

The Contribution of Individuals to Public Service Innovation: A Design-driven perspective

Master Thesis by Pietro Sopranzi

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The Contribution of Individuals to Public Service Innovation: A Design-driven Perspective

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Acknowledgements

To stay on the topic, I want to highlight the contribution of individuals... to this thesis.

If I think about it carefully, I am amazed by the number of people who contributed, directly or indirectly, to this result. There are so many people that I would like to thank that this should be as long as any of the following chapters, but I will try to keep it as simple as possible.

Moving from Milan to San Marino, from university to my family and dearest friends:

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Pietro Sopranzi – 10.04.2023

Abstract (ENG)

Innovation in public services has gained more and more attention in the last few years. In particular, collaboration between public and private organizations is held to be one of the keys to the realization of innovative public services. This study investigates the contribution of individuals to public service innovation and value creation, as they are involved in innovation processes that engage a plurality of public and private actors, and it aims at understanding and modeling their rationality and approach. The methodology used is the case study methodology, and the unit of analysis is the individual innovator involved in innovation processes on public services. Data were collected through semi-structured interviews, which were then analyzed through content analysis and coding. In particular, it emerged from the interviews that the context of public services is very complex, as several organizations are involved in innovation processes, and individual innovators play a key role.

Leveraging the findings of the empirical research, we argue the following: first, the rationality and approach of innovators depends on three dimensions – why, what, how – that highlight the presence of both a criterion to distinguish valuable innovation initiatives and some criteria to pragmatically act and carry out innovation processes; second, we identify six different logics and classify them on the dimension they are driven by; third, we propose a graphic tool to model the actors and their contributions to public service innovation, and investigate the contributions that private partners can bring; finally, we argue that radical innovations in the context of public services can be realized, as long as individuals are able to adapt to and exploit contingent circumstances and opportunities, and we draw some implications for private actors who want to contribute to public service innovation.

Key-words: public services, service innovation, value creation, individual innovators, rationality

Abstract (ITA)

L'innovazione nei servizi pubblici ha ottenuto sempre più attenzione negli ultimi anni, e la collaborazione fra organizzazioni pubbliche e private è considerata una delle chiavi per la realizzazione di servizi pubblici innovativi. Questo studio si concentra sul contributo dell'individuo all'innovazione di servizi pubblici, quando fa parte di processi che coinvolgono attori pubblici e privati, e sulla sua razionalità. La metodologia usata si basa su casi di studio, e l'unità di analisi è appunto l'innovatore individuale coinvolto in processi di innovazione che riguardano servizi pubblici. I dati sono stati raccolti attraverso delle interviste semi-strutturate, che sono state analizzate attraverso l'analisi del contenuto e l'attività di codifica. In particolare, è emersa la complessità del contesto dei servizi pubblici, data la partecipazione di molte organizzazioni diverse, e il ruolo chiave che gli innovatori giocano nei processi di innovazione.

Utilizzando i risultati della ricerca empirica, proponiamo le seguenti argomentazioni: in primo luogo, la razionalità degli innovatori dipende da tre dimensioni – perché, cosa, come – che sottolineano la presenza sia di un criterio per distinguere quelle iniziative di innovazione che sono significative e di valore, sia di criteri pragmatici che influenzano l'azione e permettono di portare avanti i processi di innovazione; in secondo luogo, abbiamo identificato sei logiche diverse e le abbiamo classificate in base alla dimensione di riferimento; terzo, proponiamo uno strumento grafico per modellare gli attori e il loro contributo all'innovazione di servizi pubblici, e abbiamo evidenziato il contributo che i partner privati possono portare; in conclusione, sosteniamo che sia possibile realizzare delle innovazioni radicali nell'ambito dei servizi pubblici, a patto che gli individui siano in grado di adattarsi alle circostanze e sfruttare le opportunità contingenti, e abbiamo evidenziato alcune implicazioni per quegli attori privati che vogliono contribuire all'innovazione di servizi pubblici.

Parole-chiave: servizi pubblici, innovazione di servizio, creazione di valore, innovatori individuali, razionalità

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1. Executive Summary

The following summary aims at providing an overview of the whole work. The paper is structured into eight chapters, but the argument is elaborated in the first six chapters as the last two display references and annexes. We provide here therefore a short synthesis of the core of the work, moving from problem setting, going through literature review and research methodology, and closing with findings and results.

1.1. Relevance of the Topic and Problem Setting

As the title suggests, this study is about innovation and public services. The relationship between the two has been increasingly important in the last few years, since many countries have recognized the role of innovative public services in tackling economic, social and environmental challenges. In Europe, the European Commission approved in 2021 the so-called NextGenerationEU to finance the recovery from the Covid-19 pandemic and boost development. At the core of the program there are innovation and public services: funds will be mainly directed to environmental sustainability and digitalization (i.e. green and blue transitions) but also to infrastructures, healthcare, higher education and research, as the Italian PNRR demonstrates. Innovation and public services are also at the core of other national plans and international initiatives, as the 2030 Agenda for Sustainable Development launched by the United Nations in 2015 proves.

A specific context where it is relevant to investigate the intersection between innovation and public services is urban mobility. Combining urbanization, increasing life expectancy, the impact of transport on global warming with the intrinsic importance of mobility in the life of citizens, it is immediately clear why urban mobility and public transport is a critical scenario where economic, social and environmental issues merge, and thus should be a priority in any political agenda, at least in Europe. In addition, in the field of mobility, innovation is not only pushed by environmental or social challenges but also by new disruptive technologies such as Artificial Intelligence, Internet of Things, Big Data. These and other technologies enable new business models and value propositions that will likely have an impact on any actor involved in the supply chain, from suppliers through manufacturers to retailers and finally customers.

The future of mobility is as uncertain as the outcomes of those international plans and programs. What seems to be sure though is the need for cross-sector collaboration, of partnerships and alliances among private, public and third-sector organizations. Indeed, especially in the context of urban mobility, public services do not exclude or diminish the crucial role of private companies, whose competences, assets and energy are essential to tackle public challenges and achieve public goals. It is evident then how relevant it is to dive into the intersection of innovation and public services, in particular

in the context of urban mobility, and investigate those actors and organizations that are actually dealing with it.

1.2.Literature Review and State-of-the-art

Given our interest in innovation, value creation and public services, we have reviewed some streams of the literature that deal with those concepts. In particular, the literature review has been articulated into three main sections, which are briefly summarized in the following.

First, we have addressed the stream of literature that deals with value creation and services. In particular, the most important contribution we have reviewed is the work of Stephen Vargo and Robert Lusch (2004, 2008, 2016) on Service-Dominant Logic. This theoretical framework provides a new perspective on services and value creation. The authors indeed state that products, goods and services share the same essence: they are all applications of some specialized knowledge and skills, and they are all exchanged exactly for that, for the service they render. Vargo and Lusch also reframe value and value creation by arguing that users are co-creators of value, because value is phenomenologically determined by the beneficiary.

In spite of the value and prominence of SDL, which is discussed in detail in Chapter 2, it was necessary to move from the theory of value co-creation and address that stream of literature that leverages SDL to investigate the context of public services. The most relevant work we have reviewed was the one by Stephen Osborne (2012, 2018, 2022) on Public Service Dominant Logic. As the expression suggests, he initially elaborated an application of SDL to public organizations dealing with the management and marketing of public services. However, he then moved away from the work of Vargo and Lusch and coined the term Public Service Logic, whom he integrated into a unified framework that organizes the different actors and their contributions to public value co-creation. That framework is called ‘Public Service Ecosystem’ and is thoroughly explained in the second section of Chapter 2.

As comprehensive as the Public Service Ecosystem framework may be, it still provides an overview of value creation processes in the public context, identifying the different actors involved but not really examining in depth the individual contribution and role of such actors, or the mechanisms through whom they interact and influence each other. That is why in the third and last section of the literature review we address a few contributions on the rationality of individuals who are involved in value creation processes. In particular, we build on the definition of ‘procedural rationality’ by Herbert Simon (1976) and review a few theories and models that describe the action and logic of individual innovators as they are involved and behave in value creation processes. One of the key works we have reviewed is the one by Sarasvathy (2001) who introduces the term ‘effectuation’ to identify a different

kind of rationality that is typically followed by entrepreneurs and innovators. That work was then used by Wiltbank et al. (2006), for example, to devise a taxonomy of individual rationalities and strategies, making the case of ‘non-predictive’ strategy. Other contributions were reviewed but there still were limitations and further questions about the rationality of individuals innovators.

The limitations that have been identified through the literature review give shape to the gap the work tries to fill, the research questions it tries to answer, which are summarized in the following.

1.3. Research Question and Methodology

The research investigates the role and contribution of individual innovators who are involved in innovation processes that concern public services and engage a plurality of public and private actors.

In particular, this is the research question, which is articulated into two parts:

- I. Considering the contribution of individuals involved in innovation processes that aim at radically innovating a public service, which logics and rationalities do they adopt and follow, and which characteristics do these logics have?
- II. Moreover, how could (the knowledge about) such logics be used to enhance the effectiveness and radicality of those innovation processes with particular reference to the role that private providers can play in these contexts?

In order to answer these questions, it is crucial to point out first the underlying theoretical framework. The most relevant contribution to the theoretical framework is the work of Roberto Verganti (2016). We indeed embraced the concepts of ‘innovation of meaning’, ‘inside-out process’ and we also considered the ‘B2B2C model’ as applied to public organizations and citizens. Indeed, as we state in Chapter 3, we think of innovation as the ability to create something significantly valuable for users and intended beneficiaries through radically innovative public services.

However, we also used the theories and concepts of ‘service-dominant logic’, ‘procedural rationality’, ‘effectuation’, ‘non-predictive strategy’ to identify a few key elements about the rationality of individual innovators that would have been interesting to investigate. Those elements are discussed in detail in the second section of Chapter 3.

Once we pointed out the theoretical framework, we designed the research methodology and adopted a qualitative research method. Building on the work of Handfield and Melnyk (1998), we defined the purpose and structure of the research, and also the techniques for data collection and analysis. The goal of the research is to map the key variables and themes within the scope of interest, and eventually provide an overview of the possible relations and patterns that characterize the context.

The research is structured into few focused case studies, and the data collection and analysis techniques are respectively in-depth semi-structured interviews and content analysis.

It is also important to stress the difference between ‘case’ and ‘unit of analysis’. On one hand, by case we mean the set of actors that are involved in some innovation process or context, around specific service innovation projects. On the other hand, the unit of analysis was defined as the individual innovator involved in a specific process or project rather than the innovation process itself. In this way it was possible to interview multiple individuals who contributed to the same project and thus have several different perspectives on the same case.

Once the research methodology was defined, we implemented it and followed the steps that are reported below:

1. We identified and selected some cases of interest.
2. We contacted and interviewed two or three individuals that were involved in those cases and who had accumulated a significant experience.
3. We carried out and transcribed the interviews.
4. We analyzed them using content analysis.
5. We finally pointed out the findings, which were then elaborated to answer the research questions and draw the main results, implications and conclusions.

Regarding the data analysis phase (step 4), it is important to note that we were guided by the Gioia methodology. Indeed we organized the data into a data structure, and we classified and aggregated them through first-order concepts, a few second-order themes and three overarching dimensions, which also correspond to the three subsections of the findings section of Chapter 4.

1.4. Empirical Research and Illustration of Findings

After a couple of preliminary sections that describe the main characteristics of interviewees and some methodological notes about the actual processes of data collection and analysis, Chapter 4 is entirely devoted to the illustration of findings.

As it was anticipated, key findings were aggregated into three macro-themes:

- ◆ Specificity of the service and of the organizations considered
- ◆ Typology, contribution and role of the actors promoting service innovation

◆ Approach and rationality of individual innovators

First, pretty soon it was clear that urban mobility and public transport is a specific field, with its own peculiar aspects. Based on the evidence collected, we can say that public mobility is a highly regulated field, characterized by a quite inelastic demand and high capital intensity. These elements combined with time consuming projects generate a condition where profitability seems to be hard to achieve. It was also clear that public organizations, which are usually involved in the provision of mobility services, are very much different from private companies, in terms of priorities, interests, constraints, external relations, and thus mindset. For example, differently from the private sector, in the public one peers collaborate rather than compete, and exchange information freely.

Second, we found out that in the context of public mobility there are typically four kinds of actors involved: political bodies, public administrations, public companies or agencies, and private companies. All of them can promote and contribute to innovation, but each of them has its own interests, resources, power and thus role within the innovation process. In more than one instance, for example, public administration plays the role of coordinator, since it is in between political bodies and private companies. It was also interesting to see the reciprocal relationships among the different kinds of actors, and to recognize how central collaboration is to the effectiveness and radicality of innovation processes.

Third, we highlighted the critical role of individuals in innovation processes that concern mobility services. In more than one case, innovation itself was promoted by one person, without whom it would have been impossible to realize it. Through the interviews, it was possible to collect data about the individual approach and rationality of innovators. We found out that different innovators follow different rationalities and approaches: some start from their values and visions, and eventually design a solution accordingly; some others focus on the needs and requests of users and intended beneficiaries; some others again try to monitor the surrounding context and exploit opportunity windows. What most of them seem to have in common is a criterion to judge the value of an innovative initiative and also the ability to read and understand the external context.

The findings that have been pointed out in this section constitute a small subset of the elements, aspects and themes that are illustrated in Chapter 4, and that provide the basis for the results and implications that are summarized in the following section.

1.5. Discussion and Interpretation of Results

When we deal with the rationality of individual innovators in the context of public services, we argue that there are two different and complementary types of logic. Those two types have been named ‘logic of why’ and ‘logic of what and how’: the former is the criterion the individuals use to distinguish

what is valuable, meaningful and worthy from what it is not, whereas the latter refers to the criteria and solutions they actually adopt to carry out the innovation process and create value.

Why, what and how dimensions are held to be in a specific relationship, represented by the triangular scheme that can be seen in Chapter 5: why is at the top of the triangle, whereas what and how at the bottom, so to stress that why, that is the meaning and value of innovation, directs the other two dimensions and at the same time is supported by them.

Based on the evidence collected, it was possible to recognize different instances of the logic of what and how, which have been modeled through the ‘X-n-provide’ paradigm. In particular, we identified six different logics – Design-n-provide, Listen-n-provide, Edit-n-provide, Plan-n-provide, Spot-n-provide, Network-n-provide – that can be also classified according to the dimension they favor – what or how.

Despite these different logics may be effective in different circumstances, we claim that those innovators that adopt the principles of ‘effectuation’ are somehow more successful. Indeed, the ability to read the context and exploit contingent opportunities is critical, especially in the case of public services.

We have also extended the B2B2C model by Verganti (2016), because the application of it to the public context produces few insights and many criticalities. The most critical point is that it is too simplistic, rigid and linear to represent the complexity, dynamicity and non-linearity of actual innovation processes that concern public services.

Thus, inspired by the structure and components of an analog clock, we devised an alternative ‘clock model’, which is essentially an intuitive graphic representation of the actors involved and their contributions in a given point in time. This model – explained in detail in Chapter 5 – provides at the same time the flexibility to capture the complexity and variety of innovation processes that concern public services and enough clarity and simplicity to be actually used by innovators involved in such processes. In particular, it can help private partners to question and define the contribution they can bring to public service innovation.

In conclusion, we assessed the contribution of innovators and their ability to realize radical innovations and generate the value that is embedded in the logic of why. In particular, we argue that, in the context of public services, in particular of public and urban mobility, a radical innovation is more likely to be realized in the medium-long term, as long as the actors involved in the innovation process share the value of it and collaborate effectively, or, in other words, have a common vision and adapt their rationality to the circumstances. This argument is directly linked to effectuation, to the ability to exploit contingent opportunities, which is particularly important for public actors.

Although many of the insights elaborated concern public actors and innovators working in public organizations, private actors can benefit from this knowledge as well. Indeed, in the last section of Chapter 5 we present a few implications and suggestions for those private companies and partners who wish to collaborate with public organizations to realize radical innovations through public services.

1.6. Conclusions

To sum up the whole argument, we stated that, in the context of innovation processes that concern public services, the rationality of individuals puts together three dimensions – why, what, how – that could be organized into a triangular scheme. This scheme stresses the why dimension, the criterion individuals use to distinguish valuable and meaningful projects, though it also highlights the importance of the what and how dimensions, that is the pragmatic criteria and logics innovators use to turn a meaningful vision into a valuable public service. In particular, we argued that there is a plurality of logics that innovators adopt, and we classified them on the dimension they are driven by.

Then, we extended the B2B2C model and showed the clock model. This model embraces the complexity and dynamicity of public service innovation, and enables private partners to figure out the contribution they can bring to innovation. In particular, multiple are the contributions private organizations can provide: in some cases, they can help public organizations to question the value they want to create for citizens, and to envision and eventually design an innovative public service; in other cases, if public organizations already have a clear vision or a well-defined objective, private partners can leverage their resources and competences to help them to turn that vision into reality.

Finally, we addressed the overall contribution of individual innovators to public service innovation and value creation. In particular, given the characteristics of the context in scope, we stated that radical innovations are more likely to be realized in the medium-long term. This seems to be particularly relevant to innovators from the public side, and we identified some metaphors – archer, hawk, minister of foreign affairs – to stress the ability of these individuals to manage the resources at hand and adapt their rationality to local circumstances. In conclusion, we drew a few implications for private partners who are involved in this context and contribute to public service innovation.

Then, building on some of the limitations identified, and discussed in the conclusions, but also based on new questions that arose, we suggested two possible research paths, among many:

- ◆ First, try to assess the replicability of the findings and the validity of results in other public services and geographical contexts. For example, it would be interesting to investigate how the characteristics of the public service considered influence the rationality and logic of those individuals who try to innovate it.

- ◆ Second, try to test the usefulness of the theoretical tools to practitioners, and eventually restructure or refine them. For instance, it would be interesting to test the pros and cons of the clock model, or the effectiveness of the ten suggestions to private partners and providers.

Indeed, it would be important to assess whether the knowledge and implications provided are usable and actually used by individuals and organizations who want to leverage innovation to generate a positive impact on reality through public services.

2. Relevance of the Topic and Problem Setting

This chapter introduces the topic, relevance and context of the whole study. In other terms, it sets the problem from a practical and managerial perspective first, and conveys its urgency and relevance for a scientific investigation. There are indeed several key reasons why it is important to deal with innovation and public services, as it argued below.

In particular, the chapter is structured into two main sections: first, innovation and public services will be framed in the European economic and social context, and it will be highlighted how the latest and most significant initiatives at international and national levels have boosted innovation in public services, making it a relevant area of interest and study for both public and private practitioners; second, we focus on a particular service and context, the one of urban mobility and public transport, pointing out the mega-trends we are witnessing and wonder about the future of mobility, stressing some key threats and opportunities.

At the end of the chapter some first insights on why innovation in public services is relevant today are drawn. The following argument will indeed provide the reason why it is important to dive into this topic and understand what has been done and written, which is the goal of the next chapter.

2.1. Increased Interest and Relevance of Innovation and Public Services in 2022

Covid-19 has disrupted the global economy and forced organizations and people to adapt to a new way of doing business and living. The consequences of the pandemic are multiple and profound from any point of view – economic, social, political, cultural – and have been discussed by the most prominent economists, politicians and intellectuals in the world.

In Europe, **in order to mitigate the negative impact of the pandemic and boost recovery, the European Commission approved the NextGenerationEU** – the so-called Recovery Fund – which is a scheme that will be providing financial support to European countries from 2021 to 2026. Out of the €806,9 billion available, Italy will receive about €191,5 billion from the Recovery and Resilience Facility, as it is disclosed in the so-called “Piano Nazionale di Ripresa e Resilienza” (PNRR).¹ In particular, it will receive almost *five* times the amount requested by France and *eight* times that requested by Germany, making it the country that will receive the largest financial support.

¹ The European House – Ambrosetti, 2021, *Le evoluzioni della mobilità smart nel quadro di medio-lungo termine del PNRR e le implicazioni per Roma*.

It is important to note that European countries will actually receive the money as long as they comply with specific directives, which have to be embedded in the national plan. In particular, **more than half of the sum must be allocated to the green (≥37%) and blue (≥20%) transitions**, which explicitly aim at making Europe more environmentally friendly and digital.²

As the official website of the European Union says:

“NextGenerationEU is more than a recovery plan – it is a once in a lifetime chance to emerge stronger from the pandemic, transform our economies and societies, and **design** a Europe that works for everyone.”³

This is a *once-in-a-lifetime* opportunity especially for Italy, since it will be receiving an unprecedented financial support.

Although the ecological and digital transitions are the core of the plan, and some countries like Germany will commit more than 90% of the aid to them⁴, it does not mean that only few public institutions, organizations and services will benefit. Indeed, investments and innovation will likely permeate any public service. Italy, for example, planned to spend more than €30 billion in education and research and more than €15 billion in healthcare⁵. Indeed, as it is explicitly stated in the introduction to the recovery plan, NextGenerationEU aims at making Europe not only green and digital but also more healthy, strong and equal.

Thus, **public services and infrastructures will be the main target of innovation and modernization, as they can be the robust platform on which institutions and organizations, both public and private, can operate and prosper**. In this way, public services will become the vehicles of innovation, the channels through which the value and utility of innovation is brought to citizens, so that they can experience and understand the tangible impact of the NextGenerationEU plan on their lives. Indeed, the ability to access the funds will be depending on the

² Ibid.

³ European Union, NextGenerationEU.

⁴ The European House – Ambrosetti, 2021, *Le evoluzioni della mobilità smart nel quadro di medio-lungo termine del PNRR e le implicazioni per Roma*.

⁵ Monitor Deloitte Italy, 2022, *La Smart City è Morta?*.

ability to plan and promote innovation in different sectors, historically one of the key barriers for many countries in accessing EU funds.⁶

Given the ambitious targets of the recovery plan and the large amount of financial resources at hand, in addition to the rising awareness and sensibility to climate change and sustainability, it is likely that the expectations of citizens will dramatically increase. **Politics and public organizations may be expected to manage public resources not only efficiently but also in an innovative and sustainable way. They may be expected to provide services that are not only functional, safe and reliable but also technological and environmentally friendly.**

The Italian Government, for example, has established the so-called AGID – Agenzia per l'Italia Digitale – to contribute to the diffusion of information and communication technologies (ICT) and thus boost innovation and economic growth. This institution is also in charge of executing several important measures in terms of digitalization that are included in the PNRR, such as the development of a ‘Single Digital Gateway’ and the duty to guarantee the accessibility of digital public services.⁷ In addition, among the initiatives to support the blue transition financed by the NextGenerationEU, there is one that grabbed the spotlight as it was also awarded in 2022 the Compasso d’Oro ADI, which is the most important recognition in design in Italy. That initiative is the IO app, which is supposed to be a unique digital point of access to any public service in the country.⁸

The Italian example suggests that nowadays, at least for what concerns western countries, legitimacy of public institutions and organizations revolves around the ability to direct the nation towards a future that is in line with the values underlying the NextGenerationEU plan. Such ability is still to be proved, as more than 30% of European citizens think that the plan will not be an effective measure even to respond to current economic challenges.⁹

In the last twenty years, people have indeed become aware of the impact of human activity on climate, of the consequences of burning fossil fuels and CO₂ emissions. Younger generations are particularly sensible to climate change; they are asking politicians to put it at the core of their agendas, and are willing to do their part and adopt a more sustainable lifestyle. They are also asking private

⁶ lavoce.info, 2021, *Le inefficienze nella spesa dei fondi europei in quattro grafici*.

⁷ AGID, 2023, Attuazione misure PNRR.

⁸ IO.it – L’app dei servizi pubblici.

⁹ Standard Eurobarometer 98, Winter 2022-23, *QE5*.

companies to be more environmentally-friendly and are likely to buy from those that integrate sustainability in their strategy and products.¹⁰

The topic of sustainable development is much larger than climate change: it takes into consideration not only the environmental dimension but also the social and economic dimensions. This is easy to understand if we look at the 2030 Agenda for Sustainable Development that was adopted by the United Nations in 2015, which is articulated in 17 Sustainable Development Goals (SDGs). As the organization itself says:

“The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.”¹¹

This three-fold intent has been synthesized by the so-called ‘triple bottom line’ – people, planet, profits. Indeed, it is sufficient to read the title of a few SDGs to understand how large the scope of sustainable development is: no poverty, quality education, clean water and sanitation, affordable and clean energy, decent work and economic growth, climate action, peace, justice and strong institutions.

Among the 17 SDGs, one of them is particularly interesting and important: the 17th, the so-called ‘Partnerships for the goals’. This goal recognizes that the world is more interconnected than ever, that the goals cannot be achieved without global partnerships and cooperation.¹² The agenda itself is an international initiative, promoted by the members of the United Nations.

However, partnerships have to occur not only at the international level but also at the national, regional and local levels. Strategic partnerships need to happen among public organizations and municipalities, among private companies and within the same industry.

In addition, **sustainable development and climate change stress the role of cross-sector collaboration.** Without the coordinated effort of public, private and third sectors it will be impossible to create more sustainable businesses, cities and lifestyles. Any organization has indeed its own resources and can contribute to one or more SDGs.

¹⁰ Deloitte Italy, 2022, *The Future of Mobility*.

¹¹ UNDP, Sustainable Development Goals.

¹² Ibid.

A clear example of cross-sector collaboration is given by Public-Private Partnerships (PPPs), which are defined by the OECD in this way:

“Public-Private Partnerships (PPPs) are long term agreements between the government and a private partner whereby the private partner delivers and funds public services using a capital asset, sharing the associated risks. PPPs may deliver public services both with regards to infrastructure assets (such as bridges, roads) and social assets (such as hospitals, utilities, prisons).”¹³

In other terms, PPPs are a way through which public and private organizations can collaborate, each of them contributing with its own resources and competences.

In recent work, Vecchi, Tanese and Osborne (2022) have questioned the effectiveness of PPPs, taking into consideration critiques and mixed evidence about their performances and achievements. In particular, they say:¹⁴

“Increasingly, it seems PPPs are being consigned to the ‘dustbin of history’. We argue here that this would be a significant mistake in public policy. PPPs can attract those economic players and investors who consider society and societal challenges the cornerstone of their new competitive business strategies.”

Vecchi et al. (2022) also argue that the recent Italian experience made them reconsider the pros and cons of PPPs, as indeed they say:¹⁵

“These are positive developments. However, Italian experience also suggests that these new evolutions of PPPs will also fail if they are not managed strategically in relation to societal and economic needs. Indeed, a PPP is neither simply an alternative procurement route to accelerate the delivery of investments (...) nor a mechanism through which to outsource a big bundle of contracts to the market (...). Rather, it should be conceived as an approach to achieve challenging societal and economic results through collaboration and innovation – and that responds directly to both the ESG and to the UN Sustainable Development Goals (SDGs) agendas.”

¹³ OECD, 2012, Principles for Public Governance of Public-Private Partnerships.

¹⁴ Vecchi, Tanese and Osborne (2022), *Do public-private partnerships still have a future?*, p. 338.

¹⁵ *Ibid.*, p. 339.

Last but not least, they explicitly address public managers and public management education, and list the key skills they will need to make PPPs an effective and fruitful scheme. **These observations call for a deeper investigation into possible relations and collaboration between public and private**, also beyond the scheme of the PPP, and against the background of the different developments outlined.

In conclusion, it seems public services and innovation will be extensively and intensively, vastly and deeply related in the years to come. This does not mean though that private companies and third-sector organizations will not play a key role; as the SDGs explicitly stress, businesses and non-profits will be essential to sustainable development. In particular, partnerships and cross-sector collaborations are held to be extremely functional to the achievement of peace and prosperity.

Among the different public services that are targeted by NextGenerationEU and SDGs, we will focus on mobility and public transport, as it is discussed in the following section.

2.2. Urban Mobility and Public Transport as a Specific Focus of Attention

Around 70% of the global population will live in large cities and metropolises by 2050.¹⁶ This projection should be enough to understand how relevant urban mobility is today and will be in the next future. Combining urbanization with the impact of mobility on CO2 emissions and global warming, and adding the impact on the (quality of) life of citizens proves it to be much more than a burning issue.

If the vast majority of people will soon live within the urban context it is necessary to question how that context will and should look like so that they can live and move well. **Livability and mobility are indeed intrinsically related**, since it is not possible to understand how people live without considering how they move, how they get to work, take children to school, go to cinema, get back home, or any other circumstance that is part of life.

As stated before, mobility is such a hot topic because of its contribution to global warming. Aggregating the impact of road, aviation and maritime, **the share of EU GHG emissions represented by transport amounts to around 25%.**¹⁷ In other words, one quarter of total GHG emissions by Europe is due to cars, vans, scooters, buses, planes, boats, and any kind of vehicle that

¹⁶ World Bank, 2022, Urban Development.

¹⁷ European Environment Agency, 2023, Transport and Mobility.

burns fossil fuels to move. Therefore, mobility and sustainability are strongly linked, and any proper strategy to tackle climate change needs to lean on sustainable mobility systems.

In addition to urbanization and climate change, in the case of urban mobility innovation is also pushed by new and disruptive technologies. Digital technologies, Artificial Intelligence, Internet of Things and most of the technologies belonging to the Industry 4.0 paradigm do indeed enable the development of new solutions and new mobility services, which have contributed to the emergence of the following five trends we are witnessing in the field of mobility:¹⁸

- ◆ First, **connectivity**. Thanks to IoT and advanced analytics, vehicles produce data that can eventually be collected, analyzed and used to provide additional services, such as predictive maintenance and optimized navigation services.
- ◆ Second, **autonomous driving**. Thanks to AI and advanced automation systems, some vehicles will be driver-less in the next future. Cars will move autonomously while passengers sit in the back and enjoy the ride.
- ◆ Third, **servitization**. If cars and scooters used to be sold to a person, who became the owner of the vehicle, now they are rented or leased out. Rather than selling a product to a customer, some companies are providing mobility services.
- ◆ Fourth, **electric vehicles**. Combined with hybrid and bio-fueled solutions, electric vehicles are likely to substitute Internal Combustion Engine (ICE) vehicles and dominate the future of mobility.
- ◆ Fifth, **shared mobility**. Enabled by digital technologies, users do not have to buy a car, to own a personal vehicle if they need to move and reach a specific destination. They can share a car, pay per use and leave it so someone else can use it.

It is reasonable to say that Covid-19 pandemic has pushed innovation, and expectations, in urban mobility too. Forcing people to stay home and companies to rethink and reorganize work, the pandemic has disrupted our usual way of living and moving, and thus it has challenged our mobility systems. The contribution of Covid-19 to innovation is indeed crystal-clear: without the pandemic, there would be no Recovery Fund to finance European countries in the next few years.

At this point, in relation to this evolving and complex scenario, where technology, sustainability, demography and other trends clash and merge, **it is important to question what the future of**

¹⁸ Deloitte Italy, 2022, *The Future of Mobility*.

urban mobility will look like and to investigate the implications for the actors that are actually involved in mobility.

The world of mobility is rapidly changing, both from the demand and the supply side.¹⁹

Citizens are getting more and more sensible to sustainability and the impact of their behavior and choices on the environment. Such sensibility turns into the desire and often willingness to change, to buy, for example, a new environmentally friendly car, or to avoid buying a car at all, if mobility is provided by a bundle of alternative services. Citizens are also getting familiar with digital technologies and many of them are open and ready to use digital solutions, like bike and car sharing.²⁰

Given the changing consumer demand, companies will likely have to develop new products and value propositions to be competitive and fulfill it. Leveraging new technologies and acquiring new comers, incumbents may be restructuring their corporate and business strategies to adapt to this new scenario.

Demand and supply, users and companies influence each other though. As citizens ask for environment-friendly cars and new digital solutions, some companies have taken the initiative and now provide citizens with innovative mobility services. This is the case of the sharing mobility, of companies like Uber, BlaBlaCar, ShareNow.

The future of urban mobility thus looks like green and digital, made of electric vehicles that can be used on-demand. It is impossible to imagine that future without smartphones: likely, the user will click on an app and book a bike, a car or a ride. If he needs to get out of the city for a few days, he will rent a car and return it once he is back home. It looks like a future of sharing, of pay-per-use, rather the selling and owning and, sooner or later, driver-less vehicles will play a key role too.

Some of these images prove that part of the future is already here and now. Electric cars, on-demand services, sharing services, pay-per-use service provision and other elements will likely be the basis for what will come next.

Obviously, future is unpredictable, especially in the case of urban mobility which is characterized by complexity and uncertainty. There are so many factors that can influence and steer the evolution of mobility towards a scenario that we have not considered. However, **imagining the future of mobility is important because it pushes us to question whether and why a**

¹⁹ Ibid.

²⁰ Monitor Deloitte Italy, 2021, *15 Minutes City*.

specific scenario is desirable, so that we can understand, envision and eventually build the mobility that we want.

Such analysis is particularly important for political and public organizations, who need to take into account that key to mobility is also inclusivity. Within the same population there are different categories of people with different needs. Teenagers cannot be compared to older people: they have different requirements and that is why a one-size-fits-all mobility system is unlikely to work. This is particularly critical in Europe and western countries, and in any country where population is growing old and life expectancy is increasing,²¹ and thus the range of needs and requirements to be addressed is increasing as well.

Although the future of mobility is uncertain, the field is for sure evolving rapidly, and the consequences of this evolution may be diverse and profound. Some of them are clearer than others, but the extent to which they will be considered threats or opportunities will largely depend on the ability of actors and organizations to question themselves and eventually adapt, invest and innovate.

Will the car still be the protagonist of mobility or will it have a supporting role? How will sustainability rank among the criteria users adopt to evaluate a mobility service? When will autonomous vehicles be a viable solution? What should multinational companies do if different countries pursue different mobility strategies? **These few questions belong to a much larger set of issues that concern not only citizens and private companies but also political bodies and public organizations and institutions.**

The partners of Deloitte Italy have addressed the future of mobility and the challenges and strategic alternatives of the actors of the automotive industry and supply chain – Original Equipment Manufacturers (OEMs), dealers and suppliers. In the case of OEMs, they state:²²

“For OEMs, each of the macro-trends is of primary importance, since they have a direct impact on the economic, technological, competitive and commercial plans. To keep up with the technological evolution of new products on the market, OEMs will have to balance a general contraction of profit margins with the necessity to invest in R&D, design and product innovation in order to be competitive and distinct in consumers’ eyes.”

²¹ World Health Organization, Global Health Estimates.

²² Deloitte Italy, 2022, *The Future of Mobility*, p. 10.

In other words, the evolution of mobility will dramatically impact on the core business and profitability of manufacturers, whose competitive strategy must rely on innovation.

The evolution of mobility will impact on suppliers and dealers too. On one side, suppliers will need to rethink their business strategy as electric vehicles require much less components and new technologies put software and digital solutions at the core of value propositions. On the other side, dealers will have to innovate sale and post-sale services and embrace the servitization trend, providing users with the possibility, for example, to rent or lease a car. They should also strengthen and innovate the relationship with OEMs so to add value to their position in the supply chain.²³

Innovation cannot happen though if public organizations and institutions do not support and incentivize it. Indeed, the evolution of mobility – at European level – must be framed into the NextGenerationEU program. For example, urban mobility is both a strategic lever and target of the Italian PNRR, as a partner of The European House – Ambrosetti stated:²⁴

“Smart mobility is a key topic for the medium-long term investments of the country, because it is at the intersection of the digital transition and the green transition, and it finds its main application field in the urban context, where 3 out of 4 travels by Italians occur.”

Given the impact on GHG emissions and the role of new technologies, urban mobility is a critical concern for any country that is interested in fighting climate change and foster economic growth. Actually, mobility is a burning issue for any city, especially for those that are trying to integrate digital and sustainable solutions within the existing context. **The future of mobility is indeed intrinsically related to the future of cities, of urban and territorial development.**

Assessing the success of ‘smart cities’, the partners of Monitor Deloitte Italy (2022) argue that the actual protagonist is the ‘smart citizen’, a citizen who is “interested and sensible to sustainability, ready to grasp the benefits of digitalization, careful judge of the quality of services and ready to contribute actively to the development of his neighborhood and city”²⁵. They claim that a city cannot be smart if there are no smart citizens, who are no longer simply users and beneficiaries but actors and co-creators of urban development.

²³ Ibid.

²⁴ The European House – Ambrosetti, 2021, *Le evoluzioni della mobilità smart nel quadro di medio-lungo termine del PNRR e le implicazioni per Roma*, p. 10.

²⁵ Monitor Deloitte Italy, 2022, *La Smart City è Morta?*, p. 10.

This new way of thinking about cities and citizens is inevitably related to urban mobility, as they state:²⁶

“This new approach to the design of future cities, which puts at the center the Smart Citizen, finds in mobility the key strategic element for the evolution of urban contexts. Mobility is indeed central to satisfy the emerging needs of citizens in terms of proximity and it is a key lever towards the achievement of sustainable and innovative objectives.”

MaaS (Mobility as a Service) is an example of how sustainability and innovation can have an impact on urban mobility. In Italy, thanks to the MaaS4Italy project, which is part of the PNRR, six major cities – Milan, Rome, Naples, Bari, Florence, Turin – have been selected and financed to develop and implement a mobility system that integrates multiple mobility services into a solution that is accessible through one single digital channel.²⁷ These MaaS initiatives also testify the complexity of innovation processes in the field of mobility, as they require the collaboration of a plurality of actors, both public and private.

The future of urban mobility will therefore shape the future of cities and citizens, and thus of regions and countries. **Given its pervasive influence on the life of people, mobility is therefore much more than an industry, a business or a service; it is an essential part of life and thus a matter of national interest.**

2.3. The Urgency for Approaches Creating Value across Public-Private Boundaries

The previous sections show how the ability to design and deliver valuable public services is becoming more and more relevant. In particular, the necessity to innovate public services is held as one of the key pillars of any action plan that seeks to tackle the most urgent economic, social and environmental challenges.

Moreover, recent studies from both the academic and the practitioners' community show how relevant the contribution of both private and public actors can be in this realm. Cross-sector collaboration, especially between public and private sectors, is indeed a strategic lever that enables to gather a multitude of resources and competences that can be used to achieve some shared objectives.

²⁶ Ibid., p. 12.

²⁷ Department of Digital Transformation of the Italian Government, Mobility as a Service for Italy.

Urban life has become a playing field that is interesting in itself, for the value it brings to people and citizens, but also a possible testing field for innovation and value creation approaches, given the high level of initiatives and fundings that is flowing into it.

These are the reasons why the study will focus on value creation, innovation and public services, within the context of urban mobility. Consequently, in the next chapter we will dive into a literature review on those issues so to investigate what has been already done and written about them.

3. Literature Review and State-of-the-art

The following introduction outlines the structure and scope of the whole literature review.

The literature review has been carried out searching first for specific concepts, keywords (e.g. value, value creation, service, public service, innovation) and different combinations of them, and then applying the snowball principle which has enabled to enlarge and specify the results.

The main research engine that has been used for the literature review is Google Scholar, through whom it was possible to identify most of the papers that have been read and analyzed, which reflect part of the literature of the last twenty years approximately.

In particular, the main research area we considered in this literature review is innovation management, as several concepts were derived from it. However, we also reviewed other contributions to the literature that provided us with additional key concepts on which the empirical research is grounded on as well. More than thirty papers and publications have been reviewed, and key concepts and main authors are briefly synthesized in the following table.

Table 1: Synthesis of the scope of the literature review

Key concepts	Main author(s)
design-driven innovation, innovation of meaning, inside-out process, criticism	Roberto Verganti (2009, 2016)
service-dominant logic, service, service ecosystem, value-in-exchange, value-in-use, value co-creation	Stephen Vargo and Robert Lusch (2004, 2008, 2016)
public service logic, public service organization, public service ecosystem, public value	Stephen Osborne (2012, 2018, 2022)
rationality, effectuation, prediction and control, non-predictive strategy	Saras Sarasvathy (2001, 2006)

Those contributions to the literature are reviewed in the next sections, which are structured as follows:

- ◆ The first section (3.1) reports a few key works and advances related to value creation and innovation in services;
- ◆ The second section (3.2) investigates some specific and more recent approaches for value creation in public services;
- ◆ The third section (3.3) focuses on a specific dimension of value creation and innovation processes, the one related to the contribution of individuals and to individual logics of value creation.

3.1. Value Creation through the Lens of Service-Dominant Logic

The goal of this first section is to review the concepts of value, value creation and service, and introduce the so-called Service-Dominant Logic, as developed by Stephen Vargo and Robert Lusch. In particular, the section is structured as follows: first, a few established conceptualizations of value creation and service are recollected; second, Service-Dominant Logic (SDL) is introduced and both concepts are reframed according to the latest research on this topic; then, implications of SDL for value creation are explored. Finally, the process of value co-creation is discussed and the overall value and significance of SDL is explained.

3.1.1. A Few Well-established Ideas about Value Creation and Services

Value creation is a well-established concept in management and business studies.²⁸ In particular, it is essential to understand the nature of any economic activity and business organization, of any entrepreneurial initiative at all.

Business models typically address three elements: value creation, value transfer or delivery, and value capture.²⁹ First, any business needs to know what it wants to offer to the market, that is the value proposition, and the activities to create or generate that value. Value creation concerns both strategic and operational activities, from strategic planning to R&D and production. Indeed, value is thought to be embedded into products – goods and services – as they are designed, assembled or developed. Second, any business needs to know how to deliver the value created, how to make the products accessible to the customers so that they can buy and use them. Value transfer or delivery concerns

²⁸ Massa, Tucci and Afuah (2017), *A Critical Assessment of Business Model Research*.

²⁹ Zott, Amit and Massa (2011), *The Business Model: Recent Developments and Further Research*.

marketing, logistics and it allows value to flow from firms to customers. Third, any business needs to know how to capture the value that it has created and delivered to customers, that is how to gain an economic benefit or profit. Value capture happens when exchange happens. As the transaction occurs, firms deliver value to customers that in turn give some value back to them, usually in the form of money. Value – added to the products purchased – is finally consumed by consumers.

It is evident that value creation is what distinguishes a company from the rest. Like the rest, any company pursues the goal of earning a profit for shareholders and owners, so what really differentiates it is the value creation process and thus the value proposition, which constitutes the true identity of the company itself.

Service is a well-established concept as well. Most people look at services as a particular kind of product. They are perishable; an empty seat in an airplane cannot be stored, it just goes unsold. They are heterogenous; standardization is difficult to achieve as the output and outcome of a service depend on the individual person who is using it. They are intangible; you typically cannot see them, touch them, eat them or use them as you would use a good. The production and consumption processes of a service are inseparable as they happen simultaneously, and the customer cannot help but be involved.³⁰

Distinguishing services from goods is not a mere classification exercise; these four characteristics have important implications on how services are designed, developed, managed, marketed, evaluated. In other words, they profoundly affect the core business operations of a company.

3.1.2. A New Approach to Value Creation and Services: Service-Dominant Logic

Although well-established in the literature on economics and management, the concepts of value and value creation have been deeply challenged and revisited in the last twenty years.

In their ground-breaking article *Evolving to a New Dominant Logic for Marketing*, published in 2004, Stephen L. Vargo and Robert F. Lusch introduced the so-called Service-Dominant Logic (SDL), to shed a light on the usual – in their opinion and wording – Good-Dominant Logic (GDL), and elaborated on the consequences for marketing. The reason why that article and, more generally, their contribution have been ground-breaking is that they exactly challenged and broke the implicit assumptions and logics on which the dominant management theory and practice were resting upon. We also define this article

³⁰ Vargo and Lusch (2004), *The Four Service Marketing Myths: Remnants of a Goods-based Manufacturing Model*.

as ground-breaking because of its large influence on subsequent researchers and studies, as the overall number of citations – more than 21.000 – suggests.

They started from the foundations (Vargo and Lusch 2004): why do people and companies engage in economic activity and exchange? In other words, what is the essential nature of the economy?

Companies exist to provide consumers with goods and services they are willing to buy. They engage in economic activities that add value to matter and turn it into things that can be distributed, sold and consumed. The outputs of production and distribution processes are embedded with value and utility, which is greater than the value of the inputs to such processes. This difference leads to economic gains or profits, and thus companies are naturally inclined to be as efficient as possible, leveraging any technology, practice and policy that is functional to maximize profits and beat competition.

Value is thought as *value-in-exchange* (Vargo and Lusch 2004), added through transformation processes and realized through sales and economic transactions. Firms create value and consumers destroy it; production and consumption processes are typically separated in terms of time, space and responsibility. Producers and consumers interact mainly through transactions, if there are no wholesalers, retailers and other intermediaries in between.

These ideas picture the economy as a multitude of transactions that enable value to flow from producers to consumers, who pay them back in monetary terms. In this framework, service is conceived as a special kind of intangible product to be sold and bought.

This is how Good-Dominant Logic answers those fundamental questions, and models economic activity and exchange. Stephen L. Vargo and Robert F. Lusch think this storyline is misleading, and help us to see the world in different and more authentic terms.

Inspired by the work of the French economist Frédéric Bastiat (1801-1850), they recover what it seems to be the essential element of any economy: **service is exchanged for service** (Vargo and Lusch 2004). People do not buy products because they need products, but because products are a better option to achieve a well-defined goal, compared to other available options. In other words, they purchase products for the benefit they get by using them, but to have that benefit they have to give something in exchange, which usually takes the form of money. The key point though is that they are not exchanging money for goods; they are exchanging efforts. **By service, Vargo and Lusch mean ‘the application of *specialized skills and knowledge*’** (Vargo and Lusch 2004). When applied to matter, skills and knowledge generate goods that are not immediately available in nature; applied differently, they generate services, experiences and other less tangible value propositions. But both goods and services share the same nature: they are applications of specialized skills and knowledge, and people

purchase them for the benefits they get by using, owning or displaying them. In light of this, as they say, “goods are distribution mechanisms for service provision”.³¹

The same is true for the labor market. Employees provide companies with skills and competences and get a monetary reward. They are exchanging work for money, yes, but, more generally, they are giving the application of some specialized knowledge and skills in exchange for money they can spend on the market to get the applications of *other* specialized knowledge and skills, if and when needed. The service-for-service exchange is indirect in this case, but the idea is still valid (Vargo and Lusch 2004).

To make it easier to understand the new and different perspective SDL provides on value and value creation, the main differences between SDL and GDL are synthetized in the following table, which is an elaboration of the work of Vargo and Lusch (2004).

Table 2: Critical differences between GDL and SDL (Vargo & Lusch 2004)

	Goods-Dominant Logic	Service-Dominant Logic
Unit of exchange	Goods, that is products of value-adding processes	Service, that is the application of specialized competences
Role of goods	Valuable things to be consumed	Resources to be used to create value
Role of customer	Recipient of goods	Co-creator of value
Determination of value	By producer, since value is embedded in goods	By user, since value is created through use
Firm-customer interaction	Transaction of value	Co-creation of value

³¹ Vargo and Lusch (2004), *Evolving to a new dominant logic for marketing*, p. 8.

As it is pointed out in the table, several are the differences between GDL and SDL. Some of them do actually constitute the foundations of the whole framework, which are discussed in the next section.

3.1.3. The Core of Service-Dominant Logic: Foundational Premises and Axioms

Within this literature, **value is re-conceptualized as *value-in-use***, generated in the moment customers use a product and experience the benefits it is supposed to provide (Vargo and Lusch 2004). Products are not embedded with value and utility; a product is valuable and generates value when the user uses it, if he knows how to use it. This idea has two major implications.

First, “the customer is always a co-creator of value”.³² Customers are active since they need to know how to use the product to satisfy their needs, and actually use it to experience the benefit it is expected to generate. Without their active participation, value cannot be created. It follows that value cannot be transferred or delivered, though firms can still design and offer value propositions (Vargo and Lusch 2008).

This is not to say that the company – the service provider – is no longer paramount; they are still critical and essential in service provision. It is to say though that **a firm-centric view on business and economic exchange is short-sighted and insufficient, as it ignores the role and importance of other actors in value creation, especially users and beneficiaries**. Indeed, from now on and according to this literature, we should refer to value creation as value *co-creation*, so to emphasize the presence and contribution of other actors, in addition to the service provider.

The second major implication is that “value is always uniquely and phenomenologically determined by the beneficiary”.³³ In other words, **value is by necessity defined, recognized and measured by the individual user as he experiences it during service provision**. If value is created by the user when he uses the product, then value, its quality and quantity, cannot help but depend on the individual who has just created it, on how he uses the product and the extent to which it fulfills his needs and expectations.

Enhancing the role of customers and users does not reduce the importance of service providers though. It is not a balance, it is not a zero sum game, there is no need to compensate. It is obvious that

³² Vargo and Lusch (2008), *Service-dominant logic: continuing the evolution*, p. 8.

³³ *Ibid.*, p. 9.

service providers are and will always be critical in the process of service provision. Through their value propositions and products, they enable users to cocreate value.

These and other elements have been revised and organized by the authors into a set of foundational premises (FP) and axioms (AX), which constitute the structure of the so-called Service-Dominant Logic. They are showed in the table below.

Table 3: Key premises and axioms of SDL (Vargo & Lusch 2016)

FP01 (AX1)	Service is the fundamental basis of exchange.
FP02	Indirect exchange masks the fundamental basis of exchange.
FP03	Goods are distribution mechanisms for service provision.
FP04	Operant resources are the fundamental source of strategic benefit.
FP05	All economies are service economies.
FP06 (AX2)	Value is cocreated by multiple actors, always including the beneficiary.
FP07	Actors cannot deliver value but can participate in the creation and offering of value propositions.
FP08	A service-centered view is inherently beneficiary oriented and relational.
FP09 (AX3)	All social and economic actors are resource integrators.
FP10 (AX4)	Value is always uniquely and phenomenologically determined by the beneficiary.
FP11 (AX5)	Value cocreation is coordinated through actor-generated institutions and institutional arrangements.

As Vargo and Lusch recognize, their contribution is theoretical. They hint at SDL to become the basis of a general theory of the market, marketing and more generally economics (Vargo and Lusch 2016), but managerial implications and applications to real business cases are not investigated extensively. Indeed, a systematic literature review on value co-creation, carried out in 2014, shows the centrality and relevance of the work of Vargo and Lusch to the *theory* of value co-creation, being some of their articles among the most cited and referred to by research papers about co-creation (Galvagno and Dalli 2014). Though several perspectives on value co-creation are recognized, discussing the results, the authors of the review say that “in sum (...) the service science perspective is the dominant perspective” and that “in the papers on the foundations of co-creation studies and their theoretical developments, Vargo and Lusch (2004) SDL is definitely more popular” than other popular approaches.³⁴

3.1.4. From Value Creation to Value Co-Creation and Resource Integration

For the scope of this study, it is then worth to deal more in depth with the relevance that the concept and process of value co-creation has gained, starting from the two foundational premises and axioms that constitute part of the most recent update of SDL (Vargo and Lusch 2016).

FP06: Value is cocreated by multiple actors, always including the beneficiary.

FP11: Value cocreation is coordinated through actor-generated institutions and institutional arrangements.

Attention should be paid to two elements.

First, these two statements are not normative, they are positive. In other words, they do not tell you how things *should be*, they tell you how they *are* (Vargo and Lusch 2016). **Value is never created by the service provider only; it is always cocreated by several actors, beneficiaries included.** It is not implied that a company should engage users in design or production processes though. In the same way, value cocreation is always coordinated by institutions, but this does not imply that actors should make use of them to foster value cocreation.

Second, the latter axiom introduces a key element of value co-creation: institutions and institutional arrangements. By ‘institution’, the authors refer to any rule, norm, law, convention, meaning, symbol or code that enables and constrains human action. In other words, institutions are humanly devised, formal or informal, rules that coordinate action and behavior, and thus make social

³⁴ Galvagno and Dalli (2014), *Theory of value co-creation: a systematic literature review*, p. 657.

life more predictable (Vargo and Lusch 2016). An ‘institutional arrangement’ is then a set of interrelated institutions (Vargo and Lusch 2016).

Though critical in the value creation process, the role of institutions was fully recognized just recently. According to Vargo and Lusch, the most important extension of SDL was indeed the enlargement of the scope, from a firm-centric perspective through a dyadic firm-customer model to a more holistic actor-environment point of view (Vargo and Lusch 2016). As they say:³⁵

“This zooming out has resulted in a major turn towards a systems orientation. We use the term ‘ecosystems’ to identify these systems because it denotes actor-environmental interaction and energy flow. More specifically, we use the term ‘service ecosystem’ to identify the particular kind of critical flow – mutual service provision. We (Lusch and Vargo 2014) define a service ecosystem as ‘a relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange’.”

In this dynamic and ever-changing ecosystem, **institutions and institutional arrangements act as coordinating mechanisms that guide individuals and organizations throughout resource integration and value co-creation** (Vargo and Lusch 2016). However, institutions are ‘actor-generated’ as actors both are influenced by *and influence* institutions. In other terms, institutions are endogenous because there is reciprocity of influence between an actor and the environment he acts in.

To sum up, SDL is a new lens to see the world from a management and business perspective. It’s a framework whose components are: service exchange, service ecosystems, value cocreation, resource integration, institutions and institutional arrangements, actor-to-actor (A2A) orientation. Assembling these components carefully, you end up with a powerful tool to see economies, businesses, transactions in a new suggestive way.

There are no longer producers and consumers, suppliers, firms and customers, companies, employees and clients. These are roles interpreted by actors.

There are no longer products, goods, services, experiences. These are forms of service, applications of some specialized knowledge and skills, resources to be used to create value.

³⁵ Vargo and Lusch (2016), *Institutions and axioms: an extension and update of service-dominant logic*, p. 10.

Thanks to this new lens, you see through the surface, you see actors and resources moving in an ecosystem. Actors are all essentially doing the same thing: integrating resources to create value, directly or indirectly. Coordinated by institutions and institutional arrangements, service-for-service exchange enables actors to gather and combine resources to create value or value propositions. **Value is realized when service is rendered; no product, more or less tangible, is embedded with value and utility. Value is not a quality of things; it exists as long as some actor experiences it and therefore it is defined, recognized and quantified by the individual beneficiary himself.** As actors integrate existing resources with new ones, or combine them in new ways, new value propositions are created, other actors are influenced, conventions and institutions change a bit, the ecosystem adapts. There's no equilibrium, no rest; equilibrium lies in movement.

3.1.5. Conclusion of the Section

In this section it was outlined how the established literature has approached and dealt with value creation and services, and recognizes in particular the emergence and establishment of SDL as one of the key frameworks in management literature to deal with these questions.

However, **some limitations need to be reported.** First, the literature on Service-Dominant Logic, which is the core of the section, is mainly constituted by theoretical contributions about the nature and quality of economic exchange. Second and more important, this literature addresses the overall economy without distinction between private, public and third sectors, thus ignoring potential critical differences and not providing tools and/or insights that could be applied to actual business cases and processes.

This is why in the next section we will refer to an additional stream of literature which addresses the implications of SDL for public service provision, so to more deeply reflect on the value creation mechanisms when public actors are involved and cooperate with private actors, which is the scenario of interest of the research.

Finally, since SDL models all economic entities as actors who integrate resources and provide service through value propositions, it suggests that they have pretty much the same rationality and behavior, eventually ignoring any contextual and/or personal factor that may actually affect the rationality of a specific actor. This is a dimension that is also addressed later on in the third and last section of this chapter.

3.2. Value Creation and Public Services

The first section deals with economic exchange, value creation and Service-Dominant Logic and encourages to think about the nature of value creation in new terms, arguing that the underlying

assumptions of the general agreement on business and management are flawed. However, there are different kinds of exchange and different types of organization within the same economy. What about public companies and third-sector organizations? What about volunteers and non-profits? Are SDL premises and axioms valid in these different circumstances? Do those observations about service exchange and mutual value creation hold true? These and other similar questions are relevant and have been addressed by some recent pieces of literature, which were reviewed for this research.

The goal of this second section is indeed to review the literature that has been addressing value creation and public services provision. In particular, the section is structured as follows: first, the application and adaptation of SDL to the public sphere is discussed; second, the distinctiveness of public service provision and public organizations is highlighted; third, a definition of public value is reported and the role of the context is investigated; finally, the construct of public service ecosystem is introduced to address how value creation throughout public service provision can be modeled, as the literature shows.

3.2.1. From Service-Dominant Logic to Public Service-Dominant Logic

Service-Dominant Logic is rooted in the private sector. Questioning the nature of any economy, Vargo and Lusch (2004) were considering primarily private enterprises and businesses, and they were very much interested in manufacturing companies as they embodied and promoted Good-Dominant Logic. Challenging the conventional ideas on value and value creation, they were thinking about firms and customers, business processes, transactions, revenues and costs, profits; they had in mind the delivery of products, not the provision of public services. As the title of the renowned article published in 2004 suggests, they were interested in the consequences for marketing as a function and potential source of competitive advantage of any business.

Vargo and Lusch (2004, 2016) were aware though that SDL may become a transcending theory, able to model any type of exchange, with no boundary condition. However, up to now, they have never addressed the public sphere or the third sector directly.

The contribution of SDL to the public sector was therefore taken forward by other scholars and researchers, as they were interested in those concepts that could be exported to other academic areas and practices.

In particular, **Osborne, Radnor and Nasi (2012) recognized the value of SDL and investigated the application of this new logic to public service provision.** They criticized the New Public Management (NPM) paradigm – the long-established paradigm – to be product-dominant, derived from the experience of private companies involved in manufacturing and inappropriately applied to public service organizations (PSOs). Indeed, NPM models public

organizations as firms, citizens as customers and public officials as managers, and thus it is an application of business logics to the public sector (Osborne et al. 2012). In particular, the most critical aspect of NPM was considered to be the internal focus, as clearly stated by the authors:³⁶

“(…) the *intraorganizational* focus of the NPM and previous paradigms does not reflect the *interorganizational and interactive* nature of contemporary public services provision. Nor have they embraced either the increasingly *processual and systemic*, as opposed to *discrete and transactional*, nature of the public service delivery process or the way in which they have become knowledge-driven within the digital economy.”

In other words, they argue that the ‘firm-centric’ approach of public service organizations to service provision is *at least* outdated. **Modeling public service provision as a set of discrete transactions that occur between public entities and citizens as if they were private firms and customers does not match contemporary reality**, where distinct organizations typically belong to and interact within a dynamic ecosystem.

What they propose then is not to simply apply SDL to the public sector without taking into account the peculiar characteristics of public services, but to build on SDL and traditional service theory and develop a *public service-dominant logic* (PSDL) (Osborne et al 2012). They indeed address the implications of a service-dominant approach for public service strategy, marketing, production, operations management, so to draw some useful normative propositions about public service provision and management (Osborne et al. 2012).

Later research seems however to acknowledge how in this first wave of scientific production PSDL was still referred to as an “alternative discourse”, an “alternative approach”, “in contrast” to the traditional product-dominant logic (Osborne et al. 2012). This view is confirmed by the fact that Osborne (2018) replaces later on public service dominant logic (PSDL) with the expression *public service logic* (PSL), explicitly pointing to the work of Christian Gronroos as the actual basis of his work, and Gronroos (2008) was thoroughly criticized by Vargo and Lusch (2016) as they claim him to assert the “existence of separate, alternatively invocable logics”.³⁷

Like Gronroos, it seems that Osborne et al. (2012) consider goods-dominant and service-dominant logics as alternative or opposed, and further work suggests that they think of them as the opposite ends of a continuum that is as wide as the difference between products and services, in the

³⁶ Osborne, Radnor and Nasi (2012), *A new theory of public service management? Toward a (public) service-dominant approach*, p. 137.

³⁷ Vargo and Lusch (2016), *Institutions and axioms: an extension and update of service-dominant logic*, p. 9.

conventional way of thinking about them. Actually, goods-dominant logic is “integral to and nested in S-D logic, rather than distinct from it”, since both products and services are distribution mechanisms for service.³⁸ Contrary to what Gronroos (2008) says, adopting a service logic is *not* a strategic decision: S-D logic, at least as elaborated and organized by Vargo and Lusch (2004, 2008, 2016), is not a strategy or a *normative* approach to be used in some specific circumstances; it is a *positive* description and explanation of how exchange and value creation work, with no boundary condition.

3.2.2. Specificity of Public Service Provision and PSOs

The contribution of Osborne, Radnor and Nasi (2012) is still considered in the scientific community interesting and relevant for a couple of reasons.

First, they originally apply a service-dominant approach to public services and public service organizations, as they elaborate a few normative propositions and managerial implications to be empirically tested.

Second, they remind us that **public service organizations are not private companies, that there are some peculiar elements of public service provision that cannot be ignored and must be taken into consideration.** Indeed, Osborne et al. (2012) state:³⁹

“While public services have increasingly adopted models and insights from business practice, it has rarely been a simple or mechanistic task and not all models or insights are always appropriate. Developing a business to make a profit is somewhat different from developing a PSO to meet a social or economic need, even if both do require some form of economic sustainability.”

Among the differences, the performance of public services cannot be measured by consumer satisfaction alone, and, in some cases, unwilling or coerced users (e.g. prisoners) are present. Public services may also have multiple and/or conflictual users (Osborne et al. 2012). Osborne (2018) adds to the picture that retention of customers, typically desired by private companies, “is likely to be a sign of service failure”.⁴⁰ Think about healthcare or education services: a patient that is visited and treated for

³⁸ Ibid., p. 10.

³⁹ Osborne, Radnor and Nasi (2012), *A new theory of public service management? Toward a (public) service-dominant approach*, p. 149.

⁴⁰ Osborne (2018), *From public service-dominant logic to public service logic: are public service organizations capable of co-production and value co-creation?*, p. 226.

the same condition over and over, or a student that takes the same exam again and again, is likely to be the symptom of ineffective service provision.

Osborne (2018) raises the complexity of public service provision by noting that “public service users might also be receiving services from a number of public services” and that they are also “citizens who may have a broader, societal interest, in the outcomes of public services”.⁴¹ Thus, not only is a user interacting with multiple PSOs but he is also a citizen, interested in the impact on other users and the performance of services he may not be using at all.

Last but not least, the political and public policy context is a critical determinant of the mission, activity and management of any public organization, and it is much less relevant to businesses and private companies (Osborne et al. 2022).

It follows that the complexity a PSO is expected to handle is high, especially in terms of stakeholder management and performance measurement.

3.2.3. Public Value and the Context of Public Services

The complexity and context of public services inevitably affects the conceptualization of value as well. Building on the work of Moore (1995), who conceives ‘public value’ as something significantly valuable for society at large and politically sustainable, in line with the institutional context, Faulkner and Kaufman (2018) systematically review the literature on public value to identify a few value dimensions that might be used to operationalize and measure public value in any context, and thus research on the topic can advance. They indeed identify four dimensions or perspectives on public value: outcome achievement, trust and legitimacy, service delivery quality, and efficiency (Faulkner and Kaufman 2018). Although they do not point to specific measures that could be applied to any context, they argue that those dimensions can support the definition of a universal measure of public value, so that the performances of different public organizations can be compared effectively and the general theory of public value can be tested properly, avoiding theoretical stagnation (Faulkner and Kaufman 2018).

The vagueness of the definition of public value may be appropriate and useful though, because it stresses the complexity of the concept and the possibility to look at it from several points of view; any sharp definition may be simplistic and thus misleading. Each public organization should indeed define what it means by public value, engaging, directly or indirectly, the citizens it is supposed to serve. As a consequence, universal measures might not even be desirable, because that would imply that the

⁴¹ Ibid., p. 227.

peculiar characteristics of the local context are ignored, and thus the needs and expectations of the local community the organization is expected to provide service to are ignored too. **If further research suggests that context specificity is critical, especially in the sphere of public services, then it may be considered a *cornerstone* of public value theory rather than a *stumbling block* to theoretical advancements**, in the same way it is a cornerstone of SDL.

3.2.4. Above and Beyond Private Companies: Public Service Ecosystems

Moore’s definition of public value is too vague to be analytically useful, and indeed it has been challenged by several scholars (Osborne et al. 2022).

Osborne, Powell, Cui and Strokosch (2022) point to Public Service Ecosystem (PSE) as the analytic construct that can shed a light on value creation within the public sphere. Gathering the theories and frameworks that emerged from the crisis of the NPM paradigm and assembling them into one integrative framework, they indeed elaborate a multi-level structure, synthesized in the following table.

Table 4: Overview of the structure of Public Service Ecosystems (Osborne et al. 2022)

Ecosystem level	Description: <i>The impact of...</i>	Theoretical lens	Value-added
Macro-level (Institutional)	...societal norms, rules and beliefs upon value creation (“the atmosphere”)	Public Value	Value-in-society
Meso-level (Service system)	...organizational actors and networks, organizational rules/norms, the local community, and service processes on value creation (“the habitat”)	Collaborative Governance	Value-in-production
Micro-level (Individual service user / stakeholder)	...the user/stakeholder/staff on value creation (“the population”)	Public Service Logic	Value-in-use and/or value-in-context
Sub-micro-level (beliefs)	...individual and/or professional beliefs upon value creation (“the sub-soil”)	Behavioral Public Administration	Value-in-context

This structure recognizes and organizes the multiple forms of influence on value creation, associating each of them to a specific level of the ecosystem.

It follows that **value is a multi-faceted concept, and different definitions should be considered complementary rather than mutually exclusive**, in the same way different theoretical frameworks complement each other (Osborne et al. 2022). Building on the work of Vargo and Lusch (2004, 2016), the authors move beyond the conceptualization of value as value-in-exchange and insist on four different definitions. First, at the micro level, there are two complementary ideas of value: *value-in-use* and *value-in-context*. Value-in-use refers to the value created by the user as he benefits from the provision and use of a public service. In order to appreciate those benefits though, it is necessary to frame use into the individual context of the user, so to understand how service matches his personal needs and expectations; this is why value-in-context can also be seen as an evolution of value-in-use (Vargo and Lusch 2016). Second, at the meso level, value is addressed as *value-in-production*, that refers to value creation through service innovation and improvement and through the direct engagement of public service users in service design and production processes (Osborne et al. 2022). Finally, at the macro level, value is described as *value-in-society*. As they say, “value-in-society is thus a cluster of three elements – the provision of public goods, the fulfillment of societal values, and the direct/indirect creation of value-added to society through a public service”.⁴² In other words, it is a description of value creation from the point of view of institutions, of society at large rather than individual users.

Osborne et al. (2022) use the term ‘value-added’. This term reminds the goods-dominant logic that conceives value as added and embedded into goods and services. Although they explicitly say that value is added “to a customer through service”,⁴³ as it is the impact of the service on the life of the customer, this term is misleading: it suggests that value creation can happen without the beneficiary, before use, as if value can be produced and just added later, in two separate moments, and this contradicts SDL, that states that the beneficiary always play an active and essential role in value creation (Vargo and Lusch 2016).

Still the work of Osborne et al. (2022) is relevant, for a very simple reason: they are interested in practical managerial implications and thus try to develop an analytic model of public service provision that could be useful for PSOs and public managers. That’s why they structure the ecosystem into levels, each one highlighting some kind of contribution to value creation (i.e. from institutions, organizations, individuals, beliefs) and providing a perspective on value. That’s why they assess the role and potential

⁴² Osborne et al. (2022), *Value creation in the public service ecosystem: an integrative framework*, p. 639.

⁴³ Ibid., p. 636.

impact of public managers at each level, and why each definition of value is associated to a particular position in the public service delivery process. They are interested in practice, and thus they elaborate some practical implications for PSOs and public service management (Osborne et al. 2022).

In conclusion, the contribution of Osborne et al. (2012, 2018, 2022) is significant because they tackle how SDL can be applied to the public sector and elaborate an analytic construct and some practical implications for public service organizations and managers, which could not be derived from private experiences.

3.2.5. Conclusion of the Section

In this section it was outlined how the literature has approached value creation and public service provision, adapting SDL to the public context but also complementing it with other frameworks and contributions.

Some limitations should be pointed out though.

First, most contributions are essentially theoretical, as the frameworks and implications that have been discussed need to be tested empirically.

Second, though the literature provides a comprehensive elaboration on public value, recognizing the multiple perspectives and factors that influence value creation, it does not provide tools and insights on how to handle or prioritize those elements, leaving it to actual managers and interpreters.

Third and more important, although a few characteristics of public service provision and public service organizations have been highlighted, this stream of literature still provides an overview of value creation processes, identifying the different actors involved but not really examining in depth the individual contribution and role of such actors and/or the mechanisms through which they interact and enable each another. Indeed, adapting the public service ecosystem construct to the actual public service provision process is left to the managers and public officials who are involved in that process.

These are the reasons why in the next and last section we will refer to another stream of literature that tackles the rationality of individual innovators as they are involved in value creation processes, which is the topic of interest of the whole research. It is indeed important to deal with the literature that investigates how individuals behave in value creation processes, especially those that engage multiple and different actors.

3.3. Value Creation and Innovators: The Contribution of Individuals

If the previous sections elaborate an overview on the issues of service, value and value creation, in general and in the particular scenario of public services, in this section we focus on the literature that has recently dealt with the contribution of individuals to innovation and value creation, a crucial category of actors involved in value creation processes.

The contribution of individuals to value creation and innovation has always been matter of interest for intellectuals and academia, far beyond the scope of economics and management literatures. It is indeed intrinsically connected to the topics of entrepreneurship and leadership but it is also related to other social sciences and disciplines such as psychology, sociology, political science and history.

The goal of this section though is not to highlight how innovators have been described and modeled by those different approaches and points of view. The goal is to review the literature that investigates, classifies and/or models the rationality of managers, entrepreneurs or, more generally, decision-makers involved in innovation processes, in order to reconstruct recent developments and concepts that can be useful in dealing with these matters. In particular, the section is structured as follows: first, two alternative definitions of rationality are compared; second, a few different perspectives and models of rationality and innovation are presented; finally, the discussion is extended beyond private actors in order to take into consideration innovators within the public sphere.

3.3.1. The Origins: The Concepts of Substantive and Procedural Rationality

One of the most important thinkers on human rationality and decision-making is Herbert A. Simon (1916-2001), who is considered to be the father of the so-called ‘bounded rationality’ theory.

Dealing with the concept of rationality, Simon (1976) stresses how economics and cognitive psychology have been using the same term in different ways, and thus have rarely interacted. Traditionally, economics refers to rational behaviors and decisions as those that are appropriate to the achievement of desired outcomes, whereas cognitive psychology uses the term to refer to those behaviors and decisions that are the outcomes of an appropriate deliberation process. **The former outcome-oriented definition of rationality is what the author names ‘substantive’ rationality, opposed to the latter process-oriented definition, that is ‘procedural’ rationality** (Simon 1976).

Supported by evidence on human decision-making in business and policy environments and by some theoretical contributions, Simon argues that, since economics deals with human institutions and actions, it needs to use procedural rationality as the criterion to study such phenomena. Human life is characterized by limited computational resources, information asymmetry and incompleteness,

dynamicity, thus uncertainty and unpredictability, and therefore looking for an optimal solution to a given problem that could be deduced from a set of predetermined stable assumptions is just impossible (Simon 1976).

Such “inevitable” transition moves the locus of attention from the solution of a given problem to the method used to identify or design it. Indeed, he argues that “there is no point in prescribing a particular substantively rational decision if there exists no procedure for finding that solution with an acceptable amount of computing effort”.⁴⁴ The issue of the computability of a solution, the problem of being feasible, implementable, doable is thus central to procedural rationality.

If rationality does not lie in the ability to achieve a predetermined outcome but in the method, in the quality of the process that generates a certain decision, then the idea of Simon suggests that **the rationality of an individual should always be assessed with reference to the context and process that individual is involved in**. This definition is therefore functional to the interest of the research, that is to investigate the rationality of individual innovators as they think and behave within actual innovation processes.

3.3.2. Possible Configurations of the Rationality of Innovators

The process-oriented approach to rationality is shared by Saras Sarasvathy (2001), who claims that there is more than one kind of rationality behind decision-making and entrepreneurship, overcoming ‘the’ approach that is typically taught in MBA classes: handled with a business case, students are asked to make a decision, hopefully a good decision given some data and information about the context. They are challenged to argue in front of the class, to identify the pros and cons of the decision they would make and prove it to be reasonable and robust. By simulating a real case, this collective exercise should enhance students’ business knowledge and decision-making ability. In any of these cases, the context is thought as a background of economic artifacts such as firms, markets, industries, institutions, and the student should identify a solution that fits that context (Sarasvathy 2001).

Inspired by the story of several enterprises and entrepreneurs, Sarasvathy (2001) argues that another approach exists, which can be applied any time the context is not well-defined or does not exist yet, any time something new is emerging and being created. For example, how to market a new product or forecast revenues if the market for that product does not exist yet?

In order to identify this different approach, **Sarasvathy (2001) coins the term ‘effectuation’ to distinguish it from ‘causation’**. The fundamental conceptual difference

⁴⁴ Simon (1976), *From substantive to procedural rationality*, p. 68.

between the two approaches lies in the relationship between means and ends, resources and goals: causation starts from ends and identifies the means that are functional to the achievement of those ends; effectuation starts from resources and identifies the goals, the ‘effects’ that can be achieved using those resources. On one side, causal logic pushes the individual to identify first a likely scenario and a desirable position in that scenario, and then gather and allocate enough resources to obtain that position. On the other side, effectual logic forces the individual to start from himself, his strengths, competences and relationships, and then spot any contingent opportunity that can be seized with those resources.

The main differences between causation and effectuation are reported in the table below, which is an elaboration of the work of Sarasvathy.⁴⁵

Table 5: Main differences between causation and effectuation (Sarasvathy 2001)

	Causation	Effectuation
Driver	Ends, goals	Means, resources
Selection mechanism	Expected return	Affordable loss
Resource exploited	Knowledge	Contingencies
Environment	Exogenous	Endogenous
Exemplary technique	Competitive analysis	Strategic alliance

Although they seem to be opposing logics, Sarasvathy (2001) claims them to be orthogonal, independent rather than contrasting, and does not promote one instead of the other. She just recognizes that there are multiple rational approaches to decision-making and entrepreneurship. However, she really believes effectuation to be fundamental to entrepreneurship, as the following statement suggests:⁴⁶

⁴⁵ Sarasvathy (2001), *Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency*, p. 251.

⁴⁶ *Ibid.*, p. 262.

“The essential agent of entrepreneurship (...) is an effectuator: an imaginative actor who seizes contingent opportunities and exploits any and all means at hand to fulfill a plurality of current and future aspirations, many of which are shaped and created through the very process of economic decision making and are not given a priori.”

What is particularly interesting though is how causation and effectuation deal with the future: the former tries to predict it so that opportunities and threats can be spotted, it argues that ‘if you can predict the future, you can control it’; the latter tries to manipulate the future and generate opportunities, it argues that ‘if you can control the future, you don’t need to predict it’ (Sarasvathy 2001).

This relationship between prediction and control is indeed the core of the work by Wiltbank, Dew, Read and Sarasvathy (2006), who elaborate a taxonomy of strategy making approaches and identify four different rationalities – planning, adaptive, visionary, transformative.

Building on the work of Frank Knight (1921), Wiltbank et al. (2006) argue that, in a world characterized by the type of uncertainty that is due to radical innovations and inventions, future cannot be predicted any time, because it is actually impossible to deal with something that does not exist yet, something that maybe will exist because someone will eventually work to make it happen. Thus they make the case of ‘non-predictive’ strategy.

The contribution of their work lies in the argument that **prediction and control are independent**, overcoming the recurring idea that control on environment is always low and depends on prediction, since an entity can theoretically optimize its own decisions, given the nature and confidence of predictions. What distinguishes visionary and transformative approaches is indeed the idea that the environment is endogenous, it can be built and shaped through individual and organizational action; it is not something a firm can only adapt to and position within in the best way possible.

The idea that the environment is not exogenous, that firms and markets influence each other, reciprocally, is also embedded in the Innovation of Meaning (IoM) framework by Roberto Verganti (2016).

As the ‘Innovation of Meaning’ expression suggests, innovation can concern very different objects. Indeed, Verganti (2016) points out two alternative objects – meanings and solutions – and claim them to be grounded on opposing elements: innovation of meaning needs an inside-out process and criticism, whereas innovation of solution leverages an outside-in process and ideation.

Although Verganti does not explicitly address the rationality of individual innovators as they approach innovation processes, by articulating an inside-out process that starts from the personal interpretation and vision of the world of an individual and gradually integrates the objections and alternative ideas of other people – colleagues, experts, potential customers – **he inevitably puts individual innovators at the core of innovation**. The starting point of IoM process is symbolic: “What would I love people to love?”.⁴⁷ Starting from his own values, considerations and observations, the innovator challenges the current meaning of a product, re-interprets an experience and eventually envisions an alternative future and a new possible meaning, that is then challenged and refined.

The role of the individual is indeed the power and beauty of this approach, as stated by Verganti himself:⁴⁸

“If we think about this deeply, this is the great thing about innovation of meaning: it gives **us** a chance to turn the world in a direction that **we** (who else otherwise?) find more meaningful. To put forward **our** vision for a better world.”

It is possible to argue then that **IoM and effectuation can be considered as two different approaches to innovation**. The starting point is different: effectuation starts from available resources (i.e. characteristics, competences, relationships) whereas IoM from personal considerations and interpretations over existing products and services. The goal is very different: effectuation does not need a vision, a well-defined goal to be achieved, since part of the process consists actually in exploiting contingent opportunities, whereas the objective of IoM is to innovate and create a new meaning that will be embodied by a new solution. The process is different: effectuation is essentially unstructured and based on few key principles whereas IoM is much more structured, organized around phases and intermediate outputs.

However, it is important to note that **both of them suggest the existence of a personal criterion, a scale to choose among alternatives and identify what we want to pursue**, and this is a point that will be further elaborated in the following chapters. What they also share is the weight they put on the shoulders of individuals and the confidence in the ability of innovators to influence the environment.

⁴⁷ Verganti (2016), *Overcrowded: designing meaningful products in a world awash with ideas*, p. 137.

⁴⁸ *Ibid.*, p. 92.

3.3.3. Beyond Private Actors: Public and Policy Innovators

What effectuation and IoM also have in common is the focus on private organizations and innovators. On the other side, **what about individuals who try to innovate in the public sphere?** What can be said about their rationality? To what extent the previous considerations hold true?

Klein et al. (2010) are among the authors that address the phenomenon of public entrepreneurship and develop a research agenda to investigate the difference and relationship with private entrepreneurship. By ‘public’ they mean ‘in the public interest’; therefore, by public entrepreneurship they refer to any individual and organization that acts in the public interest, independently of the legal form (Klein et al. 2010).

Building on the work of renowned scholars, they identify both similarities and differences between private and public entrepreneurs:⁴⁹

“In short, political actors – elected officials, government bureaucrats, or civil servants, as well as individuals and organizations seeking to use the political process to accomplish private objectives – can up to a point be described by using the language of entrepreneurship theory. **Like** Kirznerian (1973) entrepreneurs, political actors seek to create or discover opportunities for gain, whether private or social. **Like** Knightian (1921) entrepreneurs, they invest resources, tangible, and intangible (time, effort, and reputation), in anticipation of uncertain future rewards. **Like** Schumpeterian (1934) entrepreneurs, they can introduce new political products and processes. Public entrepreneurs may also set up organizations and institute organizational change to further their perceived public and private interests. **Unlike** private entrepreneurs, however, public entrepreneurs cannot use privately appropriated benefits as a criterion for success, and the selection mechanism for allocating resources over time towards more successful public entrepreneurs is complex and poorly understood.”

Among the differences, they also recognize that public entrepreneurs operate within a particular ‘competitive’ environment, they do not have clear signals to evaluate their performance like market signals or hard budget constraints, they manage public resources and can allocate them forcefully, and they have to deal with much more complex objectives, given the dynamic and multi-faceted nature of ‘public interest’ (Klein et al. 2010).

⁴⁹ Klein et al. (2010), *Towards a theory of public entrepreneurship*, p. 4.

In addition, inspired by the work of Elinor Ostrom (1965, 1990, 2005), they highlight how public and private entrepreneurship are related and co-evolve within the same ecosystem, influencing one another, and suggest them to be complementary rather than alternative. Thus, they ask themselves which effects such relationship determines and how to empirically study them.

Adopting the definition by Klein et al. (2010), it is possible to say that the phenomenon of public entrepreneurship has been addressed also by Bruno Dente (2011). In the book “Le decisioni di policy”, Dente articulates a way to think about policy decision-making processes so to provide individuals who wish to bring about radical innovations with strategic knowledge.

The premise of the book is that, consciously or unconsciously, any individual involved in policy making has a mental model of the process that contains (what he believes to be) the critical factors and variables that can steer it towards a particular decision (Dente 2011).

Building on the work of Herbert Simon and Charles Lindblom, Dente proposes a model and summarizes it in this way (bold type in original):⁵⁰

“The outcomes of a policy decision making process depend on the interactions among different types of **actors**, with different objectives and roles, that, inside a specific **network**, exchange **resources**, using diverse **patterns of interaction**, to obtain a certain **stake**, within a given decisional **context**.”

Once the main variables are considered and assessed, the author puts himself in the shoes of the innovator and elaborates some strategies to manipulate them and steer the decision-making process towards his own objectives (Dente 2011).

Although a key variable is the context, which is defined as the set of elements that cannot be modified, at least in the short-term, **this model strongly emphasizes the role of the innovator and the impact he can have on the innovation process, picturing him as an individual who knows which levers to pull and when.**

However, Dente does not refer to the process as a mechanism, made of gears and components that are always the same, in the same position; indeed, he stresses the complexity, uncertainty and dynamicity of contemporary policy decisions, which implies that actors, resources, characteristics of the network and patterns of interaction can and do change. Understanding the dynamics of policy decisions

⁵⁰ Dente (2011), *Le decisioni di policy*, p. 53.

is indeed part of the art-and-craft of ‘policy entrepreneurs’, individuals who both promote and direct innovation processes (Dente 2011).

Finally, Dente notes that ‘decisional success’ does not imply ‘substantial success’; in other words, directing the process to the desired decision does not guarantee that the outcomes of that decision are desirable as well, and this is due to those elements of uncertainty, unpredictability and complexity that characterize contemporary policy decisions (Dente 2011).

The difference between ‘decisional’ and ‘substantial’ success inevitably recalls the difference between ‘procedural’ and ‘substantive’ rationality, introduced by Simon. Indeed, it is possible to say they overlap: rationality and success belong to the process, to the method the individual uses to think and make a decision, independently of the quality *of the outcomes* of such decision. This stresses the importance of studying the rationality of individuals as they are involved in innovation processes.

3.3.4. Conclusion of the Section

In conclusion, the rationality of individuals in value creation and innovation processes has been addressed by several scholars and disciplines, both theoretically and empirically. In particular, it is evident that there are alternative approaches to decision-making and innovation: some of them start from available resources, some from visions and goals, some others are built upon a preliminary and conceptual understanding of the innovation process.

What has not been addressed is whether such approaches are mutually exclusive or complementary, whether innovators choose an approach instead of another and why, whether the same individual can alternate two different approaches. In addition, assessing how innovators belonging to different sectors behave and do innovation should enable a better understanding of the impact of the context on the rationality of the individual, which seems to be a critical variable in most approaches. Such limitations and questions lead in fact to the research questions, which are discussed in the next chapter.

3.4. Conclusion of the Chapter: A Gap to Be Addressed

This chapter has outlined a few streams of literature related to the topic at hand, and the following table organizes and summarizes them and the key concepts that have been covered in this review, and the main authors related to each of them.

Table 6: Overview of the literature review: streams, authors and concepts considered

Stream	Authors	Key concepts
Service-Dominant Logic	S. Vargo, R. Lusch, P. Maglio, M. Akaka, C. Vaughan, H. Wieland, S. Nambisan, C. Gronroos, J. Gummerus, M. Galvagno, D. Dalli.	goods-dominant logic, service, service exchange, service ecosystem, service innovation, value, value creation, value co-creation, value proposition, value-in-exchange, value-in-use, value-in-context, resource integration, A2A orientation, institutions and institutional arrangements, institutionalization, customer centricity
Public Service Logic	S. Osborne, Z. Radnor, G. Nasi, M. Powell, T. Cui, K. Strokosh, V. Vecchi, A. Tanese.	public service-dominant logic, public service organization, public service ecosystem, value-in-society, value-in-production, public-private partnerships
Public Value	M. Moore, N. Faulkner, S. Kaufman, J. Bryson, B. Crosby, M. Stone, A. Sancino, J. Benigton, E. Sorensen, T. Meynhardt.	public value, public value creation, public value measurement, public performance measurement
Rationality of entrepreneurs and innovators	H. Simon, S. Sarasvathy, S. Read, N. Dew, R. Wiltbank, J. Perry, G. Chandler, G. Markova.	substantive rationality, procedural rationality, effectuation, causation, prediction, control, positioning, construction, non-predictive strategy

Innovation of Meaning	R. Verganti, E. Bellini, C. Dell’Era, S. Castellazzi, F. Artusi.	design-driven innovation, radical innovation, innovation of meaning, innovation of solution, inside-out process, outside-in process, criticism, ideation, moment of meaning, value, value drivers, core values
Public entrepreneurship	P. Klein, J. Mahoney, A. McGahan, C. Pitelis, B. Dente.	public entrepreneur, policy decision, policy entrepreneur, actor, resource, stake, network, pattern of interaction, context, strategy, complexity

Albeit such an extensive literature exists, a few key and urgent questions still remain open as shown in the previous sections, concerning the value of SDL and PSDL for practitioners, the role and rationality of individuals who are involved in innovation processes that concern public services, the differences between public and private actors in those processes, the implications for private partners.

Thus the following chapter addresses the key research question that the whole study wants to answer to contribute to this growing body of literature – together with the theoretical framework and the methodology used – which is to investigate the key underlying logics that individuals can leverage to promote innovation of public services and to derive practical implications for private providers that want to support such innovation processes.

4. Research Question and Methodology

In this chapter we present the research questions, show the theoretical frameworks and finally dive into the methodology that has been used to answer those questions. In particular, the chapter is structured as follows: first, we articulate the research questions; second, we highlight the theoretical frameworks underlying the empirical research, which are grounded on some of the insights of the literature review; third, we describe the research methodology.

4.1. Research Question

Building on the problem setting and on the literature review, we define and specify in this section the research question and gap that this study wants to address. In fact, we are interested in contributing to radical innovations in public services that can create value for people and citizens. In particular, we focus on the actors involved in the innovation process, on the relationships among them, and more importantly on the rationality and logic of individual innovators.

The research question is thus so formulated and it includes two different parts and objectives:

- I. Considering the contribution of individuals involved in innovation processes that aim at radically innovating a public service, which logics and rationalities do they adopt and follow, and which characteristics do these logics have?**
- II. Moreover, how could (the knowledge about) such logics be used to enhance the effectiveness and radicality of those innovation processes with particular reference to the role that private providers can play in these contexts?**

It is possible to note that all of the elements of interest are included in the question(s): radical innovation, public services, individual innovators, logics and rationalities.

Given the research question, it is possible to move to the next section, whose goal is exactly to illustrate the framework that is used in addressing this question and the methodology applied.

4.2. Theoretical Framework

The theoretical framework builds on two key elements. First, it embraces the established framework of Innovation of Meaning as the key lens through which innovation processes are addressed and developed, positioning this study in the discipline of innovation management. Secondly, it leverages a specific mix of identified variables that can help define the space to be addressed in the research.

In order to appreciate the research question and the methodology followed to answer it, it is necessary to make clear the underlying theoretical framework, that is the conceptual lens we have been using to draft the question and organize the empirical research.

It is indeed important to point out what we mean by innovation, value, rationality, how they are linked one another, and how we model and think of the relationship between public and private actors involved in innovation processes that concern public services.

By innovation, we mean the ability of individuals and organizations to develop and implement something new so to improve to some extent the current condition, the status quo. Innovation refers to products, processes, business models, organizational models, logistics, marketing⁵¹ but in this case it refers to services.

We focus on radical innovations, since we are interested in those cases where innovation changes significantly the performance and value of a service and thus enhances the impact on the experience of service users. Thus, we are not really interested in incremental innovations that slightly improve the performance of some product or system according to a given scale.

We indeed embrace the definition of ‘innovation of meaning’ by Roberto Verganti (2016), which stresses the ability of some cases of innovation to radically change the meaning, the scale, the reason why people buy and use a certain product or service. Innovation can indeed provide people with not only new solutions but also new meanings, new perspectives that make them interpret and experience the world in a different way.



Figure 1: Elaboration of the Innovation of Meaning framework (Verganti 2016)

Verganti does not only provide the *definition* of IoM but he also articulates the *process* of IoM, which is made of five phases, and for each of them he highlights the purpose, the actors involved, the key question to address, so to make clear the evolution of meaning (2016). Two elements of the IoM

⁵¹ OECD & Eurostat, 2005, Oslo Manual.

process are particularly interesting for us. First, the radicality of innovation is due to the process itself: since the ultimate goal is to generate a new meaning that will be embedded in new solutions, those solutions will inevitably be radically different from existing ones, as they cannot be compared on the same given scale. Second and very important, the starting point of the whole process is the individual: in the so-called ‘envisioning’ phase, there is only one actor involved, who tries to question the existing meaning and envision his new meaning, that will be then challenged and refined throughout the process.

This last point shows why IoM is an ‘inside-out’ process: rather than starting from intended users and customers and their (latent) needs, it starts from the individual innovator and his thoughts, desires, malaises. Users will be engaged in the process, but only in the last phase, whose purpose is exactly to test the new emerging meaning.

The work of Roberto Verganti (2016) has also been used to think and represent the relationship between public and private actors and the contribution of private companies to radical innovation in public services. Indeed, the B2B2C model – pictured in Figure 2 – is insightful when it is applied to this context, as it shows a possible way of doing innovation: private companies – the first B – may enable public organizations – the second B – to radically innovate the meaning of an existing public service and to rethink some experiences of citizens and users – the C – so that they can provide them with new value propositions.

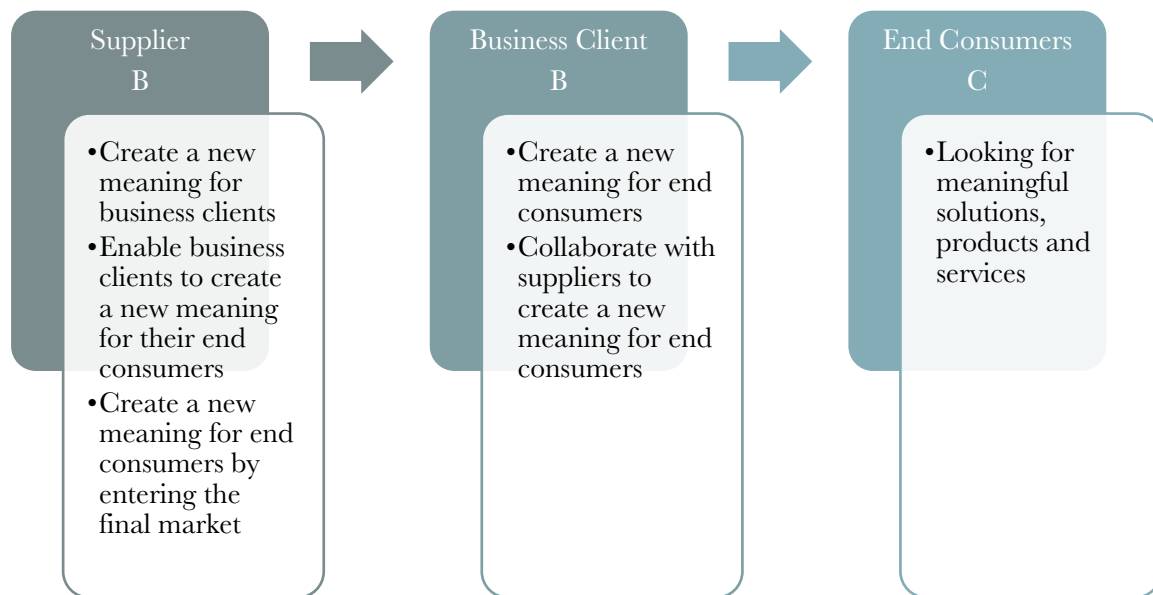


Figure 2: Elaboration of the B2B2C model (Verganti 2016, p. 66)

According to this framework, private companies involved in innovation processes that concern public services tend to play the role of enablers, supporters, as they help public organizations to innovate through their competences and expertise. Whether they play a different role or multiple roles is a matter

to be explored in the empirical research, in the same way the appropriateness of the B2B2C model should be assessed.

Given our interest in (public) services and radical innovation, it was possible to combine the insights of IoM and SDL to generate a particular orientation to value and value creation, which is summarized in the following lines:

Companies exist to facilitate and enrich the life of people, who buy products and solutions for the service they (are supposed to) render. Value is created when service is rendered, thus beneficiaries are central to value creation. Value can lie in the ability to provide not only a superior performance but also a more meaningful experience, and innovation can concern both aspects – solutions and meanings. Companies and products act like catalysts as they help people achieve goals and complete tasks better, at least in their opinion. Companies and products, however, can also surprise people and enrich their lives in unexpected ways; solutions can be indeed designed and developed as if they were gifts.

These ideas pictures the economy as a system of actors who integrate resources to create value propositions that enable other actors to create value, and profits lie in the ability to integrate different services into a value proposition that will render a service whose value is greater than the sum of the value of those single services.

To sum up, we think of innovation as the ability to create something significantly valuable for users and intended beneficiaries through radically innovative public services, and we look for cases of innovation that have such characteristics.

In particular, we are interested in the rationality and logic of individual innovators contribute to the innovation of public services. **By logic and rationality, we mean the set of values, criteria and mental models that determine the behavior and decisions of individuals throughout the innovation process.**

Focusing on individual innovators narrows the scope of the research, which is visualized below.

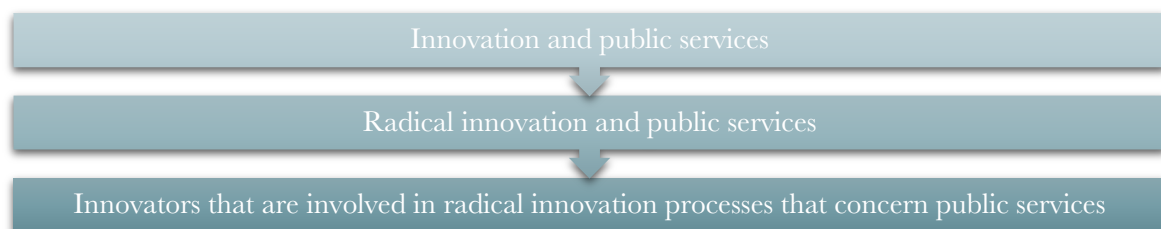


Figure 3: Topic and scope of the research

Building on existing literature, in the development of the methodology key potential variables have been identified that might be part of the logic and rationality of individuals. In particular, the following six elements have been identified.

First, **identity**, to be intended as the idea the individual has of himself and his ability to innovate, formed and refined over time by past experiences and interactions with the environment. In other words, it can be defined as the answer to questions like: am I an innovator? What are my strengths and weaknesses? What is my role and contribution to the innovation process? In particular, it is possible that some people consider themselves as innovators whereas some others as administrators, and that might have an impact on the outcomes of innovation processes.

Second, **approach**. Embedded in his decisions, it can be defined as the disposition of the individual when involved in the promotion and launch of an innovation process. In other terms, it can be described as the orientation of the individual at the beginning of a project, which might not actually change as it moves forward. In particular, as Sarasvathy (2001) suggests, it seems that some people are more goal-driven whereas some others tend to be more resource-driven.

Third, **value**, to be thought as the ethical criterion the individual uses to distinguish initiatives worth to pursue, that is 'valuable'. In front of a potential innovation, the innovator must indeed evaluate and decide whether resources should be allocated or not. This variable may be particularly critical in innovation processes that engage a multitude of actors, because different individuals and organizations typically have different interests and objectives and thus use different criteria. However, leveraging the distinction between value-in-exchange and value-in-use discusses by Vargo and Lusch (2004), it may be possible to characterize and position the logic and action of an individual according to these two extremes.

Fourth, **value creation**. Another critical element may be indeed the representation of the innovation process, of how value is actually created, that is in the mind of the innovator. It is reasonable to assume the importance of the ability to identify the main actors, their goals and resources, the phases and steps of the innovation process, and map one's role within it. The success and effectiveness of an innovator may be directly associated to such ability and skill, which leads to a mental model of the process that may be explicit or implicit, specified or unspecified by the innovator himself.

Fifth, **control over the environment**, to be intended as the confidence to be able to change the environment in a more or less radical way. Some individuals may indeed adapt and promote innovation that is in line to what the environment values and welcomes, whereas some others may propose solutions that challenge and try to innovate the environment itself. Using the terms of Wiltbank et al. (2006), it seems the rationality of some individuals aims at 'positioning' within the environment whereas some others' aims at 'constructing' it, suggesting a different attitude towards innovation.

Finally, **organizational complexity**, to be conceptualized as the set of organizational factors that impact on the innovation process, may be another critical element that should be taken into consideration. Such element may be particularly interesting as different types of organization will be

engaged in the research. Indeed, it may be useful to address the differences between public and private actors, and studying how they deal with complexity.

The following table summarizes the variables that have been considered and presented above, and their potential domain.

Table 7: Variables and relative domains as part of the theoretical framework

Variable	Domain
Identity	innovator – administrator
Approach	goal-driven – resource-driven
Value	value-in-use – value-in-exchange
Value creation	specified – unspecified, explicit – implicit
Control over environment	construction (high) – positioning (low)
Organizational complexity	high – low

A couple of points should be noted about these elements. It seems they can be modeled as dichotomous variables, though some cases will likely fall into an intermediate position between the two extremes. However, a clear polarity and tension can be identified for any of them and may be eventually helpful: innovator vs administrator, goal-driven vs resource-driven, value-in-use vs value-in-exchange, positioning vs construction, high vs low organizational complexity.

In addition, thinking about these elements inevitably pushes to connect them and guess if and how they may be related. Maybe, an individual that considers himself an innovator has a high confidence on the ability to control and shape the environment. Such individual may also have a different understanding of the innovation process and the role he can play within it compared to an individual who sees himself more as an administrator. Maybe, a high organizational complexity forces innovators to be more resource-driven and propose innovations that are more in line with the idea of value of the organization.

How vision, goals and resources fit together within the mind of innovators is another relationship to be investigated. Maybe, the vision determines how many resources should be allocated to achieve a certain goal, or maybe the resources define which goals should be pursued and thus trigger a particular vision about the future. Maybe, both of them happen as different innovators use different approaches.

These and other potential connections can and should be explored in the empirical research phase, whose main goal is to assess which elements are actually and typically part of the logic and rationality of individual innovators.

4.3. Methodology

In order to answer the research question(s), a research design and methodology have been developed and applied. In particular, attention has been given to selecting a methodology that can answer the research question as posited in the earlier section. Overall, **we have used qualitative research methods as the one most fitting to the type of design identified**. Differently from any quantitative approach, this methodology integrates different sources of data and information to investigate those scenarios where humans and human organizations play the role of protagonists. Indeed, social sciences typically use this methodology as they are interested in human and social phenomena, whereas natural sciences use quantitative approaches as their locus of interest is nature.

Building on Handfield and Melnyk (1998, p. 324) the following structure can be displayed for the overall research design and methodology:

Table 8: Overview of the research methodology

Purpose	Research Question	Research Structure	Data collection technique	Data analysis technique
Mapping: Identify/describe key variables; Draw maps of the territory	What are the key variables? What are the salient/critical patterns, themes, categories?	Few focused case studies / elite interviews	In-depth semi-structured interviews	Content analysis

First, it is useful to make explicit that the research is positioned at a “mapping” level, where a research territory has already been uncovered but a map of the key variables and themes still have to be developed. In fact, we leverage existing knowledge on processes and rationalities in the private sector and private service innovation for instance, but the overall framework still needs to uncover specificities for the interactions with the public sector. Moreover, the research question aims at providing an overall picture of possible relations and patterns, without striving for any normativity or representativity.

The research structure aims at balancing the need for the identification and relation of innovation projects and processes (which are identified as "case studies"), albeit developed de facto as elite interviews. Given the research question in fact, **the unit of analysis to be uncovered is not the innovation project itself, but rather the individual innovator involved in the cases identified.** By unit of analysis we mean indeed the individual who has accumulated a significant experience in (radical) innovation processes that concern public services, and can thus be considered “elite interviews” conducted with individuals possessing an original knowledge about the case in scope. Therefore, those individuals who have been involved in the same innovation process or at least in the same context have been investigated in the research, so to appreciate different perspectives on the same circumstance (the same “case”). This is the reason why interviewees are grouped by geographical/innovation context, as shown in the next section.

“Cases” have been identified following these criteria:

- ◆ Existence of an innovation process with potential elements of radicality
- ◆ Presence of an innovation process related to a public service in urban mobility
- ◆ Developed in a large urban area (>100.000 citizens)
- ◆ Presence of a plurality of actors, both private and public
- ◆ Availability of representatives from both public and private organizations
- ◆ Availability of interviewees with significant experience

After identifying the specific possible cases, the individual innovators have been identified and invited to participate in the research. These innovators had specific characteristics that are illustrated more in depth in Chapter 4, dedicated to the empirical investigation.

Second, we identified and contacted the interviewees, and then started the data collection activity. Actually, the two things were happening simultaneously: as we were interviewing some people, we were contacting some others and waiting for their response, also because the name and reference to some interviewees came up during the interviews themselves.

As it is more clear now, we decided to use the case study methodology also because it is grounded on a very useful tool, the interview, which has been used throughout the whole empirical

work. The interview is (the result of) a one-to-one personal interaction between an interviewer and an interviewee, and in particular it enables the interviewer to put himself in the shoes of the other person and understand how he thinks and sees the world. Differently from surveys, for example, the interview provides the researcher with flexibility: he can rephrase or avoid a question, deep dive into a specific issue, go off the script and ask something he did not think about before, and, more generally, adapt to the behavior and answers of the interviewee. Indeed, the interview is not just a tool to transfer information from one head to another; it is a social phenomenon itself and inevitably depends on who is involved and how the interaction takes place (Qu and Dumay 2011).

This characteristic may seem a critical weakness of this methodology but it is actually a key strength. Since the interview is a social phenomenon itself, it cannot be experienced or carried out in the same way by two different people. Two different interviewers could ask different questions, use different words or use the same words with different meanings, follow a different order, give priority to different issues, and thus they cannot collect the same data and information. However, the goal of this methodology is not to turn an inter-personal experience into an empirical measure and put it on a given universal scale; **the goal is to understand the world from the point of view of a person that is involved in a specific scenario, record his interpretation and eventually compare it with the experience of other people.** This is in fact the objective and approach of the research, and thus it has been natural to choose the interview as the main research tool.

Third, once all the interviews were done and transcribed, they were analyzed in detail through content analysis, inspired by the Gioia methodology.

As it will be described in detail in the next chapter, we first extracted the most interesting excerpts from the interviews and identified for each of them a ‘1st-order’ category, using informant’s words. Then, as we were looking for similarities and differences among the categories, we gradually reduced the number of them by defining a set of ‘2nd-order’ themes, which connects the terms of the informants with higher level concepts and categories. Finally, we aggregated the different themes into few dimensions and organized them into a ‘data structure’, which provided the basis for further elaboration and eventually ‘grounded theory building’.

Consistent with what Gioia et al. (2012) say, once most of the interviews were analyzed, we began “cycling between emergent data, themes, concepts, and dimensions and the relevant literature, not only to see whether what we are finding has precedents, but also whether we have discovered new concepts”.⁵² Indeed, we followed Gioia methodology exactly because we deemed it to be extremely

⁵² Gioia, Corley and Hamilton (2012), p. 21.

functional to map variables and develop new concepts: supporting us with a clear and user-friendly representation of data, this methodology enabled us to formulate some interrelationships among the concepts emerging from the words of the interviewees, which in turn provided a few theoretical insights.

Based on content analysis and the activity of coding, findings were pointed out and then were elaborated again so to answer the research question and articulate the results, proposals and implications of the whole research. In other words, the output of the data collection and analysis activities were arranged and elaborated to draft and point out the contribution of the research itself. The research question is thus addressed first with an empirical analysis, in the way described above (see chapter 5); the empirical findings are then leveraged to develop a proposal for a contribution to the integration of existing models and their characterization in the innovation contexts considered (chapter 6).

To sum up, the methodology used to answer the research question is the case study methodology and leverages in-depth interviews. Information and details about the actual process will be provided in the next chapter, which describes how the empirical research has been concretely carried out and the findings that emerged from it.

5. Empirical Research and Illustration of Findings

Following the methodology that has been discussed in the previous chapter, now we dive into the empirical research, describe the actual process in detail and show the main and most interesting findings. Here it is provided a description of the core steps of the case study methodology: the definition of the unit of analysis, data collection and data analysis. The output of these activities is the material that has been used to point out and elaborate the results, proposals and implications that will be discussed in the next chapter.

In particular, this chapter is articulated in three sections. First, the boundaries of the empirical research are defined. The choice of the context and of the interviewees is discussed, so to understand the scope and unit of analysis. Second, the actual activities and steps of the empirical research are reported. This section concerns the interviews, how they were organized and carried out, and, more generally, the data collection and analysis processes. Finally, the third section shows and discusses the findings of the empirical research, the outputs of the data analysis, which will be used in the next chapter.

5.1. Selection and Description of the Interviewees

Once the research question was refined, it was possible to design and structure the data collection process.

We were interested in innovation in public services, in innovation processes that engage both private and public actors, and thus **we considered urban mobility as a suitable context**. This scenario typically engages both public administrations and private partners, is rapidly evolving since it is pushed by new technologies and disruptive social and environmental trends, and thus it was held as a breeding ground of interesting findings.

Some information about the projects and processes we actually discussed about are provided in the following box.

Table 9: Overview of the services and projects considered, by geographical context

Stuttgart – a few initiatives were considered: first, an integrated system of public (buses, trams, trains, metros) and private (bikes, scooters, cars, parking, charging stations) mobility services that can be accessed through an electronic card and a digital app, very similar to a MaaS solution; second, a tariff reform that concerns both the city and the region of Stuttgart; third, some private car sharing initiatives that were more or less integrated with local public transport; fourth, two state-wide tickets defined by the central government that enable to travel across Germany at a low cost.

Venice – several initiatives were reported: first, the promotion and realization of an e-ticketing solution for the whole mobility system, which consists of both road and navigation services; second, the implementation of a monitoring system for the fleet; third, the design and execution of a digital chatbot; fourth, a database to integrate all of the data and information generated by users and collected by public companies and the local administration through the different points of interaction; fifth, the reconfiguration of the fleet through the purchase of electric and hybrid vehicles.

Milan – several projects were pointed out: first, a MaaS system that integrates the services of many transport operators and provides city users with one single point of access; second, the realization of a ‘living lab’ to test autonomous vehicles and their integration with existing mobility services; third, some sharing services, in particular concerning (e-)scooters; fourth, the reconfiguration of a critical intersection point in the city to reduce traffic and give space to walk and bike lanes.

Bozen – a few projects were discussed: first, the promotion, design and execution of an innovative railway line that leverages advanced technologies for safety and management; second, the realization of a local safety park that enables citizens to test and enhance their knowledge and driving skills; third, the modernization of the local airport to make it suitable for national and international flights; fourth, the ideation and design of a railway line that passes through the local landscape and mountains to serve tourism.

Given this context and the interest in the role of innovators, **the unit of analysis was defined therefore as the individual innovator who has been involved in innovation processes in the field of urban mobility**, and our goal was to interview such people.

Since we were interested in innovation processes that engage a multitude of different actors, we wished to interview people who had the chance to work together, on the same project, or at least in the same context and geographical area. Ideally, we tried to have different perspectives on the same circumstance, so to spot and highlight how different individuals approach and think throughout the same innovation process. We thought indeed that by comparing different innovators it would have been possible to identify different logics and rationalities and highlight the peculiarity of each case.

We interviewed 11 people and 9 of them were selected in this way: leveraging personal references, we first identified one person that could fit the requirements, contacted him/her and eventually used this link to identify a couple of other people who have been involved in the same innovation process or in the same scenario.

The other 2 were identified in this way: one was selected because she is the responsible of an innovative initiative that has been promoted at national level and embraced by the municipality she works for; the other one is managing partner of a consulting company that provides services to organizations that are in charge of transport planning and mobility systems design and management. Although the two have not collaborated directly, the organizations they belong to did, and they operate in the same city.

The key pieces of information about the interviewees are reported in anonymous form in the following table:

Table 10: Overview of the interviewees

ID	Role	Type of Organization	Business	City
St1	Member of the regional assembly	Political body	Politics	Stuttgart
St2	Responsible of coordination	Public administration	Urban and regional mobility	Stuttgart
St3	Consultant – team leader	Private company	Software for urban mobility	Stuttgart
Ve1	Director of mobility and navigation	Public company	Urban mobility	Venice
Ve2	Responsible of institutional relations	Public company	Urban mobility	Venice
Ve3	Responsible of digital services	Public company	Software for urban mobility	Venice
Bz1	General Director	Public company	Urban and regional mobility	Bozen

Bz2	Ex Public official	Public administration	Several, including urban mobility	Bozen
Bz3	Consultant – managing partner	Private company	Urban, regional and national mobility	Bozen
Mi1	Responsible of public transport	Public administration	Urban mobility	Milan
Mi2	Consultant – managing partner	Private company	Urban, regional and national mobility	Milan

Due to the intention to interview people who have been working on the same project or within the same context, it is evident that **interviewees can be clustered by geographical area**. Indeed, it was chosen to identify them by adding a number to the reference to the city the organization operates in.

Three out of four cities are Italian, though Bozen is subject to some special conditions whom Milan and Venice are not subject to. Stuttgart is therefore the only one that is outside of Italy. In terms of inhabitants, Bozen is the smallest and Milan the largest, and Venice and Stuttgart fall between the two. In spite of the differences, Milan, Venice and Stuttgart are the capital cities of the regions they are part of.

Except for Venice, **the representatives of the cities belong to different kinds of organization**. In the case of Stuttgart, for instance, the first interviewee is a political actor, the second belongs to the public administration of the city and the third works for a private consulting company.

Another important thing to be noted is that **all of them have accumulated a good amount of experience in the field of mobility**, in particular in innovation processes concerning urban mobility, and none of them holds a junior position.

In addition, most of them have actually had several roles before holding the senior position they have now. Throughout their careers, a couple of them – Ve1 and Bz1 – have also worked for different types of organization, from public administration through public companies to private companies. Thus, the information reported in the table refers to what it was considered the most important experience and competence according to the interviewer and the interviewee himself.

5.2.Data Collection and Analysis: the Interviews

In this case, **the data collection process consisted of interviews**, which were recorded and then transcribed and elaborated.

We decided to carry out the interviews online, **remotely**, so to have more flexibility. We also decided to set the duration of the interview to **about 1 hour**, though a couple of them extended to 1 hour and a half.

The interviews have been prepared and carried out according to the semi-structured model. According to the theoretical frameworks and the research question, our goal was to investigate the rationality and logic of individual innovators, and we wanted to figure out whether a few specific elements are relevant and to what extent: identity (ID), approach (APP), value (VL), value creation (VLC), control over environment (COE), organizational complexity (OC). Thus, we developed a questionnaire with the following structure: for each element, we wrote a statement that contained our definition, what we meant by that word and concept, and we derived five questions to investigate different aspects of the element. In this way, the questionnaire was made of a few consecutive blocks, each one with a statement and five potential questions. It is possible to see the actual questionnaire in the Annexes (Annex A).

However, it is important to note that this **questionnaire has been used as a map, a reminder of what was important to ask, rather than a script to be followed obsequiously.** We knew that set of elements might have not been relevant or comprehensive, thus we wanted to be free to ask any question that would have come to mind, as a consequence of a particular answer, comment, doubt or insight. Without losing track of the research goal and the things we wanted to know, we tried to adapt the interview to the specific interviewee, so to grasp and appreciate his personal and unique point of view. Thus, the semi-structured approach proved to be the most appropriate: on one side, it provided the structure and rigidity that was important to achieve the goal of the research, as it helped to hedge against the risk of wandering from the matter of interest; on the other side, it gave the space, the flexibility to articulate the interview according to the answers and narrative of the interviewee, so that it was possible to put ourselves in his shoes more effectively.

Following this approach, it is natural that **the interviews have been quite different in terms of content.** All interviewees have accumulated experience in innovation processes in the field of mobility, but each personal story is unique. Some interviewees have addressed elements that others have not touched at all. In all the cases, some elements were not investigated, since they were not considered significant and relevant, but some others, new or unexpected, emerged and we dived into them.

As a consequence, the results of the interviews, of the data collection process, were characterized by variety and originality, whom the data analysis and further elaboration tried to convey.

In agreement with the interviewees, **all of the interviews were recorded and then transcribed**, so to have the possibility to review the questions and the answers, analyze the content and highlight recurring themes.

Once the interviews were transcribed, we started elaborating them using context analysis and coding, inspired by the Gioia methodology, as it was anticipated in the previous chapter.

First, interviews were carefully read and the most interesting excerpts were highlighted. As an excerpt was extracted, a first-level code was elaborated and associated to it so to mark and remember the value and insight that could be derived from it. Once some interviews were analyzed in this way, it was possible to work on second-level codes, so to aggregate different excerpts and first-level codes under the same big category and start to give shape to what was emerging.

This process continued until the last interview was analyzed. As new excerpts were highlighted and extracted, first-level and second-level codes were gradually but constantly refined. In particular, the second-level themes were re-elaborated and rearranged until a clear data structure emerged from the interviews.

Indeed, the second-level codes were finally aggregated into three dimensions, which provide the categories that have been used to show the main findings from the data collection and analysis processes, as discussed in the next section. An illustrative selection of the coding activity is reported in the Annexes (Annex B), together with the aggregation of second-order themes into three overarching dimensions.

Last but not least, it is important to note that **the structure and analytical rigor of the data collection and analysis activities do not exclude intuition and more unstructured mental processes**. As the interviews were carried out, transcribed, read and analyzed, observations and insights emerged in a way that is difficult to explain or organize clearly. What it can be said though is that this process has been much more iterative than linear. For instance, leveraging an insight from a certain interview, it happened to re-read and look at a previous case with new lenses, reframe it and highlight something that it was impossible – at the least for the researcher – to see before. Thus, alongside the consecutive steps that have been described above, there is also a process of going back and forth, which is as important as the sequential part of the process.

5.3. Findings

This section shows the findings of the empirical research phase, which consisted of interviewing several professionals and individuals who have accumulated significant experience in innovation processes on public transport and urban mobility services.

The findings are organized in **three macro-themes** and sub-sections, which are structured as follows:

1. **Specificity of the service considered and of the organizations involved:** we report the key characteristics and features of the services in scope and of the organizations that design, develop and/or manage those services and contribute to innovation.
2. **Typology, contribution and role of the actors promoting service innovation:** we deal with the key elements related to the processes of innovation as described by the interviewees, focusing on the relationships among the actors and the differences in terms of interest, resources, role and more generally contribution to innovation.
3. **Approach and rationality of individual innovators:** we finally focus on the key elements related to the logic and rationality of individuals involved in innovation processes, always within the scope of the service innovation projects that have been considered.

The sub-sections are discussed in this order and a final conclusion ends the section and the chapter.

5.3.1. Specificity of the Service Considered and of the Organizations Involved

It is really important to highlight that public transport and mobility – as any sector and business – has its own characteristics and peculiarities, and such distinctive elements do have an impact on innovation processes within the field.

Interviewees reported that public transportation is a **highly regulated field**. Regulations concern both technical and procedural issues and do have a negative impact on innovation processes.

“To innovate also means, especially for what we do, to change the rules of the game. (...) When we deal with innovation you cannot forget that we operate in a normative environment that often limits, hinders and stops innovation.”

“A legal apparatus, the rules that are at the basis of a condition often generate a rigidity that is more rigid than the building of reinforced concrete, paradoxically. It’s a conceptual grid that is more solid and long lasting than the physical components.”

As legal and regulative elements can hinder innovation, it emerged they can also boost it if they support and incentivize experimentations and innovative initiatives; in any case, for better or for worse, regulations do play a key role in innovation processes in the field of mobility.

What is also critical about innovative projects that concern public transportation and mobility is that they are **time consuming**. New infrastructures and new services may take more than ten years to be developed and deployed, and this long time schedule may not match the priorities of the actors who promote them, who are usually more short-term oriented.

Another distinctive element that appears to characterize public mobility is a **pretty inelastic demand**.

“If you change something about public transportation, it takes people about a year or two to notice what has happened and adapt to it. (...) If you increase prices or decrease prices, people will not immediately react to it. I think you need to have a 10% change in prices to have a 1% change in demand.”

People need time to notice that something has changed and appreciate how they can benefit from it.

Some interviewees also said that mobility is a **capital intensive business**. Not only revenues are limited by low prices or standard tariffs imposed by central organizations, but also capital expenditures and operating costs are high. Innovative projects in mobility, especially those that leverage advanced technologies, do require big investments to build new infrastructures, acquire new vehicles and purchase all the technology needed to manage and coordinate the service, and typically operating costs, in terms of utilities, personnel and consumables, are high as well.

These factors and characteristics lead to what it seems to be the key issue that often hinders innovation: **many interviewees claimed that public transportation and mobility typically generate losses rather than profits**.

“The thing with public transportation is that it’s not a self-sufficient business, we always need public money to fund it.”

“In order to work, commercial car sharing needs to be a bit non-commercial, or at least it should be *cost-oriented* rather than *profit-ended*.”

If this is true, if public mobility is usually not profitable, then it needs to be funded by public organizations, typically through public spending.

In any of the cases that we have considered, public mobility is indeed provided by public and private companies, that collaborate and contribute to service design, development and management.

One of the elements that mostly emerged from the interviews is how different public and private organizations are in terms of goals, resources, constraints, and so on. Such differences deeply influence the behavior and rationality of individual innovators and thus the innovation process.

When innovating an existing mobility service or developing a new one, most interviewees claimed that **the main interest of public organizations is to provide users with useful goods and services**, that enhance the quality of life of beneficiaries. Though they try to maximize revenues and minimize costs, profitability is neither a necessary nor a sufficient condition. On the other side, profitability is a necessary and often sufficient condition for private companies, as many of them are explicitly founded to generate profits. This was explicitly recognized by one of the interviewees, who said:

“If I were an operator, I would rather look also at the money, because you can operate only if you are profitable.”

Another point of difference lies in the fact that public organizations manage public resources, that is taxpayers’ money, whereas private companies manage private resources, that is the resources of the company, of shareholders and debtholders. **Managing public resources is more complex because, by their very nature, they expose organizations to politics and media.**

“They were very afraid of releasing something too early and getting bashed by the media saying ‘Those guys did something that’s not working and it’s our public money! Taxpayers’ money is being wasted for something that’s not working properly!’. That was a big issue.”

According to some interviewees, private companies are less exposed to such dynamics and thus they can afford to take risks and challenges more freely than their public counterparts.

“As a private company you do know that you’re taking some risk, but you also know that if you do a good job the overall return on investment will be positive. That’s something that does not apply to public companies.”

Based on the evidence collected, it seems that the nature of public resources lowers the risk-tolerance, and this may hinder innovation, which, by definition, requires to take some risks.

The perimeter within which public and private organizations operate is also different. Private companies have to deal with legality: they have to operate within the perimeter of

given laws and formal regulations that define what they can and cannot do. In addition, public organizations need to handle legitimacy: they are also subject to political and social dynamics that influence the opinion and judgement of citizens about the right those organizations have to govern and operate.

Finally, **in several interviews it was highlighted that public organizations have less autonomy**, as the role of politics is much more relevant in the public sphere. Though the impact on innovation processes changes from case to case, public authorities and political bodies typically provide innovation with support and direction but they can also hinder those initiatives that are not aligned to their agendas and objectives. As long as they comply with laws, private companies have much more autonomy in decision-making, as they are not influenced and limited by external authorities; power and control is held by shareholders, board of directors and top management.

“Bozen is an autonomous province and thanks to this autonomy it holds several primary competences and thus makes key decisions. Superordinate entities do not decide, they just give some sort of direction or coordination.”

Bureaucracy and multi-level governance are connected to the previous element. Innovation processes concerning the provision of public services inevitably involve public administration and thus bureaucracy. This element influences the process since it can exercise decision-making power over the administration that is in charge of developing and deploying new services in collaboration with other public companies and private partners. The path and speed of innovation processes are therefore shaped and set by administrative procedures, which typically involve authorities operating at different government levels (e.g. municipality, region, state). This is another element that does not influence private companies as much as it influences public organizations.

One of the few elements that seems to facilitate and distinguish public organizations is the nature of the relationships with other similar or comparable organizations.

Many interviewees said that public organizations operate within an environment where **collaboration** is possible, dialogue and exchange of information happen regularly and freely. On the other hand, private companies operate in an arena where **competition** is the rule, information is exchanged much more carefully and partnerships are established as long as they are strategic, functional to corporate objectives and intents, which are never disclosed lightheartedly.

“They are not our opponents. We can ask the colleagues in Mannheim or in Karlsruhe how they did it. *It would be difficult for Mercedes to ask BMW how they build their cars.* That’s a big thing in our business: we exchange information very freely.”

Last but not least, **several interviewees addressed some practical issues that typically hinder or slow down innovation processes within the public sphere.** Differently from private enterprises, public organizations cannot use market incentives as freely, since they do not have much autonomy on setting tariffs and prices, which are usually defined by a central authority, and, more generally, any initiative of the kind has to be discussed with and approved by a superordinate organization. Public organizations also cannot segment the market and target a niche like private companies often do. Interviewees also reported that they orient their innovations in order to be inclusive; any service should be designed, developed, managed and evaluated taking into considerations the needs, desires and potential struggles of the different categories of people belonging to the same population.

“If there are young users who ask for digital solutions, there are always ‘less digital’ users that would like to have the old paper ticket to be marked with a stamp.”

Some practical issues are obviously due to bureaucracy and the impact of multi-level governance on both extraordinary and ordinary activities. For instance, if a public administration launches an innovative project and needs the support of an external consulting firm, if the value of the project, thus the cost of the consulting service, is above a certain threshold, it must organize a public tender, that has to be published *at least* at the national level. This is something private enterprises are not affected by fortunately, as it slows down innovation processes.

According to a couple of interviewees, all of these factors inevitably mold the mindset of public organizations, which, for example, cannot afford to have a negative return on any investment they make, as suggested by the following quotes:

“Those guys had problems with the whole startup mentality, ‘Fail, fail fast, fail often but fail soon or fail early’. That’s something they couldn’t really get; they were very much in the German kind of mindset: it has to be 100% or probably 110% perfect before we ever show it to any potential customer.”

“You cannot afford to fail. Private companies do innovation and if they fail they just start over. We cannot afford that, thus when we do innovation it must be sure, bomb-proof.”

Based on the evidence collected, **irrationality is another recurring element in this field.** Vogue, for instance, is an influential phenomenon that leads organizations to redirect their energies towards what is ‘in vogue’ in a given period, to imitate what others are doing just because they are doing it.

“Now MaaS is really in vogue and obviously if you do not talk about it you are out of the world of transport... and if you talk with two different people they will give you two completely different definitions.”

Irrationality concerns also citizens, city users and more generally the intended beneficiaries of innovation. **Many interviewees indeed reported the widespread and impressive increase of expectations of users**, which influence the identity and strategy of service providers.

“Customers are always coming up with new things, they are used to services from other industries and are like, ‘Hey, I can do all these things with my banking app, why can’t I do similar things with my public transport app?’. So the whole industry in the last 10 to 15 years has been quite stressed out because of customer expectations advancing all the time.”

Being used to innovative services delivered by private providers, it seems users ask for the same experiences with public services, ignoring any kind of complexity that should eventually be handled.

“The users of mobility systems, of public transportation systems don't have any idea how they work. Not technologically, not legally, not politically, not financially. They don't have any idea how complex these systems are and what effects a change will have.”

High expectations seem to be part of a socio-cultural mutation that has deeply reshaped the general idea of innovation and thus the approach to innovation of public organizations. **Innovation has been described a few times as a necessity**, something that has to be there, among the basic goals and duties of a public organization.

“It used to be the jewel in the crown, ‘we do something so we are innovative’. Now we are always chasing it, ‘we have to do it otherwise we are left behind’. It used to be a pursuit of excellence, now it’s about matching up with the high expectations of users.”

“Ten years ago, the role they had for themselves wasn’t something like being very innovative and providing new things; their role was to provide public transport that’s reliable, secure, and clean. *They didn’t see themselves as having to be innovative.*”

Combining this element with the constraint of inclusivity generates new challenges and increases complexity, as one interviewee pointed out:

“You are always stuck at a crossroads, between the duty to do innovation and the duty to deal with people who are not willing to deal with technology. You must always balance these two elements: resistance to change and the necessity of innovation.”

According to some interviewees, **the increasing expectations of users have also molded the identity of public organizations**, who have been integrating the typical criteria of ‘good service provision’ – reliability, security, safety, cleanness – with new criteria like environmental friendliness, comfort or technological intensity.

The recurrence of expectations and the impact on innovation seems to confirm SDL when it stresses how critical personal expectations are in value creation. As SDL argues, value must be framed within the individual context, which is inevitably shaped by past experiences and expectations (Vargo and Lusch 2008).

Several interviewees also pointed out this element of irrationality: although money and financial resources are always deemed to be scarce, they are usually found somehow.

“I’ve never seen a well-made project that has not been realized due to the lack of financial resources, because you can always find money.”

“I told him that the project was not generating 20 millions of savings but he encouraged me to go on, and he assured me that once we had started they would have given us the rest, and this is exactly what happened.”

It seems therefore that in this field the availability of financial resources is not the most critical problem that hinders innovation.

5.3.2. Typology, Role and Contribution of the Actors Promoting Service Innovation

If we consider the definition of complexity given by Bruno Dente (2011), we can say that the **innovation processes analyzed within this field are certainly complex, given the great number and wide variety of actors involved**, and thus the multitude of different interests and rationalities that have to fit together.

“I would have to look up the exact number, but it was a very large consortium of companies.”

“That was a pretty difficult part in this project: how to find a common ground? How is the common solution going to look like? How is that going to work while still satisfying the different internal objectives that all of these different companies have? That was one of our main problems in the project *during the whole time.*”

According to the interviewees, this is often the most critical issue as many organizations are not used to collaboration. When asked how he would approach a certain project if he had to do it again, one of them answered:

“I would try to have a *smaller* project with *fewer* partners *shorter*, because I think the whole project was just too big, too many players, too different interests and this slowed us down so terribly.”

This multitude of actors and interests was stressed by several interviewees. In particular, as one of them pointed out, **innovation processes within this field engage four types of actors and all of them can innovate**, though they have different rationalities.

Based on the evidence collected, **politicians and political bodies usually play a key and central role**, as they can support or hinder innovation, though they may be more or less active.

“There are several kinds of actor groups that can initiate [the innovation process], *but the most important thing is* that at some point a public body makes the decision. (...) Somebody has to make the political decision, but the origins of innovation are multifold and very much recursive; everyone is influencing each other.”

This last quote suggests that all of the actors can promote innovation but political actors are critical as a political decision is necessary to sustain the process.

Some interviewees also stressed that politics influences not only the *process* of innovation but also the *content* of it.

“It gets more difficult when we deal with ticketing systems, for example, because a negative impact on users can generate a negative effect on politicians.”

Since innovation in the public sphere affects the local population, if it does not lead to desirable outcomes, it may have an impact on consensus and thus backfire on politicians.

However, innovation can also bring a political benefit, as one interviewee pointed out.

“If innovation is done properly, there is a political advantage, also from the point of view of the person, whether right or wrong, who is trying to get the credit of the innovation you are doing.”

According to the interviewees, **the rationality of political actors revolves around consensus**, which delimits what they can do and promote.

“When you deal with politics and administration, the *declared* objective is the sustainability of resources, the optimizations of tourist attractions, and so on, but if you examine facts you understand that the *existing but not declared* objective is consensus.”

Political bodies can also play different roles. They typically provide innovation processes with **direction and vision**, engaging future beneficiaries and illustrating the reason why certain projects are desirable and should be pursued.

“The assessor, in my case, supports. She is the one that lets you do it, she is not concerned with operational aspects, but she has the fundamental task to boost diffusion. (...) If I didn’t have her organizing, promoting, telling – as you also had the chance to see – this project would have engaged less people, few would have heard of it, and it would have not been as valuable as we are trying to make it. So the role of the assessor is to tell the reasons why, and she is very good at expressing them from the point of view of users and beneficiaries.”

They can be **supporters** of innovations that are promoted by other actors but they can also act as **gatekeepers**, whose position and power may hinder the innovation process.

Politicians can also steer innovation with abrupt and unexpected indications and orientations, making at once things possible that had not been possible earlier on.

The second actor group is represented by **public administrations**. Based on the evidence collected, their rationality spins around legitimacy, to be obtained by enhancing the quality of life of users through efficient service provision.

“The focus of any innovation project, of any project actually, in my opinion – and this is the message I try to convey to the people that work with me – is the utility for citizens. (...) If I realize that it’s not useful for citizens, I halt it. We are a public administration, we work for citizens. (...) If a project become self-referential, apart from being not really interesting, it is a waste of time and resources.”

Although public administrations can promote and support innovation, **they typically coordinate the different actors and manage technical and procedural criticalities**, so that the innovation process can move on and the innovation strategy is actually executed.

The third actor group is represented by **public companies or agencies**. Usually owned by public bodies and administrations, they are different from both of them. Interviewees highlighted that these organizations typically have a **very specific purpose and duty** – that’s why they were established in the first place – and the specialized know-how to fulfill it.

“They have the technical knowledge on how to actually build a railway and run this thing. They know what happens in this field, *they are the innovators when it comes to railway or tramway systems*. The public administration doesn't have that knowledge and the public parliament doesn't have that knowledge.”

Leveraging this technical expertise, they are sometimes **promoters** of innovative projects, especially those that are enabled by new advanced technologies.

Finally, there are **private companies**. They get involved into public and urban mobility as they can profit from the provision of several services. Depending on the case, they indeed provide consulting services, software development services or mobility services, integrating and/or executing those designed by public organizations.

In spite of the differences between the actor groups, **all of the interviewees pointed out that innovation is first and foremost a great human and organizational effort.**

“The lesson we have learnt is this: the only innovation that is successful is the one that is ‘accompanied’. Why ‘accompanied’? Because the resistance to change from people, irrespective of the age, is the most crucial element to fight against.”

Based on the evidence collected, resistance does not only come from intended users and beneficiaries, who may not appreciate the value of innovation, but it can also come from colleagues within the same organization, who may be the first to hinder innovation.

“Unfortunately the human aspect is paramount; I say ‘unfortunately’ because, being part of a large organization made of more than one thousand people, it is often difficult to make the innovation shared. However, if on the other side there is a wall, even the best idea struggles to get through.”

If innovation is an organizational effort, it is no surprise that those interviewees also stressed that **personal relationships are critical and instrumental to the success of the innovation process.**

“Personal relationships should not help or hinder but they actually help a lot. The fact that between me and him there is a relationship of trust and straight dialogue enables us to achieve the shared result much more quickly.”

As a consequence, it is important to deal with the reciprocal relationships among these four types of actors, since it seems that in this field innovation is actually the result of effective collaboration and coordination.

The relationship between political bodies and public administrations is of course central, though different cases provide very different insights, highlighting how deeply this connection is affected by the local context and the actual people involved.

“What I often see is that administrations have more ideas than they are allowed to implement. (...) There are a lot of ideas, but they have to be positively sanctioned by the public bodies who actually have to spend the money on it. (...) If they want to do something, they have to make it ‘interesting and digestible’ for public bodies.”

“Just as they get the marching order from the political assembly, at the same time they push the political assembly to give them the marching order.”

These two quotes support the following description: political bodies have power and control over innovative initiatives and ideas, which are often promoted and actively pushed by administrations; in other terms, **political bodies hold the power to accept or reject what the administration proposes.**

Though it may be true in general, **such dynamics does not imply that public administrations cannot promote new initiatives and significantly affect the outcome of ongoing innovation processes.**

“There are politicians who have ideas and enough influence to ask the company to carry them forward, and this is an input. But it is a minor input, especially when the company is proactive. If rather being passive and waiting, you are a constant forge of ideas, and you bring them to the attention of [politicians and decision makers], then you change the rules of the game and start being the one who promotes and moves forward, and you learn the right way to propose innovation and approach politics.”

In the cases investigated, if a public administration actively generates new ideas and proposals and is able to ‘sell’ them to the political counterpart, it can turn them into reality and actually lead the process of innovation.

Another recurring element about the relationship between these two actors is the represented by the following two quotes. Referring to the same innovation process, the first one is by a political actor and the second by a middle manager belonging to a public administration, in charge of some technical aspects.

“I think for them it was more of a question of marketing. I think technical issues were rather limited. It was more of a question of how to reposition and market it to customers and also to non-customers.”

“It was a very big topic which went through all the areas of the company, because it's not only tariff, it's also distribution because we have to change the controlling system.”

It is evident that **they have a different opinion on how challenging and complex it was to implement and realize the project.** The former believes it was mainly a marketing effort whereas the latter pictured it as a big organizational effort, combined with technical issues.

It may be that the political actor underestimates the technical complexity that had to be managed, and this is something that seems to concern even, if not especially, experienced directors and top executives.

“Our federal minister said, ‘I want something digital like Netflix, where you can hop on and hop off’. But for the operators that's a big problem because you had a customer and now a subscriber. It's technically very difficult to realize.”

“I had a conflict with the senior manager and the mayor, because they wanted the boats to be fully electric, no ifs and buts. Explaining to them that it was technically complex was not easy, and conflict is not easy as well; sometimes you ask yourself if it is worth the effort.”

In order to collaborate effectively, one interviewee suggested that **constant dialogue and discussion about procedural and technical issues, constraints and practical solutions is the key.**

“We work very well with them (...). *They are not doing only politics or administrative things*, they are now in the everyday work, they are very practical and we have a lot of discussion, we exchange ideas.”

However, this is not always the case, as another interviewee highlighted:

“When you talk to the mayor it is a monologue, not a dialogue. You listen, in religious silence, and then you see where it goes.”

Another key connection is the one between **public administrations and public companies or agencies.** Given their different nature and purpose, in some cases collaboration is not fluid and productive.

“They are really innovative, but they struggle a lot carrying out the project within the right administrative procedures. Considered the context, considered the regulations, it was impossible to do it, going on would have been a waste of time. This is something they could not wrap their minds around, and at some point I had to stand out and halt it. (...) I would like them to understand and help me overcome the constraints, because it is too easy to design a project on paper.”

Based on the evidence collected, it seems that public administrations are more sensitive to bureaucracy and the normative context, whereas public companies tend to ignore it or underestimate its effects on innovation.

The relationship between public and private actors is also important and critical, as they operate according to very different rationalities. In the innovation processes that we have analyzed, private companies typically act as partners of public organizations. They provide public organizations with their expertise and service, through direct contract or public tender. In particular, in the cases investigated, private partners included software providers, service operators, consultants, architects, urbanists and transportation planners.

One simple but important piece of evidence is that **collaboration between public and private actors is inevitable**, it just happens.

“No public organization will develop its own IT system, they will buy from the market.”

If collaboration is necessary, the interests and requests of the two parties are at the center and they require flexibility and mutual understanding.

“Private actors that interact with public ones must know the duties and obligations of public officials. They must know that you cannot do much more than what the rules of the game allow you, and you cannot expect from a public manager, from the project manager of a public administration things that you cannot obtain.”

“We worked with a provider that told us, ‘this is my system, if you like it that’s great, otherwise it’s the same’. (...) They were not a friendly partner.”

It seems that **sometimes private companies try to sell and resell standardized solutions to different** administrations, whose needs are not satisfied because those solutions ignore or do not accommodate the specific requirements.

In addition, according to a few interviewees who belong to the public sector, **private partners tend to focus exclusively on short-term profits** and are not really interested in any kind of contribution they may give to the local community.

“(...) they aim exclusively at big profits and the idea of making the fleet more environmentally friendly does not come to their mind. In this case, the solution will be to force them to innovate otherwise they will lose their licenses, because they are not sensible to the impact they generate and they are not interested in investing and improving.”

Another element emerges from the quote: how complex and difficult it is sometimes to share, get along and agree on innovation when interests are different, and thus how it becomes necessary to force another party to comply and adapt.

Sometimes, the approach is another critical element that can boost or wreck collaboration.

“Public actors are on the defensive, because they are scared, and this sometimes is reasonable because if they make a mistake a Court of Auditors can sanction them, and private actors are too aggressive because – let’s be honest about it – a private manager comes to the negotiation table, for a project worth €100 million, with a financial advisor and a couple of lawyers...”

When asked about the profile of the ideal private partner, one interviewee from a public administration also emphasized a few simple elements that may be taken for granted: a common goal, transparency and sincerity.

“When looking for and selecting an ‘excellent’ private partner, someone who is great to work with, there is first of all the communion of goals and intents, and transparency, sincerity. (...) If the goals are truly shared there cannot be hidden or underlying aims... and transparency pays off, meaning that you can actually see the ‘value added’ at the end.”

Such elements seem to be not only nice personal qualities but also factors functional to innovation.

Private companies and their representatives usually do not collaborate with political bodies. They interact with public officials of public administrations, since they are in charge of developing and implementing innovative projects and eventually organizing public tenders. This does not imply though that understanding the dynamics of politics and bureaucracy is not valuable.

“Private companies have to understand politics and administration. They have to understand they have to convince not just the administration but also the political bodies, which means they have to look at who is sitting in these parliaments and who are the key actors to talk to. (...) There is a multitude of actors you have to convince actually, and you have to adapt to their timescales, rationalities, boundaries and restrictions.”

It seems private companies need to invest more energy and effort in this kind of mutual comprehension if they want to collaborate effectively.

5.3.3. Approach and Rationality of Individual Innovators

The interviews were a great opportunity to investigate the rationality and approach to innovation of different individuals. Several elements have emerged from the data collection process and are reported below.

First of all, **the answers and comments of the interviewees highlight the critical role individuals play in innovation processes in this field**, as their presence or absence can make a difference, ensuring or jeopardizing the success of an innovative initiative.

“It often happens that a project is ‘attached to’ a person, and if this person disappears the project vanishes too.”

“Without him we would have not done it probably. The idea of a safety park would have not come to my mind in those years, today maybe yes, and I think it would have not come to the mind of other people as well. That is there and it’s the only one, it was not a shared objective.”

These two quotes show indeed that sometimes it is not possible to understand an innovative initiative without mentioning the individual who has promoted or supported it.

In other cases, some individuals are so powerful that they can literally start or halt an innovation process, even with little consensus, as the following piece of evidence suggests:

“He was supporting us, and his words were as holy as the Gospel, unquestionable. He wants that and thus we do it. He had that kind of halo... we used to say, ‘even if we are against it, if he wants to do it, it will be done’.”

The next two fragments remind us another important point.

“It’s me and him, though you might think that behind the Venice system there are some great things...”

“Inspiration came from the organization, that is me and her.”

The point is that *the representatives of* the organizations are the actual actors that are involved in the innovation process. Behind any organization, as complex it may be, there are people who are in charge and make decisions; there is no abstract entity that steers the innovation process. It is therefore very important to investigate the rationality of individuals, as their thought and action seem to trigger and mold innovation processes, at least within the context that has been taken into consideration.

Based on the evidence collected, **there it seems to be a plurality of different approaches to innovation.** Some individuals show an inside-out rationality. In other words, they start off with their own vision and try to realize it, sometimes in spite of surrounding critics and restrictions.

“We want to design a better future, a future that does not fit current trends and predictions, and this is exactly the interesting thing about the ‘design-n-provide’ approach: I imagine an innovative future, I design it and implement it, even though the normative and technical context tells me not to do that.”

“We threw that project away, and we defined the criteria and characteristics of the railroad service as we imagined it...”

These individuals start from what they think is valuable and may even design and visualize the solution they think should be implemented, as the following case highlights:

“I’ve always said that if we wanted to build a railway we had to make it the cornerstone of urban and territorial development. It was very important for me to talk about the whole system, not just the railway line. I have even designed a plan for all of the stations. In this way, it was not only a mobility project but also a project that was very integrated with the territory.”

Some others follow outside-in methods. Their starting point is the final user, the intended beneficiary, whose needs and wants are assessed carefully, so to have some knowledge that can be leveraged to carry out innovative projects.

“Everything starts from listening. We handle every single feedback as a standalone case, we go and see, read it, try to understand whether it is due to laziness, misunderstanding or an actual mistake from our side, and eventually we intervene to make an improvement.”

“Something changed in the community. Now, we don’t say ‘That’s our standard offer for you’. We have to look in advance to what people might want, at their future needs, and figure out what we should offer so that they stay and more people come.”

The last quote suggests that this user-oriented rationality may be particularly useful to meet the needs and demands of citizens, and match their increasing expectations.

The following two fragments reveal another possible approach to innovation.

“If we are talking about this at the state level, might this be an opportunity to say... could this be an interesting entry point to reorganize how we do it at the regional level?”

“If you see that there are similar conversations happening in different areas that have no momentum, maybe connect them and generate some momentum.”

These pieces of evidence suggest that some innovators start neither from users nor from themselves. They start from the local environment, constantly monitoring what is going on, what other actors are doing, thinking and talking about, waiting for a good opportunity.

In particular, some of the interviewees who work in the public sector reported that they monitor what other colleagues and public companies do, so to spot valuable initiatives they may carry out too.

“You don’t have to invent everything from scratch; you look at what others did, where they had problems, what are the points where you might fail, so you can manage it eventually, *and then you transfer it to your situation.*”

Such ‘transfer’ does not mean that innovators copy and paste what other organizations have done. Based on the evidence collected, in this field, since the specificity of the local context is particularly critical, innovators do not just imitate; they adapt what they find to contingent circumstances.

“The ideas of bringing it home is wonderful, but the characteristics of the lagoon, of the bottom of it, the temperature of the water, and so on, all of these elements would jeopardize the outcomes of the project, which should be redesigned and modified. It’s not copy and paste, it’s copy and paste and change. (...) While watching what others are doing, you come up with new ideas, mix them and then find *your* ideal solution.”

Based on the cases considered, this approach seems to be typically used by public companies, which an interviewee described as “sponges” that absorb any external input.

Although different individuals think and approach innovation differently, **what is common to all of the interviewees is that they have a vision, a dream, an ambition.**

“My ambition is to make the Canal Grande fully electric, so that you turn on the charger only once you are out of the old town center. In this way, it would be possible to make navigation in the Canal Grande completely silent and emissions-free.”

This fragment shows that sometimes the vision is pretty clear and vivid, as it pictures a new sensorial experience in a familiar and tangible setting.

All of the interviewees claimed that dreams and ambitions need to be shared, especially in the field of mobility.

“That project had a good consensus but nobody really fell in love with it because it was considered an impossible dream. I still believe in that project, and if someone had the courage just to carry it a bit further, today with the PNRR it would be financed, I’m sure about it. This is a signal the you need to have the courage to do, to design a project if you are convinced that it is innovative, because, especially nowadays with climate change and energy transition, those projects that are in line with that direction will be financed sooner or later.”

The greater the ambition, the greater the consensus it needs. It is important to notice the verb the interviewee used – to love – as to prove how critical *the intensity of* consensus is.

The previous fragment also reminds the ability of innovators to ponder whether and how trends, urgencies and contingencies may be functional to the achievement of their goals.

In addition, a few pieces of evidence show that **some innovators have mantras**, some colorful and sharp formulas their approach is grounded on. The following three fragments are representative:

“The world of transport was grounded on those ‘predict and provide’ models, namely I see the status of the things, I foresee a future evolution of it and then provide the infrastructures. Nowadays, the mantra is moving to ‘decide and provide’, namely I think about the future, I know what future I want and then provide the mobility system that I need for that future, which was decided and not predicted on recent trends. I like to talk about ‘design and provide’, in the sense that you have to actually design the future that you want.”

“Italo Calvino said: ‘Of a city you don’t enjoy the 7 or 77 wonders, but the answer it gives to your question’. I have this quote framed in my office and it was also the incipit of my thesis. (...) How can I answer the question of citizens, the question about mobility in this case, if I don’t know that question? In order to know it, I need to know what citizens are asking, and for that I need data, otherwise we have only opinions...”

These fragments show how different approaches are built on mantras that guide the thought and action of individuals. Somehow, rationality seems to be standing on ‘tested’ ideas that are expressed in a simple and powerful form.

In the cases considered, **rationality follows the personal understanding of innovation and innovation processes**, which is typically the result of past experiences in the field.

“When you deal with innovation, you need to imagine a process that concerns, in a nutshell, the values of the people who interpret the process and the rules of the game, and from my own experience both are hard to find, both the flexibility of rules and people who are willing to

interpret reality in an innovative way. (...) We are working to innovate and change the status quo, in two ways: we are trying to change the mindset of people, by physically asking, explaining and articulating the approach that we should use, and we are trying to interpret the rules in a less restrictive way.”

This fragment shows such transition: if the innovator thinks that people and regulations are the two most critical elements, his rationality will inevitably revolve around those two elements, eventually ignoring other key factors. Knowledge and action are indeed directly related and central to the rationality of any individual that has been interviewed.

A recurring piece of evidence is that **innovators know and understand the context**. By context, we mean the organization they belong to, their colleagues, the actors involved in the innovation process. It also refers to the political, legal and cultural environment.

Referring to colleagues, for example, the following quote clearly shows how action follows knowledge.

“Software developers are not very outgoing people; most of them are happier sitting in front of their computers than talking to other developers. (...) In my experience it helps to have a kick off meeting in the beginning, where these people get to meet each other at least one time, so that they understand that is an actual person and not a name in a program.”

A couple of interviewees also said that they usually try to transfer their approach to colleagues and collaborators, so to facilitate the innovation process.

“I’ve been trying to train all of my collaborators in this way, and by creating this ‘all-round listening unit’ we are able to carry things forward, small and big things, but all of them of great interest.”

Referring to politics, an interviewee concluded:

“A lot of politics is really about getting people involved and keeping them involved, and raising the opportunity cost of doing nothing, of keeping the status quo.”

Such crystal-clear definition shows the ability to synthesize and identify the essence of an element of the context. The following fragment is also illustrative of such ability.

“One of the key elements that I’ve been trying to explain to him was how important would have been to own the know-how about the infrastructure and service of railways, because if he wanted

to lean on national railway companies it would have been much more difficult, long and costly, with a thousand problems.”

In this case, it is possible that the personal experience taught the individual that autonomy is often a critical success factor and thus it needs to be obtained and kept, especially in those circumstances where a lack of it implies a tremendous increase of costs.

The following two quotes reveal another element.

“The first thing he taught me was that he had to adapt to the different culture in Stuttgart. Here, public officials and members of the regional assembly take pride in not spending too much money.”

“This is what I think helped to bring about innovation: understanding what is the culture here, what are the positive *trigger words* you can get a majority with and also what is currently happening in public transportation in Germany.”

That element is the ability to read the local culture, understand how people generally think and reason, so to know the right buttons to push.

According to the interviewees, **another critical ability is to read the interests and objectives of other actors**, though they may be tacit and hidden.

“Though they never officially told us, *you could just tell* they weren’t strongly interested in the whole car sharing thing. They just wanted some money to fund and introduce it for public transport use, like piggybacking the whole project to get what they really wanted.”

“One of the slides that I always show is the one about the declared goals of individuals and, on the other side, the existing but not declared goals of the same individuals. Behind this paradigm, that is true for any actor, there is the linguistic register that you – innovator – need to use when you talk to politicians, clients, colleagues...and this is not a work of translation but of interpretation and cultural mediation.”

This last quote shows what it seems to be a functional element: the ability to **change linguistic register depending on the interlocutor**, case by case, in order to interpret his interests, opinions and objectives.

In addition, some interviewees said that they constantly ‘test the waters’ to check whether it is the ‘right moment’, and wait until the conditions are not favorable.

“There is a point where you cannot ignore it anymore, where you have to take a public position on the conversation that is happening, *and as soon as this is starting then you can do something with it.*”

Timing seems indeed a recurring concern.

“Is it now the right time to open a conversation or is it better to leave it closed, wait a year and then start it? When do you open a conversation and when do you keep your mouth shut?”

Dealing with timing and how it is connected to consensus, one of the interviewees looked at it in an unusual way.

“He used to understand quickly is something could have been stopped or not. If he believed it couldn't, he would just move forward with those in support of it.”

It suggests to turn around the question and ask whether an initiative can be *stopped* rather than *get done* in a certain point in time.

Based on the evidence collected, the relationship between knowledge and action, and the impact on the rationality of the individual as he deals with innovation, can also be unproductive.

“Our director is an expert of traffic rules, and he has his own vision, more technical, more detailed. He is an engineer and I am the ‘inventive’ one, in the sense that I am not hindered by the rules that he masters.”

This fragment suggests that in some cases knowledge can limit creativity, action and thus innovation. Indeed, one interviewee stressed how past experiences, habits and the usual well-established approach to innovation can hinder it, and thus a different rationality is required.

“New comers, those that are not affected by previous experience on a specific thing, sometimes they provide you with a new point of view. Listening to people who are not qualified to discuss about certain topics enables you to see that specific thing from the perspective of children, and in this perspective there is sometimes, not always, the idea that can turn upside down the paradigm that you have been using till then, which maybe wrong because it was a relic of the past.”

Alongside the knowledge about the innovation process, the actors involved and the surrounding context, **from the interviews it emerged that most innovators also have several relational skills**, which seem to be particularly relevant in the services and context that we have addressed.

One interviewee stressed how important it is to ask for help and how critical it is to identify those people who can actually help.

“I needed experts, because I had willingness and energy but not experience. (...) If you think you can do everything by yourself, you have already made a mistake, this is clear. But if you need help you have to be able to choose who can help you, and this is kind of a gut feeling. I think this is one of my strengths: to sense if a person can really help me, and this was critical because obviously there was a long line of people wishing to work with us.”

This piece of evidence highlights the ability to ‘read’ people and understand who is trustworthy and competent.

Reflecting on the reason why a particular interaction had been so effective, another interviewee pointed at humility as one of the keys to great collaboration, which in turn is functional to innovation itself.

“He doesn’t want to be the inventor of everything. (...) Sometimes politicians really like to talk about innovative things, they want to be those who have invented new great things while everybody else was wrong in their opinion. I didn’t have any of these problems with him, we were just discussing about facts.”

This fragment shows the importance of two behaviors: first, recognizing the work and contribution of other actors, like external consultants; second, being outcome-oriented, focusing on the technical issues and on problem-solving, leaving no room for vanity or pride.

Another recurring element is the ability to look at the same thing from different points of view, to put oneself in somebody else’s shoes.

“It’s always important to put yourself in the shoes of the other party. When you have a conflict with somebody, or you have different opinions, you must put yourself in his shoes, you need to understand the interest he is pursuing, because then you often understand what to do.”

Also in this case, the individual ability is functional to innovation, as it prevents conflicts.

5.4. Conclusion of the Chapter

In this chapter several key points have been discussed. In the first two sections, it was described the implementation of the case study methodology, which consisted of identifying and selecting the interviewees, structuring and organizing the interviews, and actually carrying them out and analyzing the outputs.

In the third section, which is the core of the whole chapter, the findings of the empirical research were shown and discussed, so that they can be used to elaborate the proposals and implications that

will be articulated in the next chapter, and that will make up the contribution and value of the entire work. In particular, the most important findings are summarized in the following table.

Table 11: Synthesis of key findings

Urban mobility and public transport is a very specific field, and the peculiarities – complex regulations, high capital intensity, inelastic demand, time consuming projects, multi-level governance – affect the process and content of innovation, and the rationality of the individuals and organizations involved.

In the field of urban mobility, **there are typically four typologies of actors** involved in innovation processes: political bodies, public administrations, public companies or agencies, and private companies. Though they have different competences, resources and objectives, all of them contribute to the innovation process.

Given the number and variety of actors involved, **innovation processes in the field of mobility are complex**, and the outcomes of these processes strongly depend on the effectiveness of collaboration and coordination among the actors, especially between public and private organizations.

In the field of mobility and public transport, **innovation needs to gain a critical momentum to happen**. This typically takes time as it depends on politics and consensus, but in some cases individuals can turn an innovative idea into an actual innovation process quite quickly.

In any of the cases considered, **individuals make a difference** and their contribution to innovation – in terms of promotion, support, design, execution – is significant. In some cases, projects are so attached to a particular person that if that person loses control, power and his role changes, the innovation process suddenly stops.

Different innovators approach innovation differently, and follow different logics. Some start from their personal vision of an innovative service and try to design and execute it, some others start from existing users and try to understand their needs, some others look at what other organizations have been doing in a different context.

6. Discussion and Interpretation of Results

In the previous chapter we described the empirical research and we dived into the findings that emerged from the interviews, once they were transcribed and analyzed.

In this chapter we discuss the results and implications of the whole work, and we answer the research questions that have been guiding us throughout the empirical research and subsequent elaboration.

As it was pointed out in Chapter 3, these are the research questions:

- I. Considering the contribution of individuals involved in innovation processes that aim at radically innovating a public service, which logics and rationalities do they adopt and follow, and which characteristics do these logics have?
- II. Moreover, how could (the knowledge about) such logics be used to enhance the effectiveness and radicality of those innovation processes with particular reference to the role that private providers can play in these contexts?

These two questions are explicitly addressed in the chapter, which is structured into three sections: first, we discuss a few elements related to the logic and rationality of individual innovators, identify possible different approaches and put forward a potential contribution to integrate some established pieces of theory; second, the context of innovation and the key elements of the innovation processes analyzed in the empirical research are investigated and organized into a more specific model proposal; third, possible contributions of individual innovators are discussed and some implications for both public and private actors are pointed out.

6.1. Logic and Rationality of Innovators

Building on our theoretical and conceptual framework, we try first of all to develop further concepts related to the rationality of individuals, which enable us to organize some of the elements identified in the literature and the empirical research into categories which characterize the innovation of meaning model for services described in previous sections.

As it was defined in Chapter 3, by logic or rationality we have always referred to the set of ideas, principles and values that guide the action and decision-making of individuals as they (try to) contribute to innovation.

Now we argue that there are two different types of rationality within the mind of the individual, which are strictly but not univocally related. Those two types can also be considered as two components or mechanisms of a unified logic.

As a preliminary step in answering our 1st research question, we claim that **a key element of the rationality of individuals is what we call the ‘logic of why’**, a set of elements that provides an answer to the ‘why’ question. Is this initiative valuable? Why or why not? Should we pursue this goal? Why or why not? Any time an innovator is confronted with a possibility of innovation he asks himself – and eventually his collaborators – if and why it is valuable, if and why it is worth the resources and effort. In other words, this logic can be described as the criterion an individual uses to distinguish what is valuable, meaningful and worthy from what it is not.

Such ‘logic of why’ emerged from several pieces of evidence, suggesting how critical the dimension of ‘value’ is in the logic of innovators. Indeed, any of the interviewees discussed the worth, or eventually the lack of it, of any of the projects he was involved in. Different criteria were highlighted by different individuals: innovation was expected to contribute to environmental sustainability in some cases, to digitalization in other cases, and more generally to the quality of life of citizens. This element emerged a lot when individuals from the public side were interviewed: most of them by value refer to the utility of a certain public service to citizens and city users, who are typically the intended beneficiaries of public service provision. Some interviewees also stressed how this individual element is directly linked to the organizational and social dimension: the value of an innovative public service is indeed a matter of political debate. Many different actors contribute to the debate, and some of them may be involved in the innovation process just to promote the reasons why, the value of the service itself. One of the interviewees, for example, told us that the local assessor was not involved in the design and execution of a public service at all, but she had the key task to promote it and highlight the positive outcomes it would have generated.

This first element also picks up a couple of concepts that were identified in the literature review.

First, the concept of ‘value-in-use’, as it was elaborated in the Service-Dominant Logic. Building on the evidence collected, it is possible to argue that innovators, especially those from the public side, look at value from the perspective of users and intended beneficiaries. One of the interviewees, for example, highlighted how an innovative public service led to a significant reduction of travel time and that was held to enhance the quality of life of citizens. In other cases as well, it emerged how value is often conceived as the benefits users enjoy, embracing the conceptualization of value-in-use in the SDL.

Second, the concept of ‘meaning’, as it was discussed by Roberto Verganti: meaning is the reason why users choose and use a certain product, and that reason or scale can be innovated. It is also what makes products and services valuable to those who purchase and use them, and this aspect is

integrated in the logic of why. Questioning whether an innovative initiative should be pursued or abandoned is indeed intrinsically related to question the value or meaning of it.

Another key element of the rationality of individuals is what we call the ‘logic of what and how’, a set of elements that provides an answer to the ‘what’ and ‘how’ questions. What is the vision that we wish to realize? How do we turn it into reality? What solution or system do we need? How can we design and implement it? Any innovation process pushes individuals to think about the characteristics and performance of the services that may be designed, developed and implemented, each one with its own pros and cons, benefits and costs. In other words, this logic can be described as the pragmatic criterion individuals use to actually carry out the innovation process in line to the desired direction, to the outcome they seek.

This second element is the elaboration and synthesis of multiple pieces of evidence. In most of the cases considered, once the value and meaning of an innovation project was pointed out, interviewees then recollected and told us the decisions they made and how they behaved throughout the innovation process. Indeed, the logic of what and how can be figured out from the thoughts, decisions and actions of innovators.

In addition, different individuals use different criteria and approaches. One of the interviewees stressed the importance not only to envision an innovative service but also to actually design it. Another grounds his approach on the feedbacks from customers, whose needs and wants are assessed before any service is designed and implemented. These approaches and others, which emerged from the interviews, are showed and modeled in the following.

Similarly to the logic of why, also the logic of what and how relates to some elements that were identified in the literature. First, it integrates the definition of ‘procedural rationality’ given by Herbert Simon: it strengthens the idea that rationality lies in the decision-making process rather than in the outcomes of it, and adds to it the dimensions of what and how, of goals and resources. Indeed – and this is the second point – we were inspired by the distinction that Sarasvathy makes between ends and means, causation and effectuation. The ‘what’ part of this logic stands for the vision, goals and aims individuals pursue, whereas the ‘how’ part represents the resources and means that may be needed to achieve those goals. However, the relationship between what and how dimensions can take different configurations, and indeed the instances of the logic of what and how can be classified on the dimension they are driven by, as it will be discussed later.

In order to appreciate the difference between these two logics, the following table contains some helpful oppositions and analogies.

Table 12: Logic of Why vs Logic of What and How, by analogy

Logic of why	Logic of what and how
What triggers your movement (motivation)	What paces and steers your movement (action)
Strategy	Tactics
Direction	Path
Value	Performance
Meaning	Solution

The last antithesis in the table reminds the difference between innovation of meaning and innovation of solution discussed by Verganti (2016). Indeed, we argue that the logic of innovators can be described by a two-level structure in the same way that there are two different levels and types of innovation. However, it is important to note that the distinction we have highlighted – between logic of why and logic of what and how – is orthogonal to the distinction introduced by Verganti: those two elements are claimed to be integral and complementary parts of the rationality of innovators in any innovation process, regardless of whether it concerns radical or incremental innovations, meanings or solutions.

In other words, we are not saying that the logic of why concerns only innovations of meaning and the logic of what and how concerns only innovations of solution. We are saying that, **in the same innovation process, an individual both assesses the value and meaning of the service at issue and adopts and follows some criteria to make decisions and act throughout the process, independent of the content and radicality of the innovation process itself.** He always gives an answer to all of the questions – why, what and how.

Indeed, based on the cases considered, instances of the two logics can be found in the experience of any of the interviewees, though some of the innovation processes they were involved in cannot be deemed to be radically innovative.

A useful diagram to understand how these two logics fit together in the mind of individuals is the triangular scheme below.

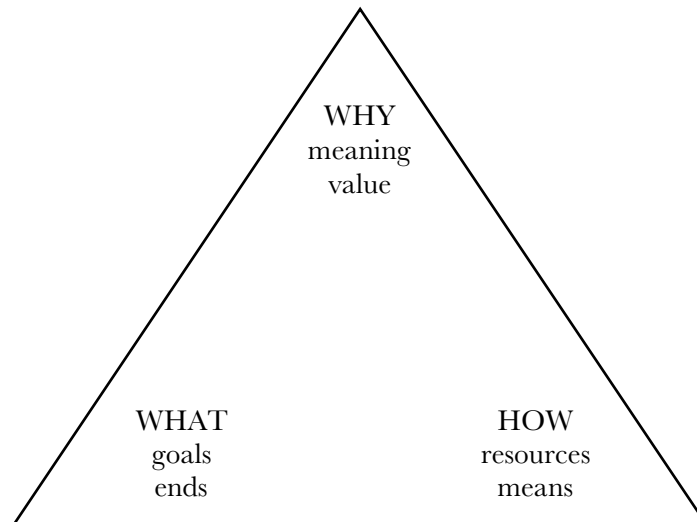


Figure 4: Triangle Why - What - How

At the top of it, there is the **why**, the meaning, the value, whereas at the bottom there is on one side the **what**, the goals, the ends, and on the other side the **how**, the resources, the means.

The reason why this simple triangular model is useful is three-fold. First, it stresses the two-level structure of rationality, putting why on a different level. Second, by putting the dimensions of what and how at the basis, it suggests that the value and meaning of any innovative initiative cannot be realized if there is no pragmatism, if there are no concrete foundations. Third, by putting the why on a higher place, it highlights the role and importance of this element, as it actually directs the way goals and resources are thought and managed.

In addition, this extension seem to be particularly valuable in the context of public service innovation because it integrates different concepts that were derived from the literature review.

First of all, **it suggests how the principles and axioms of SDL can inspire individual innovators**. SDL is a powerful theoretical contribution to value creation, but, as insightful as the concepts of value-in-use, resource integration and service ecosystem may be, it does not address how these concepts can be useful to individual innovators in the context of public services. The triangle seems to fill this gap, as it points to a possible way for individuals to contribute to public service innovation: being the public sector a complex and dynamic environment, the individual needs not only to articulate the value of an innovative initiative from the point of view of users but also to gather human, financial, technological resources and to identify some time-bound and achievable goals. The ability to promote and communicate the value of a project is indeed critical to generate consensus and support, whereas the ability to gather and manage resources effectively, in line with specific objectives, tells users and citizens that their support is not wasted.

Moreover, it integrates the frameworks of innovation of meaning and effectuation.

On one hand, **it proposes an extension of the work of Roberto Verganti (2016) to the context of public services, as described and illustrated earlier.** If the process of innovation of meaning is thoroughly described by Verganti, how the new meaning will be actually embedded into a new solution that is able to convey it is less articulated. Taking the perspective of the individual innovator and decision-maker who is involved in the innovation process and organizing his rationality in a simple and clear form may allow to understand how new meaningful services can be realized. Indeed, **this scheme stresses the implementation and execution of innovation of meaning by highlighting the importance of goals, solutions and resources in value creation.** As many interviewees suggested, defining and promoting the value and meaning of an innovative service is as important as the ability to allocate resources, overcome constraints, facilitate collaboration and manage the innovation process efficiently. As one of them told us, the meaning, the why, is not powerful if the what and how questions are not addressed and partially answered, in particular in the context of public services, where public spending is usually a hotly debated issue. Thus, the triangle suggests a possible way to support the implementation of meaningful public services: once the value is articulated, it may be important to identify a possible concrete solution and assess the eventual resources that will be needed, so that it is possible to argue that innovation is valuable and worth the public resources to be spent.

On the other hand, **it sheds some additional light on the work of Sarasvathy, Wiltbank et al. (2001, 2006) on effectuation and non-predictive strategy.** What and how are held as closely related as ends and means, causes and effects, as it was argued by Sarasvathy herself (2001), but the triangle can be used to reconsider effectuation and causation within a larger scope. Causation starts from the *what* dimension: it tries to predict the future of the environment so to control it and act according to that prediction; it is a goal-driven approach since it first figures out a desirable position within the competitive landscape and then gathers the resources needed to achieve that position. On the other hand, effectuation focuses on the *how* dimension: it does not need a well-defined vision or some smart goals since it starts from the resources at hand, at the hand of the individual, and identifies a possible goal or 'effect' that can be achieved using those resources.

Effectuation and causation can be then considered as two alternative logics of what and how, two different pragmatic criteria, also because they do not address the why dimension. However, based on the evidence collected, individuals tend to question the reasons why a service is innovative and valuable, and thus this dimension is too important to be ignored. Indeed, we argue that, in the context of public services, innovators have an internal mechanism that tells them why a certain position is desirable and should be accomplished, or why a given event is an opportunity

rather than a threat. This mechanism is what we call logic of why, which is deeply different from the logic of what and how, and is not integrated in the model of effectuation.

The answer to the why question does not only legitimize the allocation of resources but it also motivates and excites those people that will actually carry out the innovation process and turn an initiative into a real public service. This is particularly relevant since we learnt from the empirical findings that the contexts of service development in public sector with external providers can be considered complex, given the number and variety of actors involved and also the characteristics of public services. Therefore, **a logic and approach that enables individuals to support and contribute not only with individual envisioning, but also with storytelling and promotion, inspiration, design and development, coordination, and/or execution, seems to be useful in the scenario of public service innovation.**

As the 1st research question proves, we have been trying to understand which logics and rationalities individuals adopt and follow. **Based on the findings of the empirical research, we argue that, alongside effectuation and causation, there are other instances of the logic of what and how.** Being in the context of public service provision, they have been classified through the 'X-n-provide' expression, where the 'X' is substituted by a verb that condenses the meaning of the specific instance. In particular, the following rationalities have been identified:

- ◆ **Design-n-provide** (Design-n-p): the innovator starts from his personal vision of the service and actually designs it. Leveraging the technical know-how, he works out a solution and proposes it to the collaborators.
- ◆ **Listen-n-provide** (Listen-n-p): the innovator starts from the input of final users and intended beneficiaries as they evaluate an existing service or an innovative initiative. Leveraging the data and information collected, the innovator tries to identify their needs and improve the existing service or develop a new one.
- ◆ **Edit-n-provide** (Edit-n-p): the innovator starts from what colleagues and similar organizations have done and try to transfer it to the local context. He discusses the pros and cons of a solution that has been implemented somewhere else and eventually adapts it to the local conditions.
- ◆ **Plan-n-provide** (Plan-n-p): the innovator follows the strategic plan as it was made by the organization, developing and implementing those innovative solutions that are part of that plan.
- ◆ **Spot-n-provide** (Spot-n-p): the innovator constantly monitors whether and how the environment is changing, so to spot an opportunity window and exploit it to trigger an innovation process.

- ◆ **Network-n-provide** (Network-n-p): the innovator tries to gather and connect other potential innovators, since relationships and exchange of ideas among key decision-makers can be the basis of collaboration and innovation.

These six logics are different, mainly in terms of starting point and resources to be leveraged. First, Design-n-p starts from the point of view of the innovator and his personal ideas on value, and leverages his technical skills and knowledge to design a solution that fits his vision. Second, Listen-n-p starts from users and leverages the data and information collected. Third, Edit-n-p starts from colleagues and leverages the relationships between them and the innovator himself. Fourth, Plan-n-p is grounded on the typical strategic planning activity, whose output provides innovators with direction and pragmatic guidance. Fifth, Spot-n-p depicts an innovator that tries to identify an opportunity leveraging his knowledge and understanding of the environment. Sixth, Network-n-p leverages the role(s), reputation and personal relationships of the innovator, who is networking and gathering other potential innovators to make them cooperate.

These logics can be also classified according to the dimension – what or how – they are driven by. It is possible to say that the Design-n-p rationality favors the what dimension, since it pictures a desirable vision and designs a solution that fits such vision, postponing the evaluation of the resources that will be needed, thus putting the how element in the second place. Similarly, Edit-n-p and Plan-n-p approaches favor the what dimension: the former focuses on an existing solution, that is not copied-n-pasted but edited to fit the local context, whereas the latter sets the desired destination and plans what it should be done to arrive to it. On the other side, Listen-n-p, Spot-n-p and Network-n-p privilege the how dimension as they do not set objectives and goals but leverage some existing resources: Listen-n-p may leverage an existing channel and contact to users and intended beneficiaries to generate knowledge that can be used to design an innovative solution; Spot-n-p suggests the innovator to use any resource at hand to identify and exploit an opportunity window; Network-n-p leverages the relational resources of the individual to assemble a powerful group of innovators and decision-makers who may trigger collaboration and innovation.

Although the model presented before is an *isosceles* triangle, meaning that *theoretically* there is no favorite side between what and how, as they are equally important and intrinsically related, **that triangle can be skewed to one side when it is used to investigate the rationality of an individual innovator.** The following table visualizes this idea, and positions each logic and approach according to the dimension it focuses on.

The skewness to one side puts the favored dimension right under the why dimension. This is also representative: it stresses the role of value and meaning as it suggests that the favored dimension is exactly favored because it is held to be a more effective supporter or enabler of value creation. In other

words, it suggests that the individual adopts the pragmatic criteria that better fit the value that he is trying to generate.

Table 13: Classification of the Logics of What and How

Focus on What		Focus on How	
WHY	HOW	WHY	HOW
WHAT	WHAT	WHAT	WHAT
Design-n-provide		Listen-n-provide	
Edit-n-provide		Spot-n-provide	
Plan-n-provide		Network-n-provide	

It is important to note that **these logics are not mutually exclusive**: the same innovator can adopt different approaches, depending on the peculiar characteristics of the innovation process, on his role within it, or on the actual solution that will be implemented. Thus, we should rephrase the previous statement and say that the triangle can be skewed to one side when it is used to investigate the rationality of an individual innovator *in a given moment of a particular innovation process*.

In addition, **some of the logics overlap, more or less partially, with established theoretical models**. For example, the Plan-n-provide rationality is a clear instance of causation, as it was defined by Sarasvathy (2001). It is a goal-driven approach that leverages predictive techniques to draft a plan of activities that will guarantee a desirable position in the future competitive scenario. On the other hand, the Spot-n-provide logic can be considered an instance of effectuation, as it focuses on contingent opportunities to be exploited rather than plans to be followed. Accordingly, it is possible to

argue that the distinction between causation and effectuation is critical and relevant in the context of innovation in public services, as we have found several instances of both in real cases.

In light of the differences between the ‘X-n-provide’ logics, it is natural to wonder whether they can be ordered and ranked according to the effectiveness, to the ability to steer the innovation process toward the outcome desired by the innovator. Although different logics have been effective in different cases, it seems that **those innovators that adopt the principles of effectuation are somehow more successful**. Indeed, the ability to leverage the resources at hand, to engage other actors and build strategic alliances, to read the surrounding context and spot contingent opportunities, is likely to be powerful in the scenario of public services, which is characterized by complexity and dynamicity, and requires constant collaboration.

Understanding the scenario of innovation in public services is indeed the goal of the next section, which displays a model that will also be used to think about the contribution and potential rationality of the individual innovator.

6.2. Innovation Process and Actors in the Context of Public Services

As it was pointed out in the third chapter, the framework we had in mind of the innovation process was the application to the public context of the B2B2C model taken from Roberto Verganti (2016). **It turned out that the application of this model provides some insights but many criticalities**.

The B2B2C model pictures a possible configuration of the innovation process, where a private actor leverages his competences and assets to help the public actor design and develop an innovative service to be provided to citizens. In addition, this model stresses the role of final users, which are represented by the ‘C’: they are the goal and aim of the overall process, as innovation is explicitly sought to create something valuable for them. Modeling users and beneficiaries as the actual trigger of innovation can be appropriate since public organizations generally operate in the interest of citizens.

These insights are related to some findings that emerged from the empirical research. One interviewee from the public side, for example, highlighted how the orientation to users and citizens – to the ‘C’ – not only guides the overall innovation process but it is also the most important criterion to identify and select private partners and providers. Another interviewee, in a different case, told us about an innovation process where a private actor envisioned the new configuration of a mobility service, actually designed it and proposed it to the public administration that then managed the coordination process. Based on the evidence collected, we can say more generally that private companies tend to provide public organizations with competences and services that are ‘assembled’ into a public service that is then delivered to citizens.

However, several are the critical points of the B2B2C model.

First of all, it does not enable to address more complex contexts. In the context of innovation in public services, there are typically four actor groups: political bodies, public administrations, public companies or agencies, and private companies. These different actors cannot be all represented by the same letter 'B', as they have different interests, resources and thus rationalities.

Second, the model suggests a linear innovation process: the first B helps the second B to do innovation for C. In this context, input to innovation is provided by a multitude of actors, who influence each other as they collaborate, interact and exchange information frequently.

Therefore, and this is the third point, this model is too rigid: it cannot represent the complexity and dynamicity of innovation processes in the context of public services.

As a consequence, **it is evident that an integration to the model could be welcome**, to convey the dynamicity of the innovation processes and highlight the contribution of the actors involved, and at the same time represent all of this in a clear way.

We first thought about a Y-shaped model, made of three segments that stand for the relationships among the four actors that are typically involved: at the basis of the Y sits the political body, whereas at the top there is on one side the public agency and on the other side the private company; the public administration is placed right in the middle since it is usually the intermediary between political and technical actors, in charge of coordination. Although this model takes into consideration the different actors involved and highlights the typical relationships among them, it is still too rigid to handle the complexity and variety of innovation processes in the context of public services.

Thinking about a metaphor that could synthesize all of the key aspects and elements to be represented, **we then devised a 'clock model'**.⁵³ An analog clock is made of a multitude of components, but the user needs to see just a few of them to understand what time it is: the face, the hours, and the three hands (i.e. hour, minute, second hand). The face contains the hours and delimits the space where the hands move; these hands have different length and move at different pace because they represent different things, and the user needs some hints to distinguish them.

⁵³ Metaphors are a key element of Design-driven Innovation and Innovation of Meaning. Indeed, Verganti argues that metaphors are powerful because they enable us to understand and experience one thing in term of another, they make meanings tangible and immediate and thus they can facilitate innovation of meaning (Verganti, 2016, pp. 171-176).

Combining these characteristics with some observations and modifications, **the result was the ‘innovation clock’ model** as it is described and pictured below.

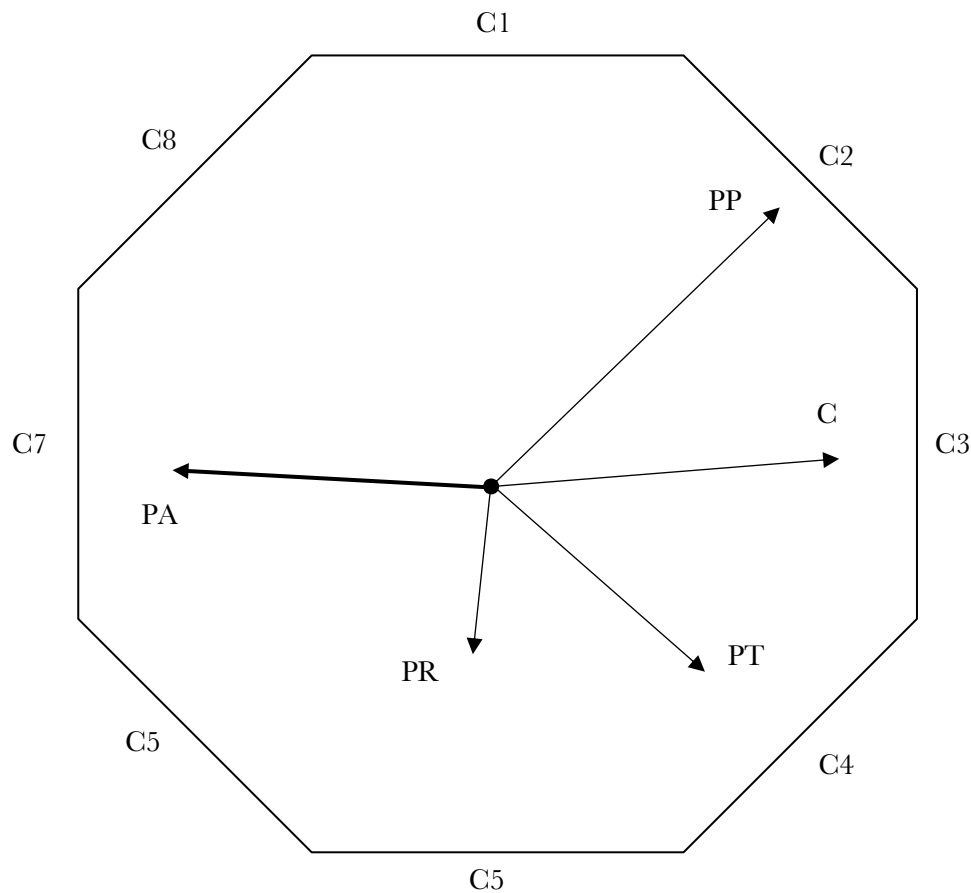


Figure 5: Representation of the innovation clock model

Several things must be explained about this model.

First of all, the face of the clock is a regular polygon, made of as many sides as the number of contributions to innovation that are needed and hopefully brought. In the example, it is drawn a regular octagon, which creates room for eight potential contributions (i.e. C1, C2,..., C8).

Second, each hand represents an actor. In the picture, the hands are identified by the type of actor, but they can also be identified by the name of the actual organization involved in the process. In particular, we pictured the five types that were found to be usually involved in innovation processes in the public sector:

- ◆ Public-Political (PP): actors who belong to political bodies and assemblies. They typically have power and control over initiatives, and they are usually engaged in promotion and communication rather than design, development or management.

- ◆ Public-Administrative (PA): actors who belong to public administrations. They typically have close relationships with political actors and they are in charge of coordinating the different actors involved in the process.
- ◆ Public-Technical (PT): actors who belong to public companies or agencies. Differently from the previous type, they have a specific task and possess the technical know-how to fulfill it, and they are not as closely related to political actors.
- ◆ Private (PR): actors who belong to private companies. They typically play the role of partners and service providers, and they are different from public actors in terms of interests, resources and rationality.
- ◆ Citizens (C): final users, intended beneficiaries, anyone who is going to use and experience the benefits of innovative public services. They typically are the ‘recipients’ of public services, but in some cases they can also be engaged in service design and development, for example.

As it is more clear now, **we have extended the B2B2C model by exploding the B into four different categories (i.e. PP, PA, PT, PR) and keeping the C of citizens** since they are extremely important in the rationality of innovators in the context of public services.

Third, each hand has a length, which represents the advancement of the contribution: if the tip of the arrow touches the side, it means that the actor has already given his contribution and completed his duty or task.

Finally, one hand is thicker than the others, so to identify the actor that plays the role of coordinator.

Although the clock suggests that an actor can provide only one kind of contribution to innovation, it is important to note that this is not true: if an actor gives two significant contributions *at the same time*, then there should be two hands with the same label pointing to two different sides.

The element of time, which has just been cited, is very important and it is one of the reasons why the metaphor of the clock was adopted. Likewise an analog clock, the hands move, *unless* the contribution of an actor does not change and advance as the innovation process moves forward. Therefore, the model represents the actors and their contributions *at a given point in time*. As time passes, some hands will see their length increase until they touch the side, and then change direction and point to a new side. If an actor exits the innovation process, or becomes much less significant, the hand that represents him will disappear from the face of the clock. If new contributions are needed, for each of them a new side will be added to the clock. Thus, it is natural to expect that different applications of the model to the same innovation process at different points in time can be very different. In particular, the more dynamic the process, the greater the difference between two consecutive pictures.

In order to appreciate how this model can be functional to public service innovation, we show how it could have been used to model one of the cases we analyzed.

In particular, we consider the realization of an innovative railway line in the province of Bozen.

A plurality of actors were involved:

- ◆ PR1: A private provider of advanced safety technologies
- ◆ PR2: A private provider of modern vehicles
- ◆ PR3: An external consultant on urban mobility and transport planning
- ◆ PA: The public administration of Bozen, represented by a public manager
- ◆ PP: The municipal government of Bozen, represented by the assessor of mobility
- ◆ PT: A public company which was established exactly to build the railway line, represented by the managing director

And several contributions were brought:

- ◆ Vision
- ◆ Design
- ◆ Promotion and consensus
- ◆ Right to proceed
- ◆ Advanced technology
- ◆ Modern vehicles
- ◆ Technical development
- ◆ Service management

In this case citizens were not very much involved in the innovation process, though consensus has not been easy to achieve.

If we apply the clock model to the innovation process and we try to picture the status of actors and contributions *before they started to actually build the railway line*, this is what we can see:

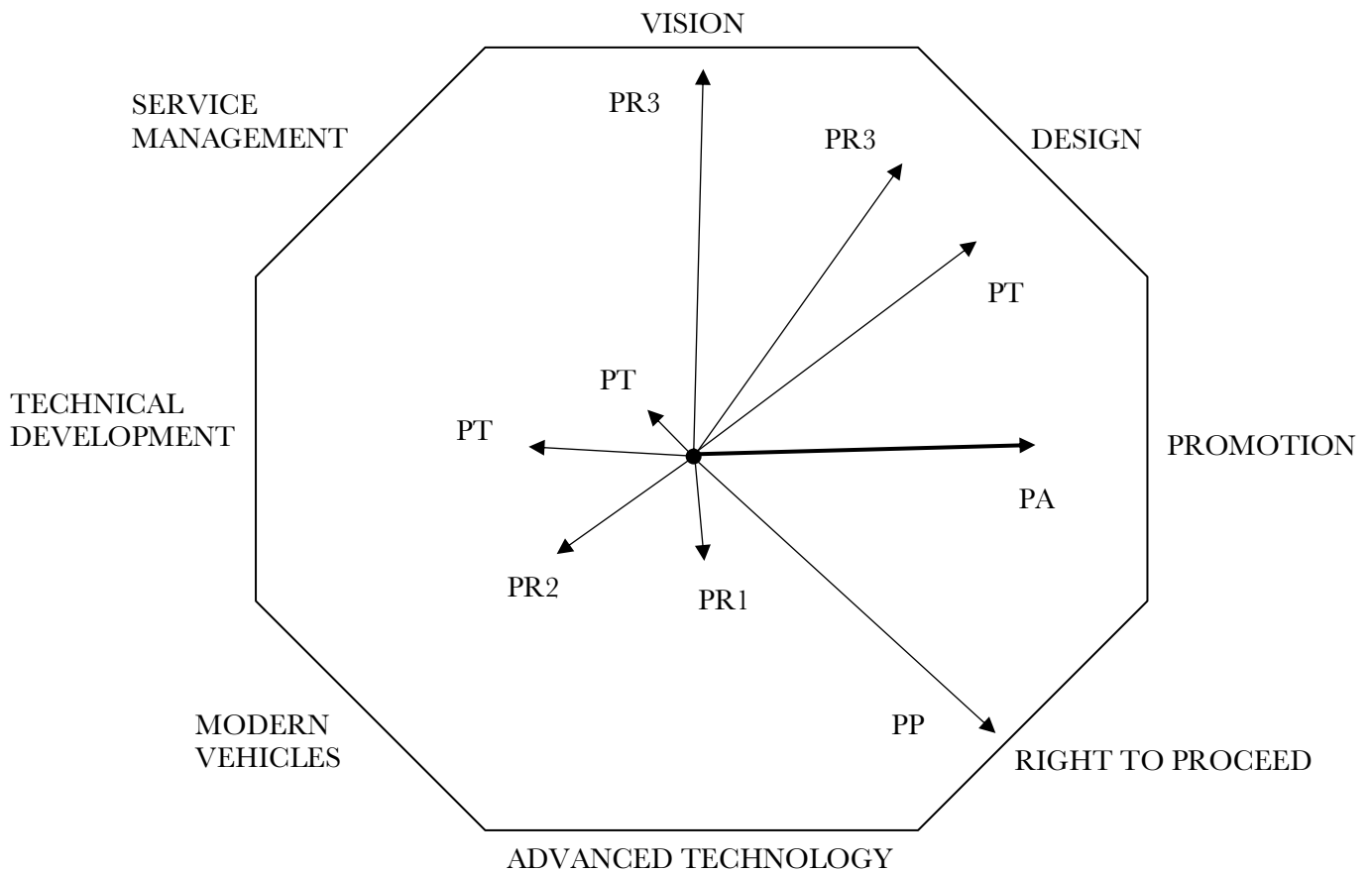


Figure 6: Application of the clock model (Part 1)

Moving from the center of the clock and following the direction of the hands, we can see the different actors involved and the contributions they are bringing to the innovation process. As the length of the hands show, in this particular moment of the process, energies have been directed to the most important and urgent contributions, namely the vision and design of the service, the promotion and the right to proceed that is granted by the political actor. The right to proceed is the authorization or, using the words of an interviewee, the ‘marching order’ from political bodies.

A couple of other things should be noted. First, one actor can provide more than one contribution: as the clock shows, PT is contributing to design, technical development and service management, though in this moment of the process he is mainly concerned with the design of the project, in collaboration with external consultant PR3. Indeed, and this is the second point, two different actors can collaborate and contribute together to the same element: though the vision was mainly articulated by PR3, the actual design of the service was a shared effort of PR3 and PT.

If we apply the model to the same innovation process but in a different moment, such as *once the railway line was built and it was being tested before the service could be delivered to citizens*, we will see a different configuration:

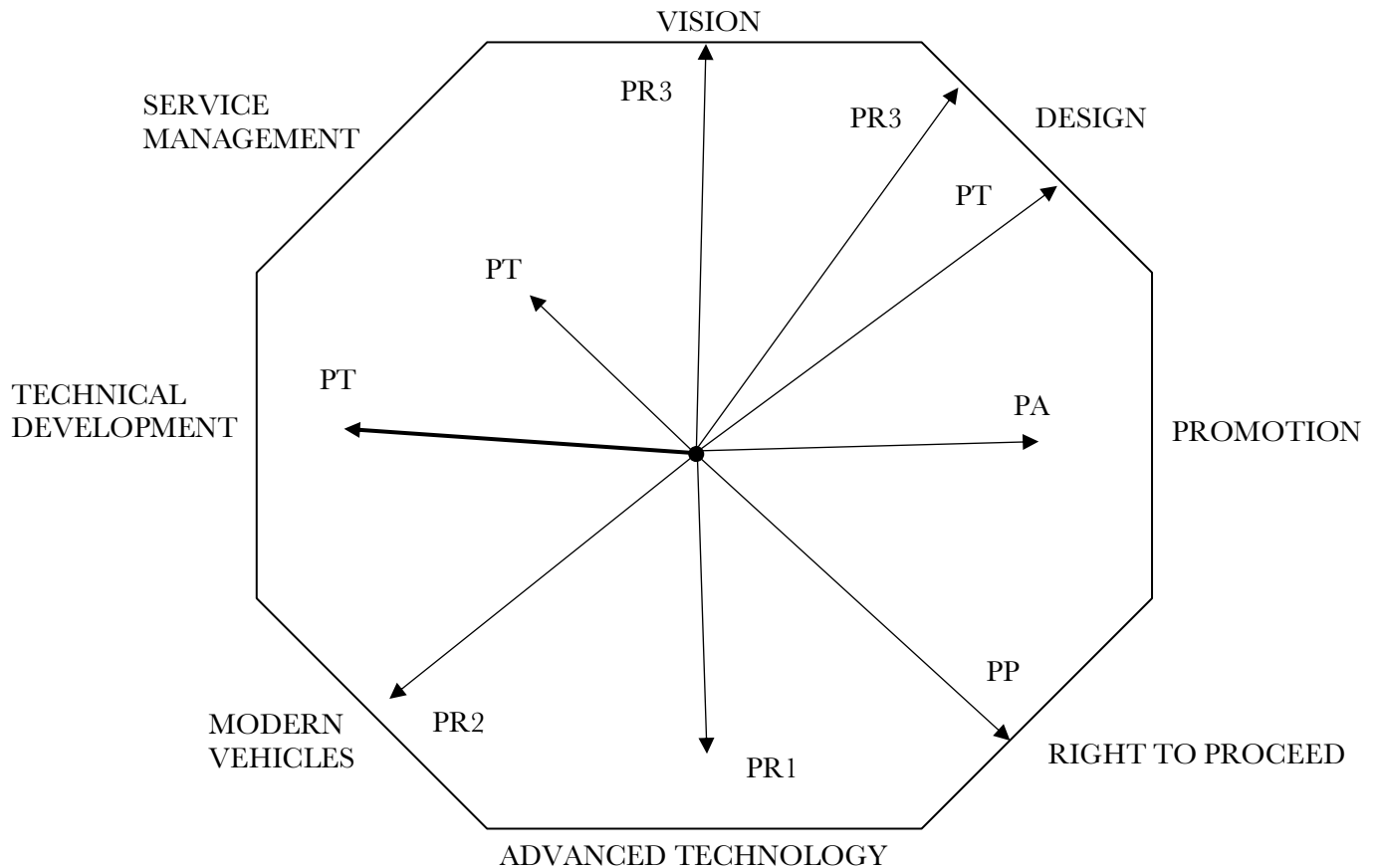


Figure 7: Application of the clock model (Part 2)

As this new configuration shows, some contributions – vision, design, right to proceed – have been brought (hands have touched the sides) and energies have been re-directed to those contributions – technical development, modern vehicles, advanced technology – that are more critical in later stages of the service development process.

In addition, in this moment of the process, the actual coordinator and leader is no longer PA but PT. Indeed, as the interviewees told us, once the project was decided and designed, and resources were allocated, the focus moved from political and administrative actors to more technical actors, public companies and private providers.

As it was also discussed before, at this point, the model could be simplified by omitting the activities that have been completely carried out and the actors that are no longer fundamental, as shown below:

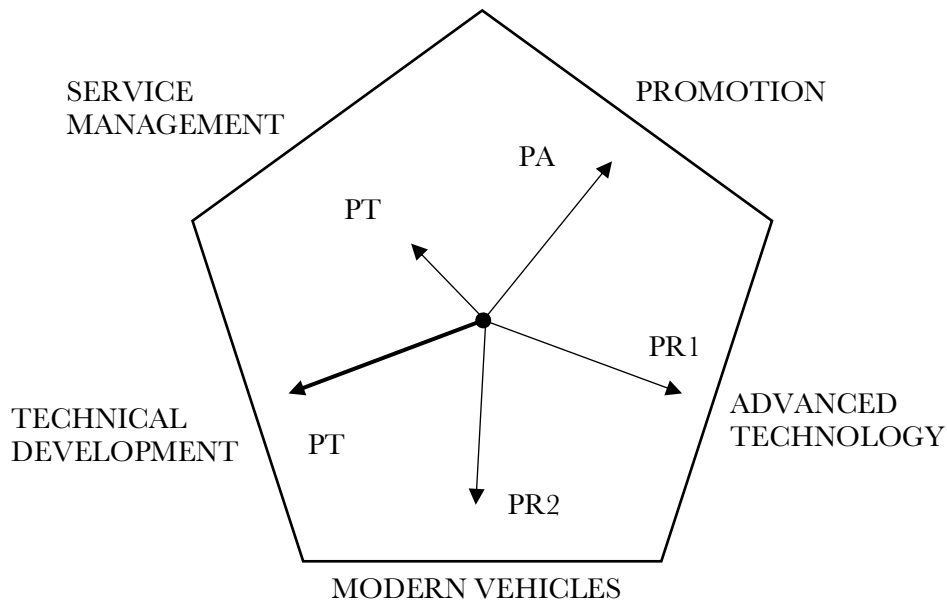


Figure 8: Application of the clock model (Part 3)

In this way, the model is simpler and more clear, as it points out only the actors and contributions that are still significant and necessary to the realization of the project.

This example allows to point out a few important elements of the model.

First, **contributions depend on the specific service to be innovated.** Some contributions, such as design, technical development or service management, are likely to be critical in any innovation project, independent of the content and goal of innovation. However, some other contributions do depend on the public service at issue. As the example suggests, ‘modern vehicles’ for instance is obviously specific to the context of mobility and will not be considered when other public services and innovation processes are pictured.

Second, **there is a plurality of contributions that can be brought in:** vision, design, inspiration, development, technology, financial resources, consensus, and so on. In particular, the example stresses the importance of vision and design, which are as important as technological contributions, promotion or technical development. These two elements are intrinsically related to the concepts of value creation and meaning, and their position in the clock reminds us the necessity to integrate what and how dimensions with the why dimension. In addition, this is also one of the cases where the B2B2C model can describe part of the innovation process, because the vision and design of the project were defined by a private actor (PR3), who helped a public one (PT) to imagine and envision the modern railway line that they actually developed. However, this model is not as effective when it used to describe the second part of process, where the public actor (PT) leads and private partners contribute essentially with technological solutions.

Third and more importantly, the example helps to draw a few implications for private partners and thus it helps to answer the 2nd research question. **The case highlights the variety of contributions that private partners can offer:** some of them can provide the vision of an innovative public service, and also the design of it; some others can provide the technologies and solutions that are needed to turn the project into a real and operating public service; in other cases, it is possible that private companies are involved only in the management and operations of the service, once it has been designed, developed and tested.

Furthermore, as the example shows, the model allows to picture different configurations. In particular, we argue that **there are two configurations that are relevant to those private organizations who want to contribute to public service innovation.**

For the sake of clarity, we consider four actors – a political body (PP), a public administration (PA), a public company (PT), a private partner (PR) – and six contributions – vision, design, development, implementation, management, technology.

The first configuration is the ‘vision-driven’ configuration, which is represented below:

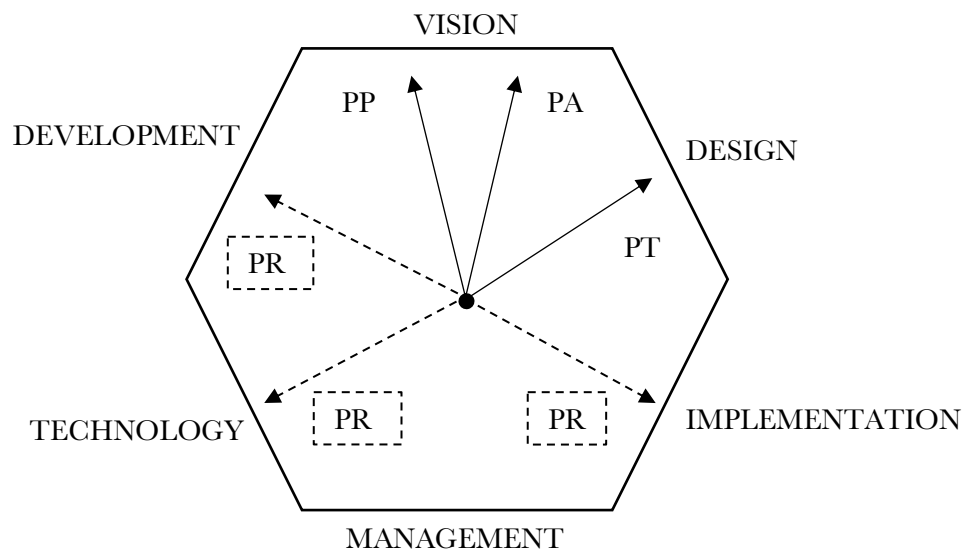


Figure 9: Vision-driven configuration of the clock model

In this configuration, public organizations already have a well-define vision, they know the value they want to realize, but they lack the know-how and technology to turn that vision into a viable service. They may have also identified a specific solution, but they still need the resources and technologies to develop, implement and make it accessible to users and citizens.

In this case, as the graphic shows, private partners can offer different contributions: they may be technology providers, service operators, and more generally help public actors to develop and/or implement the vision and solution they want.

Based on the empirical findings, this configuration is not unusual. Differently from what the B2B2C model suggests, sometimes public organizations have carefully questioned and defined the value and meaning they want to bring to citizens already, and thus they do not need the contribution of private actors in terms of vision and design.

Second, we look at the ‘resource-driven’ configuration, which is pictured below:

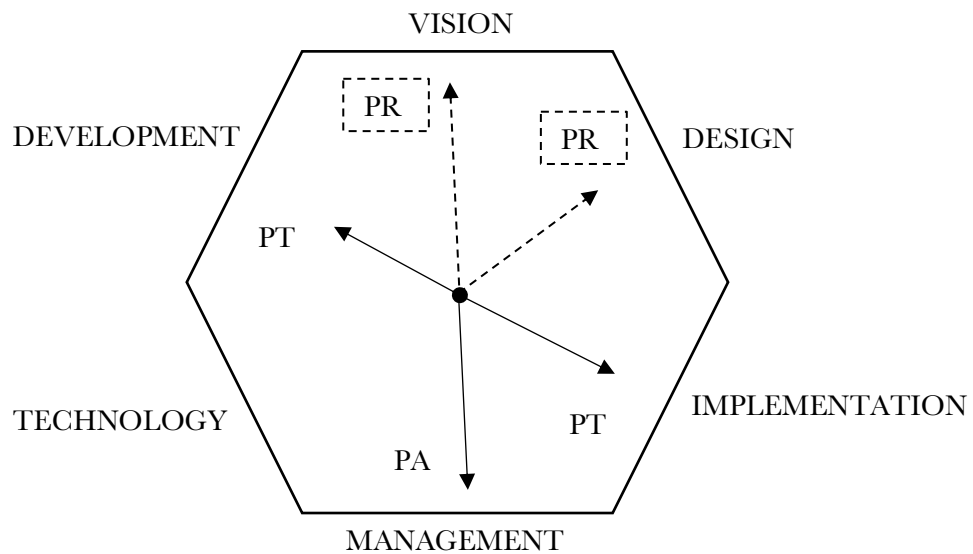


Figure 10: Resource-driven configuration of the clock model

In this second configuration, public organizations have the resources and competences to do innovation, and they may also have the support of political bodies. What they have not figured out yet is the vision and design of an innovative initiative, and more importantly the value it will generate, how it will be integrated with other existing services and how it will contribute to the mission of the organization itself. Thus, public companies risk to waste resources by investing them in projects that do not significantly generate value for citizens and intended beneficiaries.

In this case, private partners can contribute to the vision and design of innovative projects. In particular, they can help public organizations to question the value those projects will generate from the point of view of citizens and users. In this way, they can help public organizations to allocate resources to projects that are radically innovative.

The distinction between ‘vision-driven’ and ‘resource-driven’ configurations recalls the previous discussion about the logics of why, what and how, and also the distinction between effectuation and

causation. This is not by chance: since the intent of the clock model is to be helpful to innovators, and since the rationality of innovators is made of three different dimensions – why, what, how – we tried to devise a model that enables the individual to understand how he can contribute to the innovation process, and thus to value creation through the realization of valuable and meaningful public services.

In particular, in the ‘vision-driven’ configuration, the private actor will contribute with his own resources, competences and pragmatism to turn a meaningful project into a valuable service, whereas in the ‘resource-driven’ configuration, he will contribute with his perspective on value creation, meaning and radical innovation, challenging, envisioning and eventually designing an innovative service to be developed and delivered with the resources at hand.

To sum up, **the model is an intuitive graphic representation of the actors and their contributions to public service innovation.** Since it is made of moving objects, the model provides a flexible tool to picture the dynamicity of innovation processes in the context of public services. This flexibility enables not only to represent different moments of the same process but also very different processes and scenarios, since in any case there will be some actors involved and some contributions to be brought in.

As the example suggests, this conceptual tool can be useful in two different ways.

First, it can support collaboration and enable alignment: gathered around a table, actors can discuss about the innovation process and define the individual contributions using the clock model, and thus clarify who will do what. Once the process is started, an actor can also use it to update others about the advancement and status of his own activity.

Second, the clock can stimulate and support individual thinking: an innovator can use it to reflect on the innovation process, the actors involved and their role and contribution, and how they have changed in time. Thus, the model may help the individual to question his own role and contribution, and eventually redefine it. In particular, it can help private actors to understand the contribution they can bring to public organizations, leveraging the resources and competences they have and the ‘missing hands’ in the clock.

This last argument suggests how the clock model may be used by individual innovators to question their own contribution to innovation, which is the topic of the third and next section.

6.3. Contribution of Individual Innovators

In the previous sections we have been dealing with the rationality of innovators and the innovation process in the context of public services. In the first section, it was proposed a two-tier

structure to model the logic of individual innovators, and several instances of that were identified, classified and then compared with some pieces of established literature. In the second section, it was claimed the necessity of a model that is able to represent how the actors who are involved in the process actually contribute to innovation, without forcing the relationships among them or suggesting a rigid linear process.

Indeed, **in the context of public services, innovation happens as a ‘snowball effect’**. At the beginning, when the snowball is small and slow, the process struggles and people believe it will stop soon. Innovation is still no more than an initiative that needs consensus to become relevant and worth of greater attention. As the snowball speeds up and gets bigger, as some key actors make the decision to carry on the initiative and turn it into a more structured project, the innovation process moves forward and accumulates consensus. At the end of the run the snowball is big and fast, people have started to see the concrete effects of innovation and the process has gotten to a point that is so advanced that it seems impossible to stop and go back. Finally, the snowball approaches the hill and the level ground and slows down until it stops; explicitly, the process is done and users experience the benefits of innovation.

This metaphor still conveys a pretty linear description: the size and speed of the snowball gradually and constantly increase until it reaches the end of the run. This is not really the case of innovation processes in the context of public services, where consensus, especially at the beginning, seems to oscillate under a certain threshold, though the process actually speeds up and moves forward when consensus reaches it. Thus, we should imagine the side of the mountain, the path of the snowball, as full of rocks and trees that can slow down, stop or make the snowball smaller; in other words, innovation does not happen automatically once it has accumulated some speed and consensus. There are several threats and issues that can hinder the innovation process and jeopardize the outcomes.

The metaphor of the snowball conveys also the image of a well-defined time horizon: there is a starting point, a progression, and an ending point. These elements cannot be identified as easily in the case of innovation processes in the context of public services. Based on the empirical findings, we can say that usually there is an ongoing debate about innovation, about the resources it needs and the outcomes it may generate. Once there is enough consensus, there actually is a progression: roles are defined, resources are allocated and activities are carried out. However, there is no real ending point: though the service is available for use to citizens, it still needs to be managed and eventually improved. Indeed, in this context sometimes innovation is strictly linked to a person, and if that person exits the process or loses power, innovation is suddenly at risk. Therefore, innovation is an ongoing process, and part of it is the ‘after-sales service’.

In spite of these criticalities, this metaphor is still meaningful, and two more elements have to be highlighted. First, **the snowball is not an avalanche**: in the context of public services, innovation does not happen quickly and abruptly, and it does not crushes any obstacle it encounters; innovation requires consensus, and consensus typically takes time and effort, as there are always some opposers even within the promoting organization. Second and more important, **it stresses the importance of ‘momentum’**: innovation needs momentum to overcome inertia and indifference and become relevant, and this can be generated by individuals.

This last point introduces the core topic of the section, that is the contribution of individuals to innovation in the context of public services, which is intrinsically related to the topics of the previous sections.

By ‘contribution’ we mean indeed the outcome of the rationality of the individual innovator, whose decisions inevitably depend on his personal understanding of the innovation process and of the actors involved in it. The *actual* contribution of an actor, be it an organization or an individual, can take different forms and may fully or partially overlap with the *intended* contribution. Although we agree with Simon (1976) that rationality lies also in the process and not only in the outcome, we still want to assess the role and contribution of individuals to innovation in the context of public services.

In particular, **we want to dive into the ability to realize radical innovations and generate the value that is embedded in the logic of why, and also in the Innovation of Meaning and Service-Dominant Logic frameworks**. Value is indeed intended as value-in-use, generated by users through public service provision, and it is the criterion used by individuals to distinguish valuable initiatives, that is those initiatives that are meaningful and worth the effort.

In the context of public services, in particular of public and urban mobility, complexity, dynamicity and uncertainty rule. There is a multitude of actors, thus of interests, resources and rationalities. These actors and the relationships among them are not static; they can and do change as time passes. It follows that innovation processes are characterized by uncertainty and unpredictability about the process itself and more importantly the outcomes. In addition, mobility is a highly regulated field and presents some peculiarities that make collaboration very difficult and conflict very likely.

In this complicated scenario, innovation seems impossible. Nonetheless, as the cases analyzed suggest, innovation is possible and happens. It takes time, it follows a non-linear process and it may even stop at some point, but in some cases it can get done even in a relatively short period of time.

However, when we question the ability to realize *radical* innovations, that is those innovative initiatives and projects that represent a significant deviation from the status quo, and not just an gradual evolution of it, it is extremely important to frame them within a timeline. Indeed, we can argue the

following: in the context of public services, in particular of public and urban mobility, a radical innovation is more likely to be realized in the medium-long term, as long as the actors involved in the innovation process share the value of it and collaborate effectively. Pushing a radical innovation in the short term may not work: the greater the difference between the as-is and the to-be scenario or system, the more difficult it is to generate consensus, and thus the longer collaboration and innovation take. Thus, it may be more effective to realize it in the long term through a series of intermediate incremental steps, which require much less resources in terms of time and consensus.

This argument does not want to imply that radical innovations cannot happen in the short-medium term. It holds though that they are ‘exceptions that prove the rule’, exceptional cases that happen because the conditions are exceptional as well. For example, as one interviewee suggested, in Milan, Covid-19 has enabled a few innovations that can be considered radical, that have significantly affected the environment where they were implemented. However, we consider the pandemic to be an exceptional event and circumstance, that hopefully will not constitute an ordinary concern for individuals and organizations.

The Covid-19 pandemic redirects the argument to effectuation and the ability of innovators to spot and exploit contingent opportunities. As claimed in the first section, different individuals adopt different logics and approaches to innovation, and all of them can be effective to some extent, but the ability to read the local context and leverage the resources at hand is critical for any of them.

Thus, thinking about the role, logic and contribution of individuals to (radical) innovation in the context of public services, three metaphors came to mind. They stress that an innovator, in order to enhance the effectiveness of his rationality and the probability of success, should be:

- ◆ **An archer:** immersed in a natural setting, archers have a target – an animal or enemy – and some tools – bow and arrows – to hit it. Likewise, innovators have their goals and resources, ends and means, and operate within a dynamic context. In particular, the metaphor wants to stress the following point: the more arrows in the quiver, the more solutions and logics at hand, the greater the likelihood to achieve goals and create value.
- ◆ **An hawk:** hawks adapt their hunting strategy to the behavior of the flock: they may attack it directly, chase it, get to it from below or above, or attack it repeatedly. Likewise, innovators should observe and understand the evolution of the context and of the innovation process, and eventually adapt their logic and rationality. They need to have a selection mechanism to identify the approach that get them what they want in a more effective or efficient way.
- ◆ **A minister of foreign affairs:** ministers of foreign affairs nurture and establish international relations with the most important and powerful representatives of other nations. In the same way, innovators should identify the key organizations involved in the innovation process and

their representatives, and establish with them close and possibly personal relationships, so to trigger and encourage collaboration, without whom innovation is impossible.

These three metaphors summarize the abilities that innovators need to master to enhance the chance of doing radical innovation that lasts. Actually, they are especially important for innovators that work in public organizations: as it emerged from the findings of the empirical research, differently from private actors, public ones are indeed subject to boundaries, constraints and procedures that often hinder innovation. Thus, the ability to manage the resources at hand and adapt to the obstacles that cannot be overcome is particularly critical for them.

This argument is in line with the discussion about the logics and rationalities of individuals in the first section. In particular, the metaphors stress how strongly interrelated the dimensions of why, what and how are: in order to realize the value and meaning at the top of the triangle, individuals need pragmatic criteria to turn an initiative and some consensus into a structured innovation process, they have to build and nurture strategic relationships with key decision-makers and potential innovators, and they also need to learn from mistakes and eventually adapt their rationality to the circumstances.

In other words, the why dimension is not powerful by itself, because it needs the support of the what and how dimensions. As meaningful and valuable the vision of an innovative service may be, it will not be realized if the less abstract elements of the innovation process are not handled effectively, especially in the complex and complicated context of public services.

Although the previous insights can be more relevant to public actors, it does not mean that innovators working in private companies will not benefit from them and from the use of the same logics. Indeed, we argue that private actors, especially those that seek to collaborate with public administrations, can leverage the understanding of the rationality of the public counterpart to select the approach that better fits their interest and strategic intent.

In particular, the following ten statements suggest what you – private actor – should always bear in mind to collaborate effectively and hopefully be considered an ‘ideal’ or ‘excellent’ partner:

Table 14: Suggestions for private actors involved in public service innovation processes

Public actors do not enjoy the same autonomy that you do. Try to understand what the collaborator can and cannot do, who has the power and responsibility of decision-making, and respect these boundaries.

Public actors have a lower risk-tolerance than you have. Try to understand the doubts and fears of the collaborator, and, if they are sound, propose a less risky initiative.

Public actors are influenced by politics and exposed to media much more than you are. Try to understand the consequences and scenarios the collaborator is afraid of, and help him figure out some arguments he can use if he is confronted with failure and criticism.

Public actors think that you are only interested in profit. The best way to build trust and prove that you are not hiding your true objectives is to be transparent about them, including the economic aspects.

Public actors need innovation to fit the local context. Do not propose to the collaborator a standard solution, which will not be satisfactory; be flexible and adapt to his particular needs and requirements.

Public actors must be inclusive. Do not target a segment of the market and develop a solution that fits it; bear in mind that innovation must take into consideration the needs of all of the citizens belonging to a certain population.

Public actors may underestimate technical complexity. Discuss openly and in detail the practical challenges and problems that you are likely to face in the innovation process, so to make the collaborator aware of critical issues he may ignore.

Public actors are interested in consensus. Help them find allies and build strategic partnerships, and provide them with arguments they can use to legitimize innovation and investments.

Public actors must innovate and need your help. Reflect on the value and contribution you can bring to their table, and remember that, as you are an asset they use to do innovation, they are an asset for you to do the innovation that you value.

Public actors collaborate with other public actors. If you identify an innovative project that has been done by a similar organization, open a discussion about it with the collaborator

and suggest to contact that organization and go and see what they did and how they made it. Differently from the private sphere, in the public sector collaboration replaces competition.

As it was already evident from the findings, collaboration is boosted by mutual understanding. If private companies are aware of the peculiar constraints and characteristics of public organizations, they can adapt their logic and avoid being crushed by the complexity of the context. It follows that also public actors need to understand the logic and rationality of the private side, as well as their interests and priorities.

In particular, it is always extremely important to remember that any time we deal with ‘organizations’, ‘actors’, ‘companies’, ‘bodies’, ‘agencies’, and collaboration among them, the actual protagonists behind these abstract terms are individuals. Of course, different organizations and individuals have different rationalities and are involved in different scenarios, thus some of those ten statements may be particularly relevant in a specific case or circumstance. Indeed, they are thought to be used in this way: the innovator should always bear them in mind and understand which ones are useful in the specific innovation process he is involved in.

These recommendations for private organizations help us to answer the 2nd research question, which is exactly about how the results and insights on the rationality of individuals and on the innovation process in the context of public services can be used to enhance the radicality and effectiveness of innovation, with a particular focus on private actors. At this point, we can argue that shedding a light on the rationality of individuals and the contribution they bring to public service innovation is crucial to enhance coordination and collaboration, and thus the outcomes of innovation. In particular, this knowledge is useful to both public and private actors, who can identify more easily the contribution they can bring to public service innovation.

6.4. Conclusion of the Chapter

In this chapter we presented the results and implications of the whole work, which are grounded on the empirical findings showed in the previous chapter.

In particular, we addressed again the research questions and tried to answer them in a structured way: first, we focused on the rationality of individuals who contribute to public service innovation, highlighting the different logics they follow and their characteristics, and integrating the results with some established pieces of literature; second, we extended the B2B2C model and explained the ‘innovation clock model’, trying to point out a few implications for private actors; finally, we concluded the argument by questioning the contribution of individuals to public service innovation, and we listed a few implications and recommendations for private partners.

In the next and final chapter, we will briefly summarize the results, and then elaborate on the limitations of the work itself, so that it may trigger further research on the issues and topics that have been considered.

7. Conclusions

In the previous chapter we answered the research questions, which are reported below:

- I. Considering the contribution of individuals involved in innovation processes that aim at radically innovating a public service, which logics and rationalities do they adopt and follow, and which characteristics do these logics have?
- II. Moreover, how could (the knowledge about) such logics be used to enhance the effectiveness and radicality of those innovation processes with particular reference to the role that private providers can play in these contexts?

To sum up the whole argument, we stated that, based on the empirical findings, in the context of innovation processes that concern public services, the rationality of individuals puts together three dimensions – why, what, how – that could be organized into a triangular scheme. This scheme stresses the why dimension, the criterion individuals use to distinguish valuable and meaningful projects, though it also highlights the importance of the what and how dimensions, that is the pragmatic criteria and logics innovators use to turn a meaningful vision into a valuable public service. In particular, we argued that, based on the evidence collected, there is a plurality of logics that innovators adopt, and we named and classified them on the dimension they are driven by.

Then, we extended the B2B2C model and showed the innovation clock model, which is an intuitive graphic representation of the actors involved and their contributions to innovation processes in the context of public services, in a particular point in time. This model embraces the complexity and dynamicity of public service innovation, and enables private partners to figure out the contribution they can bring to innovation. In particular, multiple are the contributions private organizations can provide: in some cases, they can help public organizations to question the value they want to create for citizens, and to envision and eventually design an innovative public service; in other cases, if public organizations already have a clear vision or a well-defined objective, private partners can leverage their resources and competences to help them to turn that vision into reality.

Finally, building on the insights about the rationality of individuals and the characteristics of innovation processes in the context of public services, we addressed the overall contribution of individual innovators to public service innovation and value creation. In particular, given the complexity, dynamicity and uncertainty of the context in scope, we stated that radical innovations are more likely to be realized in the medium-long term. Based on the empirical findings, this seems to be particularly relevant to innovators from the public side, and we identified some metaphors – archer, hawk, minister of foreign affairs – to stress the ability of these individuals to manage the resources at hand, exploit contingent opportunities, adapt their rationality to local circumstances and create and nurture strategic

relationships. In conclusion, leveraging these insights about innovation in the public context, we drew a few implications for private partners who are involved in this context and contribute to public service innovation.

Moving forward, we also recognize that there are a few limitations to this work, which can be the basis of further and future research though.

The key limitations of the research are essentially due to the scope of the research itself. As it was highlighted in the previous chapters, mobility and public transport is a very specific field, with several peculiar aspects, especially in the urban context. Complex regulations, high capital intensity, inelastic demand, great technological content and emerging trends constitute a set of elements that do not apply to all of the other public services and contexts.

In addition, it is important to make some notes about the cases and the interviewees.

First, the geographical scope is quite specific: 3 out of 4 cases refer to the Italian context, and the other one to Germany, thus making a small part of Europe the actual scenario of the empirical research. Physical proximity may lead to cultural proximity: Italy and Germany are different, but not as different as Italy and other non-European countries like Russia, China or USA. Such socio-cultural affinity obviously limits the generalizability of the results.

Second, the variety of the interviewees may seem to be significantly skewed to one side: 8 out of the 11 interviewees belong to public organizations and ‘only’ 3 of them work in the private sector. However, as it was discussed in the previous chapters, the public side is complex and multifold, and public organizations can be very different one another. Moreover, a couple of interviewees have actually accumulated experience working for both public and private companies.

Third, all of the cases refer to scenarios that can be considered ‘functional’: though each country and city has its own peculiarities, none of the cases were characterized by severe poverty, widespread corruption, extreme weather conditions or any other potential issue. These and other factors can significantly affect the context of public services and innovation, and thus provide alternative evidence.

It is also important to stress the use of retrospective interviews, with all the pros and cons. All of the answers, all of the evidence was collected by helping the interviewees to go back in time with their minds and recollect for us the innovation process and the key decisions they made. Of course, their reconstruction may be inaccurate and incomplete, as they may have not cited some crucial events and issues. To some extent, we hedged against this risk by interviewing two or three people that have collaborated on the same project or worked in the same context, and asking them a few questions on the same elements, both to spot differences and to assess the relevance of those elements.

The limitations that are related to the methodology of the empirical research inevitably affect the results and implications that are grounded on the findings of the empirical research itself. In other words, the same criteria and decisions that make the research possible by delimiting the scope and context inevitably delimit also the value and applicability of the results. Indeed, if we want to summarize the limitations of the proposals that have been elaborated in the previous chapter in one question, that question may be the following: what is the value of the results outside the scope of the research?

If we consider the structure and classification of the logics of innovators, their contribution to radical innovation, the ‘innovation clock model’ and the recommendations to private actors that are willing to collaborate with public organizations in the context of urban mobility, we may indeed wonder about the applicability of those arguments to other contexts. However, it is necessary to remind that the goal of the research was not to provide a universal answer or framework that could be applied to any context and public service; the goal was to *map* concepts and variables about the rationality and contribution of individual innovators as they are involved in innovation processes that concern public services, and urban mobility and public transport provided a suitable scenario.

Regarding results and proposals, there are a few limitations that are not related to the methodology and scope of the research though.

First, it is important to stress that the instances of the ‘logic of what and how’, which have been classified according to the ‘X-n-provide’ model, are exemplary and may not constitute a comprehensive description of the pragmatic criteria individuals adopt. Given the limited number of cases, and coherently with the methodology applied, it was also inappropriate to rank them in terms of effectiveness or efficiency.

Second, the clock model was devised by taking into consideration the trade-off between usability and completeness, simplicity and accuracy. We tried to propose a model that is sufficiently clear to be used efficiently by the innovator and at the same time descriptive and representative of the innovation process and the actors involved. The goal was indeed to devise a tool that can be used in a range of circumstances, but the extent to which that goal has been achieved must be tested.

Third, although we were interested in cases of radical innovation, it would be wrong to say that all of the interviewees were involved in and contributed to innovation processes that changed the as-is scenario of a public service in a radical way. Some of them did and some others did not, and we need more evidence to draw some strong and further conclusions about the contribution of individuals to radical innovation. In addition, it is important to highlight that investigating cases of success does not guarantee the ability to understand why they are successful, since it is always difficult to identify and weigh all of the possible critical success factors.

However, limitations are not ‘failures’ or ‘weaknesses’ of the research. They define the boundaries of the work so that it is possible to frame the research question and the results within the existing literature.

Research is an ongoing process and the result of it is like a mosaic made by a community of researchers, each one contributing with his own tile. In particular, the contribution of an individual is typically grounded on the work of others.

Therefore, **conclusions and limitations of a piece of research do actually constitute the foundations of future works.** The limitations that have been discussed above do indeed generate other potential research questions, as it is argued below.

First of all, it is natural to wonder about the value of the implications to other contexts and public services. Urban mobility and public transport is a peculiar context, and it is reasonable to assume that education, healthcare and other public services have different characteristics. A new scenario may require new pragmatic criteria and rationalities from innovators, a new model to describe innovation processes and it may suggest new recommendations for those people and organizations who are willing to get involved in it.

Second, it is natural to question the applicability of the concepts to different geographical contexts. There may be other kinds of organizations, other than the four actor groups that have been identified in any of the cases analyzed. It is also reasonable to think that different issues and trends are present in different countries and cities, whose representatives may have different political agendas according to the peculiar values and expectations of citizens.

Third, since the logics and approaches to innovation that have been identified may be incomplete and overlapping, it will be crucial then to investigate other cases and collect more evidence. It may be important to understand if there are some selection mechanisms that lead innovators to choose between two alternative logics, if they actually merge or alternate different approaches, and it may be interesting to see how raising awareness about this mental process affects the behavior of individuals eventually.

Last but not least, it will be important to test whether the practical tools and implications that have been proposed in the previous chapter are actually useful to practitioners. For instance, it will be important to understand whether the clock model can actually help individuals to collaborate or question their role and contribution to innovation processes that concern public services. It will also be interesting to see private actors follow those ten suggestions and understand if they enhance the effectiveness and efficiency of public-private partnerships, and the radicality of public service innovation.

To sum up, we hope that the results and limitations of the whole work will provide some insights to further research. In particular, **we suggest two paths**: first, try to assess the replicability of the findings and results in other public services and geographical contexts; second, try to test the usefulness of the theoretical tools to practitioners, and eventually restructure or refine them. Indeed, the ultimate goal is to provide knowledge that is usable and actually used by individuals and organizations who want to leverage innovation to generate a positive impact on reality through public services.

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9. Annexes

Annex A: Interview Questionnaire

Table 15: Interview questionnaire

Element	Question
ID	<i>In any organization or project there are different people involved with different roles.</i>
	<i>Some are in charge of the strategic aspects while others of implementation, operations and performance measurement.</i>
	<i>Though there's usually a process leader in charge of making key decisions, innovative contributions may come from different individuals, having a substantial impact on the outcomes of the project itself.</i>
	<i>I would like to know about your role in different projects, while answering the following questions:</i>
	1- Who led the decision making process and why? What role did you play?
	2- Was the project innovative and why?
APP	<i>3- What are the characteristics and skills of the ideal innovation leader in your opinion?</i>
	<i>4- Which of them do you think you own?</i>
	<i>5- Do you look at yourself as an innovator?</i>
	<i>In any project there are ends/goals/objectives to be achieved and means/resources to be deployed to achieve them.</i>
	<i>Some people and organizations start from a goal, a vision, and then identify and gather the resources they need to turn that vision into reality; some others start from the resources they already own and ask themselves what they can do with them, which goals and objectives may be achieved if those resources are managed properly.</i>
	<i>I would like to know about your approach, by answering the following questions:</i>
VL	1- You come up with a new idea. What's the first thing you do?
	2- Do you articulate your initial proposal into a clear and well-defined vision?
	3- Do you identify precise objectives and KPIs? Are they flexible?
	4- What are your core resources?
	5- When do you look for strategic partners?
	<i>I believe that any individual has his own criterion to evaluate whether an initiative is valuable or not.</i>
VLC	<i>This criterion may be multidimensional, comprehending, for example, money and environmental sustainability, and different people weigh the same dimension differently.</i>
	<i>I would like to know when you consider a project valuable and worth pursuing, by answering the following questions:</i>
	1- When do you consider a new project 'valuable'?
	2- How do you measure value?
	3- When do you give up on a project? When is it not worth the efforts?
	4- Value-for-money: necessary but not sufficient condition?
5- Which aspect of your definition is usually shared? Which is usually not shared?	
COE	<i>Innovation processes in the public domain are usually complex in terms of actors, resources, goals.</i>
	<i>Each actor has its own interests, resources, risk propensity and behaves according to such factors.</i>
	<i>In particular, each individual, whether implicitly or explicitly, has an idea of the structure of the process, main steps, key decisions to make, major stakeholders.</i>
	<i>I would like to know your personal view on innovation processes and the role(s) you had the chance to play in some of them, by answering a few questions:</i>
	1- What are the key actors? Are you one of them?
	2- What are the key challenges to value creation?
3- What relationship do you establish with partners and how?	
4- What's the profile of the ideal partner?	
5- Do you involve potential users in the process? When?	
COE	<i>By definition, innovation implies change. Any innovation process aims at introducing something new and therefore at changing the current way an organization operates and/or the way a user performs a particular activity.</i>
	<i>Change implies some sort of control over the environment, both internal and external. Indeed, an innovator, like an entrepreneur, can modify the organization he belongs to and also the market the organization operates in.</i>
	<i>A radical innovation is introduced in other organizations and may even require institutions to develop ad-hoc regulations.</i>
	<i>I would like to know about the way you picture the surrounding environment and how you interact with it, by asking a few questions:</i>
	1- To what extent you think you can change the actual environment?
	2- Were you confident about the outcomes and impact of the project?
3- How do you look at trends? Do you follow them?	
4- What cannot be changed about the environment?	
5- Do you consider the regulatory environment flexible?	

OC	<i>An individual usually belongs to a larger organization, which is characterized by a vision, a mission, goals and resources, an organizational culture. In particular, an organization can support individuals and engage them in innovation processes with several techniques, thus allowing theoretically anyone to contribute to innovation. However, an organization can also limit individual initiatives by challenging them or imposing rigid constraints. I would like to know about how such organizational complexity influences your individual behavior and action, trying to answer the following question:</i>
	1- What if your vision is not aligned to the vision of the organization?
	2- Does your organization encourage an entrepreneurial attitude?
	3- What would you like to change about your organization?
	4- What impact do politics and media have on your organization?
	5- What does usually limit your action? Lack of consensus? Lack of financial resources? Different priorities?

Annex B: Selection of Coding and Aggregation of Second-order Themes

Table 16: Selection of first-order coding

Interviewee	Excerpt	First-order code
St1	The thing with public transportation is that it's not a self-sufficient business, we always need public money to fund it. (...) With this reform we actually lowered the coverage from customers from 60% to 50%, which means we have to spend more taxpayers' money on it. I think that's a good thing because public transportation is a public good so the public has to pay for it.	since public transport is not profitable we need public spending
St1	No public organization will develop its own IT system, they will buy from the market.	public organizations need private partners
St1	Just as they [public companies] get the marching order from the political assembly, at the same time they push the political assembly to give them the marching order. (...) It's a 'sausage making' in politics; it's not a nice process but it happens like this.	public companies are influenced by and influence political bodies
St1	There are several kinds of actor groups that can initiate [the process], but the most important thing is that at some point a public body has to make the decision. (...) Somebody has to make the political decision, but the origins of innovation are multifold and very much recursive; everyone is influencing each other.	political bodies are central to innovation as they are the key decision-maker
St1	They have technical knowledge, how to do actually, build a railway and run this thing. They know what happens in this field, they are the innovators when it comes to railway or tramway systems. The public administration doesn't have that knowledge and the public parliament doesn't have that knowledge.	different public organizations have different resources and thus they contribute to innovation differently
St1	I think for them [public company] it was more of a question of marketing (...). I think the technical issues were rather limited. It was more of a question on how do they then reposition and market it to their customers and also to non-customers.	political actors may ignore or underestimate technical complexity
St1	The first thing he taught me was that he had to adapt to the different culture in Stuttgart. Here, public officials and members of the regional assembly take pride in not spending too much money. This is kind of the culture, and it wasn't the same in [another place].	innovators need to be able to adapt to the local context and culture
St1	For political bodies, a year or two is a very narrow time frame normally. It happened really quickly. If it would have been longer, if it would have gone on for 5, 6 or 7 years, I'm not sure [we would have been able to do it as planned].	different actors have different time frames and public ones' is typically longer
St1	(...) seeing that there are three conversations happening separately, with similar intentions. So, why not connect these things? (...) If you see that there are similar conversations happening in different areas that have no momentum, maybe connect them and generate some momentum.	innovators need to be able to boost collaboration and generate momentum
St1	I think the users of mobility systems of public transportation don't have any idea how they work. Not technologically, not legally. Not politically, not financially. I think they don't have any idea how complex these systems are and what effects a change will have. Oh, why can't you have the bus not run every 15 minutes, but every 10 minutes?	according to public actors expectations of users increase (also) because they do not understand the technical complexity of mobility systems

Table 17: Aggregation of second-order themes

Second-order theme	Aggregate dimension
Characteristics elements of public transport and mobility	Specificity of the service considered and the organizations involved
Impact of contextual differences between public and private actors on innovation	
Recurring elements in innovation processes on public mobility services	
Typology and contribution of the actors promoting service innovation initiatives	Typology, contribution and role of the actors promoting service innovation initiatives
Relationship and collaboration between public organizations and private partners	Approach and rationality of individual innovators
Characteristics and qualities of individual innovators	
Approaches and rationalities of individual innovators	
Relationship between vision, goals and resources in the approach of individual innovators	

