Collaborative design in public services: a wicked problem-reframing case

Patrícia Moura e Sá

Faculty of Economics, University of Coimbra, Coimbra, Portugal and Centre for Research in Political Science, Braga, Portugal

Catarina Frade

Faculty of Economics and Centre for Social Studies, University of Coimbra, Coimbra, Portugal

Fernanda Jesus, Mónica Lopes and Teresa Maneca Lima

Centre for Social Studies, University of Coimbra, Coimbra, Portugal, and

Vitor Raposo

Centre for Business and Economics Research, Faculty of Economics, University of Coimbra, Coimbra, Portugal

Abstract

Purpose – Wicked problems require collaborative innovation approaches. Understanding the problem from the users' perspective is essential. Based on a complex and ill-defined case, the purpose of the current paper is to identify some critical success factors in defining the "right problem" to be addressed.

Design/methodology/approach – An empirical research study was carried out in a low-density municipality (case study). Extensive data were collected from official databases, individual semi-structured interviews and a focus group involving citizens, local authorities, civil servants and other relevant stakeholders.

Findings – As defined by the central government, the problem to be addressed by the research team was to identify which justice services should be made available locally to a small- and low-density community. The problem was initially formulated using top-down reasoning. In-depth contact with citizens and key local players revealed that the lack of justice services was not "the issue" for that community. Mobility constraints and the shortage of economic opportunities had a considerable impact on the lack of demand for justice services. By using a bottom-up perspective, it was possible to reframe the problem to be addressed and suggest a new concept to be tested at later stages.

Social implications – The approach followed called attention to the importance of listening to citizens and local organisations with a profound knowledge of the territory to effectively identify and circumscribe a local problem in the justice field.

Originality/value – The paper highlights the limitations of traditional rational problem-solving approaches and contributes to expanding the voice-of-the-customer principle showing how it can lead to a substantially new definition of the problem to be addressed.

Keywords Innovation, Wicked problems, Public policy, Problem-solving, Collaborative design

Paper type Research paper

Introduction

Over the last decades, a growing number of problems, like poverty and inequality, family violence, drug control, criminal behaviour and environmental pollution have become more and more complex and enduring. These problems are usually referred to as "wicked problems" and tend to be ill-structured with messy boundaries and connections (Ackoff, 1974; cited in Head, 2019).

As a result of the existence of these kinds of problems, the policymaking process is increasingly uncertain, volatile and unpredictable (Auclair, 2019). The need to address these problems holistically makes "policy issues no longer respect boundaries" (Auclair, 2019, p. 2).

Existing public policies have often been unable to solve these problems. This is partly because political decision-makers know too little about the complex problems they set out to solve (Sørensen and Waldorff, 2014). For such problems, expert-driven and routine administrative solutions are highly ineffective (Head, 2008). To effectively face these complex problems, governments are becoming more dependent on external stakeholders. Thus, research has been stressing the need, for socially relevant decisions, to combine multidisciplinary knowledge and a variety of actors (Loukis *et al.*, 2017; Elia; Margherita, 2018).

How problems are recognised, prioritised and managed is of central concern in policy systems (Head, 2019). Government-centric views of policymaking are increasingly being abandoned (Auclair, 2019). Nevertheless, despite these challenges, as Hartley *et al.* (2019, p. 164) highlighted, "old ways of understanding and addressing problems are surprisingly slow to pass". As Hartley *et al.* (2019, p. 165) put it, "the epistemic paradigm of problem-solving remains stubbornly present in procedural and heuristic conceptualizations of policy problems" based on anachronistic thinking.

Once a problem has been elected, addressing the "right problem" is vital. As stressed by Torfing and Ansell (2017), one of the difficulties of dealing with wicked problems is precisely the fact that they are hard to define. The critical importance of the problem definition stage is well emphasised in the literature, although the public policy practice often seems to forget it. This is particularly true in the case of wicked problems, which are complex and highly interrelated. As Albert Einstein once said, "If I were given one hour to save the planet, I would spend 59 min defining the problem and one minute resolving it" (Henriques, 2018, p. 464).

Although the importance of problem definition stage is well established both in management science (Büyükdamgaci, 2003) and in policy studies (Head, 2019) literature, policy agendas still usually reflect the "problems" as political leaders perceived them with insufficient attention to the way "people in the field" feel them.

The purpose of the current paper is to identify some critical success factors in defining the "right problem" to be addressed. To investigate the matter, an empirical research approach was used, and extensive data were collected by the research team from citizens, politicians, public servants and other relevant institutional players.

In line with the arguments in favour of collaborative design, it was assumed from the beginning that understanding the problem from the users' perspective was essential. As the empirical case illustrates, the use of collaborative design approaches might inclusively lead to "reframing" the initial problem.

It must be acknowledged that the difficulties in defining the "right problem" are not exclusive to the public policy arena. A recent study published in the *Harvard Business Review* (HBR) based on a survey of 106 senior executives (who represented 91 private and public sector companies in 17 countries) reveals that 85% of the respondents strongly agreed or agreed that their organisations were bad at problem diagnosis and recognised that this had important costs (Wedell-Wedellsborg, 2017). The HBR article then recalls a classic problem-reframing example. Complaints made in a building about the slowness of the lift has initially led to suggesting the obvious solution: "making the lift faster". However, when the problem was presented to a group of building managers, they suggested a much more unexpected

solution: putting up mirrors next to the lift. This measure ended up being very successful and much cheaper. Coming up with this solution was only possible because the initial problem was substantially reframed to "the wait was annoying". As the author notes, the point of reframing is not necessarily to find the "real" problem to address "but rather see if there is a better one to solve" (Wedell-Wedellsborg, 2017).

The remainder of the paper is structured as follows. In the following section, based on a brief literature review, the nature of wicked problems is discussed and the limitations of traditional rational-technical approaches to address them are emphasised. Next, the concept of policy innovation is presented, and the importance of including collaborative forms in their design and implementation is stressed. In this regard, some new tools to foster citizen engagement are presented. Then, the empirical study is described and the methods used to collect and analyse the data are justified. The following section presents the main findings showing how the initial problem evolved into a new formulation. Finally, some conclusions on how to address wicked problems in policymaking are derived.

Wicked problems and the limitations of traditional problem-solving approaches

Wicked problems are usually defined in the literature as complex, unique, "unruled" and multicausal (Torfing and Ansell, 2017; Elia and Margherita, 2018). Some authors (e.g. Head, 2019) argued that wicked problems cannot be completely solved or "fixed" but need to be managed in a better way. As Torfing and Ansell (2017, p. 37) put it, "they can neither be solved by standard solutions nor by increasing public spending, but call for innovative and out-of-the-box solutions". Because of their complex interlinkages, wicked problems require the application of multidisciplinary knowledge in finding and implementing innovative solutions.

In fact, wicked problems are typical of open societal systems and, counterproductively, as Rittel and Webber (1973, p. 160) stressed "rely on elusive political judgment for resolution". There are three main features associated with wicked problems (Head and Alford, 2015): social pluralism (where multiple interests and values of stakeholders are involved), institutional complexity and scientific uncertainty (for which current knowledge is fragmented and not sufficiently reliable).

The limitations of traditional problem-solving approaches to cope with complex social problems have been stressed for some time (Head, 2019): they tend to produce narrow understandings of a reality that is diffused and, thus, not to reflect, as much as needed, its political and conflictual dimensions. Moreover, complexity theory literature has also been drawing attention to the importance when addressing wicked problems of taking into account multiple connections and unexpected side effects (Head, 2019). Ignoring them might be leading to unsound policy responses.

The literature on problem-solving is extensive and stresses the importance of strategies such as abstraction, analogy, brainstorming, lateral thinking, morphological analysis, root cause analysis or trial and error (Elia and Margherita, 2018). Broadly, the problem-solving process includes three subactivities: (1) represent and analyse the problem, (2) find alternatives and (3) make choices (Elia and Margherita, 2018). These stages include further activities such as problem setting, problem examination, solutions generation, solutions evaluation, and decision-making.

Thus, problem framing is one of the first steps in problem-solving. As defined by Schön and Rein (1994, p. 146, cited in Head, 2019), framing is "a way of selecting, organising, interpreting and making sense of a complex reality to provide guideposts for knowing, analysing, persuading and acting". The way the problem is framed has impact on the set of alternatives that are identified and on the final solution that is implemented because it directs the search for new innovative policy visions and the strategies that are chosen for their realisation and diffusion. The idea is reinforced by Rittel and Webber (1973, p. 158) when they state that for ill-structured problems "the process of formulating the problem and of

conceiving a solution ... are identical, since every specification of the problem is a specification of the direction in which a treatment is considered".

Problem formulation embraces two major steps: recognition and diagnosis. Based on Mintzberg's work, Büyükdamgaci (2003) defined recognition as the stage "where the problem is sensed and the need for problem-solving is acknowledged". Later, in the diagnosis, "the organisation tries to understand the stimuli and establish cause–effect relationships in the situation".

Attention needs to be given to problem formulation. As Büyükdamgaci (2003, p. 327) highlighted, "solving the wrong problem may prove to be more detrimental than ignoring the problem altogether".

This incomplete representation is often the consequence of having a single individual or entity reflecting upon the situations. Problem formulation initiatives that broaden the base of participation are more likely to identify the right problem. Furthermore, since problem formulation necessarily involves a process of information gathering to clarify and define the issues, the limitations of individuals, in terms of memory, skills and predispositions, need to be acknowledged. To overcome some of these limitations, the direct involvement of key interested parties, when possible, is crucial.

According to Head (2008, p. 114), wicked problems call for "better knowledge, better consultation, and better use of third-party partners". Therefore, wicked problems "require a coordinated response by a number of governmental and non-governmental actors, through more horizontal collaborative processes" (Auclair, 2019, p. 2) and multilevel governance, showing the limitations of rational-technical approaches, which assume that efficient and effective achievement of objectives can follow from adequate information, carefully specified goals and targets and choice of appropriate methods (Head and Alford, 2015). Given their characteristics, wicked problems call for the application of systems thinking, which accepts that social knowledge is provisional and context-dependent (Head and Alford, 2015), and for constructivist approaches to policy studies that give emphasis to the diversity and primacy of stakeholder values and practitioner perspectives (Gálvez-Rodríguez et al., 2018; Head, 2008).

Collaboration and policy innovation: concepts and tools
Policy innovation can be understood as "the formulation, realisation and diffusion of new problem understandings, new political visions and strategies for solving them" (Sørensen and Waldorff, 2014, p. 3).

Developing new policy design practices is essential in order to address more effectively wicked problems. Briefly stated, policy design represents an "integrated" approach that comprises the identification and scoping of the problem, deliberation on the choice of instruments and procedures and the evaluation of implementation including long-term outcomes (Howlett, 2014). In each of such stages, it is unlikely that politicians alone can create policy innovation. Effective policy innovation requires the contributions of other public and private actors (Torfing and Ansell, 2017). As complexity rises, political leaders lack the confidence, skills and competencies to find, develop and implement innovative solutions (Torfing and Ansell, 2017) and increasingly need the collaboration of other actors. As stressed by Loukis et al. (2017), nowadays in order to address many social problems, competent government agencies have to collect and process a large amount of external information from different stakeholder groups, with different perspectives, goals, expectations and attitudes. Collaboration between relevant public and private stakeholders is thus regarded as essential to cope with wicked problems, which require a high degree of creativity. To foster it, lateral thinking is an important skill that can enhance the potential of collaborative design. In fact, "lateral thinking" is associated with the process of gaining knowledge from one substantive context or discipline and applying it to an entirely different one (O'Leary and Vij, 2012). It corresponds to an unconventional way of reflecting upon a situation that breaks with some

drawbacks of logical ways of solving problems. As Butler (2010) stressed, by questioning conventional assumptions of how the world works, lateral thinking makes us to move away from obvious solutions and help us to be more creative and innovative.

The origins of collaborative design may be associated with the work of Rittel and Webber (1973). They, back in the seventies, have highlighted the importance of involving a wide range of stakeholders to deal with complex issues in the future so that the image of the problem is enriched and a "better" solution can emerge gradually amongst the participants.

Broadly defined, stakeholders are "all the actors participating to, influencing or which can be impacted by the solution design and implementation activities" (Elia and Margherita, 2018). As Elia and Margherita (2018) emphasised, "wicked problems involve constellations of stakeholders, which may have conflicting interpretations as well as different life experiences, competencies, goals, and values".

Stakeholders have different assumptions, values and capacities, which make them look at the same problem from different angles. As Hoppe (2010, cited in Head, 2019) argued, responding to policy problems requires the analysis of several interrelated dimensions and the use of knowledge and power that often is dispersed amongst many actors. Therefore, as Torfing and Ansell (2017) stressed, multiactor collaboration can lead to new and creative policy solutions, which, besides, have more possibilities of being successful due to the likely support they get from the stakeholders involved. Because of the participation of different stakeholders, solutions tend to be negotiated, which typically facilitates the implementation of the solution/programme designed. Thus, besides being a driver of public innovation, the efficiency, effectiveness and democratic quality of public governance is expected to be enhanced by the implementation of collaborative forms of governance (Sørensen and Waldorff, 2014). Such collaborative forms can bring together the efforts of politicians, affected citizens, relevant street-level bureaucrats and non-governmental organisations and businesses, thus promoting a broad sense of ownership of the solution(s) proposed.

In the citizens' case, several reasons are suggested for engaging them in policy design and evaluation. Citizen engagement, understood as "the participation of citizens in political and social issues" (Gálvez-Rodríguez et al., 2018), is clearly aligned with the "open government" concept, which calls for the systematic inclusion of citizens and other stakeholders in the public policy and value creation concept (Baur, 2017). Citizens' participation in public policy can enhance transparency and bring positive gains in terms of citizenship, trust and quality of decisions (Abdel-Monem et al., 2016; Marino and Lo Presti, 2018).

According to McNutt (2014), there are several levels of public participation, collaboration and empowerment being the highest. Collaboration, in particular, "refers to a process where governments partner with the public in decision-making processes" (McNutt, 2014, p. 58) with the main purpose of innovating in a collaborative context.

In this regard, social networks are regarded as important platforms to make citizens act as "partners and problem-solvers" (Marino and Lo Presti, 2018), assisting governments in dealing with wicked problems.

The field of collaborative design has been expanding over the last decades, boosted by the development of social media and Internet platforms. Therefore, this section looks in particularly at those tools that assist digital collaboration, defined as the "involvement of members of civil society in decision-making processes of an administrative and, most importantly, political character via a combination of various digital networking tools" (Kassen, 2018, p. 744). Quite often, e-collaboration has been regarded as a way to brainstorm new ideas and find effective solutions for various public policy problems.

The social media phenomenon has been changing the way governments and citizens interact, offering many opportunities for governments to engage citizens in policy design. Web 2.0 embraces openness, participation, networked forms of organization, collaboration, interactivity and co-creation (McNutt, 2014). Since the emergence of Web 2.0, governments

are expected to engage citizens more proactively and to demonstrate that citizens' engagement is valued. The focus on e-collaboration is therefore in line with the theory of network governance, which stresses that informal and autonomous interactions of government with other stakeholders provides a useful platform to promote democracy and achieve more effective communication (Kassen, 2018).

Recent technological developments make it possible to exploit the extensive knowledge of citizens, in particular, through a process that some researchers call "citizen sourcing" (Loukis *et al.*, 2017). The process includes a variety of approaches, some of which more active than others. For example, governmental agencies might pose a specific social problem or public policy in a government site or social media account and ask citizens to provide their knowledge and opinions about it (active citizen sourcing) or, in a more passive attitude, simply monitoring relevant external social media (passive citizen sourcing) (Loukis *et al.*, 2017).

In this context, several tools have been implemented, including online polls, wiki-based platforms, e-petition and e-panels. In a broader sense, there are also several types or categories of social media. The most common are social networks (e.g. Facebook and LinkedIn), bookmarking sites (e.g. Pinterest, Flipboard and Diggs), social news (Digg); media sharing (e.g. Pinterest, YouTube and Vimeo), microblogging (e.g. Twitter and Facebook), blog comments and forums, social review sites (e.g. Tripadvisor, Yelp and Foursquare), community blogs (e.g. Medium and Tumblr) and sharing economy networks (e.g. Airbnb, Pantheon and Kickstarter).

As shown in Table 1, tools vary according to the type of public participation pursued. Most of these tools exist outside the official e-participation spaces (McNutt, 2014) requiring the government to be active in the electronic spaces, where citizens prefer to have discussions, create content and collaborate with others.

Several applications of these tools can be found in both academic literature and policy reports, amongst others:

(1) Engaging citizens in the legislative process (e.g. OpeningParliament.org; https://blog.openingparliament.org/post/78098143764/online-tools-for-engaging-citizens-in-the)

(2) Involving citizens in urban mobility projects and city planning (e.g. City-Vitality-Sustainability[CIVITAS]-https://civitas.eu/content/use-social-media-involve-citizens-urban-mobility-projects-and-city-planning)

(3) Engaging citizens for decision-making in public health (e.g. the National Collaborating Centre for Methods and Tools - https://www.nccmt.ca/)

(4) Engaging voters (e.g. Metaxas and Mustafaraj, 2012)

Tools	Key purpose
Really Simple Syndication (RSS) feeds	Inform
Websites	
Blogs	
Social networking feeds	
Public comments/online forums	Consult
E-petitions	
online polls	
E-panels	
Crowdsourcing platforms	Involve
Co-production platforms	
Social voting initiatives (a process that allows citizens to vote for their preferred policy outcomes)	Empower

Table 1.
Digital tools used to foster citizen engagement (Adapted from McNutt, 2014)

(5) Supporting wicked problems (Kim and Zhang, 2016)

Often, governments invest in social media tools to pursue goals such as service delivery improvement, better communication and democratic engagement (McNutt, 2014). However, to effectively achieve these goals, governments frequently need to change their traditional ways of thinking and acting. It is worthwhile to note, as McNutt (2014, p. 50) stressed, that at first "public administrators did not turn to ICTs to promote new forms of public engagement (. . .), but rather adopted digital technologies to produce increased efficiency and support existing administrative relationships". Even if currently the communication paradigm has shifted, the objectives for developing social media programming or implementing a particular digital tool are not always clear. Moreover, there is still a lack of studies on the impact of social media strategies on citizen engagement (Marino and Lo Presti, 2018).

There is however a general consensus around the idea that these digital tools have transformed the traditional compulsory and unidirectional flow of information between public authorities and citizens (Baur, 2017).

Through the use of such tools, citizens have higher chances to engage in public debate and undertake collective action (McNutt, 2014). Nevertheless, in order to successfully apply them, two main factors need to be assured. The first one is methodological, the problem needs to be framed in such a way that is well understood by both politicians and citizens, which often only happens at later stages of the problem-solving cycle. The second one is even more critical because digital tools require digital competencies that the citizens that are to be listened do not necessarily have. Both, the so-called "digital divide" (Dijk and Hacker, 2003) and the lack of trust on institutions, especially by citizens who are vulnerable (Magalhães, 2003; Dalton, 2005) would make the application of these digital tools problematic in the current project, as explained later. Only using face-to-face tools and with the assistance of some people who acted as facilitators in contact with such population, it became possible to involve a sufficiently diverse pool of people in understanding the problem.

Empirical research: description of the case study and methods employed
This section describes the way the research study was conducted justifying the research design with reference to the public policy challenge faced by the authors of the current paper.

The initial problem
The kick-off for the current research was the challenge raised by the Portuguese Ministry of Justice to a research centre to identify which justice services should be made available and integrated locally to a small- and low-density community.

The research centre had decided to embrace the challenge and set up a multidisciplinary team (formed by the authors of this paper). Given the importance of looking at the problem from different perspectives, the research team comprised members with different scientific backgrounds: law, management, sociology and psychology.

The challenge presented to the researchers was part of a wider ministry project called "Close Justice" (*Justiça Mais Próxima*) Programme aimed at creating mechanisms for a justice that is closer to the citizens it serves and, simultaneously, contributes to solving other issues related to the social and economic circumstances of territories that have low population density.

It must be highlighted that many of these territories have lost their first instance courtrooms in the last decade or so and the Ministry of Justice was/is studying the possibility of redesigning the justice services to be provided in such contexts.

More specifically, the "Court Solves" project had two main goals:

(1) To create (formal and informal) mechanisms to ensure citizens' access to justice, including information, judiciary counselling and conflicts prevention and

(2) To develop a network of public, private and third sector organisations capable of acting at the local level, especially targeting vulnerable groups.

The Ministry identified a particular low-density territory in the Centre Region of Portugal to act as a pilot and that corresponds to the research case study. The research team was therefore presented with the problem of identifying which justice services should be made available (and how) to the citizens of that local community.

The pilot study comprised two essential tasks:

(1) The diagnosis of the demand and supply of local (public) services – notably in the field of justice and

(2) The development of the preliminary concept of an integrated response to citizens' needs with the potential to be replicated and applied to populations with similar features.

To address them, the research team enjoyed considerable freedom in what concerns the choice of the methodology to be adopted.

The methodological approach
Regarding data collection, a mix of interviews and document analysis was used. In line with what is recommended in collaborative design, data collection took place during several visits of the research team to the site (i.e. the researchers listened to the participants' views in their actual environment).

Before collecting citizens' and institutional representatives' perceptions, a careful characterisation of the community under study was conducted at two levels. At a macro level, a social, economic and demographic portrait of the municipality was depicted. For that purpose, official statistics were used, collected mainly on the National Institute of Statistics (INE) and Portugal Database (PORDATA) portals. This portrait was complemented with a mapping of the institutions that operate in the territory, providing public, social and other support services. This mapping task was performed with the assistance of the local city council.

The perceptions of citizens, civil servants and other key informants from the private and third sector were collected through individual semi-structured interviews. With the assistance of the mayor and local institutions, an intentional sample was built in order to reflect the main characteristics of the territory population, mostly aged, with low qualification levels and low income.

The first set of citizens was identified with the contribution of local authorities. Then, through a referral process, other participants were picked up. Also, civil servants and other local actors who interact with citizens on a regular basis (and that could be aware of their needs and expectations) were targeted (e.g. local police and primary healthcare unit). As a result, 34 institutional representatives and 26 "ordinary" citizens (aged from 21 to 82 years old) were interviewed.

Aware of the significant contribution of digital technology in bringing citizens closer to policymakers and weighing the advantages and disadvantages of both digital and traditional face-to-face tools for data collection (Curasi, 2001; Gunter *et al.*, 2002), the authors decided to question the participants personally and performed face-to-face interviews and a focus group. That decision grounds on the enquired population characteristics and research team interests.

First of all, as it was argued before, digital tools require digitally literate respondents and, once they usually run online, good Internet connection. Except for institutional representatives, the universe of targeted citizens is mostly aged, with low academic levels and live geographically isolated, without Internet coverage. This tends to make them unfamiliar and

unable to use digital technologies. Applying data collecting tools that selectively focus on "digitally literate citizens" would cause representativeness problems to the study since it is quite likely that vulnerable people have different views of the problem from those who better use such technologies. These arguments go in favour of using face-to-face interviews.

Moreover, the information available at the very beginning of the data collection stage was not enough to define and elaborate a question guide in digital support or to promote other kinds of questioning without human interface. On this kind of first-field approach, the interviewer, assuming an exploratory attitude, plays an important role. By using a semi-structured interview script, the interviewer is able to improve the interview with material from the interviewee himself, motivate him and directing his speech to the points of greatest interest. The interviewer can also at any time of the interview remind the focus of the study and strengthen information concerned with the anonymity and confidentiality.

All sampled individuals were interviewed between February and April 2018. The vast majority of the interviews were audio-recorded following participants' written permission. On the remaining cases, the researcher took some written notes.

The interviews were transcribed and submitted to a data-driven coding process (Gibbs, 2007), as well as the interviewer written notes. The research team element who conducted most of the interviews was responsible for first generating an index of terms or categories and assigning portions of transcripts to them, starting to establish a framework of thematic ideas about the data (coding). These initially proposed themes (Ryan and Bernard, 2003) gradually acquire meaning and hierarchical relation structure across several team meetings where researchers reflected and interpreted the codes. As it is typical of qualitative data analysis, this was a fluid process (Bryman, 2012), initiated by the end of the fieldwork and continuously reviewed and enriched by several team meetings and by checking interpretations with participants in the focus group (Ezzy, 2002). Therefore, the process of coding was primarily inductive and followed a bottom-up approach.

A classical use of a word processing programme to create files of chunks of data and a post-it/white board strategy to reflect on their relations and create an organized structure was then pursued.

Following the interviews data analysis, a focus group was conducted to prevalidate some of the research team conclusions. The focus group took place in middle April with participants from nine local institutions and three citizens. Data collected were included in the analysis following a similar approach to that described earlier for the interviews.

Main findings: problem reframing

As explained earlier, the departure point for the project was the problem as recognised by the Ministry of Justice: to identify which justice services should be made available and integrated locally to a small- and low-density community. Considering this purpose and having in mind the broad issues associated with low-density communities, it becomes clear that the problem to be addressed can be categorised as a wicked one. In fact, low-density territories face complex social problems – unemployment, social exclusion, isolation, poverty – , interlinked, have multiple causes and cross the boundaries of several institutions.

In our case, statistics revealed that the territory has lost more than 8% of its population over the last decade and has more than 2.6 senior citizens for each younger. There is a considerable number of long-term unemployed, and the economic dynamism is low, with almost all the firms existent in the territory being tiny (less than ten workers).

To make the problem even more complex, meetings with the local government revealed, early in the process, a slightly different agenda from that of the Central Government (Ministry of Justice). Local politicians had a clear notion that the court was regarded by the local community as a major asset rather than a building where different public services could be provided, as it was implicit in the Central Government's way of thinking. Moreover, they were

aware that there is a problem of scale in many public services. Public agencies in the territory are tiny with a reduced number of public servants who have minimal chances to develop their skills.

As explained earlier, the problem diagnosis was mainly based on a large number of interviews with citizens and institutional representatives. The efforts made to understand the problem dimensions and to establish cause–effect relationships in the situation based on the perspectives of the various stakeholders identified revealed a much more complex scenario.

Based on data collected from the interviews and the focus group and on the data analysis process described in the previous section, seven main themes (which roughly correspond to problem dimensions) emerged (see Figure 1). Due to obvious constraints and given the purpose of the current paper, only the justice and safety theme is described next with some detail.

According to the way the problem was initially formulated, the focus was expected to be much more on the "justice" dimension. However, data revealed that the number of pendent processes in the municipality was very low when the first instance court closed in 2013 (less than 30). The courtroom had in the meantime reopened as a small claims court (criminal and civil claims) (27 from January 2017 to March 2018). The courtroom holds witnesses' hearings, deals with some processual diligences, receives documentation and gives some information.

It was almost consensual amongst all stakeholders that the territory has a very low level of litigation ("Here the incidents are diverse but few"). Property disputes are the main issue, and this kind of conflicts tends to happen within the scope of the family and/or neighbourhood relationships. Defence of property rights is often regarded as a matter of honour ("I have the duty of defending what has belonged to my parents and grandparents"). Amongst older people, especially when they live alone in remote areas, there are also some events of swindling. The role of the military police (National Republican Guard "[GNR]") in giving support to old people who live in the most remote areas of the municipality was stressed

Figure 1.
The analytical framework based on the seven themes that emerged from the data analysis

("They come here often and are always warning us not to open the door to strangers"). There seems to be some suppressed demand in what domestic violence is concerned: "Complaints of domestic violence that reach us are few compared to the reality. We have informal knowledge . . . it is a small community".

Even if the demand for justice services is not high, the closure of the court is regarded as an important symbolic lost by the citizens ("I am against it. They take everything away from us!").

The lack of transportation was pointed out as a major problem in having access to justice: "In rural areas, such ours, when transports are difficult, closing the Court and having to go to other places to take care of the matters is very harsh". Illiteracy also emerged as an important constraint. People have problems with legal jargon (as most citizens do) and in understanding procedures but difficulties amongst this population are more severe: "it is necessary to help people fill forms, tell them where to go . . . most do not have financial resources to have a lawyer. . .".

Public policies often suggest cheaper, simpler and more informal mechanisms to deal with some litigation (e.g. courts of peace), especially for small communities where the number of events is small and the complexity is low. However, as the current research study has shown, sometimes these solutions disregard symbolic dimensions of justice: "People want to bring the case to the judge . . . people like to be listened to by a 'proper' judge"; "People are conservative . . . even young people".

This diagnosis was important to call attention to the likely ineffectiveness of looking at the redesign of justice services in isolation and to the importance of addressing at the forefront some other matters. In-depth contact with citizens and key local players revealed that the problem had to be considerably reframed since the lack of justice services was not "the issue" for that community. Mobility constraints and the lack of economic opportunities had a considerable impact on the lack of demand for justice services. Therefore, the problem was reframed as "how can access to public services in general (and justice services in particular) be improved in this local community?"

Figure 2 gives a representation of the "new" problem determinants, which are highly interlinked.

Physical mobility is currently strongly dependent upon the use of a private car. The population size is small and inhabitants are scattered all over the municipality territory, making the development of public transportation economically unviable. People with low income and low education levels are also the ones who typically live in more remote locations. Having limited access to public services makes them more vulnerable and less capable of exercising their citizenship rights.

Citizens have difficulties in understanding the sequence of steps they have to follow and the interactions they are supposed to have with public services to solve their problems, fulfill their obligations and exercise their rights. Local institutions, mainly due to traditional arrangements, are unprepared to give the necessary support to citizens in these ordeals.

It became evident in the diagnosis that there are important redundancies in the scope of intervention of several institutions. Competition between them leads to inefficiency and citizens' burdens. Informal contacts, remarkably facilitated by the small dimension of the territory, are not sufficient to solve problem. A more strategic and integrated approach is needed, and that can only happen with the support (and flexibility) of central levels of policymaking.

To address these issues, a new concept to be tested at later stages was proposed by the research team.

The reported case showed that in-depth contact with citizens, public servants, local representatives and other relevant players was vital to reframe the initial problem, better reflecting the real needs of the population, so that approach was a critical success factor.
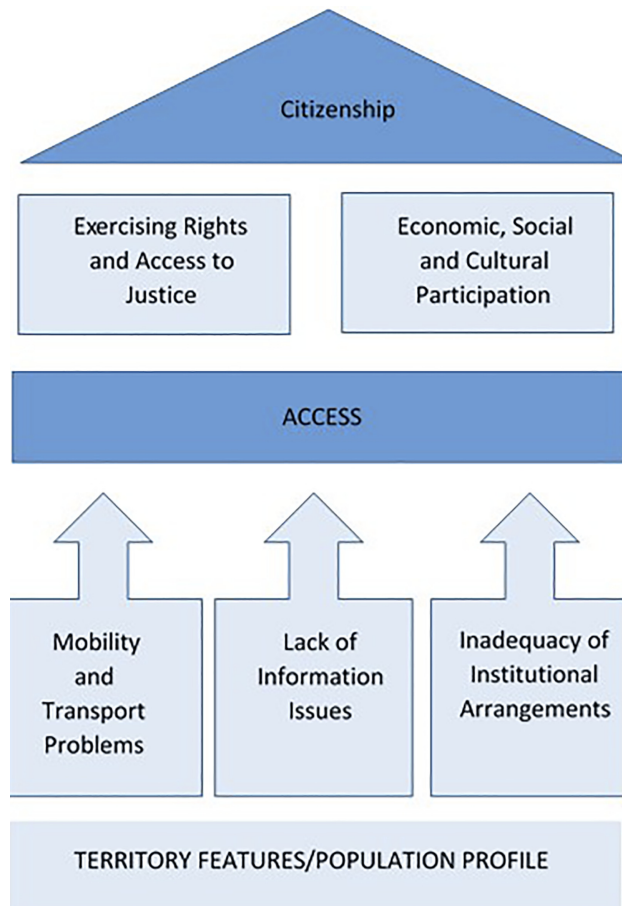
Moreover, having members in the research team with different backgrounds and profiles was essential to promote lateral thinking, thus allowing new insights into the problem to emerge. Besides, the methods employed were effective in enhancing participants' trust. Such trust is an invaluable asset for developing an intervention proposal that would require the involvement of the citizens in the following prototyping and testing phases.

Conclusion
The systemic and interlinked nature of many contemporary problems calls for the involvement of stakeholders and the implementation of collaborative design forms. This case study provided an excellent example of why traditional problem-solving approaches typically fail when addressing wicked social problems:

(1) Their tendency to fragment, messy unstructured problems into well-structured' micro problems, which ignores the interlinks that might exist;

(2) Their assumption that a restricted group of experts have enough skills and competencies to find a proper solution, undervaluing the idea that often people "who feel the problem" have knowledge that cannot be overlooked;

(3) The fact that they underestimate the importance of negotiation and communication for effective policy implementation.

Previous studies have highlighted (e.g. Sørensen and Waldorff, 2014) that top-down-centred models of public governance that leave policymaking and policy innovation in the hands of politicians and executive managers can result in policy execution problems. The current study shows that these top-down-centred models have an additional risk: they might direct attention to the "wrong" problem. Using a bottom-up approach, it was possible to redefine the problem to be addressed and suggest a new concept to be tested at later stages.

However, as Kassen (2018) noted, the use of collaborative innovation tools cannot be regarded simply as a technological issue since it requires a new philosophy of governance. For the collaborative design to be effective, some conditions need to be in place.

(1) Stakeholders, citizens, in particular, need to be empowered, and therefore efforts need to be directed towards capacity building. Participants in collaborative design initiatives need to be educated about and fully engaged. In small and low-income communities, as it was the case in the current paper, this is particularly challenging. In this regard, the appropriate tools for citizen engagement need to be applied. The case has revealed the importance of having close and direct contact with some stakeholders – especially vulnerable people – who would not be capable (or willing) to participate through more digital channels or without the help of local intermediaries who had their trust.

(2) Politicians, public leaders and managers need to be willing to abdicate from some control and to share power. Due to short timelines, often associated with political and electoral cycles, and severe resource constraints, this commitment from politicians and political leaders to collaborative approaches is especially difficult to happen. In this project, this openness existed at the earlier stages since considerable freedom was given to the research team to address the problem with no significant constraints. However, because the project terminated with the new problem formulation and a preliminary concept, it was not possible to assess to what extent such openness would exist at later stages.

(3) Sufficient time needs to be available. As participants increase, the amount of information to be processed also increases. This was a difficulty that the research team faced.

The current project has also illustrated the importance of following a non-linear problem-solving path but rather simultaneously addressing design and implementation concerns in line with contemporary tools "whose anticipatory effectiveness in instrumentality and capacity can be understood through analytical, operational and political levels "(Hartley *et al.*, 2019, p. 166). In particular, the case study has shown that initially there was insufficient knowledge about the social context and that further research and data were needed to fill these gaps and to improve the information base for decision-makers. In line with Head and Alford (2015) typology, the case analysed falls into type 3 situations for which both the problem's definition and the solution are unclear and more extensive learning and discussion are required.

This research has some limitations that need to be acknowledged. First, it is exclusively focussed on the problem identification and conceptualisation stage. Collaborative design was essential to ensure a comprehensive and shared definition and understanding of the problem, its meaning and related issues. Subsequent problem-solving stages might pose different challenges to collaborative forms.

To a certain extent, the current paper also draws attention to the benefits of collaborative governance. Although collaborative governance – i.e. the cooperation of leaders and

organisations working across sectoral boundaries – might be more important when it comes to implementation stages, bringing together the views of central government agencies, local government institutions, the local community and researchers was essential to find the "right" problem to be addressed. In this regard, this research highlights the importance of the role played by the research team in assisting politicians in better understanding the problem and being open to the need for reframing it. By fostering the input of all relevant stakeholders, combining the information provided and synthesising it, the research team was essential to make stakeholders develop a shared understanding and a shared meaning about the problem.

References

Abdel-Monem, T., Herian, M., Hoppe, R., PytlikZillig, L. and Tomkins, A. (2016), "Policymakers' perceptions of the benefits of citizen-budgeting activities", *Public Performance and Management Review*, Vol. 39 No. 4, pp. 835-863.

Ackoff, R.L. (1974), *Redesigning the future*, Wiley, New York, NY.

Auclair, J.V. (2019), "Addressing wicked educational problems through inter-sectoral policy development: lessons from manitoba's healthy child initiative", *International Journal of Education Policy and Leadership*, Vol. 14 No. 6, pp. 1-15.

Baur, A.W. (2017), "Harnessing the social web to enhance insights into people's opinions in business, government and public administration", *Information Systems Frontiers*, Vol. 9 No. 2, pp. 231-251.

Bryman, A. (2012), *Social Research Methods*, Oxford University Press, Oxford.

Büyükdamgaci, G. (2003), "Process of organizational problem definition: how to evaluate and how to improve", *Omega*, Vol. 31 No. 4, pp. 327-338.

Butler, S. (2010), "Solving business problems using a lateral thinking approach", *Management Decision*, Vol. 48 No. 1, pp. 58-64.

Curasi, C.F. (2001), "A critical exploration of face-to face interviewing vs . Computer-mediated interviewing", *International Journal of Market Research*, Vol. 43 No. 4, pp. 1-13.

Dalton, R.J. (2005), "The social transformation of trust in government", *International Review of Sociology*, Vol. 15 No. 1, pp. 133-154.

Dijk, J.V. and Hacker, K. (2003), "The digital divide as a complex and dynamic phenomenon", *The Information Society*, Vol. 19, pp. 315-326.

Elia, G. and Margherita, A. (2018), "Can we solve wicked problems? A conceptual framework and a collective intelligence system to support problem analysis and solution design for complex social issues", *Technological Forecasting and Social Change*, Vol. 133, pp. 279-286.

Ezzy, D. (2002), *Qualitative Analysis: Practice and Innovation*, Routledge, London.

Gálvez-Rodríguezdel, M.M., Haro-de-Rosario, A. and Caba-Pérez, C. (2018), "Improving citizens' online engagement via community managers: an explanatory study", *Information Communication and Society*, Vol. 21 No. 10, pp. 1402-1418.

Gibbs, G.R. (2007), *Analyzing Qualitative Data*, Sage Publications, London.

Gunter, B., Nicholas, D., Huntington, P. and Williams, P. (2002), "Online versus offline research : implications for evaluating digital media", *Aslib Proceedings*, Vol. 54 No. 4, pp. 229-239.

Hartley, K., Kuecker, G. and Woo, J.J. (2019), "Practicing public policy in an age of disruption", *Policy Design and Practice*, Vol. 2 No. 2, pp. 163-181, Routledge.

Head, B. (2008), "Wicked problems in public policy", *Public Policy*, Vol. 3 No. 2, pp. 101-118.

Head, B.W. (2019), "Forty years of wicked problems literature: forging closer links to policy studies", *Policy and Society*, Vol. 38 No. 2, pp. 180-197.

Head, B.W. and Alford, J. (2015), "Wicked problems: implications for public policy and management", *Administration and Society*, Vol. 47 No. 6, pp. 711-739.

Henriques, I. (2018), "Addressing wicked problems using new business models", *Economic Alternatives*, Vol. 4, pp. 463-466.

Hoppe, R. (2010), The governance of problems: Puzzling, powering and participation, Policy Press, Bristol.

Howlett, M. (2014), "From the 'old' to the 'new' policy design: design thinking beyond markets and collaborative governance", *Policy Sciences*, Vol. 47 No. 3, pp. 187-207.

Kassen, M. (2018), "Promoting public cooperation in government: key drivers, regulation, and barriers of the e-collaboration movement in Kazakhstan", *International Review of Administrative Sciences*, Vol. 85 No. 4, pp. 743-762.

Loukis, E., Charalabidis, Y. and Androutsopoulou, A. (2017), "Promoting open innovation in the public sector through social media monitoring", *Government Information Quarterly*, Vol. 34 No. 1, pp. 99-109.

Magalhães, P.C. (2003), "A confiança nos parlamentos nacionais : regras institucionais , representação e responsabilização política", *Análise Social*, Vol. 37 No. 167, pp. 443-465.

Marino, V. and Lo Presti, L. (2018), "From citizens to partners: the role of social media content in fostering citizen engagement", *Transforming Government: People, Process and Policy*, Vol. 12 No. 1, pp. 39-60.

McNutt, K. (2014), "Public engagement in the Web 2.0 era: social collaborative technologies in a public sector context", *Canadian Public Administration*, Vol. 57 No. 1, pp. 49-70.

Metaxas, P. and Mustafaraj, E. (2012), "Social media and the elections", *Science*, Vol. 338 No. 6106, pp. 472-473.

O'Leary, R. and Vij, N. (2012), "Collaborative public management: where have we been and where are we going?", *The American Review of Public Administration*, Vol. 42 No. 5, pp. 507-522.

Rittel, H. and Webber, M. (1973), "Dilemmas in a general theory of planning", *Policy Sciences*, Vol. 4, pp. 157-168.

Ryan, G.W. and Bernard, H.R. (2003), "Techniques to identify themes", *Field Methods*, Vol. 15, pp. 85-109.

Schon, D.A. and Rein, M. (1994), Frame Reflection: Toward the Resolution of Intractable Policy Controversies, Basic Book, New York.

Sørensen, E. and Waldorff, S.B. (2014), "Collaborative policy innovation: problems and potential", *Innovation Journal*, Vol. 19 No. 3, pp. 1-17.

Torfing, J. and Ansell, C. (2017), "Strengthening political leadership and policy innovation through the expansion of collaborative forms of governance", *Public Management Review*, Vol. 19 No. 1, pp. 37-54.

Wedell-Wedellsberg, T. (2017), "Are you solving the right problems?", *Harvard Business Review*, Vol. 95 No. 1, pp. 76-83.

Zhang, J. and Kim, Y. (2016), "Digital government and wicked problems: solution or problem?", *Information Polity*, Vol. 21 No. 3, pp. 215-221.

Corresponding author
Patrícia Moura e Sá can be contacted at: pmourasa@fe.uc.pt