge gap is needed.

8 research.qut.edu.au/citylab/projects/responsible-urban-innovation-with--artificial-intelligence-ai-systems-for-local-governments/

9 Ibid.

10 www.wired.com/story/welfare-state-algorithms/

11 research.qut.edu.au/citylab/projects/responsible-urban-innovation-with--artificial-intelligence-ai-systems-for-local-governments/

First, the central governments need to prepare detailed instructions on how to safely use the AI when working in the local government. Currently, it seems as though that has not been done sufficiently enough. For example, in Poland the Polish State Digitalisation Strategy mentions the role of local governments in country's digital affairs and it emphasizses the knowledge gap of the local governments as a potential weakness in implementing the strategy, but it does not provide detailed information on how to actually involve the local governments in the process[12]. That is not the case solely in Poland, but in various states as well[13]. Local governments need adequate information to be able to implement the AI solutions in the way that is compliant with the national law.

Second, it is also the citizens who should be able to access clear and correct information. Such information should focus both on AI en generale – presenting both the threats and opportunities, as ways in which one could enhance their privacy and safety when using AI, but most importantly information on the way local governments are using the AI. Citizens should thus know when the local governments are using the AI and how their data is processed. This is especially important when considering the local governments' AI-fueled chatbots - users need to know that the AI is being used in such a solution. Moreover, they also need to be aware of what is happening with their data.

Existing regulations

There are existing regulations that the local governments already need to be compliant with when using AI and creating AI-fueled chatbots. Some of them could serve as an example for further developing one's own policies, taking into account the local specifics.

Regulations that the local governments should consider include:

1) General Data Protection Regulation

AI chatbots often process personal data (names, addresses, queries). To be considered as compliant with the GDPR, local governments' chatbots need to have a clear basis for the data collection, processing, etc. Moreover, users must be informed about data collection and usage. Data security measures need to be undertaken to prevent breaches.

2) AI Act

The AI Act categorizes AI systems into four risk levels, including high- and limited risk. These are the ones that the local governments will mostly deal with. They do include strictly regulated AI (high risk systems), ie. AI used in public services, law enforcement, and education, as well as the limited risk ones (ie. chatbots). Important to note, chatbots used for critical decision-making (ie, in healthcare, social services, or law enforcement) may be classified as high risk.

3) The Directive on security of network and information systems

Local governments should report on their cybersecurity state. Local governments must prepare and submit an annual report on the state of information system security. This report should include a comprehensive assessment of the cybersecurity status within the entity, including information on identified threats, security measures taken, and future plans. Local governments are required to promptly report serious security incidents to the appropriate national-level CSIRT. This would only get more important with the increased use of AI.

12 www.gov.pl/web/cyfryzacja/strategia-cyfryzacji-polski-do-2035-roku

13 Yigitcanlar, T., Agdas, D. & Degirmenci, K. Artificial intelligence in local governments: perceptions of city managers on prospects, constraints and choices. *AI & Soc* 38, 1135–1150 (2023)

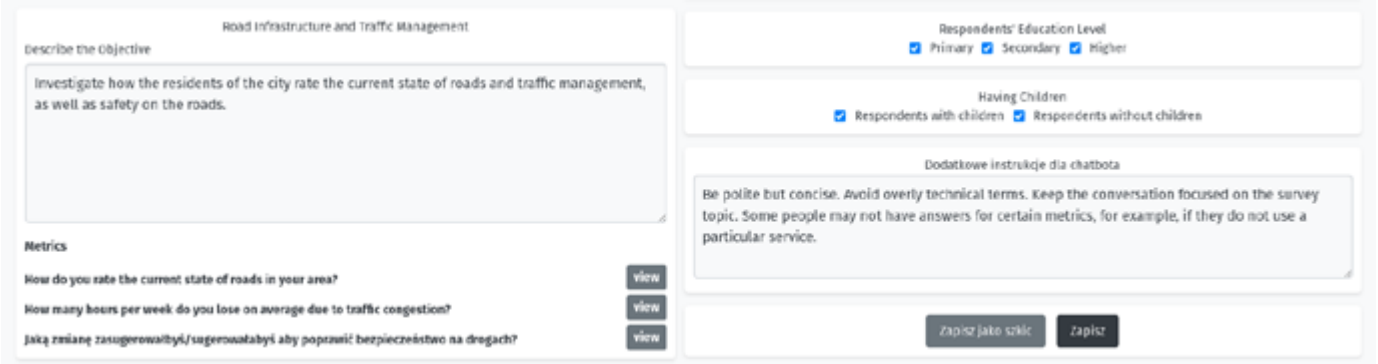
Towards the future

AI has many possible use cases for the local governments. These include 1) public safety and law enforcement, 2) traffic management and transportation, 3) citizens services, 4) urban planning and development, 5) healthcare and social services, 6) environmental monitoring, 7) community engagement, and more. All these use cases have specific policy and regulatory needs. Local governments should thus be ambitious in implementing the already existing regulations but also create their own policies that will guide their use of AI and accurately inform the public. It is especially important when it comes to AI-fueled chatbots. On one hand, they could be immensely helpful and positively impact governments' communication as well as citizens' engagement.

However, especially when focusing on issues like social services, law enforcement or healthcare, chatbots could also pose a risk. It is thus crucial to implement them in a responsible and ethical way. Without such policies, local governments risk deploying AI without essential safeguards or external monitoring. Algorithms could inadvertently discriminate against specific groups when distributing resources like public housing or healthcare. The consequences can be severe, as seen in Rotterdam's welfare fraud risk assessments.

Mock platform research findings

What do people working at the local government think about using chatbots? This was the question we wanted to answer by our empirical qualitative study we ran at the end of 2024. The study ran by anthropologists specialising in the impact of technology on human communication involved semi-structured interviews with officials from five medium-sized cities in Poland. The interviews focused on three main areas: the participants' specific roles and responsibilities, their methods for gathering and utilising information from residents, and their experiences with technology, including chatbots. A particular emphasis was placed on analysing both the opportunities and challenges that chatbots present for enhancing communication with residents and supporting decision-making processes within local government administration.



Research design phase: gathering guidelines for our chatbot.

Key insights:

1. **Users recognise the usefulness of modern technology, including chatbots**
   Respondents noted that modern technological tools, such as e-declaration systems and chatbots, can improve administrative processes, eliminate human errors and save time. In particular, technology makes it easier for residents to submit documents and contact authorities, making public services more accessible.

2. **Chatbots as a tool for solving repetitive problems**
   Respondents see the potential of chatbots mainly in solving simple, routine tasks, such as answering basic questions, filing documents or providing information on procedures. Currently, chatbots are not seen as a tool to support more complex processes, such as public consultations, which require a deeper level of interaction, according to respondents.

3. **Challenges of implementing the technology**
   Interviewees highlighted that the success of implementation of new technological solutions depends on their fit with the needs of offices and residents. Key to this are the cost of implementation, proper staff training and eliminating mistrust of new technologies. Chatbots, in order to be effective, must be well designed, intuitive

and introduced in a way that takes into account the needs of both government employees and residents.

Research procedure

The interviewees, representing the local government administration of medium-sized Polish cities, ranged from Inowrocław to Lublin. Each participant brought a wealth of professional experience, having worked both in local government and in various other sectors such as business, non-governmental organisations, and law firms. Their career paths varied, with some entering the field of administration by chance and others making deliberate choices informed by their education and prior work experiences.

The responsibilities of the interviewees highlight the diverse range of activities undertaken by local government. Some individuals engaged directly with residents, coordinating initiatives such as social consultations, civic budgets, and projects aimed at non-governmental organisations (NGOs). Others concentrated on internal operations, often referred to as "backstage" activities, which included ensuring data security, implementing e-services, and promoting the city for investment purposes. Notably, there were instances of officials who initiated technological innovations from the ground up, such as developing accounting systems for educational institutions and constructing databases for local NGOs.

The diversity of the interviewees' experiences and perspectives provides a good understanding of the role technology plays in administration, making this group a valuable resource for assessing both the opportunities and challenges associated with the implementation of chatbots in local offices. In particular, their insights on methods for collecting and utilising data from residents serve as a significant context for analysing the potential of technology to enhance communication and decision-making processes within local government.

Three typical approaches to data collection

To understand approaches towards the problem and typical ways of dealing with it, Interviewees were first asked to describe their methods for collecting data and information from residents, as well as how this information is utilised. While the responses did not specifically address chatbots at this point, they offer valuable insights into the potential application of technological tools to enhance the operations of municipal governments and individual officials.

The information gathered, despite the diverse areas of expertise represented by the interviewees, can be categorised into three primary groups. The first category involves data provided by residents as part of applications and declarations submitted to the office. The second category includes self-initiated submissions from residents, such as civic budget proposals, voluntary applications, or inquiries sent electronically. The third category encompasses initiatives initiated by the office, such as community consultations where topics for discussion are proposed, meetings are organised, or digital tools are employed to collect resident opinions. According to the interviewees, these various methods of information collection are complementary, facilitating both immediate responses to residents' needs and the strategic planning of long-term actions.

The first category encompasses data collected through **applications and declarations submitted by residents** to the authorities. This data can be further categorised into two subgroups: mandatory

declarations, such as waste declarations and utility consumption reports, and voluntary applications, which offer benefits to residents, such as the Family 800 Plus programme (monthly childcare benefit), renovation grants, or other support. Interviewees highlighted that information from this category is essential for shaping municipal policies, including budget planning and municipal management.

Additionally, the interviewees underscored the importance of safeguarding personal and confidential data to prevent unauthorised sharing with third parties. The security and integrity of IT systems are critical in this context. A significant point raised during the discussions was the potential for residents to submit certain declarations and applications electronically through platforms such as e-declarations or e-government. These tools not only streamline the circulation of documentation but also enhance convenience for both residents and officials.

The second category of information collection mentioned by the interviewees relates to **residents' initiatives**. This encompasses any actions taken by residents to communicate their ideas or concerns. Some submissions are more formal, including applications for the civic budget and participation in the on-call duties of officials or councillors who relay information. Others are less formal, addressing everyday issues such as infrastructure deficiencies, repair needs, or housing challenges.

Residents utilise a variety of communication channels to express these concerns, including emails, consultation platforms, and social media. Participants in the survey indicated that this information is highly valuable, as it allows them to address the genuine needs of residents and implement their suggestions. Notably, submissions made as part of civic budgets often serve as inspiration for officials, even if the proposals themselves are not selected for implementation; they may be executed at a later date or in a different context. Additionally, the insights gained from residents' activities play a critical role in shaping long-term objectives and budgeting plans for the coming years.

The third category of methods for gathering information from residents involves **initiatives led by the office** aimed at collecting data for specific projects or strategic decisions. This includes public consultations, surveys, meetings with residents, and collaboration with community councils such as the Youth City Council, Senior Citizens Council, and Council for People with Disabilities. Respondents said these initiatives are useful for planning urban policies, including programs for collaboration with non-governmental organisations, the establishment of civic budgets, and the enhancement of urban spaces. These activities not only facilitate the understanding of residents' opinions but also foster trust and engagement within local communities.

One of the most commonly utilised tools is consultation portals, which facilitate residents in sharing their opinions on projects such as public space revitalisation and investment planning. Respondents have highlighted that these platforms enhance public participation and enable the collection of more detailed data compared to individual submissions. Additionally, regular meetings organised by the office provide residents with the opportunity to engage directly with city authorities and officials. The information gathered often serves as a foundation for addressing genuine community needs and developing long-term strategies for the city.

Overall, contemporary approaches to data collection underscore its critical role in the operations of local governments, facilitating the planning, implementation, and evaluation of policies designed to meet the

needs of residents. While these methods are essential for gaining insights into community priorities and building public trust, they can also be labor-intensive, demanding considerable time and resources from officials. The techniques utilised are varied and complementary, encompassing mandatory declarations, voluntary submissions by residents, and proactive initiatives led by municipal offices, such as public consultations and surveys. This multifaceted approach promotes a thorough understanding of local issues, while also indicating the necessity for technological advancements to streamline processes and alleviate administrative burdens.

Utilisation of technology

In this context, it is important to evaluate how emerging technologies can enhance the processes related to information acquisition and management. Respondents shared their experiences with various information technologies, including chatbots, and their potential implementation in office environments. Their feedback highlights the considerable opportunities that technology presents for **advancing communication and information management** in local government. All participants emphasised that a career in local administration necessitates flexibility, creativity, and the ability to collaborate with various social groups. While local government can be complex and frequently bureaucratic, it also presents a unique opportunity to integrate legal frameworks with practical applications, execute projects that contribute to city development, and address the needs of residents.

Respondents see technology as very helpful in automating and streamlining processes – a great example here is the e-declaration system, which eliminates the need to scan submitted applications. Moreover, such programmes make fewer errors and help eliminate human mistakes. Moreover, consultation tools such as consultation portals or online surveys allow for efficient and effective collection of highly detailed data, which saves time and resources. According to interviewees, in most cases, the use of technology in the office is also beneficial for residents, as they have easier contact with officials thanks to e-government systems and other digital platforms, including social media.

Despite the many advantages, respondents also point to some limitations of using technology. First and foremost, complex technological solutions supporting local authorities are relatively expensive and their basic capabilities are quite limited. This forces offices to pay extra for additional modules, which are also not necessarily tailored to their needs. One interviewee mentioned that the IT team in their office successfully developed a simple programme that better addressed the specific needs of their team. This highlights that off-the-shelf solutions available on the market often fail to fully meet the unique requirements of local authorities, emphasising the need for tailor-made solutions. Another reported problem is the non-integration of databases between different systems. This means that if comprehensive programmes serving offices are to be attractive to local authorities they need to be cost-effective and tailored to their needs.

Another challenge is to create such a system of service and contact with the residents that no one is excluded – e.g. elderly people or those with limited access to the Internet often find it difficult to use e-offices. The interviewees point out that it is necessary to ensure that this part of society, which does not use modern technologies, can also traditionally handle their matters. There is also the financial aspect – the inhabitants need to be effectively informed about the change in the system and the introduction of new solutions. Such information

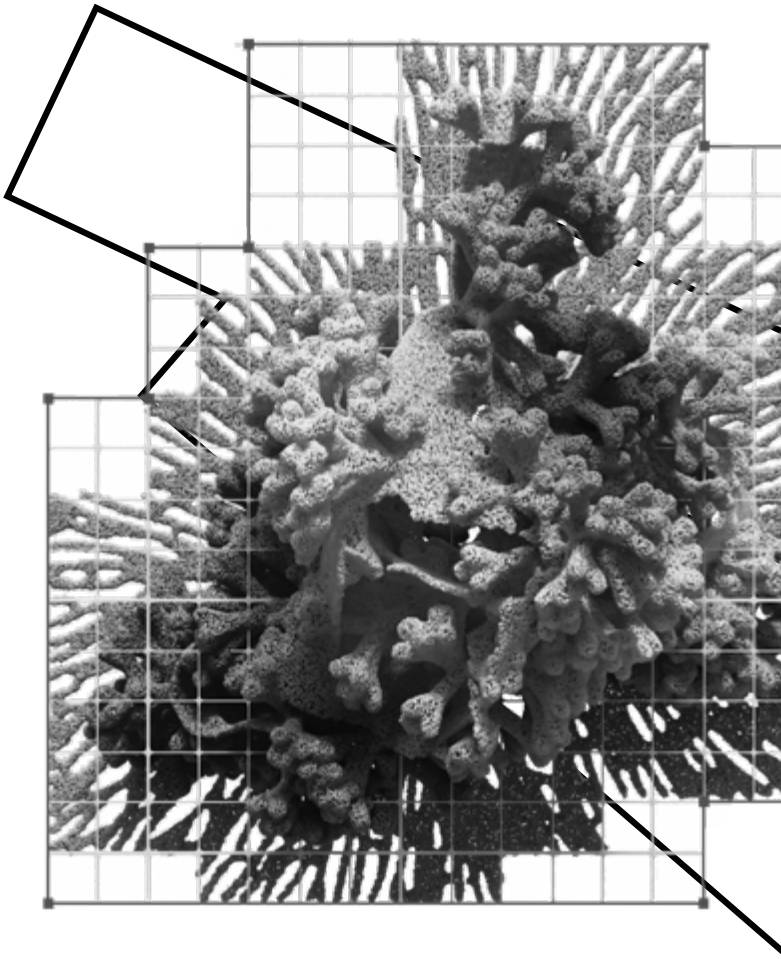
should, if possible, be provided cyclically because if the message appears only once, it will not reach the majority of those interested – this also generates additional costs.

Respondents also pointed out that although IT systems automate some processes, they do not eliminate the need for manual intervention. In their view, the burden on the office staff is still too high, especially when every e-declaration or case handled in the e-office has to be finally accepted manually. In the future, interviewees would see more trust in technology in this area, as well as better tools to verify the quality and completeness of data provided by residents. These systems could automatically point out errors or omissions and send submissions back for improvement, which would greatly improve the work of officials.

This ties in with the last major challenge highlighted by interviewees – that is, the distrust of new solutions that arises among both residents and some officials. The introduction of new technologies must be preceded by comprehensive training of the team of officials who will be responsible for their operation and technical support. Such an approach makes the systems a real convenience in the daily work for the city or municipality. It is equally important to support residents in using modern tools – through educational campaigns, it is possible not only to reduce distrust of new solutions but also to increase their effectiveness. This is particularly important in the context of building social trust and promoting residents' involvement in the local community.

Potential and implementation

The majority of interviewees have experienced interactions with chatbots in their lives and have intentionally utilised this tool. While there were



numerous objections to earlier versions of such technology, interviewees noted that advancements in technology and the development of simpler AI have made the chatbots they use (e.g., for e-banking) increasingly beneficial.

Most respondents believe that chatbots could be effectively utilised in their workplace. They emphasised that chatbots have the potential to streamline communication and reduce the workload of employees by handling repetitive and time-consuming tasks. This could lead to a more efficient allocation of resources within municipal offices. Additionally, interviewees believe that a well-designed tool, supported by a continuously updated knowledge base, could assist residents in completing documentation, such as specific declarations or organisation registrations, as well as provide answers to basic

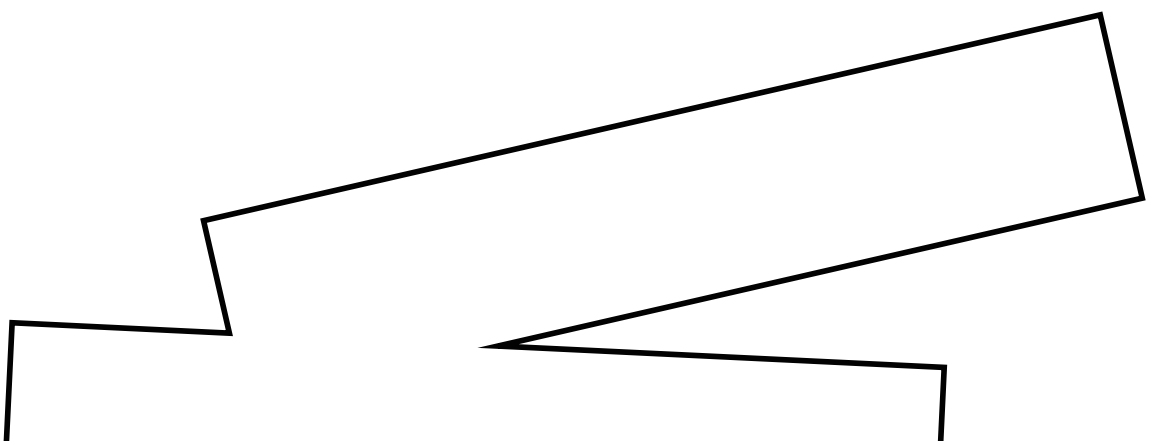
inquiries regarding the submission process for these documents.

Such a chatbot could act as a first point of contact for residents, offering instant assistance and reducing the need for direct human interaction in routine matters. Respondents highlighted that this would be particularly beneficial for simple but frequent inquiries, ensuring that residents receive accurate and timely guidance.

At the end of the interviews, respondents were asked to try a test platform utilising a chatbot designed to collect information from residents. Their impressions were positive, highlighting the platform's intuitive design and ease of use. Respondents noted that the interface was clear and well-organised, with clear graphs generated from the collected data, which added value to its functionality. They also appreciated its potential to simplify data collection processes and support decision-making, while recognising the importance of further tailoring such tools to meet the specific needs of local governments. Many expressed interest in exploring the platform further and customising it to fit the needs of local governments.

In contrast, chatbots primarily designed to promote specific products, services, and content are viewed unfavourably. The application of this technology on websites and apps to present sales offers or special promotions is perceived by users as intrusive and unnecessary. Respondents also expressed concerns that chatbots impede access to direct human communication. When employed in this manner, a chatbot serves as a barrier—effectively acting as a gatekeeper—that restricts the ability to connect directly with a customer service representative. One interviewee expressed a distinctly negative opinion about this type of technology, suggesting that there may be additional similar sentiments. It is important to engage both officials and residents in promoting the adoption of modern solutions.

When considering potential implementation of chatbots, it is crucial to **ensure support for employees** who may require additional encouragement to embrace new solutions. Some interviewees mentioned a personal preference for more direct forms of communication with residents and tend to base their decisions more frequently on qualitative data, such as insights gathered from interviews. Additionally, concerns were raised regarding the costs associated with implementing chatbots and uncertainty about their actual benefits. One interviewee recounted an experience from an office where chatbots were implemented but later discontinued due to expenses and limited functionality. Nevertheless, it is important to recognise that well-designed tools can enhance the efficiency of offices and increase accessibility to services for residents, particularly those who prefer remote interactions. The success of such technology will hinge on its proper implementation, alongside the education of both employees and residents, which can significantly enhance the acceptance and effectiveness of these solutions.



Authors

Konrad Kiljan is a communication and media expert. He conducts research on the impact of emotions on online discourse, develops strategies for brands and public institutions and runs international educational and civic campaigns. PhD candidate in media studies at the University of Warsaw, graduate of St Andrews University.

Aleksandra Wilczyńska is an innovation management consultant. She has worked with 100+ organisations across Europe, including SMEs, research institutes, and accelerators, helping transition science-based innovations from laboratories to market.

Oriol Corbella is a digital strategist with over a decade of expertise in tech development and social media, specialising in social and political projects. Founder of WhaSolutions.

Stanisław Wasilewski is an AI Developer at TasteRay and Teaching Assistant for Machine Learning at Vrije Universiteit Amsterdam. His research interests include Diffusion Models, Large Language Models, and Knowledge Engineering.

Aleksandra Wójtowicz is a digital policy expert, currently working for the Polish Institute of International Affairs. She specialises in the analysis of EU digital regulations and disinformation.

Michalina Grzelka is an author and co-author of academic publications on topics including disability studies and the anthropology of care work. Professionally, she focuses on projects related to disinformation. She holds a PhD in cultural anthropology from SUNY Albany, New York, a master's degree in Arabic studies from the University of Warsaw and was a Fulbright Program scholar from 2016 to 2018.

Marcel Świerkocki is a geographer and a PhD candidate at the University of Warsaw. His research focuses on social, spatial and urban inequalities, primarily in the context of sustainable development.