



JRC SCIENCE FOR POLICY REPORT

ICT-Enabled Social Innovation to support the Implementation of the Social Investment Package

Mapping and Analysis of ICT-enabled Social Innovation Initiatives promoting social investment across the EU:
IESI Knowledge Map 2016

2017

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Title Mapping and Analysis of ICT-enabled Social Innovation initiatives promoting social investment across the EU: IESI Knowledge Map 2016

Abstract

This report presents the results of the analysis of the consolidated mapping of ICT-enabled social innovation initiatives promoting social investment gathered as part of the research project entitled 'ICT-Enabled Social Innovation to support the Implementation of the Social Investment Package' (IESI). The dataset includes 613 initiatives inventoried over the course of the research, out of which 300 have been mapped and are part of the IESI Knowledge Map 2016.

The results of the analysis of the IESI mapping is meant to help policymakers and practitioners to use ICT-enabled social innovation to modernise EU welfare states, providing better and more efficient social services and increasing the skills, wellbeing and resilience of EU citizens. In this perspective, the documented research design, its proposed terminology, theoretical framework and findings contribute to the growing scientific interest and debate about ICT-enabled social innovations in the field of social services innovation and social policy redesign within the scope of the emerging discussion on the European Pillar of Social Rights and the future of welfare systems.

Acknowledgements

This report presents the consolidated results of the analysis of the mapping of ICT-Enabled Social Innovation Initiatives conducted by the JRC as part of the IESI research in collaboration with key stakeholders and the support of experts in the period 2014 - 2016.

Mapping initiatives in the field of ICT-enabled social innovation promoting social investment indeed has not been an easy task as it involved exploring uncharted territories and investigating beyond the usual comfort-zones.

As such, this process has been a learning journey and as all adventures it allowed the 'IESI research team' at JRC to engage with many colleagues, experts and representatives of stakeholders who contributed in different capacities to the research.

We call them the 'IESI community', and although it is not possible to name all of the members of such a growing group of like-minded people across Europe, we are particularly grateful to all participants in the various Experts and Stakeholders' consultation workshops, held during the implementation of the IESI research.

In such an exploratory journey the IESI research team at JRC has been accompanied by a number of external experts, whom we called the 'IESI-extended team' and who contributed to the research in different manners. For this last piece of work a special mention goes to the research group of the *Institute of Innovation Research at the University of Manchester*, which under the leadership of Dimitri Gagliardi supported us in the 'third round' of data gathering and analysis conducted in 2016. In this regard, a big thank you goes also to the various country experts who engaged in the challenging task of documenting evidence of ICT-enabled social innovation initiatives, and in particular the members of the advisory board, Jeremy Millard, Francesco Niglia and Foteini Psarra.

We are also grateful to Fiorenza Lipparini and Joshua Phillips from PlusValue and Guido Caldarelli from IMT-Lucca, who performed the data curation of the datasets collected in 2014 and 2015 and tested the consistency of the IESI database using Social Network Analysis, setting the basis for a promising avenue for further research in the field.

Finally, we are indebted to our colleagues from DG Employment, Social Affairs and Inclusion, our main partner in this research endeavour. In particular, we would like to express our gratitude to Aurelio Fernandez-Lopez and Claire Grapeloux for their guidance in ensuring the research findings would be relevant to policy design and implementation in the challenging context of social policy reform and modernisation of EU social protection systems which allowed us to contribute insights to the debate on the future of welfare systems.

Note

This report is based on the analysis conducted by JRC-Seville, Directorate B. Growth & Innovation, Human Capital & Employment Unit (B4) – IESI Research Team, as part of the Administrative Arrangement for a multi-year research on 'ICT-Enabled Social Innovation in support to the Implementation of the Social Investment Package' between DG JRC and DG EMPL (AA N° 33268-2014-01 EMPL).

For more information about the IESI research see: <https://ec.europa.eu/jrc/en/iesi>.

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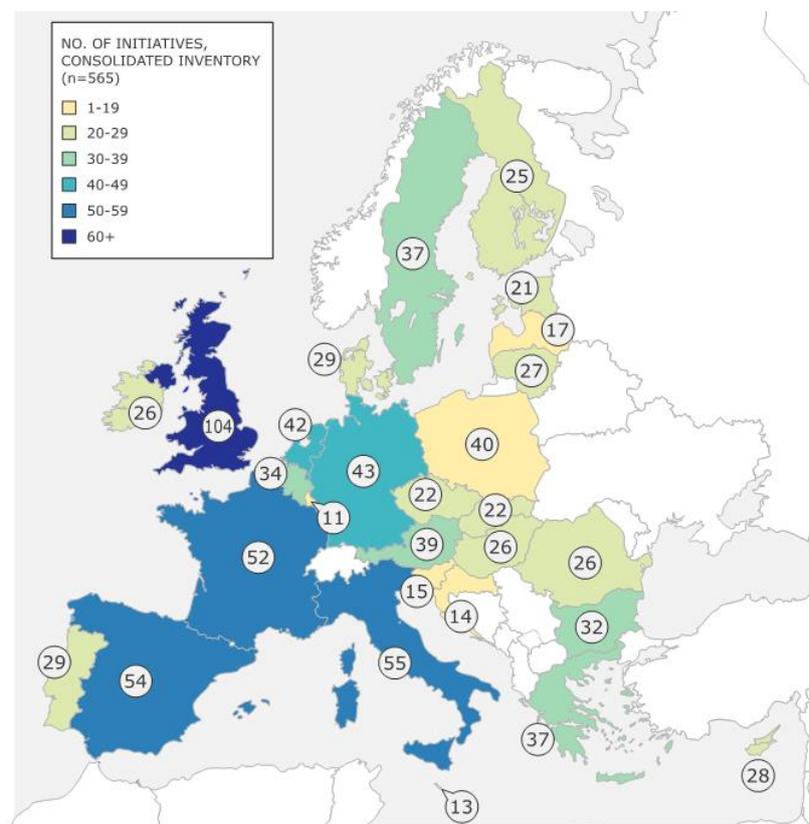
Executive Summary

This report presents the **results of the analysis of the consolidated (2014-2016) Mapping** of the project 'ICT-enabled Social Innovation to support the Implementation of the Social Investment Package' (IESI). It provides an enriched picture of the existing knowledge base and evidence of how ICT-enabled social innovation initiatives that promote social investment through integrated approaches to social services delivery can contribute to the policy objectives of the EU Social Investment Package (SIP).

The conceptual and analytical framework developed during the first phase of IESI and then refined through the 2015 mapping was further validated in 2016 by an update of the review of the state of the art. This update specifically explored digital service innovation and focused on ICT-enabled social innovation. It confirmed the transformative role of ICTs which can be both enablers and game changers. It also underlined the fuzziness of the concept of social innovation and the importance of the value creation aspect inherent in it. A review of emerging trends from theory and practice further confirmed the fact that social innovation is embedded in the conceptual framework of co-creation and co-production. The review also highlighted the obstacles to implementing ICT-enabled social innovation to support policy reforms. Finally, it revealed that **the field of 'Social Policy Innovation' is rapidly maturing.**

The updated review of the literature contributed to refining the IESI analytical framework, which was then used to analyse **300 initiatives**. These were selected from a total **inventory of 613 initiatives** gathered over the course of the three year project, of which 565 operated in the EU. The 2016 mapping contributed **196 new initiatives to this inventory, of which 105 were mapped.**

Figure a. Consolidated Inventory, 2014 to 2016 (n=565)

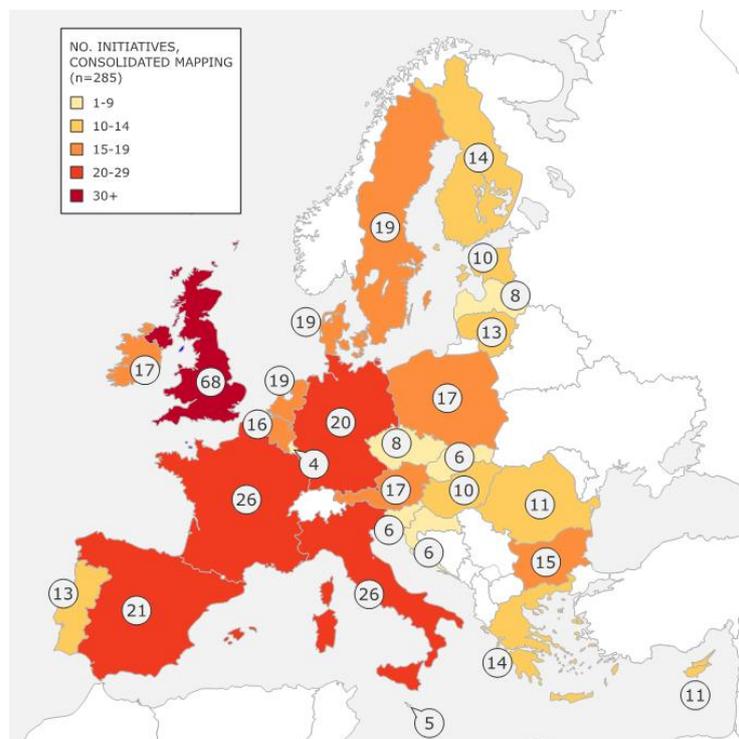


Source: own elaboration.

In this **2016 consolidated IESI Inventory**, almost 20% of the initiatives relate to social inclusion and participation, 16% to education and 13% to training and civic engagement. Initiatives involved in various areas of active and healthy ageing and long-term care constitute 18.5% of the total, and initiatives addressing employability and employment 15%. Social assistance and social care represent less than 10% of all cases. In the **2016 consolidated IESI Mapping**, a similar pattern emerges with very similar shares of services dealing with social inclusion and participation, active and healthy ageing and long-term care, employability and employment. In the Mapping, however, more initiatives deal with civic engagement than education and training whereas this is not the case in the Inventory. Only 12% of all initiatives in the Inventory operate across borders, a figure which is similar in the IESI Mapping. The United Kingdom is the country with the highest share of these initiatives (18%). This share is even higher in the Mapping where UK initiatives represent 24% of the total analysed.

Considering the different **welfare systems** that prevail in different regions of Europe, most of the ICT-enabled social innovation initiatives operate in the largest cluster of European countries, in particular in Central and Eastern Europe (27%) and in Continental Europe (23%), followed by the Mediterranean area, the Anglo-Saxon System and the Nordic countries. However, this ranking differs greatly in the IESI Mapping, where the Anglo-Saxon system is most represented (26%) followed by continental Europe (24%). The Nordic countries' system also represents a higher share of initiatives in the Mapping than in the Inventory. In fact, the first 10 countries with the largest share of cases are all from Continental Europe and Nordic country systems, except for one Central European country. This shows that though more initiatives in Central and Eastern Europe were identified, they did not qualify for the Mapping in the same numbers as other areas. This suggests that the evidence is stronger in those welfare systems which were identified as having a longer tradition of collaboration between the public sector and the third sector in the provision of social services and/or a more established culture of evidence measurement.

Figure b. 2016 Consolidated mapping (2014, 2015 and 2016 - n=285)



Source: own elaboration.

Taking a closer look at the consolidated **IESI Knowledge Map 2016** - 300 mapped initiatives over three years - we note that the great majority of cases are about 'Services' (76%), while the number of initiatives related to 'systems' and 'policies' make up only 15% and 4% of initiatives respectively. This may mean that there is a gap between the 'welfare society' and the 'welfare state', which ICT-enabled social innovation can effectively bridge when an appropriate enabling environment exists.

The Knowledge Map's analysis shows **that ICTs seem to have considerable potential for enabling integration across sectors and supporting public value creation**. It also shows that the most disruptive innovations are inter-sectorial and led mostly by third sector organisations. This **confirms stakeholders' roles in this field are changing**. However, the public sector plays the leading role in cases of sustained ICT-enabled innovation.

Figure c. IESI Knowledge Map 2016 (n=300)



Source: own elaboration.

Examining the initiatives through the four dimensions of the IESI conceptual and analytical framework, it emerges that nearly all of them are needs-driven or outcome-oriented. Two thirds deal with open processes of co-creation/collaborative innovation networks. A third deals with the relationship with stakeholders and a third with public value allocation¹. **The majority of social innovation activities are 'disruptive'** and over half use ICTs to initiate or improve new services or create new mechanisms for service delivery which would be impossible through non-ICT modes. Unsurprisingly, radical innovation is only present in 10% of the initiatives.

As regards service integration, a third of the initiatives facilitate collaboration between government and other actors, while pervasive integration is much less widespread. **Integration happens at the point of delivery for over two thirds of the mapped initiatives**, which is consistent with the fact that most initiatives are needs-driven. Integration happens to a lesser extent at funding and/or at organization level (around half of them). Only in a third of cases does integration happens at the administrative level.

¹ Each initiative can fall into several categories.

A closer look at the digital component of the initiatives reveals that **ICTs are being used primarily for social and active participation, networking and engagement** in the local community. It is no surprise therefore that social networking technologies are the most used, (followed by information and training platforms and e-services) and that ICTs are mostly used for interacting with users rather than for back office management or case management.

In relation to the **objectives of the Social Investment Package**, the vast majority of the initiatives analysed in the Mapping deal with (i) active inclusion (investing in people's skills and capacities), just over half with (ii) investing in people throughout their lives, and 42% deal with (iii) social protection modernization. This represents a relatively good coverage of the three pillars of the Social Investment Package. Most of the services aim to improve quality and increase uptake (around two thirds of initiatives) and increase cost effectiveness of service provision (just over half). A third pursues the sustainability of social protection systems. However, many more initiatives contribute indirectly to this goal by, for example, improving cost effectiveness. The main leaders are third sector organisations, followed by public institutions and private actors. In nearly all cases (94%), the initiatives are based on partnerships, often involving many stakeholders.

An exploratory analysis of the consolidated IESI database was conducted using **Social Network Analysis** methodology (SNA). This method was deemed capable of delivering insights into how social innovation cascades operate and may contribute to the modernisation of social protection systems within a specific context. The preliminary findings of the analysis proved promising, showing a strong correlation between policy objectives and the sector of the leading partner delivering the initiatives. In addition to this, a country analysis was performed using the IESI mapping data from the UK, which revealed a high degree of commonality across the initiatives in that country. This exploratory activity confirmed that SNA could be an appropriate tool to analyse social innovation development in more depth in the future.

In addition, based on the consolidated 2016 Mapping, **three specific thematic analyses** were conducted in the following areas:

- **Civic engagement for social change:** this analysis looked at initiatives ranging from grass-roots movements, which use mostly social networking technologies, to volunteerism, crowdsourcing/ funding and citizen participation. As well as social networking, these initiatives also use e-service technologies, leveraging ICTs to collect funds, raise awareness, mobilise people, and promote engagement. Understandably these initiatives are mostly needs-driven and outcome-oriented and many of them are open to co-creation and collaborative innovation networks. Most of them can be seen as introducing disruptive innovations, mainly at the delivery level. They also contribute to inter-sectorial and pervasive integration and target the general population and society. The main stakeholder/enabler of civic engagement initiatives is the third sector, followed by the public sector. ICT-enabled social innovation initiatives engaged primarily in civic engagement are also strongly committed to the provision of social inclusion and participation services. Although they are generally more difficult to assess in terms of achieved outcomes, and the evidence that can be gathered about these is less strong than it is for outcomes of initiatives in other fields, they nevertheless contribute to one of the main objectives of the Social Investment Package, i.e. a more inclusive society.

- **Employability and Employment:** in this area, the services which support the unemployed or economically inactive people are closely related. However while 73% of initiatives that aim to foster employability are also involved in employment services, the opposite is true of only 51% of the employment-related initiatives. In addition, employability services are closely related to education and training services, whilst employment services are related to a much lesser extent. The main aim of using ICTs here is to provide information and training platforms. In most cases, ICTs are used to promote access to the labour market, and for employability. They are also used for learning, promoting personal career development and participation.

In this area, ICTs are mostly used for front line services, although in the case of employment services, they are also used for back office and case management. All these initiatives are needs-driven and their innovation component stems largely from collaboration. Changing the relationship between stakeholders is less frequently their objective. Innovation in this specific area is mainly disruptive or sustained, while radical innovation is rare. These initiatives contribute to inter-sectoral service integration. Integration happens to a large extent at the delivery end, but also at the organisational and funding levels. As could be expected, practically all the employability and employment initiatives contribute to the active inclusion objective of the Social Investment Package. Most of them also contribute to the SIP objective of providing social protection. They aim to improve access and uptake of services, and service quality. The main stakeholders are the public sector, followed by the third sector.

- **Active and healthy ageing and long-term care:** this focus area covers a great variety of initiatives, half of which relate to independent living, followed by integrated health and social care, and finally prevention. The social innovation they introduce ranges from information and support to technology-based solutions. Independent living solutions use a variety of ICT solutions for case management, back office and front line services. The social innovation is needs-driven and outcomes-oriented, and generally fosters open processes of co-creation and collaboration. Fundamental changes in the relationships between stakeholders are produced in 38% of the initiatives, while around a third impact on the re-allocation of public value. Most of the cases promote disruptive innovation and radical innovation is less rare here than it is in the other two areas. However, there are differences between the subsectors: independent living has the highest share of disruptive innovations (60%), integrated care following some distance behind (30%), while only 10% of the initiatives are disruptive in the prevention and rehabilitation area. More than 60% of initiatives achieve integration at inter-sectoral level – 13% are pervasive. In 80% of the cases, integration happens at service delivery level and in 60% of the cases it also happens at funding, administrative and organizational level. Around 70% of the initiatives contribute to the SIP objectives of social protection and investing in people and their main aim is to improve the quality of service provision. They target mostly older people and also their carers, both formal and informal. In this area, initiatives span more than one service area (e.g. integrated care services also provide independent living services). This is the domain where ICTs probably play the most prominent role. This may be because it has been the focus of research and policy for decades and many EC and national programmes have sought to promote the development and implementation of innovative ICT-based solutions.

To sum up, the consolidated IESI mapping, built up over the course of three years of research, allowed us to gather **a rich and 'close to reality' picture to illustrate the as yet 'unknown' population of ICT-enabled social innovation initiatives across Europe.** By gearing up from 70 cases in the first year to 300 at the end of the research, we have been able refine and validate our conceptual framework, obtain an ever richer database, which is accessible online, and carry out analyses on policy-relevant areas.

The evidence collected confirms the thriving environment in which social innovation is unfolding in Europe today and the active role played by the third sector and, to a lesser extent, private organisations. While the public sector continues to play a key role, especially in sustaining innovation, we found that more radical and disruptive innovations emerge through the collaboration among stakeholders and the beneficiaries. **Indeed, the social innovation initiatives analysed have been 'operationalised' mainly through inter-sectoral arrangements.** This seems to confirm that the roles of stakeholders in the field are changing. It also validates the concept of 'hybridization' of economic actors found in the literature. This also points to the emergence of a large share of initiatives where public and third sector organisations collaborate in a consolidated manner through shared service delivery mechanisms and innovative partnerships models. They make use of ICTs as the main tool for activating the network of partners and reaching out to the beneficiaries.

Altogether, the analysis of the consolidated IESI Knowledge Map 2016 with respect to ICT-enabled innovation potential and the level of governance of service integration provides indications **that ICTs have considerable potential for improving integration across sectors and supporting public value creation.**

ICTs undoubtedly play a key role in the emergence of new services and the improvement of existing ones. They contribute to profound changes at organizational, managerial and institutional level. The IESI knowledge map shows **a great variety of initiatives in terms of sectors of engagement**, the ways in which they approach their respective remits and the use they make of the technologies. True to their social nature, the initiatives progress towards **service integration** by involving stakeholders in the process of co-creation/co-production. **The innovation potential of these initiatives is disruptive.** ICTs become increasingly embedded in the conception and innovation process of the services to the point that, without technological integration, the provision of most of the services would not be possible.

It is clear that, despite the symbolic choices made in order to renew the EU narrative on social policies, the **SIP goals are still high on the EU political agenda.** However, the evidence gathered in the IESI research shows that how to achieve those objectives is still unknown. **Social protection and social investment policies have not been able to neutralize growing inequality**, which has increased since the 2008 crisis.

In this context, **ICT-enabled social innovation can be understood as an opportunity to promote social investment through integrated approaches to social services delivery.** ICTs often play a 'game-changing role', especially in the development of platforms that support innovative partnerships where social challenges can be addressed by what is commonly called 'social impact investing strategies'.

This opportunity should be investigated by looking into the **emergence of new types of business models** whose actors are enterprises, private or not-for-profit, in the field of social services. These enterprises are exploring or even co-creating, in collaboration with public and third sector organisations, innovative financial instruments. In this regard, findings from our research highlight the need to explore how these partnerships and service-models can be nourished and enhanced by **combining innovative financial instruments and the European Social Fund (ESF)** to support the investment priorities outlined in the EU Member States' operational programmes.

In conclusion, following an exploratory phase in 2014, the IESI research got up to speed in 2015 and gained momentum in 2016. **We are, however, only at the beginning of the learning journey towards a better understanding of the role and impact of ICT-enabled social innovation.** Further research is needed to make sure the full potential of social policy innovation can be realised in redesigning welfare systems across Europe.

1. Introduction

This chapter introduces the policy and research background, the overall objectives and scope of the IESI research, and outlines the basic concepts and aims of the mapping.

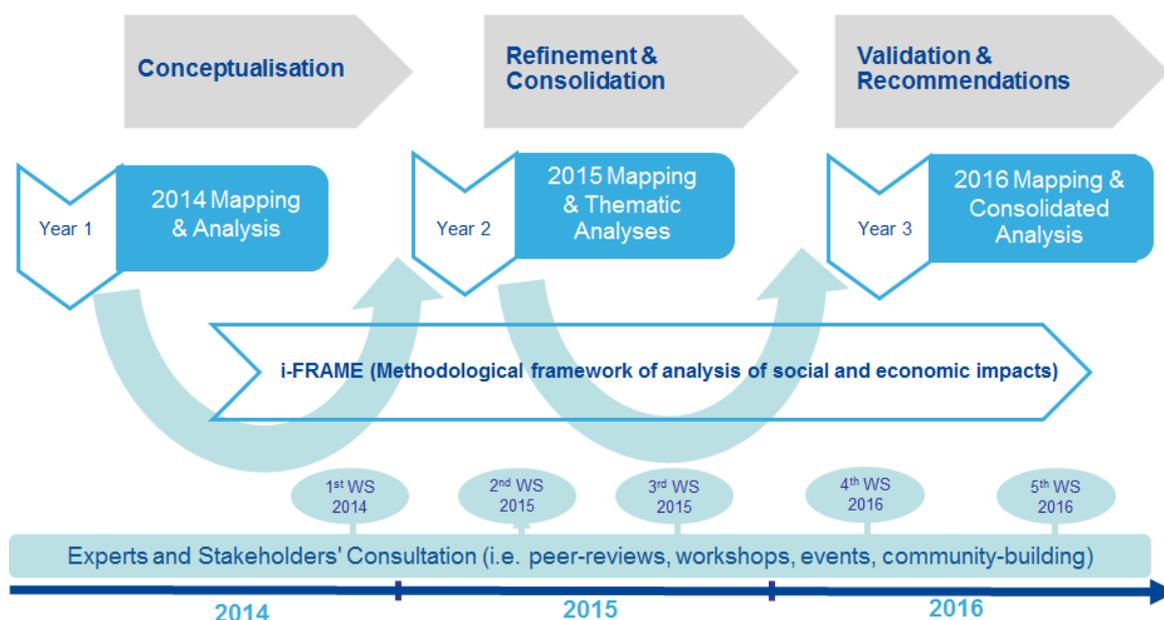
1.1 Policy and research background

The **Social Investment Package (SIP)**² was adopted in February 2013 to support the implementation of the EU 2020 strategy. The SIP Communication urges Member States to prioritise social investment and the modernisation of their welfare systems in order to address unemployment, poverty and social exclusion and sustainability challenges posed by the economic crisis and demographic trends.

Social innovation is an essential element of the SIP as it can improve the efficiency of social policies and their effectiveness in addressing societal challenges and also facilitate life-long investment in human capital. The SIP emphasises that the potential of social innovation is further increased by the growing range of available **innovative solutions based on Information and Communication Technologies (ICTs)**. However, these solutions only materialise rapidly on the ground when social innovation is encouraged to take full advantage of them and is embedded into 'local social innovation ecosystems'.

In this context, the Information Society Unit at JRC-IPTS (now JRC B4)³ agreed with DG Employment, Social Affairs and Inclusion (EMPL) to conduct a research project entitled '**ICT-enabled Social Innovation to support the Implementation of the Social Investment Package**' (IESI). IESI is a three-year project with three interrelated Work Packages: systematic mapping (WP1), methodological framework of impact assessment (WP2) and thematic analysis/case studies (WP3). **Figure 1** illustrates schematically the research design.

Figure 1: Research Design



Source: own elaboration.

² Communication from the Commission to the European Parliament, the Council, the European and Social Committee and the Committee of the Regions: Towards Social Investment for Growth and Cohesion – including implementing the European Social Fund 2014-2020. COM(2013) 83 final. See: <http://ec.europa.eu/social/main.jsp?catId=1044>

³ DG EMPL is the European Commission's Directorate General for Employment, Social Affairs and Inclusion. The Institute for Prospective Technological Studies (IPTS), which was one of the seven research institutes of the European Commission's Joint Research Centre (JRC), became JRC Directorate B Growth and Innovation on 1 July 2016 and the IESI research is located in Unit B4 Human Capital and Employment.

The **key goal of IESI** is to support the implementation of the EU Social Investment Package (SIP) by investigating how ICT-enabled social innovation can support social investment policies⁴.

More specifically, the project aims to:

1. Provide a deeper understanding of how EU Member States can make better use of ICT-enabled social innovation to implement the actions suggested in the SIP.
2. Contribute to building evidence-based input to social policy innovation by gathering knowledge, providing results of a structured analysis of initiatives and sharing successful experiences implemented in EU Member States.
3. Develop a methodological framework of analysis for the impacts generated - from micro to macro level - by ICT-enabled social innovation initiatives that promote social investment.

The first two phases of the research contributed to the above objectives by helping us understand how ICT-enabled social innovation can:

- improve the management, provision and coordination of services
- help design high quality and cost effective services which meet the needs of citizens, and
- enhance access and uptake of social services through, for instance, simpler procedures, better information or one-stop-shops.

This was informed by a comprehensive review of the state of the art and analysis of the first two rounds of initiatives mapped in 2014 and 2015.

The results of the third phase of the project presented in this report, particularly the consolidated results of the analysis of the three-year mapping, allow us to deepen this understanding. They also allow us to identify key elements of ICT-enabled social innovation, which Member States can leverage in order to achieve the objectives of the SIP. More generally these results can also inform innovative policies which support the modernisation of social protection systems in EU Member States.

The results of the IESI research should therefore help policymakers and practitioners to use ICT-enabled social innovation to modernise EU welfare states, providing better and more efficient social services and increasing the skills, wellbeing and resilience of EU citizens. Moreover, the documented research design, its proposed terminology, theoretical framework and findings could contribute to the growing scientific interest and debate about ICT-enabled social innovations in the field of social services innovation and social policy redesign within the scope of the emerging discussion on the European Pillar of Social Rights and the future of welfare systems.

To achieve the above outcomes, the following activities have been carried out during the three-year research project:

- Review of relevant literature, policies, theoretical approaches and the level of deployment and integration of ICT-enabled service provision in the EU.
- Collection and documentation of relevant examples of initiatives across the EU and beyond, including countries considered to be in the vanguard of the policy areas under investigation. This data has been used to analyse the services provided by various stakeholders and intermediaries, from the public, private and third sectors, with a specific focus on the role and relationships among them, and their network effects.

⁴ For a more detailed presentation of the IESI conceptual and analytical framework, including the discussion underpinning the definition of ICT-enabled social innovation developed as part of this research and the concept of Personal Social Services of General Interest (PSSGI), see the JRC Science & Policy Report (Misuraca et al. 2015) available at <http://skp.jrc.cec.eu.int/skp/showPub?id=JRC97467>.

- Insights were gathered from the EU Members States and current initiatives were assessed in order to better understand the nature and impact of ICT-enabled social innovation in support of social investment, its drivers and barriers, determinants, and diffusion paths.

With regard to the **scope** of the research, the starting point for the analysis was the concept of **Personal Social Services of General Interest (PSSGI)**⁵ i.e. services that respond to vital human needs, contribute to non-discrimination and create equal opportunities. These have been classified as follows:

1. Childcare
2. Education and training
3. Social assistance
4. Social care
5. Social housing
6. Employability
7. Employment
8. Social inclusion/participation
9. Civic engagement
10. Active and healthy ageing and long-term care.

The project studies the contribution that PSSGI make to achieving the following priorities, defined according to specific objectives of the SIP⁶:

- From the **service provision perspective**, we look at whether these initiatives:
 - Increase the productivity of social protection systems by adopting an efficient and effective perspective through organisational reform and procedural simplification/reengineering.
 - Improve access and take-up of services, including personalised support based on users' specific conditions e.g. by improving the quality of care delivery.
 - Increase quality and cost-effectiveness of services and improve the design of policies in order to meet the needs of final beneficiaries, including the support of integrated care and the role of informal care in the delivery chain.
 - Raise the productivity of formal and informal care delivery and increase employment in the care sector.
- From the **beneficiary's perspective**⁷ we look at whether they:
 - Promote active inclusion interventions, with a specific focus on people who are most distant from the labour market.⁸
 - Facilitate more inclusive labour markets, especially by supporting intermediaries (e.g. public employment services, public social services and other social actors).

⁵ PSSGI are key means used by welfare states to achieve social, health and employment policy objectives (for details on the role and functions of PSSGI see JRC Science and Policy Report, Misuraca et al. 2015).

⁶ The research addresses a subset of the SIP policy objectives. These have been agreed with DG EMPL in the inception phase (see IESI Research Design and Methodological Approach, JRC-IPTS Working Document, 2014 – unpublished).

⁷ In accordance with social innovation theory and practice, beneficiaries are considered in the IESI operational frameworks, as active users – sometimes even co-designers and co-producers – of services which should contribute to preserve or enhance their capacities. Engaging beneficiaries in the planning, production, delivery and evaluation of services is also key to ensure that these services are proportionate and well suited to their needs, therefore increasing services take-up and efficiency.

⁸ SWD(2013)39 final, 'Follow-up on the implementation by Member States of the 2008 European Commission recommendation on active inclusion of people excluded by the labour market.

- Support inclusion, education and training, employment and more general civic engagement, particularly of disadvantaged groups or people at risk of poverty or social exclusion.
- Promote access to and use of early childhood education and care, by improving the means available to parents to allow them to reconcile raising children with work, and at the same time, support the wellbeing of children.⁹
- Reduce the incidence and prevalence of frailty and disability, through active and healthy ageing, prevention and promotion of physical and mental health, and rehabilitation, and at the same time increase the capacity of older people to manage self-care and independent living at home.

To operationalise the research, we focus on two interrelated policy areas:

- **Integrated approaches to the provision of social services.** The research addresses initiatives that take an integrated approach to the provision of all PSSGI. More specifically, it investigates the role of ICT-enabled innovations and their capacity to improve the integration/coordination of services delivered by various stakeholders, including public administrations at national and sub-national level, intermediary actors, and organisations from the private and third sectors.
- Given the importance of the topic and the need to address the challenges posed by the ageing population, the research has placed special emphasis on the area of **active and healthy ageing and long-term care for older people**. This includes initiatives that:
 - a) aim to optimise the process of optimising opportunities for health, participation and security in order to enhance quality of life as people age (Active and Healthy Ageing - AHA), and
 - b) provide services and assistance over an extended period of time for older people who depend on help with the basic or instrumental activities of daily living (Long-Term Care for older people - LTC)¹⁰.

1.2 Basic definitions and objectives of the IESI Mapping

ICT-enabled social innovation is defined in the IESI research as follows:

'A new configuration or combination of social practices providing new or better answers to social protection system challenges and needs of individuals throughout their lives, which emerges from the innovative use of Information and Communication Technologies (ICTs) to establish new relationships or strengthen collaborations among stakeholders and foster open processes of co-creation and/or re-allocation of public value'.¹¹

The definition of **services integration** adopted refers to the way different ICT-enabled social innovations contribute to enhancing social service delivery through integrated approaches and coordination at governance or functional level, as follows:

'The increased coordination of operations across traditional functional units in the public sector, and also across other non-public sector providers, the aim being to put the final users/beneficiaries (including intermediaries) in the centre and treat their needs holistically'.

The **unit of analysis** investigated in the research is identified as follows:

⁹ Commission Recommendation 'Investing in Children: breaking the cycle of disadvantage' C(2013)778 final.
¹⁰ In the IESI research this area is further divided into three themes according to main EC policy objectives, namely: 1) integrated care; 2) independent living; and 3) prevention, health promotion and rehabilitation.
¹¹ We use the term social practice as in psychology theory to refer to the phenomenon that seeks to determine the link between practice and context within social situations.

'Policy relevant experiences and initiatives which involve ICT-enabled innovations in designing and implementing services, systems or social policies more efficiently and effectively, and which address the final beneficiaries, intermediary actors or public administrations'.¹²

The main **objective of the IESI research** is to explore the nature of ICT-enabled social innovation initiatives which promote social investment. It analyses the impacts these initiatives have - or can have - on supporting social investment policies and the modernisation of social protection systems in the EU through integrated approaches to social services provision.

To this end, as part of **Work Package 1 - 'Systematic mapping'**, the IESI research has systematically collected evidence-based knowledge on relevant initiatives which deliver **Personal Social Services of General Interest (PSSGI)** in general and with a specific focus on active and healthy ageing and long-term care for older people during the three-year duration of the research.

The key question addressed by the IESI Mapping throughout the research is:

RQ How can ICT-enabled social innovation support the implementation of policies that promote social investment through integrated approaches to social services delivery?

The following sub-questions were investigated as part of the mapping component of the research, including this third and last mapping stage:

SRQ1 What types of ICT-enabled innovation initiatives that promote social investment through integrated approaches to social services delivery are being implemented to support social policy reform and the modernisation of social protection systems?

SRQ2 Which areas and target groups of social service provision are most supported by ICT-enabled social innovation initiatives that promote social investment through integrated approaches to social services delivery?

SRQ3 What is the degree of deployment of ICT-enabled innovation initiatives promoting social investment to support social policy reforms and the modernisation of social protection systems in the EU?

SRQ4 Which initiatives involving ICT-enabled innovations promoting social investment to support social policy reform and the modernisation of social protection systems have been implemented and have evidence of outcomes generated?

During the **first mapping phase, in 2014**, following a comprehensive review of the state of the art in the domain, a **conceptual and analytical framework** was developed. This served as a structure for mapping and analysing ICT-enabled social innovations that promote social investment through integrated approaches to social services provision¹³. The framework was used to analyse **70 examples** of ICT-enabled social innovations that were selected from an **inventory of 140 initiatives** gathered through desk research and consultations with experts. The resulting analysis, the **IESI Knowledge Map 2014**, focused primarily on understanding how innovations in selected areas of personal social services of general interest, that are both ICT-enabled and social in their ends and means, have changed the landscape of service provision from a service integration perspective. However, the examples that were mapped in the first phase did not constitute a representative sample of the wealth of ICT-enabled social innovation initiatives in social services across Europe.

¹² We refer to this unit of analysis with the term 'initiatives'. See chapter 2 for details on the criteria for identifying and selecting initiatives in the IESI Knowledge map (inventory and mapping).

¹³ See Chapter 3 for an overview of the IESI Conceptual and Analytical Framework and the JRC Science and Policy Report, Misuraca et al, 2015 for more details.

The **second 'round' of the IESI Mapping conducted in 2015** set out to address and overcome the limitations encountered in the preliminary exploration conducted the year before and better structure the field of analysis. In particular, initiatives were gathered during this phase of the research to consolidate the IESI knowledge map so that a sample of initiatives that illustrate the different welfare systems could be defined. This was done to provide a more accurate overview of the phenomenon under investigation across the EU.

The objective of the 2015 mapping was thus to further enrich the existing knowledge base by identifying, selecting and documenting additional initiatives, particularly in areas insufficiently covered in the previous mapping. The analysis of the new set of initiatives mapped, the **IESI Knowledge Map 2015**, served to further validate the conceptual and analytical framework of the IESI project. It helped us to understand better how ICT-enabled social innovation initiatives that promote social investment through integrated approaches to social services delivery can contribute to better achieving the policy objectives of the Social Investment Package and the EU2020 strategy in general. This was complemented by thematic analyses of three areas of particular relevance, providing insights into: i) the role of social enterprises to support social services delivery; ii) the implications of ICT-enabled social innovation to support active inclusion of young people, and iii) active and healthy ageing and long-term care for older people, with special regard to prevention, health promotion and rehabilitation.

The **third and last round of the IESI mapping in 2016** aimed to extend the mapping exercise in order to complete the typology of cases studied and ensure a more balanced geographical coverage. It also served to further validate the IESI conceptual framework so that the unique approach developed may be applied more generally to studies and policy learning in the future. Moreover, in this third phase, specific case studies and thematic analyses were carried out in order to provide additional evidence on how ICT-Enabled Social Innovation may contribute to improving the sustainability of welfare systems in the EU^{14, 15}.

1.3 Structure of the report

This report presents the results of the analysis of the consolidated (2014-2016) IESI mapping of ICT-enabled social innovation initiatives that promote social investment through integrated approaches to social services delivery. The report is structured as follows:

- **Chapter 1** introduces the policy and research background, the overall objectives and scope of the IESI research, and outlines the basic concepts and aims of the mapping.
- **Chapter 2** presents the methodology followed to build the IESI inventory and mapping of ICT-enabled social innovation initiatives through a structured database and the subsequent analysis of the consolidated dataset 2014-2016.
- **Chapter 3** provides an overview of the IESI conceptual framework, further validated following an update of the review of the state of the art on the role played by ICT-enabled social innovation that promote social investment to support social policy reforms.
- **Chapter 4** discusses the results of the consolidated analysis of the initiatives collected in the IESI mapping between 2014 and 2016. The analysis presents the IESI Knowledge Map 2016 whose aim is to shed light on the main characteristics and patterns of the initiatives assessed according to the IESI conceptual framework. Moreover, the consistency of the consolidated IESI database was also assessed using Social Network Analysis following the data curation of the entire dataset.
- **Chapter 5** presents the findings of specific thematic analyses conducted on a set of selected relevant topics in the area of: 1) civic engagement for social change; 2)

¹⁴ The **IESI Knowledge Base** is available at <http://ipts.jrc.ec.europa.eu/iesisurvey>. Access to the restricted area can be granted upon request to the JRC IESI Team by writing at JRC-IESI@ec.europa.eu

¹⁵ Findings from case studies will be integrated into the Final report of the IESI research in early 2017.

innovative initiatives that promote employability or support to employment of disadvantaged groups; and 3) active and healthy ageing and long-term care, the latter being the focus of a more comprehensive analysis.

- **Chapter 6** discusses the main conclusions derived from the analysis of the three-year mapping in terms of the contribution made by ICT-enabled social innovation to the implementation of the SIP. It also provides recommendations for future research, and outlines implications and possible directions for policy.

2. Methodological approach

This chapter presents the methodology followed to build the IESI inventory and mapping of ICT-enabled social innovation initiatives through a structured database and the subsequent analysis of the consolidated dataset 2014-2016

In the **first phase of the IESI research conducted in 2014**, three main outcomes were achieved. Together these provided an initial foundation for understanding how ICT-enabled social innovation in the EU Member States could contribute to better and more effective social services provision and to effective social policy reforms, i.e. to the implementation of the policy aims defined in the Social Investment Package and targets of the Europe 2020 Strategy (JRC Policy Report, Misuraca et al., 2015).

These three outcomes, namely 1) the review of the state of the art in the field under investigation; 2) the development of a conceptual and analytical framework to guide the mapping and analysis; and 3) the first exploratory 'IESI Knowledge Map 2014', which included an inventory of 140 initiatives and an analysis of 70 of them, were all developed through literature review, data collection and analysis. This work was done systematically based on a rigorous scientific methodology and its results were well received by policymakers, members of the scientific community and representatives of providers and users of social services. However, none of these three elements were considered to be complete and final by the IESI research team. Their goal for the first phase was to only lay the foundations for the investigation. Once the basics were right and coherent, they could launch the second phase with a much wider scope and on a larger scale.

In the **second phase of the IESI project** a new and more ambitious data collection was carried out. Indeed, the second round of the IESI Mapping conducted in 2015 was structured to integrate the IESI knowledge base in order to define a sample of initiatives that represented different welfare systems, and to provide a more accurate overview of the phenomenon under investigation across the EU. More specifically, 280 new initiatives were collected for the IESI inventory in 2015, bringing the total to 420 initiatives, out of which 210 were mapped and analysed in detail. These initiatives were taken from all the EU28 Member States, and some other countries that are considered in the vanguard in the field under analysis. All the PSSGI categories were covered. The analysis of the IESI mapping 2015 formed the basis for further research that addressed the need to 'contextualise' the analysis in different welfare systems and social services delivery models. At the same time, the IESI conceptual and analytical framework, designed in 2014, was revisited. Additional relationships between the specific dimensions of the IESI framework were taken into account and linked to existing theories and studies which had only been addressed partially in the original concept of the research.

The **third 'round' of the IESI Mapping** in 2016 aimed to consolidate the dataset, bringing the total number of initiatives in the inventory to more than 600, 300 of which were mapped for the analysis. This allowed us to understand the evolutionary development of ICT-enabled social innovation initiatives in order to inform policy development. To this end, and based on the lessons learned in the previous rounds of mapping, a specific communication campaign was designed and launched by the JRC IESI team to engage the relevant communities of researchers, practitioners and policy-makers. In addition, the research specifically targeted initiatives at regional and local level. Finally, it also explored how network analysis could help us understand the dynamics, barriers and enabling factors that could spark innovation and social change through complex ICT-enabled social innovation ecosystems.

This chapter thus briefly presents the main elements of the methodological approach followed in order to 1) update the review of the state of the art; 2) further refine and validate the IESI conceptual and analytical framework through expert and stakeholder engagement; and finally 3) consolidate the IESI Knowledge Map to enrich and widen the sample for analysis.

2.1 Learning from the review of the state of play

In the first year of research a thorough review of the literature and practice on domains related to the phenomenon of ICT-enabled social innovation that promote social investment through integrated approaches to social services delivery was conducted. This allowed us to **set out the foundational concepts underpinning the research** and to provide an overview of the deployment of ICT-enabled social innovation initiatives that promote social investment and contribute to the modernisation of social protection systems in the EU.

This review was clearly limited, which is why in 2015 a **more thorough investigation** was deemed necessary, **especially from a practice and policy-oriented perspective**. The update of the state of the art reviewed new academic literature, and focused on gathering and analysing grey literature and policy documents. It also included consultations with experts and stakeholders. A further analysis was also conducted specifically to fill gaps in areas not covered in the first year review, particularly in the field of prevention, health promotion and rehabilitation as part of active and healthy ageing and long-term care for older people.

In 2016, further efforts were made to update the review of the state of the art. This time we **looked at initiatives that bridge the gap between social innovation and services innovation which usually build on a multi-agent framework**. In other words, the literature review focused specifically on the fact that innovative social services are conceived and deployed in a context of co-creation where citizens, service providers, social entrepreneurs and third sector organisations play a prominent role in the innovation process and where the actions are sustained by public stakeholder agencies.

Furthermore, the review of the state of the art goes beyond the literature and its related scientific debate. **The results achieved in the previous mapping activities of the IESI research constitute the empirical counterpart that was not available when the project started**. After three years, the first two mapping exercises represented a benchmark for an updated review of the state of the art that allowed better understanding of the phenomenon under investigation.

Moreover, a surge of relevant new practices and new scientific literature coincided with the IESI research project period (2014-2016). The updated review allowed us to **revisit and further inform the validation of the IESI conceptual framework proposed in 2014**.

2.2 Engaging the IESI community

As mentioned previously, **the phenomenon we are investigating is multi-faceted and changes remarkably fast**, especially within the EU. Not only do new delivery models and innovations in social services provision emerge rapidly, but also very important contextual elements are constantly evolving: from societal challenges, to the differences in underlying cultural, political and welfare systems, to the technological environment itself. This complexity made it necessary not only to adopt a multi-disciplinary approach, but also to engage in a continuous dialogue with a diverse community of researchers, practitioners, stakeholders and policymakers at different levels in the EU.

In order to understand better the potential of ICT-enabled social innovation initiatives to improve social services, **an innovative approach was developed: a stakeholders' community was established around the IESI research project** from the beginning. Crucially, individuals representing a domain or an organisation and other existing thematic networks working in the field of social innovation and/or social investment were all engaged in the community. Reaching out to these groups and networks through horizontal ties greatly increased our access to potential information sources and experiences and also the potential impact of our results. There are indications that these exchanges proved to be inspirational for all parties involved.

The '**IESI-community**' was set up in 2014. As with any real-life dynamic community, boundaries were initially somewhat fuzzy and elastic, and the frequency and level of involvement of its members varied. Nevertheless, during the third year of the IESI project, the 'IESI-community' became more established, even though it remained virtual. It reaches out to more than 300 experts and stakeholders' representatives. Its aim is to exchange information, comments and suggestions on the progress of the IESI research and related activities across Europe and beyond. It also acts as a direct communication channel for updates about the dissemination events in which the IESI research team as well as the community members are collectively engaged. A '**IESI Award**' which will acknowledge selected initiatives put forward by practitioners among those included in the consolidated IESI Knowledge Map has also been promoted. The promoters of the initiatives selected will be invited to showcase their projects during the **Final Conference of IESI** scheduled to take place in Brussels, on 14-15 March 2017.

2.3 Consolidating the IESI Knowledge Map

The ICT-enabled social innovation initiatives collected in this project were selected according to the following **criteria**: **1) Policy relevance**: the initiatives must address the policy objectives of the Europe 2020 Strategy and the Social Investment Package (SIP); **2) ICT-enabled innovation**: they must target the simplification and/or modernisation of social policies, social benefit systems and/or administrative procedures and service delivery mechanisms through ICT-enabled innovations; and **3) Evidence of policy outcomes**: they should present some evidence of outcomes generated, in order to facilitate the identification of the drivers and key enabling conditions for success, and to outline policy opportunities and recommendations for possible transferability or replicability. Initiatives meeting the first two criteria are eligible for the *Inventory*, our basic pool of initiatives. In order to be eligible for the *Mapping* database and be documented and examined in more depth, initiatives must also meet the third criterion (JRC Science & Policy Report, Misuraca et al., 2015).

As explained earlier and shown in **Figure 1**, after the first *conceptualisation* phase of the IESI project, the second phase in 2015 aimed to *refine and validate* the theoretical framework and the IESI Knowledge Map through the analysis of a much bigger database. During the second phase of the IESI project the data gathering aimed to **enrich the coverage of the PSSGI areas and balance the geographical coverage of the sample**, by surveying all 28 EU Member States, and a few exemplary initiatives from other regions of the world. Particular care was taken to gather initiatives at the local and regional levels. This was achieved by searching specific databases and by involving relevant networks of stakeholders and organisations.

To achieve the above mentioned goals, the IESI research team upgraded the research methodology toolbox applied in the first year of the project. The **template for data gathering** was reviewed thoroughly and the **IESI Web-tool** was developed to facilitate data collection and analysis, and management of the database of ICT-enabled social innovation initiatives¹⁶. The tool is composed of a publicly-accessible website¹⁷ which hosts an online questionnaire, a restricted area with additional modules for the data gathering template, and a review-and-feedback system which facilitates data quality control and management of the workflow between the JRC and external collaborators¹⁸.

The third phase began **in 2016 and included mapping activities which allowed the IESI research team to consolidate the analysis by collecting an additional set of initiatives. These brought the total number of initiatives in the inventory to over 600, 300 of which were mapped for further analysis.** The consolidated analysis of

¹⁶ The development of the IESI Web-tool was managed and financed entirely in-house by using JRC resources, and it is hosted on a JRC server, including the database of ICT-enabled social innovation initiatives built. It is under continuous development and more features are planned for the near future.

¹⁷ This publicly accessible site can be found here: <http://ipts.jrc.ec.europa.eu/iesisurvey>

¹⁸ This restricted area also contains the basic data-management features, and the Webtool performs basic data-quality checks (e.g. ranges, types of data) upon data entry.

the IESI Knowledge Map served to validate further the IESI conceptual framework by applying it to a larger set of initiatives. This helped to achieve a better balance in terms of geographical coverage and social services areas addressed. It also allowed us to identify the evolutionary development of the phenomenon under investigation.

Extending the mapping exercise and subsequently carrying out a consolidated analysis of the three years required a strategic approach. This was because there was a considerable database of initiatives in the inventory by the end of the second round of mapping, including fully documented cases collected in the two consecutive waves. Therefore, the first objective was to **complete the typologies of initiatives already studied** and then reach a **more balanced EU-wide coverage**. To achieve both, we made the sample more robust with regards to the yet 'unknown' population of ICT-Enabled Social Innovation initiatives in Europe.

As regards the first aspect (completing the typology), particular attention was devoted to **ICT-Enabled Social Innovation initiatives which addressed long-term unemployment**, especially in terms of youth unemployment, skill formation and up-skilling of the unemployed. Another important aspect of the Active Labour Market policy tool-kit is job-skills match: i.e. services which seek to match the demand for skills by potential employers and the supply of competences among the unemployed, who might eventually find a match for their skills or apply for further training.

A second horizontal issue, that of **active and healthy ageing and long-term care**, was paid particular attention. The theme of rehabilitation played a prominent role in our search, information collection / collation and mapping.

Furthermore, **emerging social issues linked to economic migration from outside the EU and the refugee crisis became new topics of investigation**. For these pressing social issues, we looked at novel ways to provide personal services to relieve the crises. We also investigated the role technology could play in the provision of these new services.

Even PSSGI areas which had mainly been tackled in previous waves were taken into consideration in the third mapping since new cases of ICT-Enabled Social Innovation had come to light and were deemed relevant **for the research**.

In relation to the second aspect (achieving a more balanced sample), it should be noted that the population (in the statistical sense) of ICT-Enabled Social Innovation initiatives in Europe is unknown. For this reason, a **sampling strategy** was designed to produce a sample that covered as far as possible the population of these initiatives in Europe. The sample, as we will show, is also consistent at the national and regional level (given the local nature of most social innovation initiatives). To this end, with support from the Institute of Innovation Research at the University of Manchester, a **holistic methodology**, which maximised the overall coverage of issues across Europe without decreasing the statistical efficiency of the sample, was adopted.

The data-gathering approach followed guarantees coverage of all the EU Member States and of all the different types of innovation in the services and delivery systems of PSSGI. To this end, an indicative number of initiatives was calculated, keeping in mind the country coverage already achieved in the previous data collection rounds and the relative size of EU Member States, as follows:

1. For larger countries with a population of 40 million or more inhabitants (i.e. France, Germany, Italy, Spain, UK) a target number of 40+ initiatives was defined (including those already in the inventory)¹⁹.
2. For medium-size countries (i.e. those with a population between 10 and 40 million inhabitants, such as Belgium, the Czech Republic, Greece, the Netherlands, Poland

¹⁹ Please note that the inventory contained more than 40 initiatives from the UK from the previous mapping exercises. Therefore the investigation of ICT-Enabled Social Innovation initiatives in that country was only explorative, we did not search for extra/new initiatives in the third round.

Portugal, and Romania) a target number of 25-30 cases was defined (including those already in the inventory).

3. For smaller countries (i.e. those with a population of less than 10 million inhabitants) a target of 10-25 initiatives (including those already in the inventory) was defined.

The method devised to select initiatives and to determine the number of new initiatives to be gathered for each country was obtained by using a set of indicators which reflected the exploratory nature and rationale that underpins the IESI research. As the population of European ICT-Enabled Social Innovation initiatives is unknown, we concluded that a broad (geographical) coverage of initiatives was more likely to reflect a typology of these innovations in Europe than a stratified selection²⁰.

Moreover, factors related to the **strength of evidence of impact** and initiative-policy objective match have been taken into consideration when choosing between initiatives to be mapped. The categorisation of initiatives on the basis of their impact devised in 2015 was applied to the consolidated database in 2016. This is based on a broad assessment of the evidence of impact using the following categories:

1. **'Proven'** – initiatives for which impact evaluations have been carried out either internally or externally, where both evidence of reach and impact are known and measurable, and can be assessed through rigorous scientific evaluation;
2. **'Promising'** - new or growing initiatives which may reflect a positive trend in terms of impact and for which some evidence of potential success is available through scientific or practice evaluation at pilot stage; or small scale initiatives for which large scale deployment and/or transferability/replicability is yet to be realised;
3. **'Emerging'** – New or highly innovative initiatives that have particular features such as deployment in critical/strategic areas, unique practices in place or radically new and untested approaches which aim to address needs or aspirations that are not yet satisfied or considered by mainstream policy or practice.

More specifically, the category of emerging initiatives, which can provide interesting insights for policy and service design, was introduced in the third round of mapping by adding a new eligibility criterion. This addressed the need to further understand the potential implications of ICT-enabled social innovation initiatives in terms of governance mechanisms and innovative social service delivery models. It led us to consider as eligible some initiatives that, for contextual reasons or because of their specific approach might not have lent themselves to outcome measurement, though the outputs²¹ they generated made them relevant for the research. This type of initiatives represents no more than 10% of the entire sample. They therefore help us to draw a comprehensive picture of ICT-enabled social innovation initiatives across the EU without undermining the reliability of the database and the quality of data it contains.

The consolidated IESI database which aggregates the samples of ICT-enabled social innovation initiatives collected in the three phases of the IESI research project, in 2014, 2015 and 2016 respectively (accounting for **a total of 613 initiatives in the Inventory and 300 in the mapping**) was analysed to provide descriptive statistics. Analysis of the Inventory provides an overview of the samples' distributions (e.g. countries of operation, typology, years in operation, and geographical reach – international, national, regional or local). However, the 300 initiatives that met the eligibility criterion about evidence-based results (outputs and/or outcomes) and were selected for inclusion in the **IESI**

²⁰ This is also due to the fact that defining country quota would be skewed according to the variable used as a basis for the sampling procedure (GDP, population etc.) rather than based on the factors that effectively affect ICT-Enabled Social Innovation such as national welfare states, national health systems, education systems, ICT infrastructure, Active Employment Policies etc.

²¹ For instance some initiatives that leverage ICTs to gather resources in a transparent manner are not designed to generate impact and do not aim at producing measurable outcomes. Their success is directly linked to the number of transactions they allow. Another example is that of initiatives developed in specific contexts e.g. with low levels of ICT infrastructure deployment or digital literacy. Despite the lack of outcomes these initiatives might be relevant since they introduce and raise specific issues within the social systems in terms of possible synergies between social innovation and ICTs.

Knowledge Map 2016 have been studied in much more depth. These initiatives are described according to the dimensions of the IESI theoretical framework. The **quantitative analysis is supported by qualitative evidence**, which brings to the fore specific characteristics, trends, operational routines and innovation paths, and identifies the role played by ICTs in these innovations. A more detailed analysis of these aspects is then conducted in Chapter 5 which focuses on three selected thematic PSSGI areas: 1) civic engagement for social change 2) employability and employment, and 3) active and healthy ageing and long-term care.

In addition, an exploratory analysis of the consolidated IESI database was conducted using **Social Network Analysis** methodology (SNA) (Caldarelli, 2016). The aim of this analysis was to test the potential of this particular approach for extracting knowledge on the dynamics and network effects that characterise ICT-enabled social innovation ecosystems. To this end, the SNA methodology has been applied to the dataset in order to 1) provide new insights about the distribution and association of data; 2) reveal underlying associations; 3) help understand these associations and their degree of closeness via visualisation; and 4) to better understand ICT-enabled social innovation ecosystems in the field of social policies and services.

In the absence of a more specific data-structure that would allow a more in-depth analysis – correlation graphs were created using a Louvain algorithm. Here different features can be used to establish a connection (edge) - or lack of connection - between initiatives. Different minimal spanning tree graphs were obtained, according to the nature of the correlations chosen for the various initiatives, which allowed us to investigate the quantities of interest in the complex network of IESI initiatives, specifically:

- Degree (i.e. the number of edges per vertex)
- Clustering (i.e. whether my friends' friends are also friends with one another)
- Centrality (i.e. the 'importance' of the vertex/edge in the system, measured as between-ness and closeness)
- Community structure (i.e. the presence of densely connected sub-graphs in the whole structure; this is the typical sign of correlated objects in the structure).

Using this method, network analyses were run and correlation graphs to visualise the results were created for the following variables included in the database: a) Primary PSSGI areas; b) Type of social services provided; c) Type of ICTs used; d) Location; e) Policy objectives & ICT types; f) Policy objectives and stakeholders; g) PSSGI and strength of ICT-enabled social innovation.

In addition, a specific country analysis was conducted, focusing on the case of the United Kingdom which has the highest density of initiatives within the consolidated IESI database. **The preliminary findings provided interesting insights which will be used to orient further analysis in the next phase of the research.** This research will help us to better understand how social innovation cascades operate in real environments. It could also contribute to the modernisation of social protection systems within a specific context. Moreover, it would be useful to identify network-related factors that enable the emergence and diffusion of ICT-enabled social innovations that have the potential to transform the way public value is created.

3. The IESI conceptual framework in context

This chapter provides an overview of the evolving policy landscape around 'Social Policy Innovation' and presents the IESI conceptual framework which was revised and further validated by integrating insights from the review of most recent trends and emerging research perspectives on digital social innovation.

3.1 From Social Investment to the EU Pillar of Social Rights

3.1.1 Social investment and the modernisation of social protection

The launch of the Social Investment Package in 2013 is an example of the European Commission's response to some of the main social challenges Europe is facing in the wake of the economic crisis and the long-term demographic trends. **Unemployment, poverty and social exclusion** constitute a significant drain on national economies and a waste of potentially productive resources at a time when Member States' budgets are under great pressure. Similarly, **long-term demographic changes** are transforming the composition of the population in Europe. Europeans are living increasingly longer, and at the same time, the workforce is shrinking noticeably. This put serious strains on social protection systems.

While signs of global recovery are visible following the financial crisis of 2008, according to recent estimates, there is a 'jobs gap' of 62 million worldwide as compared to the level in 2008. For the EU, **'the jobless recovery' phenomenon** is apparent. While EU Member States are recovering from the 2008/09 financial crisis and the subsequent sovereign debt crisis, unemployment rates remain particularly high in some Member States. Differences in both employment and unemployment rates are now much greater than before the crisis and far below the EU-2020 target of 75%. Eurostat estimates that 21,789 million were unemployed in the EU-28 in January 2016, of whom 16,647 million were in the Euro area. Vulnerable employment – that is, self-employment or work by contributing family workers – accounts for almost 46% of total employment and working poverty is rising in Europe. Particularly striking are the numbers for youth unemployment in the EU-28: 4,381 million young people (under 25) were unemployed in the EU-28 as of February 2016, representing 19.4% of the workforce, with rates ranging from 6.9% in Germany to 48.9 % in Greece (Dec. 2015 figure) (Eurostat 2016)²². Long-term unemployment is also a major issue, especially for those who are at the extremes of the working age distribution and for those with low education/skills, since it can lead to social exclusion, increased poverty, poorer health and reduced employability.

Moreover, **Europe is an ageing society** where the working age population (15 to 64) is expected to be 442 million in 2035 and drop to 405 million in 2050 and 358 million in 2100. The forecasts show that 20 million skilled jobs are going to be unfilled in the EU where a third of the population will be over 65 years old (Meritt, 2016). Demographic changes and the ageing of the EU population negatively affect Member States' public finances²³, which had already deteriorated massively in the aftermath of the financial crisis, thus casting doubts on the sustainability of the EU social model. More precisely, the demand for social services is increasing due to the development of new needs. These are driven by demographic changes (such as ageing - the 65+ share in population will increase 80.5% between 2008 and 2060 and the share of the 80+ will increase 185.4%²⁴) and other changing health and social challenges (the increasing prevalence of chronic and mental diseases, and also stress and loneliness).

The demographic transition, coupled with low productivity growth, ample territorial diversity and the unsatisfying performance of the labour market in the EU, are all

²² http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics

²³ According to the 2015 Ageing Report (European Commission, 2015), public age-related expenditure in EU 28 is projected to increase by nearly 2 percentage points until 2060 (baseline scenario), albeit with great disparities between MS. This trend is mostly driven by healthcare and long-term care expenditure.

²⁴ EUROSTAT, 2010 populations projections.

structural factors that are putting the European Social Model and the welfare state under stress (e.g. Ferrera, 2016). While fiscal consolidation is reducing the resources available for spending on social programmes, there is an urgent need to design welfare policies that support job transitions, guarantee lifelong learning, enable work-life balance, provide smart social safety nets and facilitate mobility and flexibility. At the same time, there is a new welfare need to guarantee 'active inclusion', particularly for the most vulnerable groups (e.g. children of disadvantaged families, with unemployed parents, marginalised in the labour market).

As mentioned above, **the social investment paradigm emerged as an attempt to address the main socio-economic challenges Europe is facing**. The Commission has played a key role since the mid-1990s in elaborating and promoting the diffusion of this perspective. Although the expression 'social investment' was only formally and officially adopted in 2013, with the adoption of the Social Investment Package (SIP), the rationale behind it could already be found in previous Communications and publications. To a large extent, this rationale has informed the overall logic of the Lisbon strategy and of the 'Social Open Method of Coordination' since their inception.

Despite general agreement around the approach proposed by the SIP, however, **the consistency between the SIP's programmatic ambitions and actual reform practice, is not easy to gauge**. Scholars who have undertaken empirical research on this question have different positions, ranging from moderate pessimism (Morel, Palier and Palme 2011) to moderate optimism (Hemerijck 2012). In Southern Europe especially, welfare state recalibration has proceeded rather slowly, often hindered by institutional stickiness and political resistance. The Great Recession and the sovereign debt crisis have obviously made things harder. The common practice of emergency measures to respond to the consequences of the crisis, rather than a systematic and strategic modernisation with a long-term perspective, has narrowed the margins of *manœuvre* for 'modernisers' and strengthened the position and powers of 'retrenchers' (Taylor-Gooby 2004, Bonoli and Natali 2012, Evers and Guillenard 2012).

On 8 March 2016, in order to revive the debate on the **need to reform welfare systems**, the Commission put forward a first, preliminary outline of the **European Pillar of Social Rights**. This identified a number of essential principles common to euro area Member States, focusing on their needs and challenges in employment and social policies. The aim of the Pillar is to foster **upward social convergence towards labour markets and social protection systems with increased resilience to economic shocks**. Focusing on the effectiveness of national labour markets and welfare systems and on the capacity of the economy to absorb and adjust to shocks, the pillar is part of the work undertaken by the Commission for a deeper and fairer Economic and Monetary Union (EMU) with a stronger social dimension.

The Pillar of Social Rights is conceived as a stand-alone document which expresses principles that – for both economic and social reasons – are important for the performance of the Euro area Member States. The proposed principles build on and complement existing rights. Within this context, it is of utmost importance that we reflect on new trends emerging in work patterns and societies due to the impact of demographic trends, new technologies and other factors. We must identify innovative practices and learn from social innovation. This should provide a reality check on whether the EU's and the Member States' policies in social affairs – in the broad sense of the word – remain fit-for-purpose for the 21st century. The IESI research sets out to further support the debate on the **future of work and welfare systems**, in which JRC has been involved, providing an evidence base to inform future policy development and the monitoring and evaluation of the set of social rights and implementation principles that will be outlined as a result of the process. However, it should be mentioned that the scientific debate is currently calling for further alignment of the social investment approach with the modernisation of social protection systems.

3.1.2 Social Policy Innovation and the 'game-changing' role of ICTs

Against the above evolving policy context, the digital transformation in the globalised 'Knowledge Economy' has a strong impact on the way society is developing. It also influences the policy response that could be put forward to address crucial societal challenges. The potential positive impact of the 'digital revolution' is often overemphasised, though associated risks and future patterns are not easy to predict. Nevertheless, some **consolidated relevant socio-technical trends that can support the provision of social services in an innovative, integrated, and personalised manner** can be identified.

First, **the diffusion of pervasive, always-on Internet connection** increases the number of services and amount of content consumed and produced by users, taking advantage of social, cloud, ubiquitous, and quantum computing. **The 'democratisation' of software and the 'data deluge'** are other important trends that can enable innovation in policy design and service delivery. A combination of web-based and open source software has lowered the barriers to entry to providing web-based services, opening up immense opportunities for creativity and experimentation, supported by massive data availability and insights. This is further reinforced by the **citizens' rising expectations**: they are no longer willing to accept government services as they are but are keen to comment, rate, co-decide or co-create public services. **The use of social media, the structuring of service-context awareness based on the Internet of Things and the consolidation of a 'user-generated content' creation culture** in all domains of private and public service delivery have exaggerated this trend. Altogether, these trends highlight the **need to also undertake the development of tools based on simulation and systems modelling in the social policy realm**. These tools can capture not only predictable human behaviour through linear top-down forecasting techniques, but also unplanned outcomes of complex interaction through emergent, bottom-up approaches (e.g. taking advantage of data analytics and other innovative ICT-based techniques and methods, such as system dynamics and agent-based modelling, just to mention a few).

Reference is in fact made to **social innovation, and more specifically to ICT-enabled social innovation**, in many of the EU flagship initiatives launched to achieve the targets of the Europe 2020 Strategy and to tackle its social crisis. The European Commission has also advanced the concept of '**Social Policy Innovation**', which refers to *social investment approaches that provide social and economic returns. It is linked to the process of modernising social protection systems and redesigning social service delivery through innovative systemic reforms, where Information and Communication Technologies (ICTs) generally play a key role.*

In this context, the Commission has supported 'Social Policy Innovation' (often simply referred to as Social Innovation or Digital Social Innovation) through several instruments. It has also contributed to reforming social policies by improving the way in which Member States target social needs and the efficiency of their investment of the European Social Fund (ESF). Social policy innovation is also included in the cohesion policy programme for the period 2014-2020, and in the programme for Employment and Social Innovation (EaSI). Here, it is expected to play a key role in social investment because it can effectively support the delivery of several SIP goals.

Against this background, **the Social Investment Package seeks to guide EU Member States to use their social budget more efficiently and effectively to foster more appropriate and sustainable social protection**. It operates on two complementary levels. On the one hand, it seeks to streamline and ensure that existing resources are used effectively and efficiently to alleviate the lasting effect of the crisis and, on the other hand, it provides the basis for future growth and competitiveness. In this respect, investments in the welfare systems to strengthen social investments, social protection and stability, must be considered in a longer-term perspective. They should not just fix the detrimental effect of the crisis, but also have a lasting impact and tangible social returns.

The rationale that underpins this paradigm also underpins that of the Innovation System approach. It has been devised to foster the transition towards a more resilient welfare system. This approach includes an **innovative view on financing social welfare** through various instruments including micro-finance, private financing and guarantees (such as the Social Impact Bonds or Social Impact Investing), and it also takes an innovation approach to social investments in these sensitive areas.

The justification is that **innovation has to become an essential element of the social investment policy** which, by definition, requires constant adaptation to evolving challenges. Therefore, facilitating the experimentation, development and emergence of new products, services and structures may have, in the longer term, a beneficial effect on welfare systems. The EU budget, in this context may provide the appropriate level of support for experimentation, development and scaling up of successful initiatives especially through the European Social Fund. For the period 2014-2020, this fund has been incremented by 25% and 20% of the budget has been ring-fenced for investments in social inclusion and against poverty.

In this regard, **ICTs can play a 'game-changing role' especially by promoting the development of platforms to support innovative partnerships** where social challenges can be addressed by strategies that invest in social impact. These strategies have two objectives. The first is to **support the modernisation of social protection systems** in EU Member States, which is a crucial aspect of the EU agenda for achieving the targets set out in the Europe 2020 strategy. Here the SIP emphasizes that *'there is an added value in focusing on innovative social policies and embedding innovation in evidence-based policy-making'*. This is based on two hypotheses: i) that social investment relies on social innovation to create efficiency gains in social policies and effectiveness in addressing societal challenges, by facilitating investment in human capital throughout people's lives, and ii) that the potential of social innovation is increased by the growing range of innovative ICT-based solutions.

In this respect, despite often being considered a cause of the changing nature of work and thus of the need to rethink welfare – **ICTs might actually be a positive driver for the implementation of social policy reforms** (see Misuraca et al., 2015). Moreover, although theoretically diverse and not yet consolidated in terms of the implications ICTs have for policy, the evidence shows that (JRC, Misuraca et al., 2014) they can deliver support to excluded groups in a way that enhances access to information and services, enables self-help and reduces dependency. In addition, ICT skills or digital competence positively affect a number of factors relevant to people empowerment.

On the other side, **ICTs can act as a catalyzer for experimenting with the operationalization of the innovation-driven rationale to social investments.** The Social Investment Package already anticipated two main means of funding experimentation, one through the European Social Fund (ESF) – eventually complemented by other European Structural Investment Funds (ESIF). In these provisions, the Commission urged Member States to test new approaches such as ICT-enabled innovations to social policy and eventually scale-up the most effective innovation through the funds available.

Recently, this objective received an increased attention due to **the emergence of a new type of business composed of firms, private or not for profit, which deliver social services and explore or even co-create innovative financial instruments.** Some years ago it was clear that social enterprises or cooperatives engaged in the welfare mix economy were often labour-intensive (Calderini 2016). However, the increasing availability of sophisticated technologies at low prices has now made them capital-intensive rather than labour-intensive. As a result, there is a need to **rethink the relationships between this world and the banking sector.** An exploration of how financial instruments could be co-funded by the European Social Fund (ESF) to support the investment priorities outlined in the ESF Operational Programmes (OP) of Member States is called for.

The rationale for this is that financial instruments can contribute to the achievement of the thematic objectives of the ESF, provided that they address an identified market gap. Moreover, the 2014-2020 legal framework also puts ESF managing authorities in a much better position than they were in the past to make use of microfinance instruments.

In other terms **the rise of new business models highlights the need to consider how the new European Fund for Strategic Investment (EFSI) could be used when there is no market failure, or there is no market at all.** In fact, based on evidence from previous rounds of the IESI mapping, the 'social economy' market is characterised by micro-social-enterprises or not-for-profit organisations that have no access to traditional financial mechanisms or cannot guarantee investments beyond what is required for their day to day operations. This also means that the current limitations of EFSI must be acknowledged, as must the need to design interventions that combine EFSI with ESF. These funds should be able to reach out to target groups in need, while respecting competition rules and leveraging on private capitals through innovative Public Private Partnerships (PPPs).

In the same vein, looking at the potential of ICTs in innovating social services what seems to be crucial is also the **need to consider the overall ecosystem of ICT-enabled social innovation.** Indeed, the ecosystem dynamics of ICT-enabled social innovation that promote social investment definitely show new and emerging properties that the units that are part of the system do not have. While the properties, interacting rules and environmental constraints of each single unit are usually known before (ex-ante), the emergent properties of a complex system are not and manifest themselves only later in time (ex-post). This is the main reason why a change in the traditional tools with which social policy has been studied and analysed until now must be discussed and enriched with new (or different) methodological approaches. This can also be appreciated looking at another main component of the IESI research, i.e. the **i-FRAME, a proposal for a methodological framework to assess the social and economic impact of ICT-enabled social innovation initiatives that promote social investment in the European Union.** It is a structured approach which can identify the actions that may be followed to shape a dynamic simulation model of the impacts of ICT-enabled social innovation initiatives that promote social investment.²⁵

3.2 Literature informing the IESI conceptual framework

3.2.1 The fuzzy landscape of Social Innovation

The concept of **social innovation has been attracting increasing attention in policy and academic debates** since its revival in the European policy agenda with the Innovation Union Flagship Initiative in 2010²⁶. Since the early 2000s, the number of publications and policy reports on this subject has been growing. Their main aim was to define the concept of social innovation and work out its relationship with other types of innovation in order to identify the policy implications. The emergence of these studies and the consolidation that has taken place in the field are a consequence of the direct financial effort by the European Commission, which has furthered the understanding of the phenomenon²⁷.

²⁵ The i-FRAME is being developed as part of Work package 2 of the IESI research. The first proposal was developed in 2015 (i-FRAME V1.0), and a refined version was developed and validated by applying it to some scenarios of use and presented in February 2016 (i-FRAME V1.5). The final proposal of i-FRAME (V2.0) will become available in 2017.

²⁶ EC, 2010. Europe 2020 Flagship Initiative Innovation Union. Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions. COM(2010) 546 final. Brussels, 6.10.2010.

²⁷ A significant part of this work resulted from research done under projects supported by the European Commission Framework Programme 7; see for example publications of TEPSIE, <http://tepsie.eu/index.php/publications>, SI-DRIVE, http://www.si-drive.eu/?page_id=871, TRANSIT, <http://www.transitsocialinnovation.eu/downloads>, and CRESSI, <http://www.sbs.ox.ac.uk/faculty-research/research-projects/cressi/cressi-publications>. Academic contributions include for instance Benneworth, et al. 2015; Howaldt, J., et al. 2014; or Benneworth & Cunha, 2014; or Haxeltine, et al. 2015.

The nature of the relationship between social innovation and other types of innovation such as technological or organisational innovation has prompted a lively debate. For instance, Butzin et al. (2014) argue that a new paradigm of innovation has emerged, which reflects the transition from an industrial to a knowledge and service-based society. These authors therefore argue that social innovation should be considered an independent research field with its own rules, which in time will have its own epistemic community. Pushing the envelope, Haxeltine et al. (2010) argue for a theory of transformative social innovation. Hochgerner (2013) identifies social innovation at its point of origin (businesses, civil society, government and social milieus) and with its effects: participation, procedural rules and project behaviours. This way, social innovation may be distinguished from technological and business innovation. At the opposite end of the spectrum, Hochgerner (2011) argues for a notion of innovation which is paradigmatic since all innovations are socially relevant.

Several other attempts have been made in the literature to define social innovation. As highlighted in the IESI review of the state of the art, **the definition widely used by European institutions sees social innovation as: new ideas, products, services and models developed and implemented to meet social needs and create new social relationships or collaborations.** In other words, social innovations are both good for society and enhance society's capacity to act (Murray, et al. 2010). This definition was largely based on the work of Geoff Mulgan and colleagues at the Young Foundation (Murray et al. 2010). It focuses on the object, the aim and the process of social innovation, and highlights its social nature in 1) implementing new ideas, services, production and organisational models to meet social needs, 2) creating new social relationships as the objective of these factors, and 3) responding to social demand.

Regardless of the specific definition adopted, it is worth saying that **social innovation is recognised as quite a fuzzy concept** (Bekkers et al, 2013) **or a 'quasi-concept'** (European Commission, 2013). In fact, from a theoretical perspective, a review conducted as part of the WILCO project (2013) concluded that in the broader literature, social innovation cannot be assigned to any paradigm within any single social science.

However, **in the agenda set out by the Social Investment Package, social innovation has been called upon to provide a social net for unemployment, poverty and social exclusion and improve the resilience of the welfare system in a longer term perspective.** For this agenda, the idea of social innovation concerns mainly social services and the organisational setting for the ideation, development and delivery of Personal Social Services of General Interest. In the same context, ICTs have been identified as enablers of this renewed innovation effort.

In this perspective, the first phase of the IESI research focused on understanding how ICT-enabled innovations in selected areas of Personal Social Services of General Interest (PSSGI) have contributed to changing the landscape of service provision from an integration perspective. Additional analysis was also conducted by exploring the role of ICT-enabled social innovation in social service provision in different welfare systems in the EU. In addition, key enablers of ICT-enabled social innovation in the field under investigation were identified. **The literature review conducted helped to define the conceptual foundations which underpin the research and to develop the IESI conceptual and analytical framework. The latter is placed within the broader field of Public Sector Innovation** (see Misuraca, 2012 and Misuraca and Viscusi, 2014 and 2015) and is specifically oriented towards better understanding how the initiatives identified can contribute to the modernisation of Social Protection Systems in the EU.

A 'patchy picture' of the implementation of initiatives in the field under investigation was identified in the review of the state of the art conducted in the first phase of the research (Misuraca et al 2015). References from the scientific literature were predominantly related to commonly-recognised major challenges to social service delivery, such as healthcare and active and healthy ageing, and secondly to social services targeted at groups with high political priority in most European countries.

However, **social services reforms have been gaining momentum all over the world** and the grey literature and practices collected show that the main focus of these reforms is on promoting efficiency and cost savings through service integration and cross-sector collaboration. Moreover, **there are a number of 'pioneer' examples in which ICT-enabled innovations lead the way to transforming how individuals interface with social service providers across a range of countries and types of services.** Several initiatives based on ICT-enabled social innovation are starting to produce results or are forming the basis for effective social policy reforms, by addressing reorganisation and integration of social services provision.

Integrated approaches to social investment across a broad range of policy areas are not yet evident in many countries, though positive steps are being taken to enhance an integrated approach in some areas (Bouget et al 2015). At the moment, most ICT-enabled innovation initiatives address mainly one policy or problem area or target group, within an individual social service. However, **the 'one-stop-shop' model of integrated service delivery is emerging as a trend to address the challenges of social policies innovation and reform of social protection systems.**

The update of the review of the state of the art conducted in 2015, defined the **main trends associated with the introduction of ICT-enabled innovation in social services** to address the profound challenges Europe is facing, as follows:

Emergence of new needs/search for new solutions to old needs. On the demand side, it is mainly socio-demographic change that has triggered a growing variety of needs for social services. Socio-cultural change has also had an effect on raising demand for these services: for example, pluralisation and individualisation trends, changes in gender roles and relations, increasing mobility requirements by changing labour markets and structural change in families e.g. demand for a greater density of care services for children and adolescents (child care), but also for older people (elderly care). Supply-side factors to be considered are mainly associated with technical innovations or with the diversification and specialisation of social services provided by an increasing variety of different actors. The 'activating role' of the welfare state is also considered responsible for an extension of the supply side. Moreover, the introduction of protocols and guidelines in professional care introduced by a widespread management culture (the 'enabling state') offers a wide range of highly complex, preventative and activating social services that increase the capacity for self- help and individual responsibility.

Need to tackle the affordability of the welfare state ('neo-liberal critique') in relation to social change in modern service economies. Based on the tension between the requirements of increasing social welfare services on the one hand and growing demands for cost saving on the other hand, a restructuring of the architecture and the logic of welfare distribution is in progress in almost all fields of state intervention. This process (also called commodification or economisation in the current discourse) refers not only to institutional and legal frameworks, but also to an increasing business orientation of public sector organisations. This drives the introduction of economic instruments to control social service providers, against a backdrop of limited available resources. The economisation is then accompanied by the paradigm of activation, which comes together with a redefinition of the welfare state's self-image. The enabling state supports and encourages a stronger interaction between public and private providers and also a free and active civil society.

Greater involvement of non-public stakeholders has been accompanied by a shift in service locations, for example from specialist facilities towards peoples' own homes, or existing community resources. This is complemented by changes in resource provision from the traditional centralised single funding model to multiple sources of funding, including personal budgets and civil and enterprise funding, in addition to public funding.

Raising attention on effectiveness. The increasing business orientation of organisations involved in welfare policies and the emphasis on personal rights and desired personal outcomes contributed to the move towards citizenship/inclusion approach and to be associated with a new attention on the effectiveness of policies. Service management professionals are increasingly being complemented by users, who can play an important role both in the control and management of service delivery. User empowerment is often accompanied by the spread of local and community management approaches, for example through self-help and personal budgeting trainings, which in many EU countries are replacing traditional centralised service provision practices. At the same time, members of staff who deliver PSSGIs are beginning to play multiple roles, or at least a combination of roles, across organisational and professional boundaries.

Drivers for innovation in transitional economies. Post-communist countries faced the process of democratisation and the challenge of transforming a wholly centralized system. Decentralisation concerned all public spheres, including that of welfare, healthcare and education. These services were extended to private and non-governmental sectors as well. Besides the organisational issues of enabling other actors to get involved, the shift required complex changes in the approaches of both the providers and the recipients of services. These trends were supported in order to accede to the EU and have been further reinforced over the last decade. This has opened up the implementation of social policies to social actors and private companies and has prompted a debate on the need for reform in social protection systems and governance of social services delivery.

The role of ICTs in the modernisation of social protection systems and the related transformation of the social service delivery mechanisms. When combined with participative and collaborative innovation, ICTs are no longer a neutral general purpose technology (Bresnahan & Trajtenberg, 1995; Helpman, 1998; Crafts, 2004) but provide a medium that changes the social context of interaction. In this sense, ICTs thanks to their open collaborative and participative components can be fundamental game changers for social innovation as they lower the costs of coordination and facilitate the transition from institution to collaboration (Shirky, 2009), contributing to making social services more sustainable and more effective (Porter and Kramer, 2011). In this respect, ICTs can support the process of social services delivery reform as foreseen in the SIP in different ways.

3.2.2 Theory and practice of ICT-enabled innovation in social services

The review of practice confirms that initiatives which address health and social care or welfare systems in general are the most studied. This suggests that there is wide policy interest internationally, and associated funding, in improving the effectiveness of services in these areas. There is a strong focus on services which provide better home-based services and care for the mentally and physically disabled, and older people. In this sense, **ICTs are playing a crucial role in developing effective social innovation to modernise European social protection systems.** Advocates argue that the use of technology for active and healthy ageing and long-term care permits a more person-centred approach (Billings et al., 2013). Evidence is accumulating about the value of using a wide range of ICTs for older adults and their carers such as telecare, telemedicine and telehealth and their deployment is becoming widespread.

Among other social services areas and target groups, several have been identified in the reviewed literature, including those related to **social care and inclusion of people with disabilities or those that support immigrant integration.** For instance, a review conducted by Gelman and Tosone (2010) found a parallel increase in the literature describing technological innovations in social work practice, and the provision of a variety of services, including individual and group therapy and support through the Internet.

Job centres (Aksim et al., 2011) **and childcare services** (DIT, 2011) **are also increasingly supported by ICTs. Active inclusion of disadvantaged groups of people is another policy area supported by ICT-enabled innovation in service delivery.** The social exclusion issues addressed are related mainly to the unemployed, young people, children, people with mental health issues, offenders, families, immigrant groups and older people. A strand of the literature also identified opportunities for harnessing the potential of digital games for empowerment and inclusion (JRC, Stewart et al., 2013).

Several authors also highlight the obstacles to implementing ICT-enabled innovations to support social policy reforms. For example, a study by Koskinen (2014) showed that though communication is the core business of social work, related services have been slow to capitalize on new communication approaches. In terms of resources, Crepaldi et al. (2012) say that the lack of business models within the social sector make it difficult to invest in ICTs. Mano (2009) also states that it seems that large and well-established organisations make use of ICTs to establish innovations, but the majority of small or micro actors, which promote inclusion of disadvantaged groups, do not. This was also shown by the JRC (2013) in a survey of eInclusion intermediaries across the EU.

However, the key findings from the review of the state of the art suggest that **the field of social innovation in support of social services provision is growing fast.** For example, in 2011 the SELUSI review of 550 examples of social innovation ventures in Europe (SELUSI, 2011) showed a significant presence of ventures which provide community, social and related services, particularly in the sectors of health and social work, and education.

With regard to the role of ICTs in support of social services provision, findings from the literature review indicate that **ICTs can indeed provide new opportunities but also new forms of exclusion.** For example, Warburten et al. (2013) highlight the fact that ICTs can help to improve social connection and also to gain access to a wide range of information. However, those who run the greatest risk of social exclusion or poverty are the least likely to access relevant information via the Internet. In the same vein, O'Looney (2008) claims that it is possible to identify several factors in the social service environment that tend to reduce the potential for ICT-enabled innovation of social-oriented organisations.

Looking more specifically at the **effective deployment of ICT-enabled innovation in support of social policy reforms** the results of the review suggest that, in general, the literature is still in the early stages and evidence of results is not available in most scientific literature. In addition, from the analysis of the grey literature and practice collected, it seems that, although social services reforms have been gaining momentum as welfare budgets have been pruned across EU Member States, the main focus of this reform is on promoting efficiency and cost savings through service integration and cross-sector collaboration.

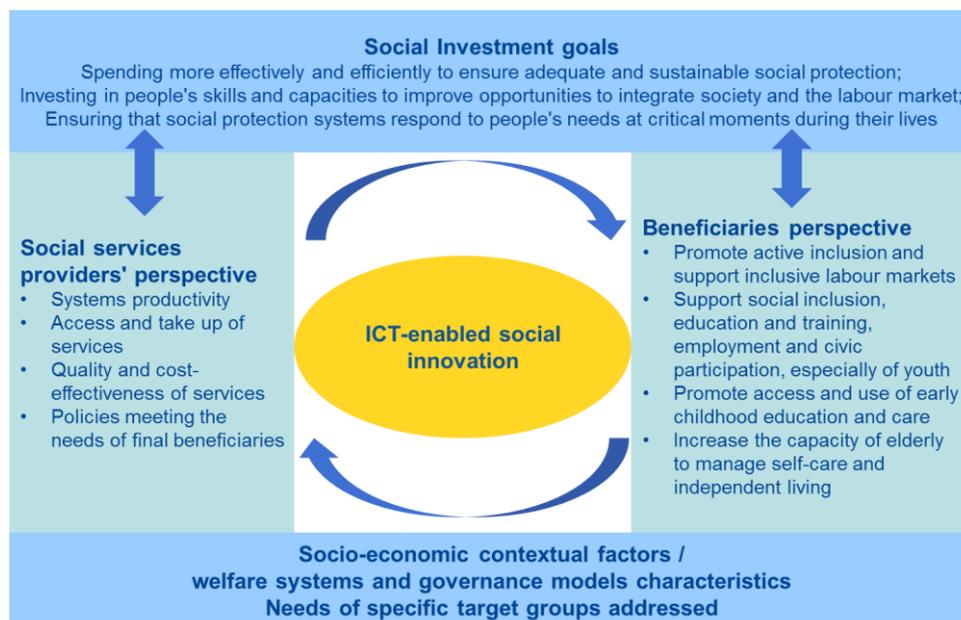
Nevertheless, building on the findings from our mapping, we can reflect on the evolution and sophistication of the landscape, and highlight how **the field of 'Social Policy Innovation' broadly speaking, is rapidly maturing.** In 2014, the primary concern was healthcare and ageing whilst social services mainly targeted groups with high political priority. The picture improved significantly in the second wave of mapping showing that the bulk of initiatives were developing cross-sector, focusing on service integration and leading towards transformative innovation in social services. Finally, the 2016 mapping witnessed the rapid emergence of innovative business models. Third sector organisations lead in terms of disruptive and radical social change, while the public sector constitutes the hub for sustained and organisational ICT-enabled social innovation. Analysis of drivers and barriers to ICT-enabled social innovation shows, however, that these are extremely dependent on the type of welfare system, though fighting unemployment, exclusion, and emergency crises became clear priorities across all of Europe.

3.3 The IESI conceptual and analytical framework

3.3.1 Conceptualising ICT-Enabled Social Innovation

Building on a comprehensive review of the state of the art, the IESI research advanced a proposal for a conceptual and analytical framework that served to analyse the initiatives gathered by the mapping. **Figure 2** summarises the conceptual approach in which ICT-enabled social innovation is at the centre of social services provision. ICTs act as enablers to achieve the SIP objectives, which are interrelated with social investment goals. ICT-enabled social innovation is also shaped by other exogenous factors like the socio-economic context, welfare systems and governance model characteristics, and the needs of specific target groups.

Figure 2. IESI conceptual framework



Source: own elaboration.

To further characterise the conceptualisation of social innovation that underpins our approach, complementing the overview of the literature and debate on Social Innovation briefly presented in §3.2, it is worth mentioning that there are **two main conceptions** of social innovation: a functionalist and a transformationalist one (Bouchard, 2006) or, according to the definition of Laville (2011), weak innovation and strong innovation:

- **Functionalist approach/weak innovation** in which social innovation is an answer to social problems. Social innovation creates social services that meet demands to which neither the State nor the market has responded.
- **Transformationalist approach/strong innovation** in which social innovation is a way to transform organisations. It contributes to institutionalising new practises, standards and rules which are founded on values inherent in solidarity and aims to work towards social and political transformation. The solution to problems addressed by social services is part of a broader perspective of transforming societies.

Moreover, building on and extending the work of Bekkers et al (2013, LIPSE research), we have used the following four **elements of social innovation** in order to arrive at an operational definition:

1. **Needs-driven/outcomes-oriented production:** outcomes are intended to sustainably meet the needs of society or specific groups in society (Mulgan, 2006; European Union, 2010; Mair, 2010; Cels et al. 2012; Bates 2012).
2. **Open process of co-creation/collaborative innovation networks:** end-users and other relevant stakeholders participate in the development, implementation and adoption of these innovations (Bason, 2010; Lee 2012, Gloor, 2005; Bommert, 2010; Sørensen & Torfing, 2011). Stakeholders share their knowledge, information, experiences and resources in order to produce innovative outcomes that are relevant to them.
3. **Fundamental change in the relationships between stakeholders:** the ways in which stakeholders relate, interact, and collaborate with each other have radically changed. Social innovation acts as a 'game changer', breaking through 'path dependencies' (European Commission, 2011:33). As a result of social innovation processes, it is argued that needs-driven services require the establishment of new collaborative relationships and new institutional arrangements (European Union, 2010; Sørensen & Torfing, 2011; Bates, 2012).
4. **Public value allocation and/or re-allocation:** in achieving these values it is important to look beyond the presumed or achieved consequences of the innovation in terms of effectiveness or efficiency. The public values pursued by social innovation also aim to ensure that the innovation is appropriate, for instance because it adds to the value of democratic citizenship, or really addresses – in terms of responsiveness – the needs of citizens (Cels et al 2012; Mulgan, 2006).

Furthermore, we recognised that most mainstream innovation theories are focused on the supply side. They pay little attention to the extent to which users may or may not absorb the innovation or, conversely, to the possibility that the main push and pressure for innovation may come from the demand side. **We consider, however, that the needs, demands, and societal challenges targeted in social services are crucial and address both the supply and demand side in this research.**

Table 1 below presents the social innovation elements identified and their relationships with the social innovation concepts underlying them, from a functionalist approach (or weak social innovation) to a transformative one (or strong social innovation).

Table 1. Social innovation conceptions and elements

Conceptions of social innovation	Elements of social innovation
Functionalist/Weak social innovation 	Needs-driven/outcomes oriented production
	Open process of co-creation/collaborative innovation networks
Transformationalist/Strong social innovation	Fundamental change in the relationships between stakeholders
	Public value allocation and/or re-allocation

Source: own elaboration, integrating Bouchard (2006), Laville (2011) and Bekkers et al. (2013)

Moreover, **the socio-economic crisis has prompted calls for a different path to growth and policies increasingly aim to stimulate the enabling and transformative role played by ICTs.** Therefore, an assessment of their potential impact on social innovation is crucial to ensure that today's policy initiatives serve as an investment in long-term growth.

To classify the different potential impacts of ICT-enabled innovation,²⁸ we proposed the following taxonomy (Misuraca, 2012; Misuraca and Viscusi, 2014 and 2015):

1. **Technical/incremental innovation:** use of ICTs to facilitate automation of repetitive tasks and thereby improve efficiency (e.g. automated applications for jobs). This implies process change, such as the improvement of the quality and efficiency of internal and external business processes.
2. **Sustained/organisational innovation:** use of ICTs to support, facilitate or complement existing efforts and processes to improve organisational mechanisms of services provision (e.g. use of ICTs for job search in online employment portals). This implies change at organisational, managerial, or governance/institutional level, such as the creation of new organizational forms, the introduction of new management methods and techniques, new working methods, and also new partnerships or business/financial models. Examples are the horizontal or vertical integration of organisational units/departments/services or ICT systems, or the introduction of electronic workflows for cross-organisation case management or service delivery.
3. **Disruptive/transformational innovation:** use of ICTs to initiate or improve new services or create new mechanisms for service delivery which would be impossible otherwise (e.g. use of ICTs for learning purposes beyond office/school hours), resulting in product or service innovation.
4. **Radical/transformational innovation:** substantial use of ICTs that takes place outside recognised institutional settings and aims to radically modify the existing mechanisms of services provision (e.g. self-organised community to deliver services through social networks). This may lead to conceptual innovation such as a paradigm shift that reframes the nature of specific problems and their possible solutions (e.g. insurance physician looking at what a disabled person can still do rather than what she cannot do, hence focusing on work ability potential).

Building on the concepts presented above, we define **ICT-enabled social innovation** as:

'A new configuration or combination of social practices providing new or better answers to social protection system challenges and needs of individuals throughout their lives, which emerges from the innovative use of Information and Communication Technologies (ICTs) to establish new relationships or strengthen collaborations among stakeholders and foster open processes of co-creation and/or re-allocation of public value'.²⁹

Another important dimension of our framework of analysis is the need to address the move towards greater **integration of social services provision**. This would increase the coordination of operations within the social services system in order to improve efficiency and produce better outcomes for the beneficiaries. Integration has evolved significantly over the last decade as governments search for ways to address beneficiaries' needs and manage increased caseloads with reduced resources.

Although integrated approaches to social services provision is not a new concept, we are in an **exciting period of innovation. This is characterised by schemes based on traditional and emerging ICTs, new funding models, and a more dynamic relationship between governments, citizens, and service providers** from the private and not-for-profit sectors (KPMG-Mowat 2013).

²⁸ Although the term ICT-enabled innovation has been largely used in literature and practice, an agreed compelling definition is not available. For instance, the research carried out as part of the ICT-NET Project, a research network financed by the European Commission and aimed at enhancing the coordination of the research in the economics of ICTs in Europe, conducted in collaboration with the OECD and leading research institutes in the field of ICTs and innovation, specifically looked at ICT-enabled innovation but did not define the term. Our conceptualisation builds also on the work conducted as part of the EU-funded LIPSE project.

²⁹ We refer to social practice as the term used in psychology theory and referring to the phenomenon that seeks to determine the link between practice and context within social situations.

However, little information is available on where the social services integration agenda is heading, or on the role of ICT-enabled social innovation. For instance, a common trend has been the use of multi-professional teams to promote '**co-production**' of services, **the involvement of service users in service development and the integration of services in one-stop shops** (SIE, 2013; Knight Foundation, 2013; Social Services Europe, 2012; SIDE, 2013; Bekkers et al, 2013).

Moreover, where several different classifications of integration can be found (Fischer and Elnitzky 2014, KPMG-Mowat 2013, Raeymaeckers and Dierckx 2012, Kodner 2009), no clear and precise definition of the concept of 'services integration' has been proposed in the literature. The definition of **services integration** we adopted thus refers to the way different ICT-enabled social innovations contribute to enhancing social service delivery through integrated approaches and coordination at governance or functional level:

'The increased coordination of operations across traditional functional units in the public sector, and also across other non-public sector providers, the aim being to put the final users/beneficiaries (including intermediaries) in the centre and treat their needs holistically'.

Therefore, we consider the following **levels of governance of service integration** (adapted and extended from KPMG-Mowat 2013):

- **Isolated.** No integration of services at administrative or strategic level with government operations.
- **Intra-governmental integration.** Single level of government. Includes integrated case management, designing service delivery according to the needs of individuals rather than service providers; frontline integration to offer clients a 'single window'; back-office integration to provide the necessary support structures; and co-location of practitioners, services and back-office functions.
- **Inter-governmental integration.** Collaboration across multiple levels of government. Includes database integration, coordinated case management, and joint procurement.
- **Inter-sectoral integration.** Collaboration between government and service delivery providers in private or non-for-profit sectors. Includes joint investment strategies, co-location of staff and formal networks of service delivery organisations.
- **Pervasive.** Service integration beyond the traditional boundaries of administrative/operational integration, embedded in a new *modus-operandi* where service providers and beneficiaries co-produce services innovating delivery mechanisms and reallocating resources/roles to maximise public value creation.

From an operational/organisational perspective, the integration of services enhances effectiveness in terms of improved outcomes, efficiency and reduced costs (Fischer and Elnitzky 2014). It increases capacity and value for money, improves strategic planning and system integrity, and reduces demand for crisis services (KPMG-Mowat 2013). Moreover, from the beneficiary's perspective, it provides simplified access, holistic and customised support, faster response times, improved outcomes and user experience.

Moreover, as part of our analytical framework the initiatives are analysed according to their **type of service integration** (adapted and extended from Kodner 2009):

- **Funding:** e.g. pooling of funds or pre-paid capitation at various levels.
- **Administrative:** e.g. consolidation/decentralisation of responsibilities/functions; inter-sectoral planning; needs assessment/allocation chain; joint purchasing or commissioning.
- **Organisational:** e.g. co-location of services; discharge and transfer agreements; inter-agency planning and/or budgeting; service affiliation or contracting; jointly managed programmes or services; strategic alliances or care networks; common ownership or mergers.

- **Service delivery:** centralised information, referral and intake; case/care management; multidisciplinary/interdisciplinary teamwork; joint training; around-the-clock coverage.

Social innovation in social services is an evolving phenomenon, which can be defined as a process to deliver services differently, or as an answer to current and future societal challenges (Crepaldi et al., 2012). Innovation in social services is mainly about designing and implementing new social services to face new or unmet needs; and introducing new social services, new interfaces with clients or new practices in social work in existing social services. It results in new forms of service delivery, new target groups (Hermans, Vranken 2010), or new mechanisms or social practices in existing social services. It also breaks down silos between sectors and facilitates collaboration or networking inside or outside the social services sector (Crepaldi et al., 2012)

Two main features of social services underscore the specific nature of social innovation: 1) A service has no autonomous existence, unlike a physical thing with technical specifications. It is a social construction which fits into time frames (time horizon) and into 'subject matters' (degree of materiality) in different ways (Djellal and Gallouj, 2000). 2) The relational dimension plays a central role, as the relationship between the user and the service provider is direct (Bandt and Gadrey, 1994; Gadrey, 2003; Laville, 2005).

Innovation in services appears to be more complex, requiring more negotiation and more room for cooperation between the various actors. It can arise in the transactional space where the service encounters the customer. It also requires essential transformations among spheres and actors at both production and consumption levels. In particular, the relational dimension implies that at different deployment stages, the user can participate in producing the innovation (Crepaldi et al., 2012).

The main dimensions associated with the introduction of social innovation in social services can be thus summarised as follows (Crepaldi et al. 2012):

- The **emergence of new needs** or the search for new solutions to old needs.
- The **need to tackle the affordability** of the welfare state at a time when there is a greater need for social welfare services and also for cost saving.
- The **raising awareness about the effectiveness of policies**, due to a move towards citizenship/inclusion and an increasing business orientation of organizations involved in welfare policies.
- The **modification of organisational systems** through the search for possible 'solutions' by implementing management methods in multi-stakeholder activities.

Social innovation in social services influences, and is influenced by, the interaction between new actors, roles and relationships between stakeholders and end users; governance, networks and ways of interaction/cooperation. New approaches to acquiring funding and monitoring result, along with new perspectives, new targets and new practices for old targets.

The technological dimension can play an important role in the social service innovation process and contribute positively to the quality and productivity of services with new solutions to policy challenges (Randle & Kippin 2014). However, to ensure that ICT-enabled innovation has a positive effect on social services, technologies have to be embedded in the service delivery model rather than used as a substitute for services. Innovations where a particular application of ICTs is seen as the solution to a social problem are unlikely to succeed (Shaw et al 2009, White et al 2010; and DIT 2011).

Taking into consideration all the concepts discussed before, the **operationalisation of the IESI conceptual framework** builds on the interrelationship between the four main dimensions of analysis under investigation, namely: 1) typologies of ICT-enabled

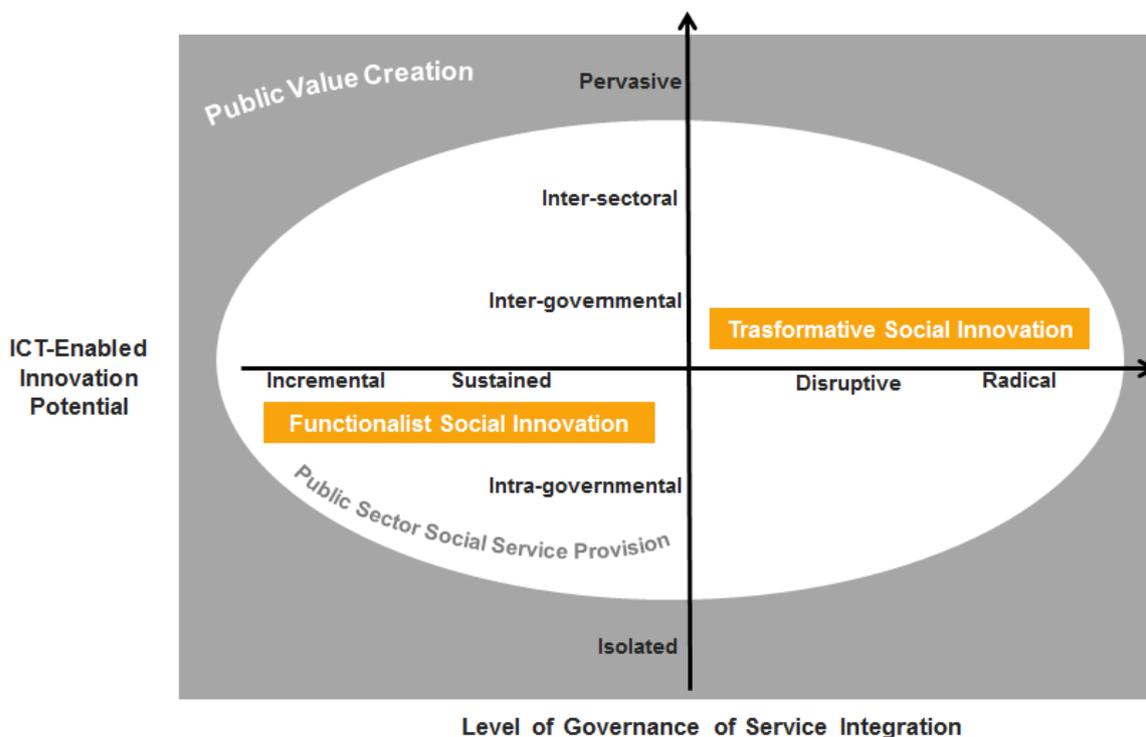
innovation potential; 2) elements of social innovation; 3) levels of governance of service integration; and 4) types of services integration.

Two main axes have thus been defined, along which the initiatives analysed in the research are positioned:

- **ICT-enabled innovation potential:** technical / incremental; sustained / organisational; disruptive; and radical (from Misuraca 2012; Misuraca and Viscusi 2014 and 2015; building also on LIPSE, Bekkers et al., 2013).
- **Levels of governance of service integration:** isolated, intra-governmental, inter-governmental, inter-sectoral, pervasive (extended from KPMG-Mowat 2013).

Figure 3 below presents our analytical framework with regard to the role of ICT-enabled social innovation in integrated approaches to social services provision.

Figure 3: Analytical framework



Source: own elaboration.

The initiatives are also assessed according to the social innovation elements (adapted and extended from LIPSE, Bekkers et al. 2013) they display and the levels of service integration they reach (adapted and extended from Kodner 2009), namely:

- **Social innovation elements:** needs-driven/outcomes-oriented production; open process of co-creation/collaborative innovation networks; fundamental change in the relationships between stakeholders; and public value allocation and/or re-allocation.
- **Type of service integration:** funding; administrative; organizational; service delivery.

Thus, taking these four categories into consideration, initiatives of ICT-enabled social innovation in integrated approaches to social services provision fall into two main areas:

- **Public sector social services provision:** public sector organisations, and in particularly governments are involved at different levels as main service providers through traditional public service delivery mechanisms. Services in this sphere can also be contracted out through e.g. concessions, outsourcing, or other public-private partnerships systems. Organisations from the private or third sector, and citizens, are involved but they normally play a subsidiary role as service providers or as partners in the design or implementation of the services. In some cases, however, although the public sector continues to play an important role, the design and provision of innovative social services may be initiated by private or third sector organisations. This is then embedded in the public service delivery system.
- **Public value creation.** This refers broadly to the 'value created by government through services, law regulations and other actions' (Kelly, Mulgan, Muers, 2002). Public value provides a broader measure of outcomes, the means used to deliver them, and trust and legitimacy. It addresses issues such as equity, ethos and accountability which can be considered as generating value for the internal stakeholders involved in the management of innovation processes. Generating public value for citizens depends on the quality of service delivery which is measured in terms of service availability; satisfaction levels; importance; fairness of provision; and cost. (Kelly, Mulgan, Muers, 2002). All these elements should be taken into consideration when analysing ICT-enabled social innovation. According to Bekker et al. (2013), one of the characteristics of social innovations is '*ensuring that the innovation is an appropriate one, for instance because it adds to the value of democratic citizenship or really addresses – in terms of responsiveness – the needs of citizens*'. Social innovations enabled by ICTs may increase the public value from public service delivery compared to traditional service delivery mechanisms implemented by the public sector. Innovative ICT-enabled solutions can also facilitate a re-allocation of public value in favour of disadvantaged groups or people at risk, increasing social welfare and well-being.

In this perspective, the IESI analytical framework serves to investigate the potential ICT-enabled social innovations have to produce a change in the way certain policy interventions or services are designed, implemented or delivered. Due to the exploratory nature of the research and the limited evidence of outcomes, the sample of initiatives under investigation in the mapping are assessed according to the potential impact of the underlying ICT-enabled social innovation, and also to the types and levels of service integration. This analysis will lay the foundations for a further analysis through in-depth case studies, and impact assessment using econometric (e.g. counterfactual impact evaluation when possible) or simulation modelling approaches. The ultimate goal is to provide structured evidence to inform the scientific and policy debate about the nature and impact of different types of ICT-enabled social innovations according to various typologies of social services and innovations from a socio-technical, organisational and future-oriented perspective. This could support the policy design and evaluation of interventions to modernise the EU social protection systems and prepare the ground for future reforms of European welfare systems.

3.3.2 Validation with insights from recent trends in literature

While the first two rounds of mapping served to validate the IESI conceptual framework , an **update to the review of the state of the art** already performed in the previous rounds of the IESI project also helped this validation exercise.

In particular, and to pursue the further validation goal above mentioned, the update of the review of the state of the art adopted in the last phase of the research explored the

stand point of digital service innovation, focusing on ICT-enabled social innovation. The aim of this effort was to complement the theoretical framework developed in Misuraca et al (2015) with **insights from the digital service innovation literature and novel contributions to the digital social innovation literature.**

The objective was not to pitch the two strands of literature against each other, but to find commonalities and conceptual affinities so that the former could inform developments in the latter. **This is a very important area where, after a few years of investigation, as we have seen above, there is still a significant gap in research** and Social Innovation is still considered a quasi-concept. Consequently, the theoretical foundations of ICT-enabled social innovation are still largely unexplored in academic literature. To this end it seems reasonable to investigate the concept of co-creation and the implications of 'ownership' of social innovation initiatives, which are both crucial parts of the conceptual framework advanced by the IESI research.

Undoubtedly, **in the last decade there has been an increasing focus on services research**, especially in conjunction with the development of ICTs. The trend is rather complex and deriving from the consideration that the growth of the service economy is affecting all sectors of social and economic activities and, in particular, personal services. This growth, however, is characterised by an increase in intra-organisational structures as well as inter-organisation networks of value creation. According to Barret et al, (2015) fundamental to the service innovation rapid and pervasive development is the widespread diffusion of ICTs as a technological tool important for the service delivery process. In the traditional theories of service innovation, however, ICTs are considered as a mere contributor to service efficiency whilst in point of fact, ICTs transformative role may be appreciated when considered as a resource in the service innovation process (Lusch and Vargo, 2014). In other words, **ICTs combined with other resources i.e. knowledge and skills, allow information to be repackaged and transferred to other contexts and create new avenues for service innovation.** ICTs may therefore have a creative role in the service innovation process rather than a simple assistive role.

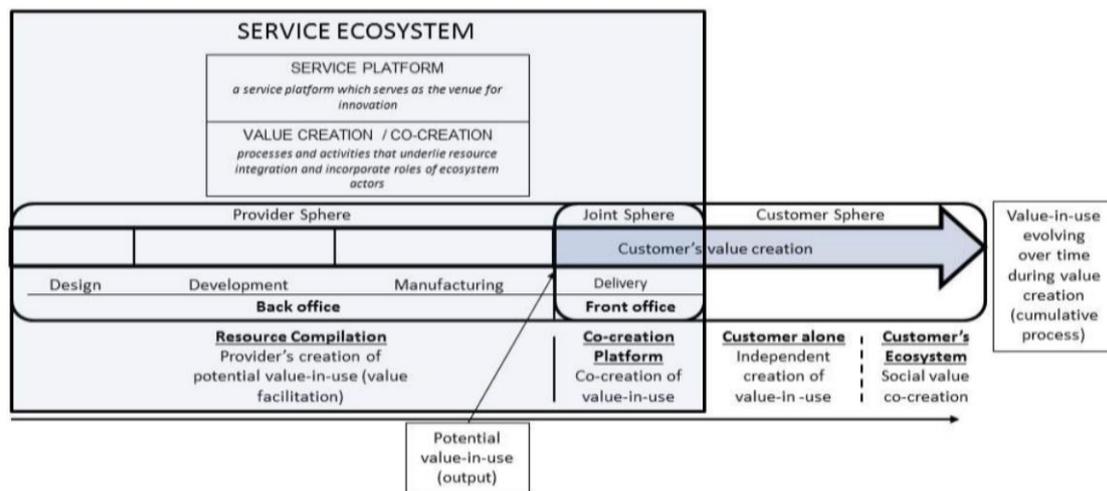
The four dimensions of service logic 1) service concept, 2) client interface, 3) service delivery system and 4) technology (den Hertog, 2000 and Miles, 2008) may become more used in the conceptualisation of service innovation. This is because any change (or innovation) in one sphere may trigger changes in the other connected dimensions. Depending on the degree of personalisation/formalisation of the service, this may engender the formation of a new innovation ecosystem. These ecosystems, as argued by Lusch and Vargo (2014), originate from the integration of resources and the exchange mechanisms that are institutionalised for the creation of value, benefitting the parties involved. It is in these cases that ICTs assume a central role in the creation and functioning of the ecosystem. ICTs, combined with knowledge and skills, constitute the main set of resources within which innovation emerges and at the same time the ICT architecture/infrastructure constitutes the means through which new or improved services are delivered (Service-Dominant, or S-D, logic).

In this framework, the work of Haikio and Koivumaki (2016) can be used to conceptualise the **process of value creation in digital service innovation.** These authors consider the approach taken by Lusch and Nambisan (2015) to service innovation – i.e. diverse resources are re-bundled to create a novel resource pool that is beneficial to some actors in a given context. They analyse the value creation process (such as that of Gronroos and Gummerus, 2014) within the service ecosystem through the mediation of the service platform (Lusch and Nambisan, 2015).

In this approach digital service innovation is explored in the context of retail services. It provides, however, an exceptionally useful tool for understanding ICT-enabled social innovation, particularly with regard to the role played by ICTs in the formation of value and the co-creation of services. In these cases, the focus is shifted to the design and delivery of the service and the end user/beneficiary.

Figure 4 shows how Haikio and Koivumaki identified in ICTs, process and value proposition the three main elements where integration of ICTs, knowledge and skill become crucial for the design, development and delivery of service innovation.

Figure 4: Service innovation - value creation framework



Source: Haikio and Koivumaki, (2016, p102).

ICTs in this framework can be seen as: **1) operand**, i.e. they are the static elements such as IT components, that enable the service innovation process, and as **2) operant**, the intangible IT resources which are more dynamic. The first kind may be the user interface layer (or the case management system) that enables the innovation process to integrate resources and provide opportunities for value generation. ICTs of the second kind may be those linked to the actual delivery of services or the evaluation of service performance (i.e. output and outcome).

An exemplar of the application of ICTs, integrated in the service-dominant logic applied to the users experience as a unit of analysis, can be found in the work of Sharma et al, (2016). They look at methods – digital and physical – for tackling loneliness in the older population. The authors selected loneliness intervention initiatives which leverage on digital technologies from the design to the implementation phase in order to augment the outreach of care services. The authors reviewed some 30 initiatives and found that in the majority of cases, these did not just provide older people with a 'person to talk with' to relieve loneliness. Radical interventions, either physical or digital (but in many cases a combination of the two) provided the elderly person with a 'mission': e.g. new roles to play in society and the chance to act as a problem solver for somebody else. Including engagement by design in the provision of these services had the effect of involving the older person at risk of loneliness and eventually depression and decline in meaningful and purposeful relationships with productive and social aspects (it is on these premises that their Social Innovation for Active Ageing – SIFAA – has been developed. See also Sharma et al, 2015).

Against these recent developments in digital service innovation, **the definition of ICT-Enabled Social Innovation adopted in the IESI research (Misuraca et al, 2015, p.8) is based on foundation work on social innovation and on aspects brought forward by service innovation research. This** considers ICTs to be part of the resources necessary to service innovation according to the Service-Dominant logic. As a matter of fact, the role that ICTs play in the framework advanced by Haikio and Koivumaki (2016), defined as **operand**, resembles what IESI defined as being an **enabler**, while the **operant** dimension is what we (see Misuraca et al, 2015) defined as being a **game-changer**.

Further reflection on the concept of social innovation is also required. Notwithstanding the increasing attention it is receiving, the literature review confirms

that it is still considered a 'quasi-concept' due to the fuzziness of its definition(s) and the fact that an epistemic community is only nascent (Misuraca et al, 2016).

In this regard, in a recent publication, van der Have and Rubalcaba (2016) argue that modern social innovation research i.e. research conducted from the beginning of the 2000s, is clustering around four reference scholarly communities: **1) Community Psychology; 2) Creativity Research; 3) Social and Societal Challenges and 4) Local Development**³⁰. The community psychology roots of social innovation research are mainly focused on processes, strategies and innovative solutions to achieve social change and solve social problems. Creativity researchers focus on understanding how social innovation is generated and implemented. The third cluster centres on the socio-technological challenges of social innovation and has offshoots in public management, social entrepreneurship and transition. Finally, the fourth cluster, social innovation in local development, looks at the role of governance, and hence concentrates on institutions, participation, inclusion / empowerment of citizens and social cohesion.

One further question about which the authors provide further insights is the **value-creation aspect of innovation**, which is common to the four social innovation schools. In the innovation studies tradition, the value created is not always captured by the innovative actor: there are spillovers to society. By studying value creation, social value and appropriability, the discipline could extend to studying the social impact of innovation. The authors therefore suggest that looking at the loci of social value creation may provide insights into the social innovation process. In other words, social value is as hierarchical as society, with its basic institutional structures which provide general values (such as education, health and social care, and social support). On the lower level, community and citizen values are produced (and consumed), based on specific characteristics such as a shared ethics. A mismatch between the social services provided by society and those perceived as essential by communities and citizens may provide room for different kind of social innovation (see Borzaga and Bodini, 2014). Within this broad framework, the various schools can be accommodated and social innovation may be seen as transformative (and in Haxeltine et al 2015) or as a means of satisfying social needs that would otherwise be unmet.

Furthermore, **original research conducted on this topic is abundant and includes both case study research and conceptual work**. Recently Windrum et al (2016) reported that many of the social innovations we see today are in services (rather than in goods). The authors conducted a case study on the application of defibrillators in public spaces in Vienna. They characterised the process as one of co-creation between the Red Cross, the device manufacturers, lead adopters (i.e. large business users) and trained users. The bridge between social innovation and services innovation, according to the authors, is built on a multi-agent framework. In other words, the creation and deployment of innovative social services happens in a context of co-creation where citizens, organisations, social entrepreneurs and NGOs play prominent roles in the innovation process and the actions are sustained by the stakeholder agency.

Osborne et al (2016) provide an overview of the **approach to co-production and co-creation of value in public services**. This social innovation 'mode' has been the cornerstone of social policy reforms in many countries. The reason for this is that co-creation may help the actors involved plan and deliver better/more effective public services. It may also provide a route to active citizenship and active communities or may simply better leverage resources. As noted by the authors, many aspects of co-creation have been studied; yet, its conceptualisation for policy is still rare. The framework proposed, based on the same service dominant logic described above, consists of four main types of value-creation. These involve both individual and community needs, and the development of social capital in individuals and communities so that value creation activities may be sustained for future applications.

³⁰ The authors performed cluster analysis (algorithmic community detection) on the circa 8,000 citations to 157 papers on social innovation obtained from the Social Science Citation Index (WoS) and Scopus.

Finally, in the fourth quadrant, the focus is on how the service is co-produced within the holistic service system. In this case, the systemic aspects of co-creation also have an impact on the personal level and of course, reflect on the level of innovation and the creation of new value it brings back to the system. A case in point may be that of people with physical disabilities who work in a community care centre and who generate additional resources for residential care.

Figure 5 represents the framework that, according to the authors, can be used as a tool to unpack the nested concept of co-production.

In the first quadrant, Osborne et al (2016) identify 'pure' co-production of services, where citizens and communities act together with public service staff to produce the desired outcome. The second quadrant is perhaps the most studied in public administration management and concerns the problem of how to create capacity within the public services to co-design and deliver public services. It involves users in the co-design, evaluation and improvement of services.

In the third quadrant, the co-production consideration regards entire systems and therefore the experience of the users within such system. For example, if the co-construction is for the local education system, users' experiences of the services impact on their lives at an emotional and personal level.

Finally, in the fourth quadrant, the focus is on how the service is co-produced within the holistic service system. In this case, the systemic aspects of co-creation also have an impact on the personal level and of course, reflect on the level of innovation and the creation of new value it brings back to the system. A case in point may be that of people with physical disabilities who work in a community care centre and who generate additional resources for residential care.

Figure 5: Co-production matrix

		Locus of co-production		
		Individual service	Service system	
Nature of co-production	Involuntary	I: Co-production	III: Co-construction	Towards the co-creation (or co-destruction) of value
	Voluntary	II: Co-design	IV: Co-innovation	

Source: Osborne et al. 2016

When the concept of co-creation is included in the definition of social innovation (Vooberg et al, 2015 p.1334), the co-production nature of the innovation process enters the equation with important repercussions. The co-creators are citizens and organisations actively engaged with institutions in creating the services they need. From the perspective of the provision of public services, the authors found that co-creation between citizens and institutions may have different forms: **1) citizen may be part of the implementation process; 2) citizens may be involved in co-designing public services, or 3) citizen may initiate or take up an initiative, and create new services.** The reasons behind co-creation initiatives however are much murkier. The public sector is usually risk-averse and traditionally sees civic engagement as uncontrollable and unreliable. On the plus side, citizen involvement is generally

associated with willingness to collaborate, ability to contribute and the presence of social capital to create sustained relationships. The authors also noted that, if one of these elements is lacking or becomes unavailable, then the responsibilities fall on the public sector organisation.

To conclude this review update, a further step in the conceptualisation which underpins the IESI framework concerns **'ownership' in the social innovation process**. Drawing upon the 'ladder of citizen participation' (Arnestein, 1969), Amanatidou et al (2016) look at the main characteristics of the innovation processes (and the related definitions) which are affected by the level of participation of citizens and society in the design, management and delivery of the services.

Table 2 shows that several configurations of social innovations may be devised according to the level of engagement of citizens and society with the governance of the initiative. In particular, the social innovation processes with a **low level of societal engagement** are characterised by society acting as the end-user. Society may be informed and consulted occasionally on specific issues to strengthen social acceptance or facilitate diffusion channels of social innovations.

The second type of social innovations engages **society in a partnership role**. Social innovations of this kind are oriented towards providing improved solutions to social problems. This implies that the role played by the third sector (and citizens and communities) is upgraded to at least the level of 'partner' with the public and private sectors in dealing with societal challenges.

The third type of social innovation accommodates an even higher level of societal engagement. It includes initiatives where society plays a key role throughout the innovation process from the initiation to the diffusion and delivery of innovation. **Society is seen as the key agent of social change**.

Table 2: Social innovation, engagement of citizens and governance

Social innovation types	Main characteristics
<p>1) Low level of societal engagement</p> <p><i>*Society Consulted*</i></p>	<p>Indicative definition: social innovation as new ideas translated in products, services and models, with a...</p> <ul style="list-style-type: none"> • social purpose or focus, i.e. addressing a problem or challenge that society faces through social means (Mulgan et al 2007; Murray, et al. 2010, Hubert, 2010) • Means of innovation delivery: through (new) social relationships, and collaborations, enhancing society's capacity to act • Key actors: business actors (without excluding the public sector or society) • Role of society: society or social groups as end-users of social innovations • Necessary condition: societal acceptance and economic viability
<p>2) Moderate level of societal engagement</p> <p><i>*Society in Partnership*</i></p>	<p>Indicative definition: social innovation as combination and/or new configuration of social practices (Hochgerner, 2013; Butzin et al 2014) with:</p> <ul style="list-style-type: none"> • Social purpose or focus, i.e. with goal to provide novel solution to a social problem that is more effective, efficient, sustainable, or just than what is possible on the basis of established practices (Phills, et al 2008) • Means of innovation delivery: enabling new forms of participation that affect the process of social interactions • Key actors: third sector alongside public sector and private sector • Role of society: society/consumers as co-creators, co-producers (involved in the delivery of innovation) • Necessary condition: societal acceptance and economic viability
<p>3) High level of societal engagement</p>	<p>Indicative definition: social innovation as change in social relations, involving new ways of doing, organising, framing and/or knowing (Haxeltine, et. al. 2015), with a...</p> <ul style="list-style-type: none"> • social purpose or focus: a) to satisfy social needs of disadvantaged groups (unemployed, disabled, etc.) (Moulaert et al, 2005), b) to

Social innovation types	Main characteristics
Society in Control	<p>develop alternatives to the mainstream regime (Seyfang and Smith, 2007) which includes re-ordering of values (primacy of values such as social justice, solidarity, social cohesion, and social responsibility over profit-making) under an aspiration to challenge / alter or replace dominant institutions/ structures in a specific social context (Haxeltine, et al. 2015, Harrisson et al., 2009)</p> <ul style="list-style-type: none"> • Means of innovation delivery: new social practices that alter social relations • Key actors: individuals, organizations, neighbourhoods, communities and whole segments of society (may be supported by public actors) • Role of society: key agent in the social innovation process • Necessary condition: societal acceptance and economic viability

Source: Amanatidou et al (Mimeo)

However, at this point, it is interesting to note the main characteristics of the system and actors supporting social innovation at both extremes of the spectrum, see **Table 3**.

Table 3: Conceptualizing actors in social innovation

Main elements	system	'Society Consulted' Social Innovations	'Society in Control' Social innovations
Primary actors		Research, business and policy communities, intermediary org	Communities, third sector, local authorities
Networks		Networks of power: ossified networks ('usual suspects') based on long-lasting traditions	Networks of change: self-organised, loose, informal networks
'Soft' institutions		Economic growth; certain social and environmental considerations	Social and environmental responsibility, social justice, solidarity, social cohesion
'Hard' institutions		Operating within the established institutions	Setting the domain(s) of possibility of social innovation, i.e. law and regulations – clashing/enhancing the impact of established institutions

Source: Amanatidou et al (mimeo).

This conceptualisation is broad enough to include the main aspects of the social innovation initiatives scanned and provides a clear-cut reading on the governance arrangements. It can also be associated with other characteristics to investigate depth and breadth of social innovations and institutional settings.

In the same vein, an exercise conducted by When and Evers (2015) looks at the **social innovation potential of ICT-enabled citizen observatories to increase e-Participation** in local flood risk management. The study involves two similar cases of citizen engagement in a citizen laboratory for the monitoring and management of flood risk, one in the UK and one in the Netherlands. The projects involve citizens linked up to a web-based and mobile platform for the collection of data via sensors and other monitoring technologies enriched by local experience and knowledge.

The authors looked at the general dynamics of these two cases, including the barriers to and drivers of citizen participation and how ICT-enabled features could be further integrated. They used the model 'ladder of citizen participation' (Arnestein, 1969, Hulbert & Gupta, 2015) to analyse participation mechanisms in the two schemes at two different moments: during monitoring and during intervention. The ladder of citizen participation, which consists of the communication and decision mode, is complemented by the

structure of the decision making process and the role played by other stakeholders involved in the projects.

The case study analysis offers some interesting insights. The first concerns the blend and variety of public participation, the use of social media and traditional means (such as landline telephone) - it depends on the composition of the population (i.e. by age groups). On the other hand, intervention and mobilisation, in case of flood or increased risk, is dependent on herd-behaviour, either instigated through social media or by social contact. Moreover, local systems may intervene either in terms of reliance (i.e. adapt the behaviour according to the situation) or proactively (i.e. in preventive mode). The extent to which these different behaviours may be engendered through ICTs or traditional media depends on the level of involvement of citizens, trained personnel and the decision making process in place.

Whilst there is no generalised 'plug&play' for eParticipation, **the modes of engagement depend on the attitudes and expectations of authorities and citizens and their roles in the decision making process** from monitoring to intervention. ICTs may be used for improving effectiveness and efficiency in the relations between citizens and authorities; or for building trust and transparency in the decision making process.

What we can learn of this update to the literature review is that **in the last two years reviewed (2015 and 2016), studies on the role of ICT in social innovation and the design and deployment of new public services have increasingly adopted the service-dominant logic prevalent in the digital services innovation literature.** In this strand of literature, ICTs become an integral part of the service design, i.e. ICTs may constitute the infrastructure upon which services (and social services in particular) are built and the operant factor that initiates the service innovation dynamics. In other words, in this framework, ICTs are at the same level as the skills and knowledge about the various phases of creation, development and delivery of new social services.

As regards the development of an analytical framework for the classification and study of ICT-enabled social innovations, the literature is still in an exploratory phase. Several conceptualisations have been proposed for the interpretation of complex phenomena, but none of these have gained protagonism. However, as the literature clusters around a few schools of thought, it emerges that **social innovation and the provision of novel social services are closely interlinked in the conceptual framework of co-creation and co-production.** As a result, independently from the motivations behind the drivers of social innovation, factors such as technology appropriateness, stakeholder agency and governance structures assume a vital importance in the design and deployment of personal social services.

A final remark has to be a methodological one. In a recent study (Pelka and Terstriep 2016) published in the newly-founded European Public and Social Innovation Review, 17 ongoing or recently-concluded research projects are presented. Although these projects set out to study different aspects of social innovation, they proceed by mapping at different levels of detail existing social innovation initiatives including IESI. The authors suggest that whilst the qualitative approach is essential to understanding why and how social innovation operates and impacts on the lives of beneficiaries, **a quantitative approach may be necessary in order to understand the extent of the phenomenon, although the social innovation case may not be classifiable in specific clusters.** To overcome this clear methodological flaw, IESI strived to collect further evidence in order to extend its inventory base to over 600 ICT-enabled Social Innovation initiatives and increase the cases mapped to 300 (there were only 100 cases in the inventory when the Pelka & Terstriep analysis was conducted, and only 50 cases in the mapping pipeline).

The following chapter presents the main findings of the consolidated analysis of the three-year IESI mapping. It aims to be a crucial advance in the theoretical development of the field under investigation by informing the conceptual framework advanced with

empirical findings. It also provides evidence of impacts achieved by policy relevant initiatives across the EU, in order to outline implications for policy and research.

4. The consolidated IESI Knowledge Map

This chapter discusses the results of the consolidated analysis of the initiatives collected as part of the IESI mapping between 2014 and 2016. The analysis presents the IESI Knowledge Map 2016 whose aim is to shed light on the main characteristics and patterns of the initiatives assessed according to the IESI conceptual framework. Moreover, the consistency of the consolidated IESI database has been assessed using Social Network Analysis following the data curation of the entire dataset.

This chapter presents the **analysis of the consolidated database of initiatives mapped in the three phases of IESI data collection in 2014, 2015 and 2016.**

First in **§4.1** an overview of the database built during the latest phase of the IESI data collection in 2016 is provided. Essential data was collected on initiatives that 1) constituted ICT-enabled social innovation, and were 2) relevant to the SIP. These eligibility criteria were used to build an Inventory of initiatives, and from this pool those that met a further eligibility criterion about evidence-based results (outputs and/or outcomes) were included in the Mapping database and were studied in much more depth. Descriptive statistics are provided on both databases. These look at the samples' distributions (typology, age – years in operation – country-distribution, and finally at geographical reach – international, national, regional or local).

In **§4.2** the consolidated Inventory, which aggregates the samples of ICT-enabled social innovation initiatives collected in the three phases of the IESI research project in 2014, 2015 and 2016 (over 600 initiatives in total) is described. This section also looks at the level of integration of services between different PSSGI categories. In addition, a comprehensive analysis of the consolidated Mapping database of the three phases, (300 initiatives) is provided, categorised according to the dimensions of the IESI theoretical framework. Throughout the chapter, **quantitative analysis is supported by qualitative evidence**, in particular, by bringing to the fore specific characteristics, trends, operational routines and innovation paths. A more detailed analysis of these aspects will be conducted in Chapter 5 on three selected thematic PSSGI areas: 1) civic engagement for social change 2) employability and employment, and 3) active and healthy ageing and long-term care.

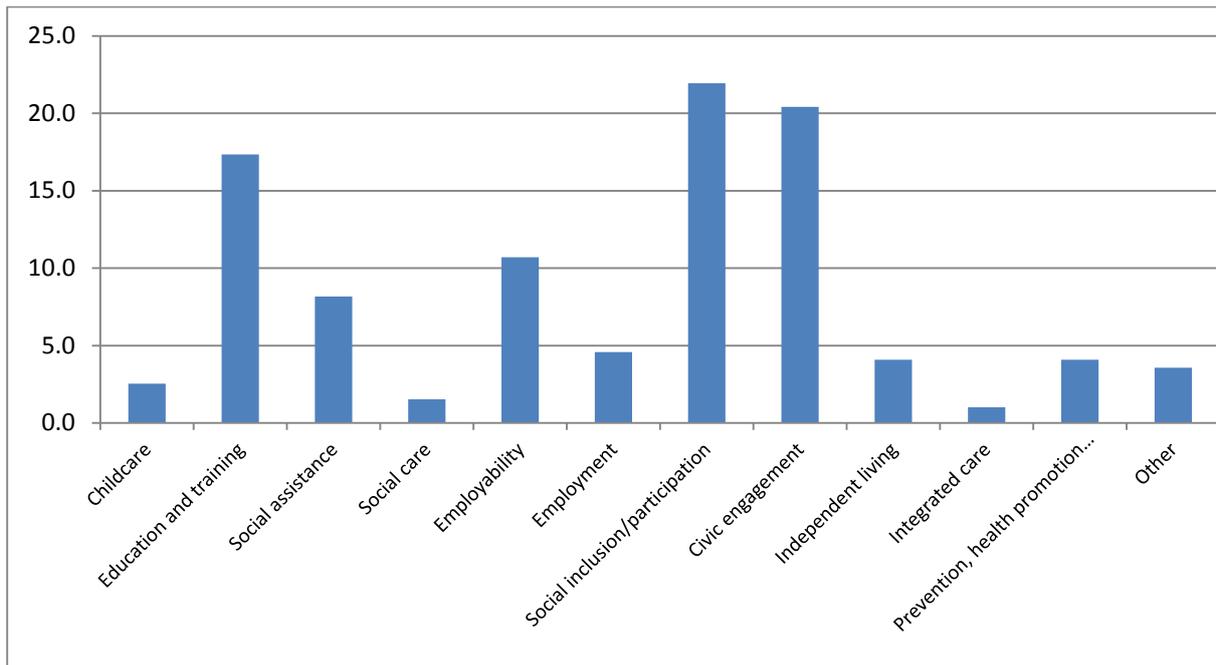
In **§4.3**, we report the findings of a preliminary exploratory application of Network Analysis to the consolidated database. The aim was to begin testing the potential of this approach for extracting knowledge on the dynamics and network effects which characterise ICT-enabled social innovation ecosystems.

4.1 Overview of the 2016 Inventory and Mapping databases

4.1.1 2016 Inventory

During 2016, 196 new initiatives were added to the IESI database, bringing the total sample to 613 initiatives, which cover a wide range of PSSGI across the EU Member States and beyond. In order to classify the initiatives, the primary – most appropriate – PSSGI area was used. As shown in **Figure 6**, the two largest groups in the 196-strong 2016 Inventory database were Social Inclusion and Participation with 43 initiatives (22%) and Civic Engagement with 40 (20%). Education and Training came third (17.3%), while Employability and Employment constitute 11% and 5% of the sample respectively. The group of initiatives which addressed the Active and Healthy Ageing policy area (independent living, integrated care and prevention, health promotion and rehabilitation) constitutes 9% of the 2016 Inventory.

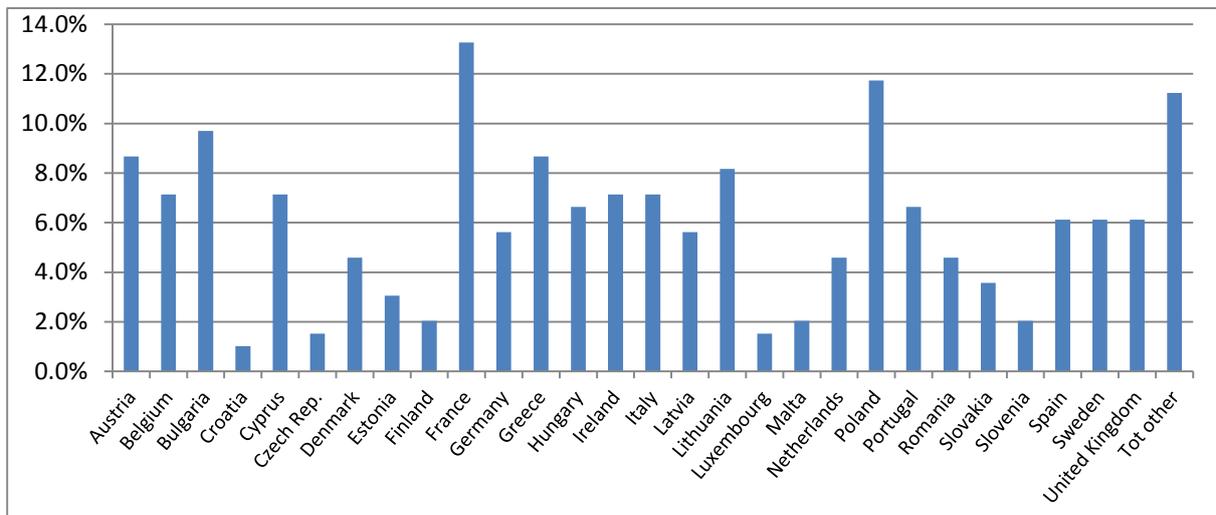
Figure 6: IESI Inventory 2016 by main PSSGI. (n = 196)



Source: own elaboration.

In **Figure 7** the geographical coverage of the 196 initiatives is presented by country. 89% of the initiatives operate within the European Union whilst 11% operate in countries outside of the EU. France has 26 of these initiatives (13%), and Poland also features strongly (12%). Of the 196 initiatives in the 2016 Inventory, only 20 operate beyond more than one country. **54 (27%) of these 196 initiatives operate at a regional or city level.** In particular, 23 initiatives either operate at city level or at a neighbourhood level, 17 operate in more than one city (in one case in 4 cities, across 3 countries), 10 initiatives operate at a regional level and the rest operates in more than one region in the same country.

Figure 7: IESI 2016 Inventory - countries of operation. (n = 196 - multiple responses)

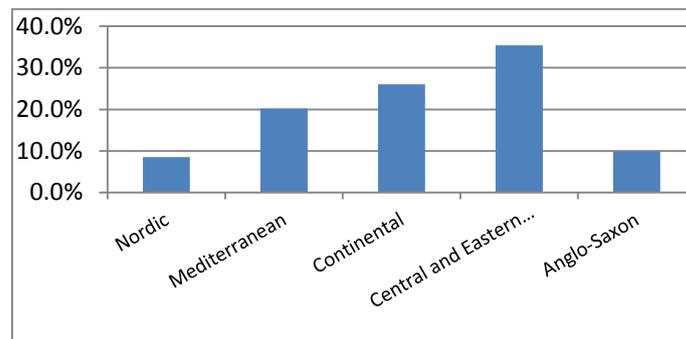


Source: own elaboration.

EU countries have been grouped into welfare system areas according to how similar they are. The Nordic area includes Denmark, Finland, and Sweden; the Anglo-Saxon system includes Ireland and the United Kingdom; the Continental system includes Austria, Belgium, France, Germany, Luxembourg and the Netherlands. The Central and Eastern countries are Bulgaria, Croatia, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovenia and Slovakia. Finally, the Mediterranean group includes Cyprus, Greece, Italy, Malta, Portugal, and Spain.

The distribution of initiatives within the EU welfare systems, presented in **Figure 8** below, consists of 79 initiatives (35.4%) in the Central and Eastern welfare system, 58 (or 26%) in the Continental system, 45 (or 20%) in the Mediterranean area, 22 initiatives (10%) in the Anglo-Saxon system and 19 initiatives (8.5%) in countries in the Nordic welfare system.

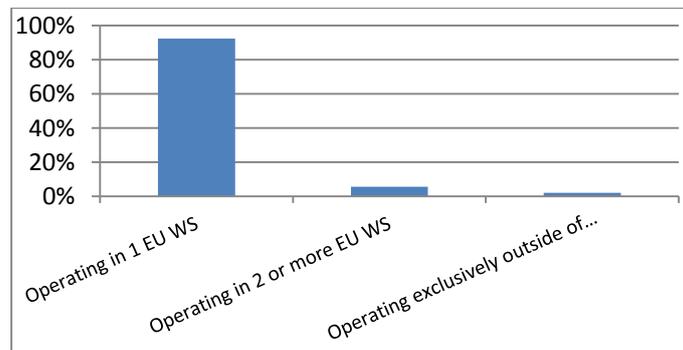
Figure 8: Distribution according to EU Welfare System (n=196 – multiple responses)



Source: own elaboration,

As indicated in **Figure 9** below, the majority of the 196 initiatives, 181 (92%) operate within a single welfare system whilst only 11 initiatives (or 5.6%) operate in more than one EU welfare systems. A small percentage of initiative operates outside of the EU.

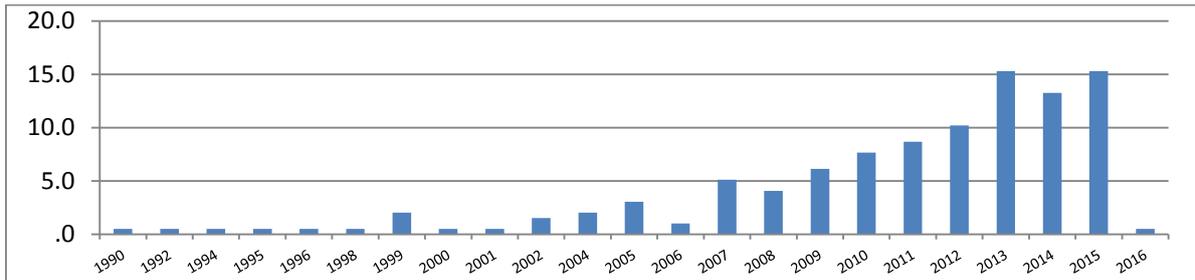
Figure 9: Cross EU28 welfare systems operation (n=196)



Source: own elaboration

A final group of descriptive statistics concerns the age of the initiatives in this last phase of the Inventory. As we can see from **Figure 10** below, most of them are very young: 55% of the 196 initiatives are in fact younger than 5 years (i.e. founded in 2011 or after). Three initiatives ended in 2012, 2013 and 2016 respectively. There are several reasons behind this: i.e. the two most probable reasons are i) the enduring effects of the financial crisis on society and social services, and ii) technological advances and their diffusion that happen in parallel. In addition to this, in this wave of data collection priority was given to 'emerging' initiatives which explore how citizen engagement is producing innovative solutions to address pressing social needs.

Figure 10: Distribution by year of operation (n=196)

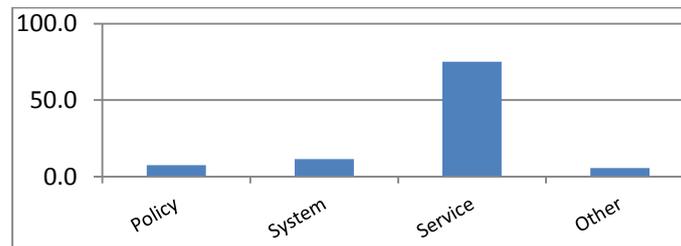


Source: own elaboration.

4.1.2 2016 Mapping

105 new initiatives were included in the Mapping, taken from the 196 initiatives in the Inventory and studied in more depth according to several relevant dimensions. The primary criteria for inclusion in this mapping phase consisted of the availability of evidence on their policy outcomes. Nevertheless, as illustrated, 23 initiatives (22%) were also included on the basis of significant output delivered in association with other conditions such as context within which the initiative operates, maturity (several years of operations) and growth patterns/potentials³¹. As illustrated in **Figure 11**, 79 mapped initiatives, i.e. a large majority, are services (75%). 12 mapped cases have been classed as Systems (i.e. general types of organisations of PSSGI, or part of them responding to a systemic design). Finally, 8 cases were classed as Policies (7.6%), and 6 fell into the 'other' category.

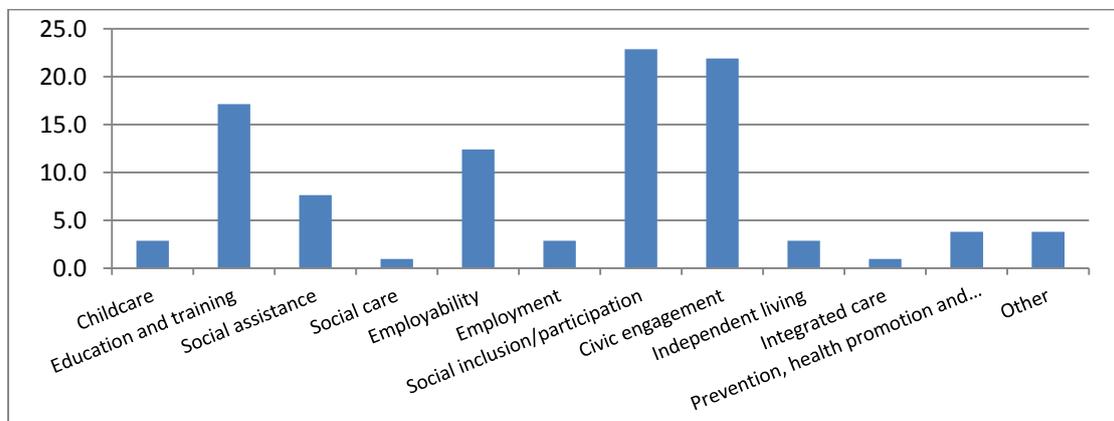
Figure 11: Types of initiatives in the Mapping. (n=105)



Source: own elaboration.

The largest groups within the 105 ICT-enabled social innovation initiatives were: 24 Social Inclusion and Participation cases (23%), Civic Engagement initiatives (22%) and Education and Training (17%).

Figure 12: IESI Mapping 2016 by main PSSGI. (n = 105)



Source: own elaboration.

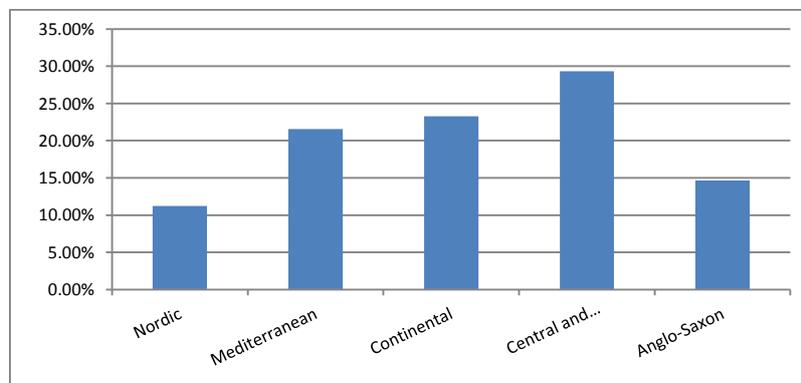
³¹ See Chapter 2 on the methodological approach for more details on the eligibility and selection criteria.

The largest share of new cases mapped in 2016 are those 14 active in France (14%) followed by Poland (12%), and the UK and Ireland which have 10% each. Of the 105 initiatives, 95 (90%) operate in a single-country, though there are some outlier initiatives which operate across many countries. As a result, the initiatives in the sample operate in 1.7 countries on average.

34 (or some 32%) of the initiatives operate at a regional or city level. In particular, 12 initiatives either operate at city or neighbourhood level, 12 initiatives operate in more than one city (in one case, in 4 cities across 3 countries), 9 initiatives operate at a regional level and the rest operate in more than one region in the same country.

Reclassifying the sample according to the welfare systems to which they belong, we obtain the distribution presented in **Figure 13**. Here we can see that the majority of the initiatives mapped in 2016 operate in Central and Eastern Europe (34 cases or about 30%), 27 initiatives operate in Continental Europe and 25 in the Mediterranean area (23 and 21% respectively). The rest operate in the Anglo-Saxon welfare system (15%) and in the Nordic Countries (11%).

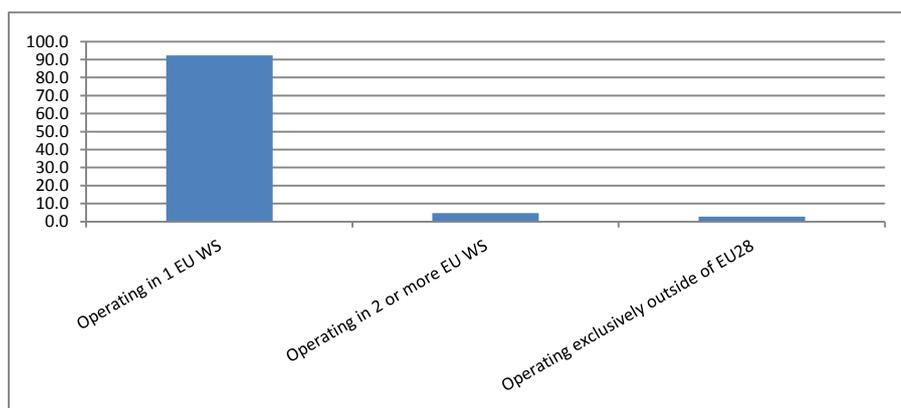
Figure 13: Distribution by EU Welfare System (n=105)



Source: own elaboration.

The greatest majority of initiatives mapped operate within one EU welfare system exclusively (over 92%) whilst the rest operate in 2 or more European welfare systems (5%) or exclusively outside the EU (3%) (**Figure 14**).

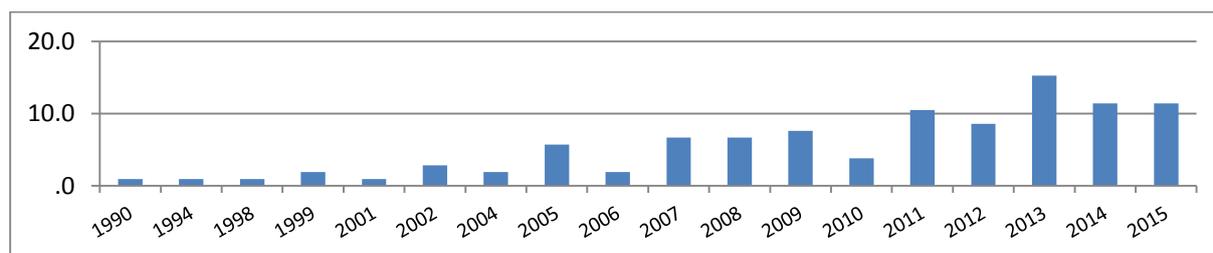
Figure 14: Operation across EU28 Welfare Systems (WS) (n=105)



Source: own elaboration.

Finally, as regards the age of the ICT-enabled social innovation initiatives included in the 2016 Mapping database, **Figure 15** below shows that almost 60% of the initiatives mapped in this wave are fairly young (founded on 2010 or later). A vast majority of cases included in the mapping relate to initiatives founded in 2013 and which showed policy relevant outcome or significant output until 2016

Figure 15: Distribution by year of operation (n=105)



Source: own elaboration.

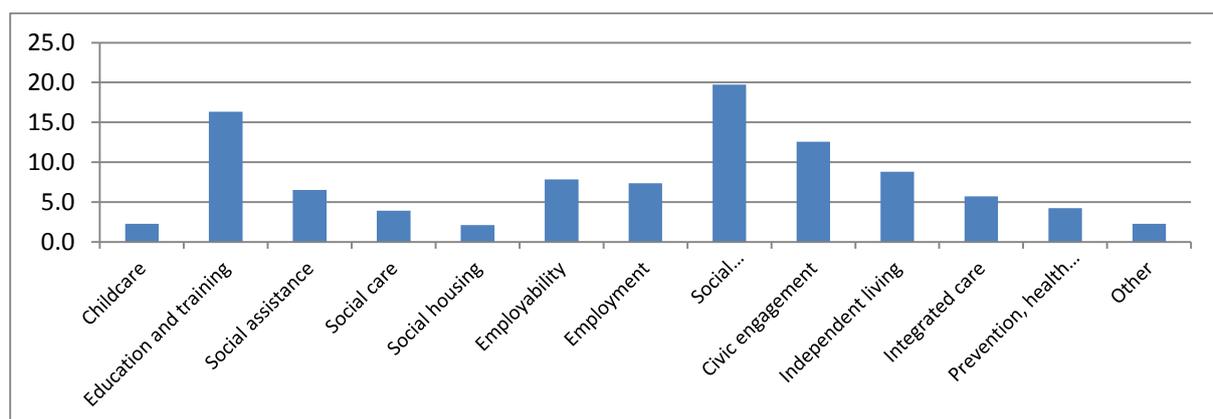
4.2 Consolidated analysis: Inventory and Mapping 2014-2016

In this section, we present the systematic analysis of the consolidated database, i.e. merging the 2014, 2015 and 2016 databases. It is split into two sub-sections: i) the Inventory – 613 initiatives, and ii) the Mapping – 300 initiatives.

4.2.1 Consolidated IESI Inventory

The 613 ICT-enabled social innovation initiatives collected in the three waves of 'mapping and analysis' in 2014, 2015 and 2016 are distributed according to their main PSSGI area of intervention, as shown in **Figure 16**. Almost 20% of the cases in the Inventory database pertain to the area of Social Inclusion and Participation (n=121) followed by Education and Training (16.4%) and Civic Engagement (12.6%). The group of initiatives involved in any of the fields of the Active and Healthy Ageing and long-term Care consists of 115 initiatives which make up 18.5% of the total cases included in the sample. Employability and employment combined comprise 93 initiatives, evenly split between the two sectors (48 and 45 respectively). These constitute 15.3% of the Inventory sample. Social assistance and social care include 40 and 24 initiatives (or 6.5 and 3.9% of the sample) respectively. The sample also includes initiatives which focus on childcare (14 cases or 2.3% of the sample) and social housing (13 cases or 2.1% of the sample), while 14 ICT-enabled social innovation initiatives are classified as 'other'.

Figure 16: IESI Consolidated Inventory by main PSSGI (n=613)

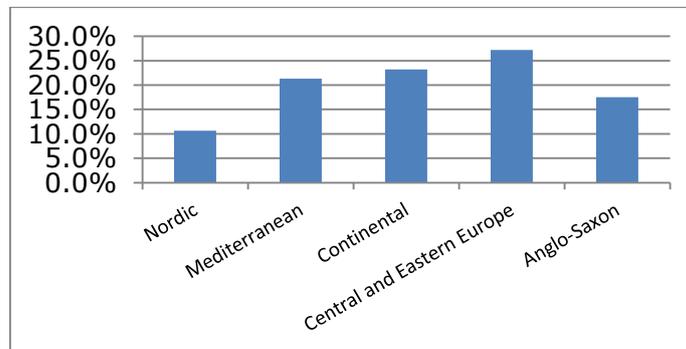


Source: own elaboration.

With regard to the **geographical distribution of initiatives**, although the focus of the IESI research is on gathering insights into ICT-enabled social innovation in the EU, the sample also includes initiatives that operate beyond the EU partly or exclusively. Hence, since some initiatives operate across countries, the consolidated IESI Inventory contains 613 initiatives that operate in 1.8 countries on average.

Here, we can see that the majority of ICT-enabled social innovation initiatives included in the sample operates in the largest welfare system group of the EU Member States, in particular in Central and Eastern Europe (186 initiative or 27% of the sample) and in Continental Europe (159 initiatives or 23%). Next in line are the Mediterranean area with 146 initiatives (21%) the Anglo-Saxon System with 120 (18%) and the Nordic countries, the smallest group, with 73 initiatives (11%).

Figure 18: Distribution by type of Welfare System (WS) (n=613)

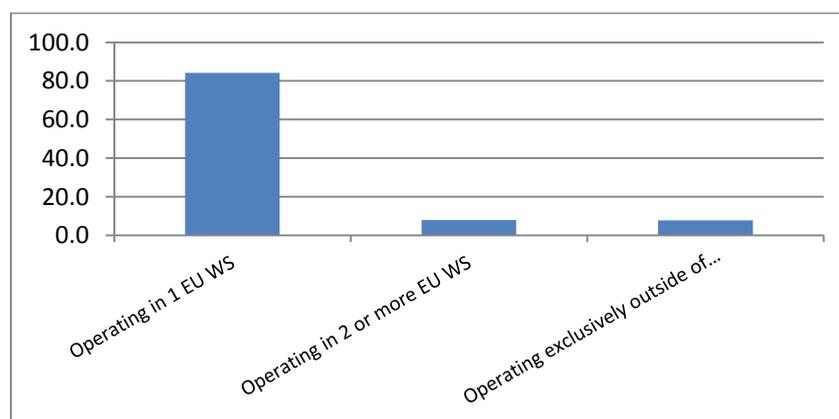


Source: own elaboration.

This may be partly due to the research strategy whose aim in the 2015 and 2016 collections was to balance the number of initiatives in the groups of countries for which it had been more difficult to gather evidence of ICT-enabled social innovation. At the same time, this may also be a sign of the rapid growth of this emerging phenomenon in these welfare systems. However, as we will see in **§4.2.2** the number of initiatives from these welfare systems which made it from the inventory to the mapping is more limited.

In addition, from **Figure 19** we see that the majority of initiatives included in the consolidated inventory (85%) operate within one European welfare system, whilst circa 50 initiatives operate across two or more EU welfare systems (and in some cases beyond the EU as well), and a similar number operates exclusively outside the EU. Out of the 613 initiatives, around 250 operate at sub-national level.

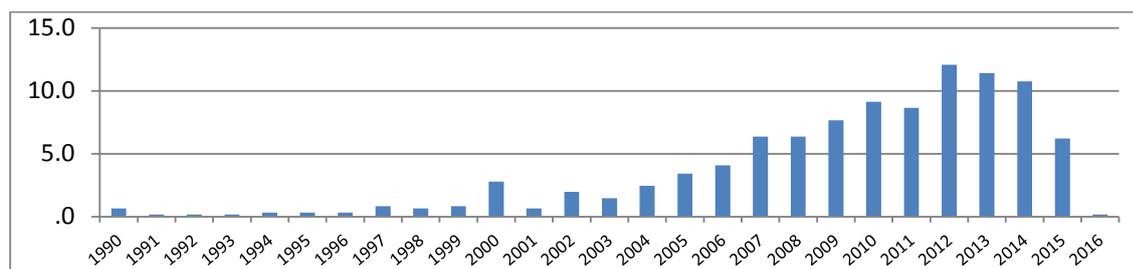
Figure 19: Base of operations according to WS (n=613)



Source: own elaboration.

Regarding the age of the initiatives included in the consolidated inventory, as shown in **Figure 20**, about half of the cases are relatively young (i.e. initiatives founded in 2010 or after) and 91% of the initiatives overall have been in operation for less than 15 years. 65 initiatives inventoried are no longer in operation, though learning from their experience provides interesting insights worth exploring in future research.

Figure 20: Distribution by year of operation (n=613)



Source: own elaboration.

Before delving into the analytical framework and the IESI knowledge map in **§4.2.2**, we present the findings of the co-occurrence analysis performed on the consolidated inventory. The co-occurrences are reported in **Table 4** below.

To perform this analysis, we took into consideration the single, most relevant, PSSGI category under which the initiatives operate and matched it with other, secondary, adjacent, but still relevant PSSGI areas of operations. This can be considered to be a **proxy for services integration**, which in turn might be seen as a consequence of the growing complexity of social needs and social risks the initiatives address.

For example, just to look at some of the biggest primary areas in the IESI sample, about 100 initiatives whose main sector of operation is Education and Training also have high stakes in promoting Social Inclusion and Participation (52% of the cases) and Employability and Employment (52%, combined).

121 initiatives whose primary sector of activity is Social Inclusion and Participation have co-occurrence in Education and Training (39%), Employability and Employment (39% of the cases – combined), Civic Engagement (23%) and Social Assistance (21%).

For the 77 initiatives where Civic Engagement is the primary sector, co-occurrences are concentrated in Social Inclusion and Participation (43%). Civic Engagement initiatives also have stakes in Education and Training (16%) and Social Assistance (13%).

The group of 115 initiatives primarily engaged in Active and Healthy Ageing (Independent Living, Integrated Health and Social Care and Prevention, Health Promotion and Rehabilitation) are, as expected, linked with each other, as they address individually different aspects of the ageing experience and the challenges that go with it.

This analysis, although it cannot be considered significant from a statistical point of view due to the non-representativeness of the sample in statistical terms, nevertheless provides very important insights into the initiatives gathered. In fact, it illustrates how **provision of social services is actually integrated in areas that address common or complementary challenges and which are therefore mutually reinforcing.**

It can be assumed that **ICTs play an important role in this, and therefore it is expected that such initiatives may serve beneficiaries who have multiple needs more efficiently**, thus helping to achieve the goals that underpin the social investment approach. Likewise, we can also expect that ICTs can be used to extend the scope of single initiatives beyond a single sector of intervention.

Table 4: Co-Occurrence Matrix - index of integration (n= 613)

	Childcare	Education and training	Social assistance	Social care	Social housing	Employability	Employment	Social inclusion participation	Civic engagement	Independent living	Integrated care	Prevention, health promotion and rehabilitation
Childcare	1	Ins.	0.14	0.17	-	-	Ins.	Ins.	-	Ins.	Ins.	Ins.
Education and training	0.57	1	0.22	0.13	-	0.88	0.40	0.39	0.16	Ins.	Ins.	Ins.
Social assistance	0.71	0.10	1	0.75	0.15	0.13	0.11	0.21	0.13	Ins.	Ins.	Ins.
Social care	0.29	Ins.	0.19	1	0.31	Ins.	Ins.	0.14	Ins.	Ins.	0.17	0.15
Social housing	-	-	Ins.	Ins.	1	-	-	Ins.	Ins.	-	-	-
Employability	-	0.36	Ins.	Ins.	-	1	0.51	0.18	Ins.	-	Ins.	Ins.
Employment	Ins.	0.16	0.16	-	Ins.	0.73	1	0.21	Ins.	-	0.11	Ins.
Social inclusion participation	0.57	0.52	0.73	0.38	0.31	0.48	0.51	1	0.43	0.17	-	0.31
Civic engagement	0.21	Ins.	0.16	0.29	0.15	Ins.	Ins.	0.23	1	Ins.	Ins.	-
Independent living	-	Ins.	Ins.	Ins.	-	Ins.	Ins.	0.13	Ins.	1	0.66	0.77
Integrated care	-	Ins.	0.16	0.38	-	-	-	Ins.	Ins.	0.44	1	0.73
Prevention, health promotion and rehabilitation	-	Ins.	0.11	0.17	Ins.	Ins.	Ins.	Ins.	-	0.20	0.20	1
Others	Ins.	Ins.	0.14	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	-	-	-

Source: own elaboration.

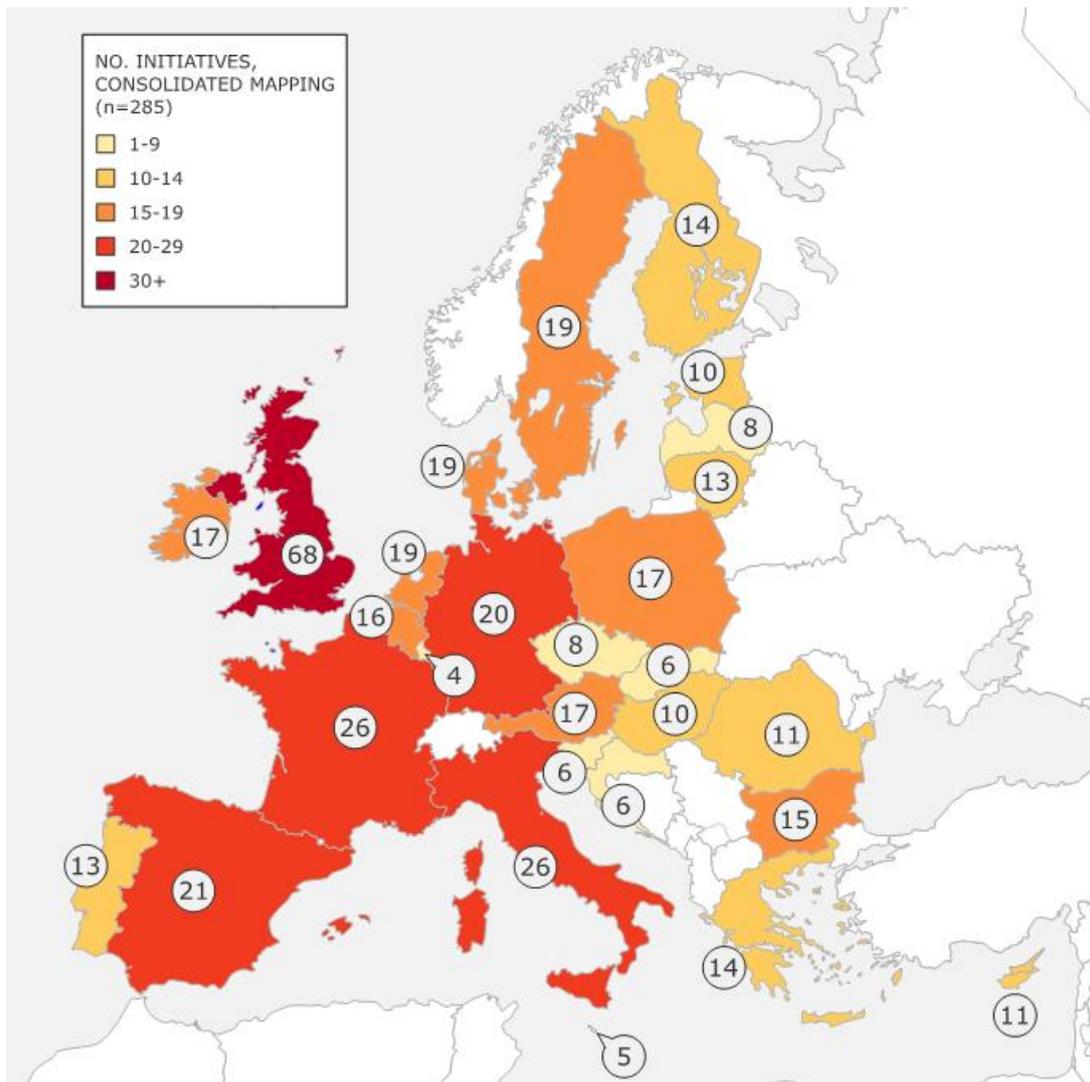
Notes: Columns indicate the **single most appropriate social area** that the service is addressing; rows indicate the most appropriate social areas that the service addresses and rows indicate other sectors of operation of the initiatives (this is not a correlation matrix). The sign '-' indicates that the index of integration is nil. 'Ins.' indicates that the index of integration is insignificant (Frequency < 0.1).

4.2.2 Consolidated IESI Mapping: IESI Knowledge Map 2016

In this section, we report systematically the descriptive analysis of the **300 ICT-enabled social innovation initiatives included in the Mapping database** obtained from the consolidation of the 2014, 2015 and 2016 phases of data collection.

Figure 21 shows the distribution of initiatives according to the country of operation, illustrating only those initiatives that operate in at least one EU Member State. Excluding the 15 initiatives operating outside of the EU, the consolidated mapping sample contains **285** initiatives. However, if we include the multi-national initiatives or initiatives operating across borders, the total number of initiatives reaches a total of **439** operations in EU countries. This means an average of 1.5 operations per EU Member State.

Figure 21: IESI Consolidated Mapping (n = 285 multiple responses /total 439)



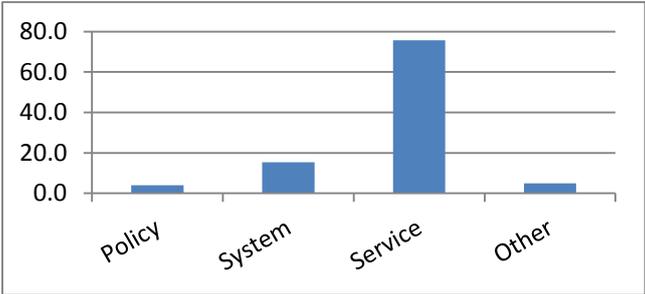
Source: own elaboration.

The largest share of cases mapped is again in the United Kingdom (68 cases or 24%) followed by France and Italy (26 cases each or 9% of the sample), then Spain and Germany with 21 and 20 initiatives mapped respectively. 19 ICT-enabled social innovation initiatives operate in Denmark, the Netherlands and Sweden. Though quite different in size, Poland, Austria and Ireland have 17 initiatives each.

Other relatively small countries, such as Belgium (16), Bulgaria (15), Greece and Finland (both with 14), Portugal and Lithuania (both with 13) follow closely. This shows a quite active landscape and the widespread adoption of ICT-enabled social innovation across Europe. Although to a certain extent the mapping reflects the inventory – after all, the number of initiatives selected for the mapping depended on the availability of documented evidence, it is worth noting that the relative lack of **'culture of evaluation'** in some countries often affects the possibility of gathering data to map initiatives systematically.

If we look at the type of initiatives (**Figure 22**), the majority of cases mapped are Services (227 initiatives, constituting 76% of the sample). 46 mapped cases are Systems (i.e. general types of organisations of PSSGI, or part of them responding to a systemic design), constituting to 15% of the sample. Finally 12 cases are Policies (4%) and 15 initiatives are classified as 'Other' (5%).

Figure 22: Type of initiative (n=300)

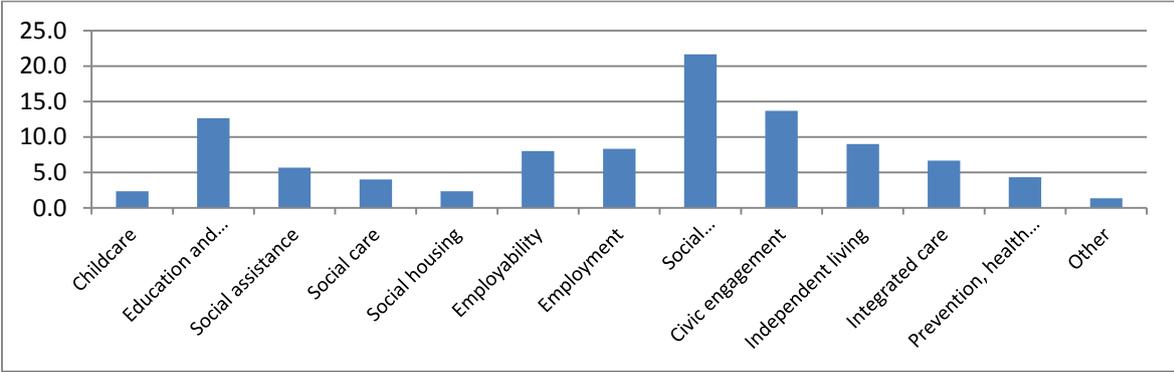


Source: own elaboration.

The predominance of Services may be interpreted as a possible gap between the implementation / action-oriented focus of organisations drawn from the third sector, in particular social enterprises and private ventures, (which altogether represent the largest part of the database) and the policy-oriented approach of public institutions. This may reflect a **distance between the 'welfare society' and the 'welfare state'**. **Indeed, ICT-enabled social innovation acts as a very effective bridge between the two when an appropriate enabling environment exists.**

In terms of categories of Personal Social Services of General Interest (PSSGI) (see **Figure 23**), out of the 300 initiatives the largest number - 65 - consists of Social Inclusion and Participation cases (22%), followed by 41 Civic Engagement initiatives (14%) and 38 initiatives in Education and Training (13%). ICT-enabled social innovation initiatives concerned with Employability and Employment scored together 16% (with 24 and 25 initiatives respectively). The number of cases in the Active and Healthy Ageing area (the combined group of Independent living, Integrated care, and Prevention, health promotion and rehabilitation) accounts for 60 initiatives, representing 20% of the sample.

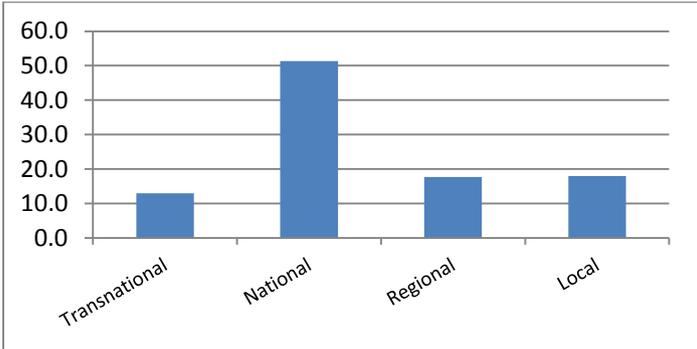
Figure 23: IESI consolidated Mapping by main PSSGI (n = 300)



Source: own elaboration.

Looking at the scale of implementation (**Figure 24**), 39 ICT-enabled social innovation initiatives in the consolidated mapping operate in more than one country. These constitute 13% of the sample. 154 operate within national territories and at the national level (51% of the sample) and the remaining 107 operate either at the local or regional level (18% each). This is indeed an area that requires further research as it seems that while many initiatives are implemented within the boundaries of the nation-state, there is a growing number of local/regional-based innovation systems that may provide services across multiple countries and regions, thus presenting some signs of a **cross-border service integration** worth in-depth analysis.

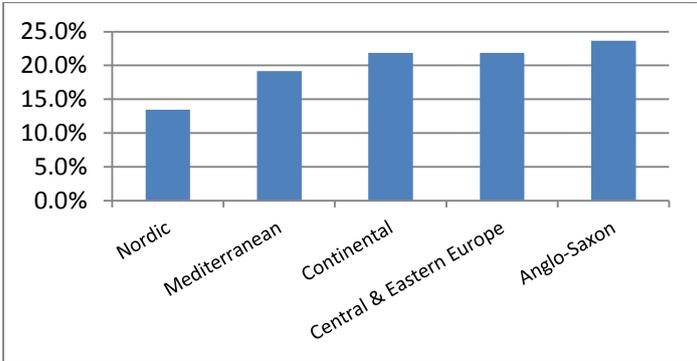
Figure 24: Scale of implementation (n=300)



Source: own elaboration.

Reclassifying the sample according to the welfare systems to which they belong we obtain the distribution presented in **Figure 25** below. The majority of ICT-enabled social innovation initiatives mapped operate in the Anglo-Saxon welfare system: i.e. 79 initiatives, which constitute 26% of the sample. These are followed by initiatives operating in Continental Europe and in Central and Eastern Europe (each area counts 73 Initiatives, representing 24% of the sample respectively). 64 cases operate in the Mediterranean area (21% of the sample). The rest operate in Nordic Countries (i.e. 45 initiatives or 15% of the sample). While these data are clearly not representative, as mentioned earlier, it may be worth looking into the details. It may be that the 'stereotypes' of the effective evidence-based Anglo-Saxon system and the advanced Nordic welfare approach as examples to follow may not be so clear when it comes to **ICT-enabled social innovation. In many cases, this innovation emerges as a response to the failure of the public sector and as a bottom-up phenomenon impinging on collaborative solutions.**

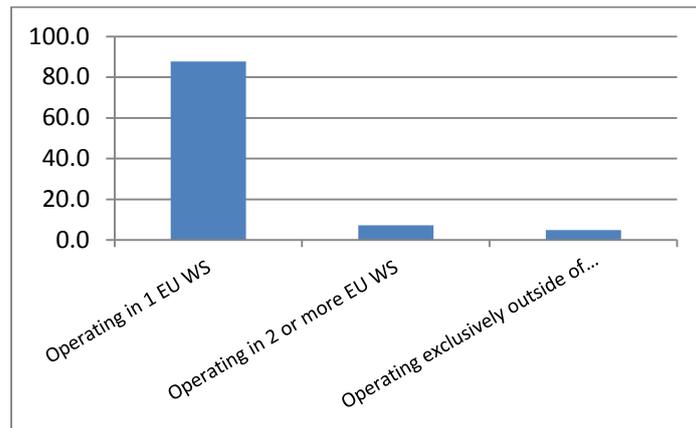
Figure 25: Distribution by EU Welfare System (n=300)



Source: own elaboration.

The great majority of initiatives mapped (263) operate within the same welfare system (over 88%) whilst the rest operate in 2 or more European welfare systems (22 initiatives or 7% of the sample) or exclusively outside the EU (15 initiatives or 5% of the sample) (**Figure 26**).

Figure 26: Cross EU28 Welfare Systems operation (n=300)



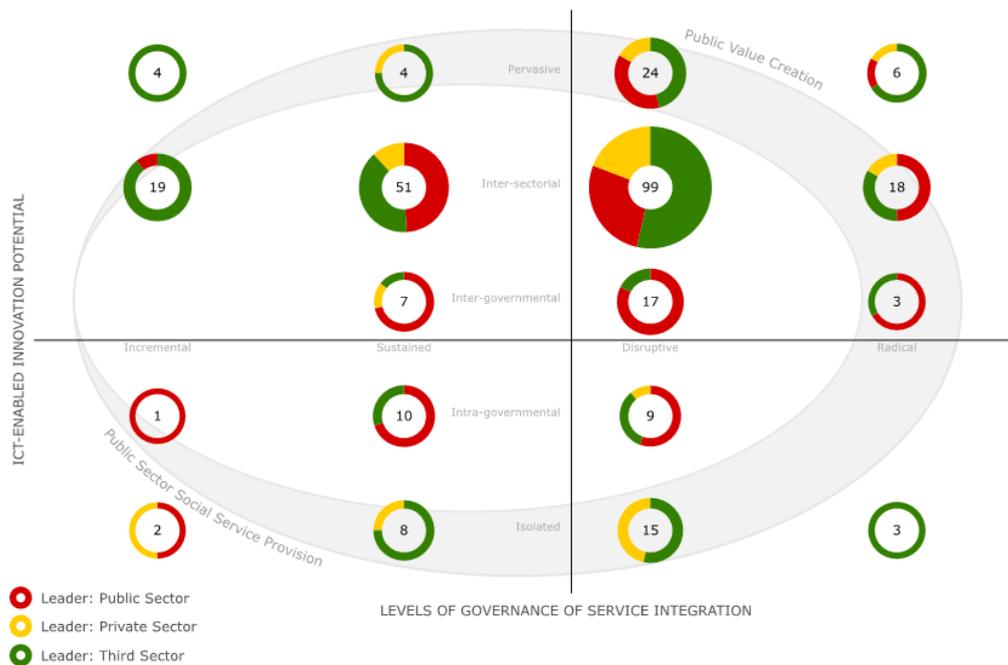
Source: own elaboration.

In line with the approach set out in methodology section (see Chapter 2), the findings from the consolidated mapping are assessed in more detail by taking into consideration the conceptual framework developed as part of the IESI research (Misuraca et al., 2015).

To this end, we look at the distributions of the mapped initiatives according to the four key dimensions of the conceptual framework: 1) the ICT-enabled innovation potential; 2) the elements of social innovation; 3) the levels of governance of service integration; and 4) the types of services integration (see Chapter 3 for details).

In particular, we first examine the interrelation between the ICT-enabled innovation potential and the level of governance of service integration of the initiatives. These are represented graphically in the **IESI Knowledge Map (Figure 27)**.

Figure 27: IESI Knowledge Map - 2016 (n=300)



Source: own elaboration.

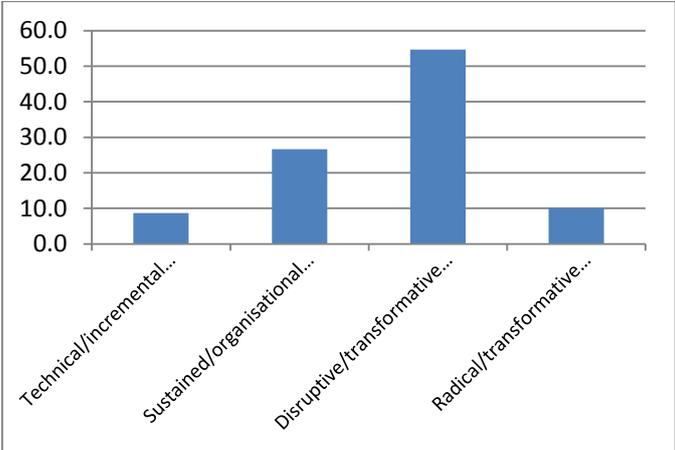
The analysis of the consolidated mapping with respect to two key dimensions, i.e. ICT-enabled innovation potential and the level of governance of service integration, provides indications **that ICTs have considerable potential for the integration initiatives across sectors and supporting public value creation**. Although it is difficult to capture the nuances of the phenomenon by looking at the aggregated picture, it seems obvious that changes in the service paradigm and governance mechanisms are being implemented at the intersection between inter-sectorial cooperation and disruptive innovation potential. 99 initiatives, i.e. almost one third (33%) of the sample are in this category. **This seems to be in line with findings from the review of the state of the art that point to service-orientation being more sophisticated, where ICTs play a crucial role**. This is because they sustain organisational reengineering and partnerships in the service delivery, and also support disruptive and – to a more limited extent – radical innovation. It is in this context that the 'game-changing' nature of ICTs seems to realise its potential best.

Moreover, **most of the initiatives categorised as having inter-sectoral/disruptive ICT-enabled innovation potential are led by third sector organisations**, though public institutions and private enterprises follow closely. **This seems to confirm that the role of the stakeholders operating in the field is changing**, as we will see later in the analysis. This is in line with the overall picture emerging from the sample as a whole with regard to the role of stakeholders. Third sector organisations lead in 146 initiatives (49%), followed by public institutions (in 108 initiatives, or 36%) and, finally, 46 private actors (15% of the sample).

The second biggest category of initiatives in the IESI Knowledge Map (51 representing 17%), are positioned at the intersection between inter-sectoral level of governance of service integration and the sustained dimension of ICT-enabled innovation potential. In this group, the public sector leads clearly, followed closely by the third sector, while private sector organisations have only a limited presence. This seems to suggest the **emergence of an important share of initiatives where collaboration between public and third sector organisations is fairly consolidated through shared service delivery mechanisms and innovative partnerships models**. ICTs are the main tool for activating the network of partners and reaching out to the beneficiaries. Private actors may nevertheless play a crucial role in the service design and/or delivery, either by supporting internal operations, or acting as external service providers.

We now analyse each of the four dimensions of the IESI conceptual framework separately, starting with **ICT-enabled innovation potential** which has been classified as technical/incremental, sustained/organisational, and transformative(i.e. disruptive or radical), see **Figure 28**.

Figure 28: Types of initiatives in the Mapping. (n=105)



Source: own elaboration.

The figure shows that the largest number of initiatives in the sample of 300 pertains to the category 'disruptive'. 164 initiatives (55%) use ICTs to initiate new services or improve existing ones or create new mechanisms for service delivery which would be impossible without ICTs, resulting in product or service innovation. 80 initiatives (27%) are in the category 'sustained'. These use ICTs to support, facilitate or complement existing efforts and processes to improve organisational mechanisms of services provision. The introduction of this kind of innovation implies change at organisational, managerial, or governance/institutional level, such as the creation of new organizational forms, the introduction of new management methods and techniques, new working methods, and new partnerships or business/financial models. Examples are the horizontal or vertical integration of organisational units / departments / services or ICT systems, or the introduction of electronic workflows for cross-organisation case management or service delivery. Radical innovation has been introduced by some 30 initiatives (10%). These involve a substantial use of ICTs taking place outside of the recognised institutional setting and aiming to radically modify existing mechanisms of services provision. Finally, 26 initiatives (8%) introduced technical incremental innovation whereby the use of ICTs aims to facilitate the automation of repetitive tasks and thereby improve efficiency.

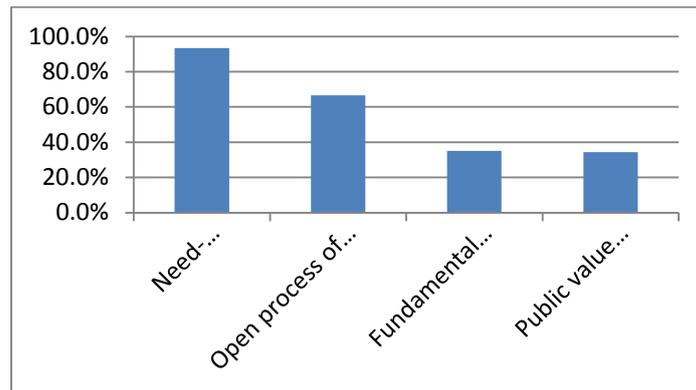
Figure 29 shows the presence of the **elements of social innovation** that characterise the initiatives. 280 initiatives, or 93% are needs-driven/outcomes-oriented social initiatives where outcomes are intended to meet the specific needs of society or specific groups in society as a long-term solution; 200 social innovation initiatives (67%) operate through an open process of co-creation or involving collaborative innovation networks where end-users and other relevant stakeholders participate in the development, implementation and adoption of the social innovation process. This confirms the findings from the update of the review of the state of the art and highlights the growing importance of co-creation and citizens' engagement, as we will see more in depth in the specific thematic analysis in **§5.1**.

Equally distributed in the sample are the remaining two types of social innovation. 105 cases (about 35%) are based upon a fundamental change in the relationships between stakeholders: the ways in which stakeholders relate to each other, how they interact and collaborate undergo radical changes. Social innovation tries to act as a 'game changer', breaking through 'path dependencies'. As a result of social innovation processes, it is argued that needs-driven services require establishing new collaborative relationships and new institutional arrangements. Likewise, 103 initiatives (34%) deal with public value allocation and/or re-allocation: in this context the anticipated or actual consequences of the innovation in terms of effectiveness or efficiency is not the only thing that matters. Indeed **the social innovations which pursue public values also try to ensure that the innovation is appropriate, for instance because it adds to the value of democratic citizenship**, or addresses the needs of citizens.

This suggests the emergence of initiatives that consider democratic citizenship and more in general active citizenship as a foundational value of European society and a pre-requisite for discussing the needed redesign of social policies in Member States. This is an important consideration in a period where the **debate on the European Pillar of Social Rights** is bringing to the fore the difficulties associated with modifying the institutional path-dependency and the complexity of the policy arena which is confronted with the challenging issue of **calibrating between the past and the future**, or, in other words, 'juggling' with maintaining already acquired rights and transforming the welfare systems in search of a fairer 'intergenerational divide'.

This would clearly require further analysis which is beyond the scope of the IESI research: although it is related to the contribution this study makes to the modernisation of the EU social protection systems.

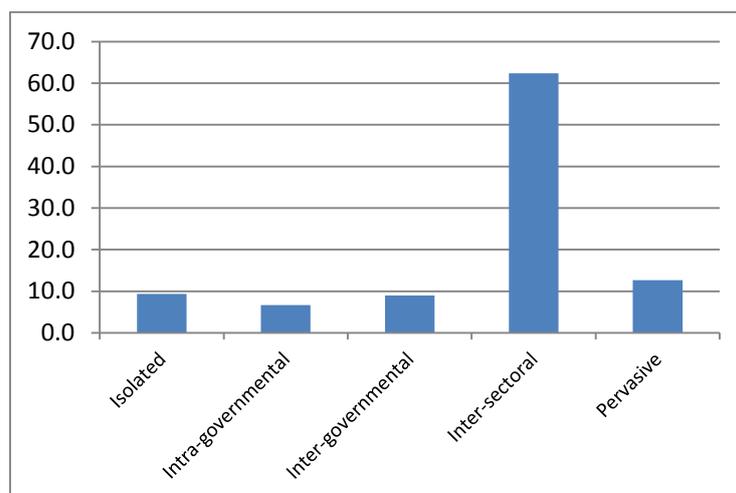
Figure 29: Social Innovation (n=300- multiple responses)



Source: own elaboration.

Figure 30 shows the distribution of initiatives mapped according to the **level of governance of service integration**, the other key component of the IESI conceptual framework. The 300 mapped cases are mostly inter-sectoral: 62% of the initiatives are collaborations between government and service delivery providers in private or non-for-profit sectors. A further 38 initiatives (13%) are characterised as pervasive. The governance of service integration in these initiatives goes beyond the traditional boundaries of administrative/operational integration, and is embedded in a new modus-operandi. Here, service providers and beneficiaries co-produce services with innovative delivery mechanisms and reallocate resources and roles in order to maximise public value creation. Another 28 cases (9%) present an isolated model of governance. These initiatives, though innovative, do not lead to integration at administrative or strategic level. In a further 27 cases (9%) the level of governance is inter-governmental which means that collaboration across multiple levels of government takes place, including database integration, coordinated case management, and joint procurement. Finally, 7% of the cases (20) have an intra-governmental level of governance. This means that each of these initiatives is integrated within a single level of government. They may include integrated case management (service delivery is designed according to the needs of individuals rather than service providers); frontline integration (to offer clients a 'single window'); back-office integration (to provide the necessary support structures); and co-location of practitioners, services and back-office functions.

Figure 30: Levels of governance of service integration (n=300)

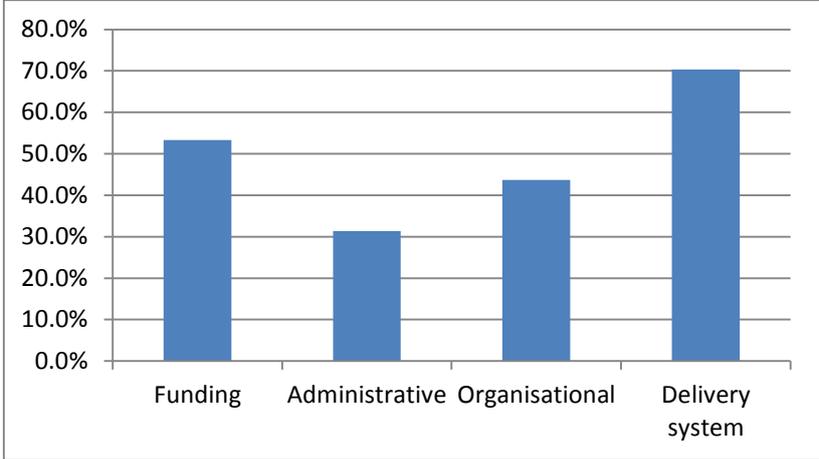


Source: own elaboration.

With regard to the **type of service integration**, the other dimension which characterises the IESI conceptual framework, most of the initiatives are integrated at the

point of delivery. 211 initiatives representing 70% of the sample include centralised information, referral and intake of services; case/care management; multidisciplinary/interdisciplinary teamwork; joint training; and around-the-clock coverage. 160 initiatives are integrated at the funding level. These represent 53% of the sample and the level of integration consists of the pooling of funds at various levels, and pre-paid capitation also at various levels. This may suggest a need to embrace the trend towards 'opening up' channels to facilitate access to finance for micro-social enterprises and third sector organisations. This is indeed a crucial issue in the **emerging topic of social impact investment and the need to integrate innovative financial instruments in the EU cohesion policy portfolio for regional and territorial development**. In 131 cases (or 44%), service integration happens at the organisation level and includes co-location of services; discharge and transfer agreements; inter-agency planning and/or budgeting; service affiliation or contracting; jointly managed programmes or services; strategic alliances or care networks; and common ownership or mergers. Only in 94 cases (31%) does the integration of services happen at the administrative level. In these cases, integration concerns consolidation/decentralisation of responsibilities/functions; inter-sectorial planning; needs assessment/allocation chain; joint purchasing and commissioning (**Figure 31**).

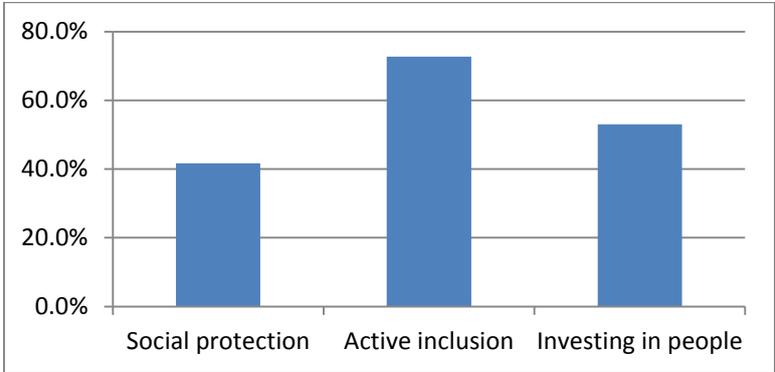
Figure 31: Types of service integration – multiple responses



Source: own elaboration.

Figure 32 shows the **policy relevance** of the initiatives analysed in the consolidated mapping **and the implications for the implementation of the Social Investment Package**.

Figure 32: Relevance to the Social Investment Package (n=300– multiple responses)



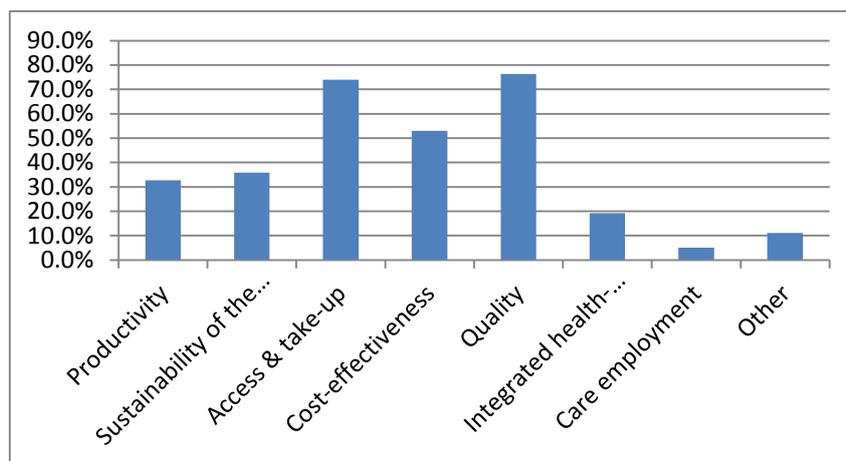
Source: own elaboration.

The initiatives in the sample address the main strands of the Social Investment package as follows:

- **218 (73%) refer to active inclusion.** That is investing in people's skills and capacities to improve people's opportunities to integrate in society and the labour market.
- **159 (53%) refer to investing in individuals throughout their lives.** This entails ensuring that social protection systems respond to people's needs at critical moments during their lives. This means investing as early as possible to prevent hardship from arising later and 'preparing' people against life's risks rather than simply 'repairing'.
- **Finally, 125 initiatives (42%) respond to the SIP objective of Social Protection modernisation.** Their aim is to spend more effectively and efficiently to ensure adequate and sustainable social protection. This can be achieved by simplifying the administration of benefits and services, targeting them better and making them conditional.

In terms of the **objectives of the service provision of the initiatives**, as illustrated in **Figure 33**, 226 in the sample aim to improve the quality of services (76%); 219 initiatives aim to increase access and take-up of services (74%), 157 (53%) increase the cost-effectiveness of service provision, whilst 106 cases focus on sustainability of the social protection system (36%). In 97 cases, the provision of services aims to increase the productivity of the social protection system and of care delivery (33%). 57 initiatives aim to support integrated health and social care of older people (19%) and 15 focus on increasing employment and the quality of jobs in the care sector (5%)

Figure 33: Policy objectives/Service provision (n=300 – multiple responses)

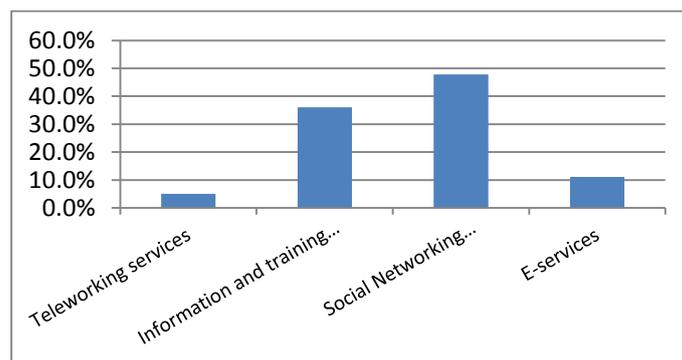


Source: own elaboration.

Clearly strictly connected to the way service provision is implemented, an important aspect of the analysis of the initiatives mapped relates to the **role played by Information and Communication Technologies (ICTs)**. In this regard, the descriptive analysis of the sample with regard to the type of ICT used in designing and delivering the services and the type of social innovation embodied by the initiatives collected provides interesting insights into the way these interventions operate and serve the purposes they aim for.

Figure 34, for instance, shows that the majority of initiatives have adopted Social Networking Technologies. These are used by 150 initiatives (50% of the sample). Information and training platforms are used by 113 initiatives (38% of the sample) whilst e-Services are used in 35 cases. Finally, 16 initiatives use teleworking services.

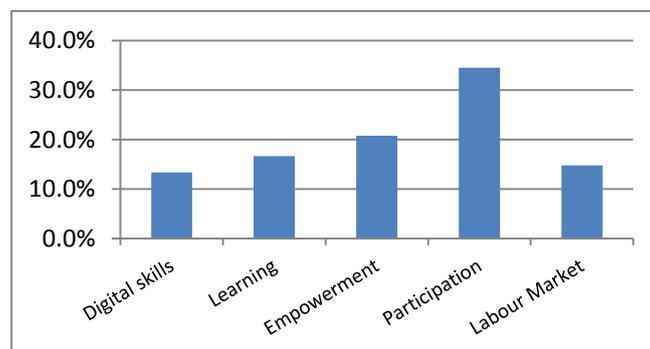
Figure 34: Type of ICTs used (n=300– multiple responses)



Source: own elaboration.

Going deeper into the analysis, **Figure 35** illustrates that ICTs have been deployed to enable social and active participation, networking and engagement in the local community in 168 (56%) of the mapped initiatives. In 101 initiatives (33%) ICTs are used to develop people's soft skills and empower them: improved self-esteem, self-confidence, enhanced awareness of themselves, autonomy, self-expression, reasoning, analysis and communication. 81 initiatives (27%) use ICTs for learning: they promote access to and re-engagement in education and training through innovative forms of learning. ICTs that promote access to the labour market are used by 71 initiatives (24%). Finally, 65 initiatives (22%) use ICTs to improve beneficiaries' digital skills and job opportunities, reduce digital exclusion or social isolation and support social interaction.

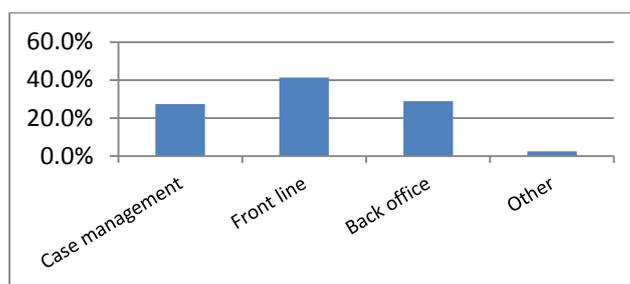
Figure 35: Active inclusion technologies (n=300– multiple responses)



Source: own elaboration.

The initiatives use ICTs mainly for dealing with front line issues, i.e. as an interface with the end-users. 202 initiatives (67% of the sample), in fact, use ICTs for this purpose. 141 cases (47%) use ICTs as back office technology and 134 cases (45%) use ICTs for case management (see Figure 36: **Social services technologies (n=300– multiple responses)**)

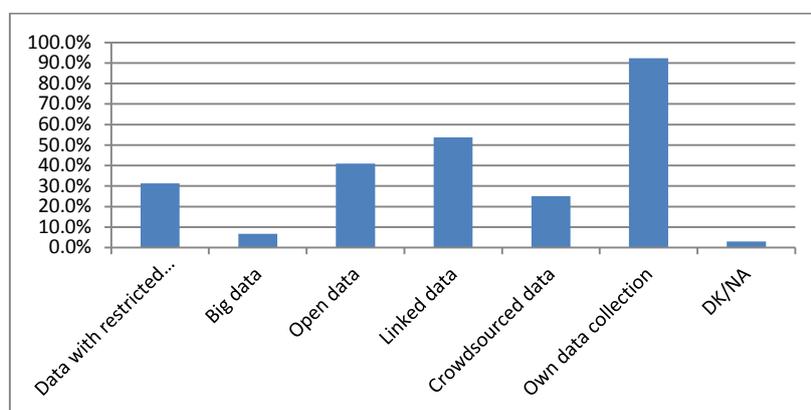
Figure 36: Social services technologies (n=300- multiple responses)



Source: own elaboration.

Figure 37 shows that the single most used source of data by initiatives to plan implement or evaluate operations and results is data collected from their own resources (92%). Linked data is used by 54% of the initiatives, while 41% use an open data source, and about 31% use either official statistics and/or private data providers (i.e. data with restricted access). About 25% of the sample (75 cases) use crowd-sourced data and a small share of the sample – 20 initiatives – use big data.

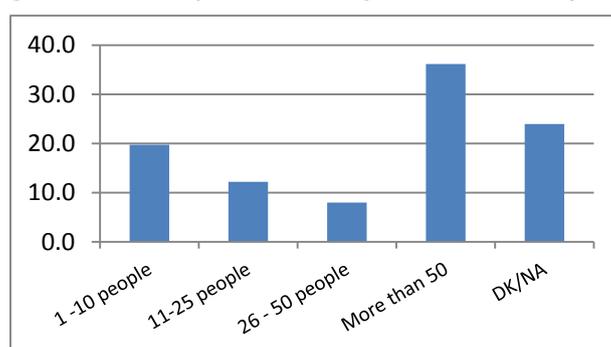
Figure 37: Type of data used (n=300- multiple responses)



Source: own elaboration.

If we now look at the governance characteristics of initiatives in the sample, in terms of size (**Figure 38**), they are mainly delivered by organisations with more than 50 people (86 initiatives), followed by small initiatives with 1 to 10 members of staff. This shows that in general initiatives in the field under investigation are led by rather limited numbers of permanent staff. They may, however, get support from volunteers, especially in the third sector. This seems to confirm a trend in the field, as identified in the literature, i.e. there has been a **shift from labour-intensive to capital-intensive business models**, which have different investment needs from those they had in the past.

Figure 38: People delivering the initiative (class)



Source: own elaboration.

Finally, the analysis shows that 94% of of the ICT-enabled social innovation initiatives build on partnerships. 98 of these partnerships are exclusively between public organisations, 48 have been established by private partners and 82 are public-private partnerships. This highlights an important element of ICT-enabled social innovation which is worth investigating further, namely: the possible **network effects** that can be generated by these initiatives especially if we consider the interesting findings emerging from the use of specific ICTs and the availability of data emerging in this field. For this reason, we have conducted an exploratory study of the potential use of Social Network Analysis (SNA) to try and assess the relationships among initiatives in the sample, focusing specifically on the local dimension. Preliminary results are presented in the next section (**§4.3**).

4.3 Exploring network effects of ICT-Enabled Social Innovation

During the course of the IESI research, the need arose to explore the potential of using Social Network Analysis methods to better understand the drivers and barriers of ICT-enabled social innovation which promotes social investment on the meso level. SNA was identified as a method that could provide invaluable insights into to how social innovation cascades operate in real environments. It could also contribute to the modernisation of social protection systems within a specific context. Moreover, it was considered useful to try and identify network-related factors that enable the emergence and diffusion of ICT-enabled social innovations that have the potential to transform the way public value is created. However, it has to be kept in mind that the IESI data collection was not explicitly designed for the special requirements of a proper and comprehensive SNA application. Nevertheless some snippets could be obtained by exploiting the data already available at this stage and applying this methodological approach, as shown by the preliminary findings provided in this section.

4.3.1 Single Variable Analysis

To start, a simple social network analysis was conducted on the database, applying a single-variable analysis, from which the following outcomes could be expected:

- Visualisation of networks based on single variables.
- Obtaining some insights and gaining an understanding of complex data 'at a glance', which would not be possible without network analysis.
- Clustering into groups with common elements.
- Analysis of centrality, identifying the importance of individual initiatives within networked groups.

Figure 39 shows the network analysis of the initiatives based on their Primary PSSGI category. It shows 12 distinctive clusters, which can be understood as groups of initiatives related to the 12 main PSSGI categories in the database and presented from 1 (top left) to 12 (bottom right). The graph allows us to identify the relative sizes of the primary PSSGI groups, and also the central initiatives in each group, which should be understood as those having the greatest degree of commonality with the other initiatives in their PSSGI cluster (**Table 5**):

Table 5: Ranking of PSSGI cluster size and their central initiative

Cluster Size (Rank)	Primary PSSGI	Central Initiative
1	Social Inclusion/Participation	Flash Young
2	Civic engagement	Puzzled by Policy (PbP)
3	Education and training	Estonian e-Learning Development Centre (ELDC)
4	Independent living	Sotiria Hospital eHealth Unit (SOTIRIA)
5	Employment	Net Employment
6	Employability	AspIT
7	Integrated health and social care	Long Live the Elderly (LLE!)
8	Social assistance	Byström Youth Services (BYS)
9	Prevention, health promotion, rehabilitation	AgeingWorks
10	Social care	Netari.fi
11	Social housing	Saving Energy in Social Housing with ICT (eSESH)
12	Childcare	Everyday Technologies for Children with Special Needs (Ev-Tech)

Source: own elaboration.

In **Figure 39**, the networks are ranked by size from large to small, following the order in **Table 5**. Social Inclusion is the biggest PSSGI-group represented (with Flash Young at the centre) and Childcare is the smallest, with Ev-tech at the centre. The very small number of initiatives around CALM is categorised as 'Other types' of social services. The colours indicate the initiatives which operate in the same location (country-level). For example, the graph indicates that Civic Engagement initiatives (Cluster 2) are located across a sufficiently common set of countries to be grouped together (but not necessarily the same countries, given the algorithm used), because of the concentration of green-coloured initiatives in the Civic Engagement PSSGI area.

While it is clearly beyond the scope of this exploratory research conducted within the IESI project, **this analysis could be extended to identify in more detail the EU countries in which initiatives already address Primary PSSGIs. It could also identify the locations in which there are potential PSSGI gaps that could be filled by launching new ICT-enabled social innovation initiatives, or replicating/transferring existing initiatives across countries.**

In addition to the Primary PSSGI areas, we also analysed the initiatives in relation to all the social services they address: i.e. not only their primary service but all the other services they provide. We did so by looking at what we have identified in **§4.1** as '**co-occurrences**' of social services provided, that could also be considered a proxy for service integration.

The findings are represented in **Figure 40**. As multiple answers were possible, the network graph is less clearly structured than the graph about the primary PSSGI analysis.

Instead of 12 discrete groups, the network for social service provision contains multiple inter-connected sub-groups, which have sufficiently common characteristics to be clustered around their central initiatives, and are inter-connected (shown by the connecting lines) to other sub-groups by at least one connecting initiative.

Interestingly, some of the same initiatives are central across both primary and secondary PSSGI categories (comparing **Figure 39** and **Figure 40**), although a more detailed description is beyond the scope of this report).

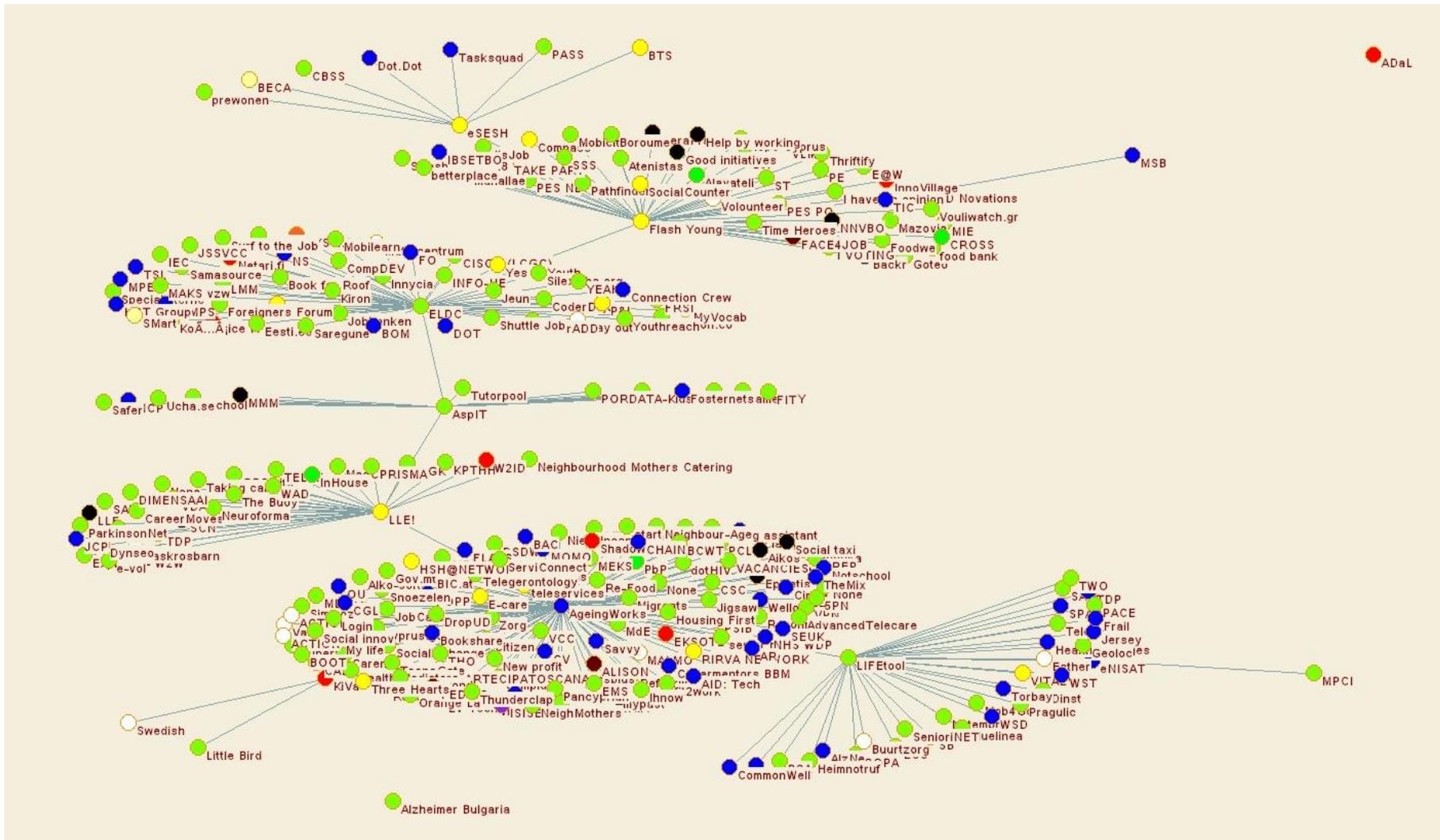
For example initiatives such as **Flash Young**, in the city of Bologna in Italy, **Ageing Works** in the UK, and **Long Live the Elderly, in the city of Rome, Italy**, seem to act as 'hubs' of service provision in their respective areas of intervention, which is the promotion of youth employability or active and healthy ageing and long-term care in the last two cases.

At the same time, some initiatives emerge as '**unique**' in the sense that they are not sufficiently similar to any other initiatives to be connected, for example **Activating Daily Life (ADaL)** in Finland and **Alzheimer Bulgaria**.

Both the most and least connected initiatives require further attention and analysis as possible examples of '**Pervasive**' or '**Isolated**' initiatives, provided they use the same terminology as we have used for the IESI conceptual framework. These initiatives could provide important lessons for ICT-enabled social innovation in Europe.

Another objective of the exploratory use of SNA to assess the IESI database was to test its consistency. In this respect, the colours representing common locations are spread quite evenly across the network, which illustrates the aim of the data collection which was to provide a **balanced sample from all EU Member States** to the extent possible. This clearly does not make up for the non-representativeness of the sample and its significance from a statistical perspective, nevertheless it confirms that the important goal of gathering initiatives that illustrate the ICT-enabled social innovation landscape across the entire European Union has been achieved.

Figure 40: Networks by Type of Social Services



Source: own elaboration.

4.3.2 Multiple Variable Analysis

Going beyond the Single Variable Analysis outlined so far, **multiple variables were combined to analyse more specific questions that the data could help answer.** Two examples of the multiple variable analyses are given below. The colours in the figures represent the countries of operations as indicated in **Table 6:**

Table 6: Country colour codes

Countries	Colour
Italy	Yellow
UK	Blue
Germany	Red
Italy + UK	Green
UK + Germany	Purple
Italy + UK + Germany	Dark Green
Lithuania	Black
Lithuania + UK	Dark Blue
Sweden	White
Sweden + Italy	Light Yellow
Sweden +UK	Light Blue
Italy + UK + Germany + Sweden	Light Green
>3 countries	Brown
All others	Grey

Source: own elaboration.

Policy Objectives and Stakeholders

The multi-variable network analysis considered the data in relation to Policy Objectives (3 Variables) and Stakeholder Partnerships delivering the initiatives (2 Variables). The questions we sought to answer through the data were: a) Is there any correlation between policy objectives and leading sector/type of partnerships delivering the initiatives? And b) what happens if the initiatives are re-grouped by country?

The correlation graph resulting from the analysis is shown in **Figure 41.**

The elongated structure of the network and its sub-basins suggests that there is a **strong correlation between the initiatives in the database in terms of their policy objectives and stakeholder partnerships delivering the initiatives.**

There are in fact 3 main clusters in the network, and the analysis further reveals that there are 20 central initiatives in the network which have exactly the same degree of centrality (measured in network terms as a between-ness value of 0.00018818401543385; and a closeness value of 1).

Interestingly, these initiatives represent a wide array of policy objectives, stakeholder partnership types, and countries of operation. The strength of correlation in the network analysis suggests that **the relationship between the policy objectives of the initiatives and their stakeholder partnerships is not random, and that there is a 'way' of delivering certain services through certain public, private, and third sector stakeholder partnerships that could be uncovered in more detail.** This has potential implications for European policy and practice in designing, testing, and scaling up new models for public service delivery in the future. Building on the lessons learned at this stage, it seems worth investigating these initiatives in terms of their patterns of regularity and the relationships within and between clusters in more detail in future stages of the IESI research.

The list of 20 central initiatives and their cluster number is shown in **Table 7**:

Table 7: Ranking of PSSGI cluster size and their central initiative

Initiative	Cluster
DF	3
CareerMoves	3
Mattecentrum	3
OU	3
MPCI	3
NS	3
Avitus	3
Backr	3
maskrosbarn	3
MOMO	3
Shadow World	3
BI	2
PE	2
MdE	2
ServiConnect	2
Healthy Villages	1
Mob4Good	1
MSB	1
M4Park	1
TIC	1

Source: own elaboration.

4.3.3 Analysis by Country

The multi-variable analysis seemed to lend itself to a country-based analysis of the data. Hence a correlation graph was created for an exemplary country, the **United Kingdom**, which has a mature social innovation scene, and the highest number of initiatives among all EU Member States in the IESI database. This is due to the combined effect of two elements: 1. the UK plays a pioneer role with regard to ICT-enabled social innovation development, and is indeed recognised as the leading country in Europe and the world in this field; and 2. the strong evaluation culture embedded in the Anglo-Saxon system, including the public and third sector. The initiatives in this country are the best documented. An additional element is the language which facilitates access to information, especially when it comes to scientific publications.

In terms of analysis, the data was first filtered to include only initiatives operating in the UK. The network analysis then focused on the **degree of commonality** (i.e. the number of data points in common) across all the mapped variables in the database. To run this analysis in a meaningful way, a minimum threshold for commonality was set up in the algorithm, meaning that if 2 initiatives had too little in common they were dropped from the network. This analytical process therefore prioritizes commonalities above other variables, creating a **network based on commonality in initiatives operating in a given country**.

Figure 42 and **Figure 43** show the results of the network analysis: the thicker lines represent a higher degree of commonality between initiatives.

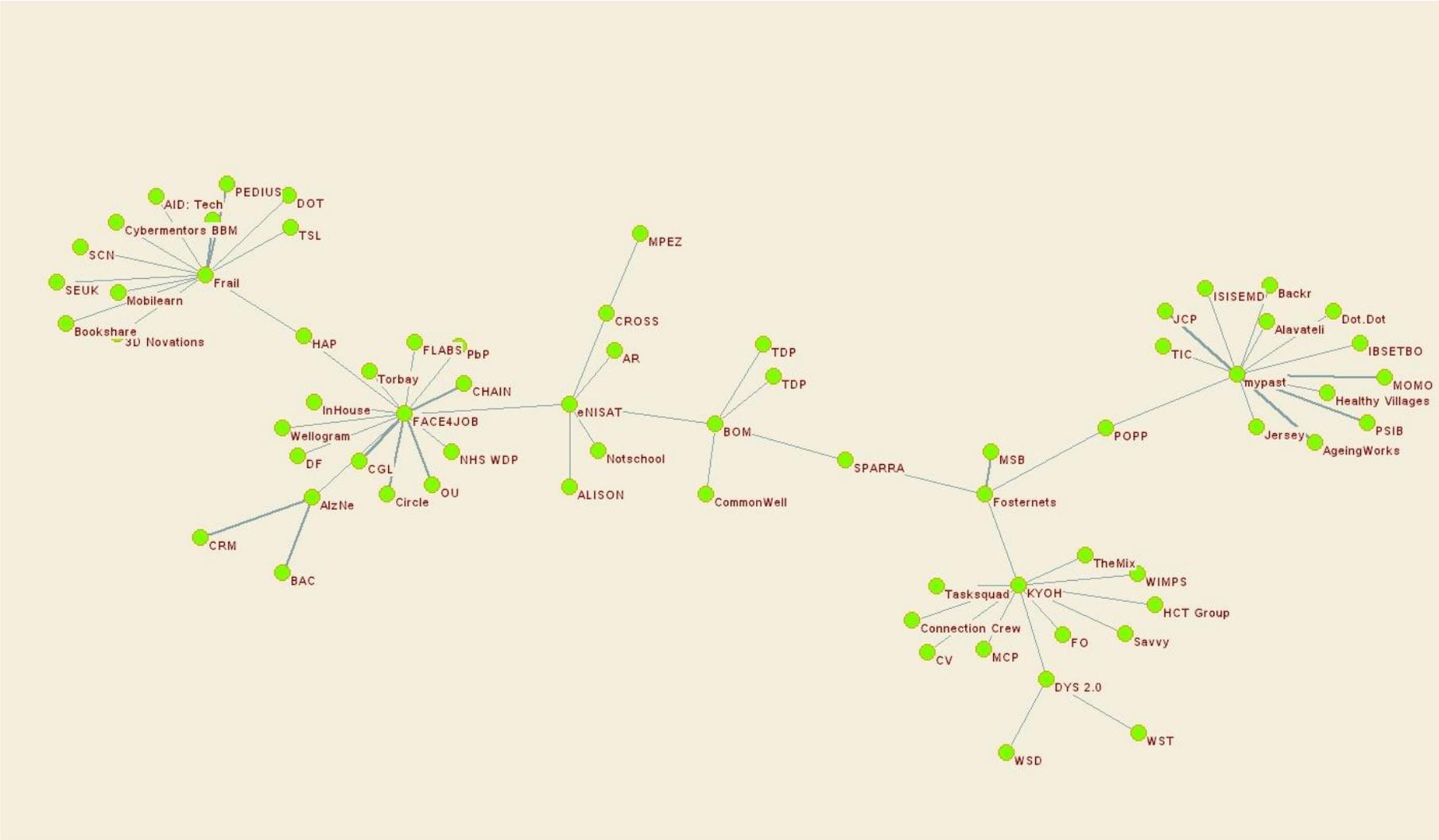
The analysis identified 40 central initiatives in 2 main clusters with the same measure of closeness (1) and between-ness (0.00031207218051162) in the UK ICT-enabled social innovation ecosystem, though these initiatives will be explored in more detail so that we have a better understanding of their relationships and the actual implications of the analysis (**Table 8**).

Table 8: List of initiatives and their respective clusters

Initiative	Cluster	Initiative	Cluster
AgeingWorks	1	Backr	2
3D Novations	2	Dot.Dot	2
DF	2	MPEZ	2
Circle	1	Jersey	1
Wellogram	1	NHS WDP	1
HAP	2	PEDIUS	2
PbP	2	Cybermentors BBM	2
POPP	1	FLABS	2
SCN	2	MOMO	2
Healthy Villages	1	TIC	1
Alavateli	2	BAC	2
Bookshare	2	CHAIN	2
DOT	2	IBSETBO	2
MSB	1	JCP	2
OU	2	AID: Tech	2
PSIB	2	HCT Group	2
TSL	2	SEUK	2
NS	2	CGL	2
CRM	2	Mobilearn	2

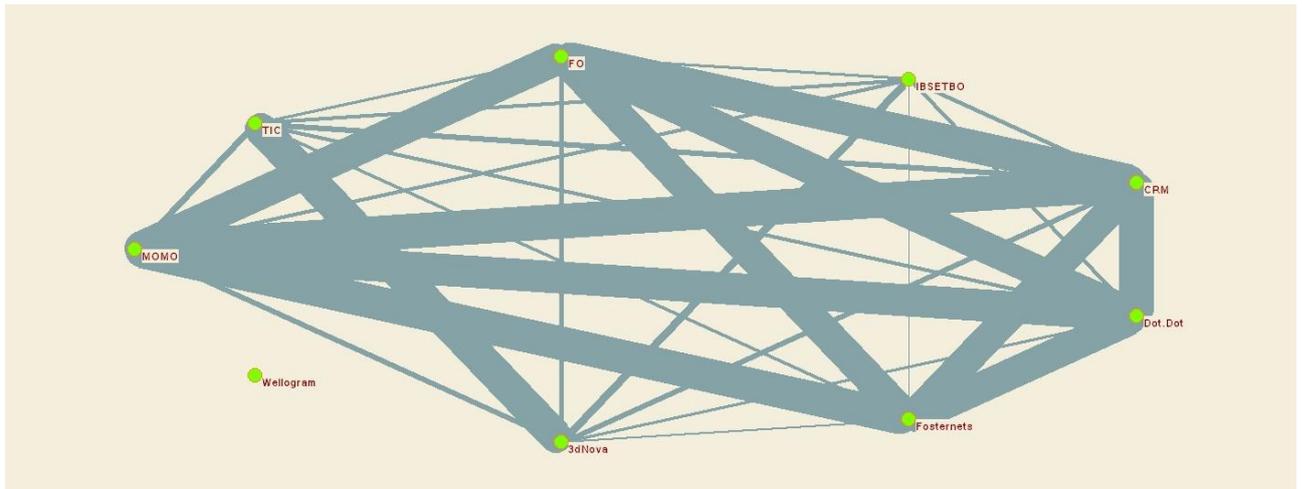
Source: own elaboration.

Figure 42: Network of Initiative-Commonalities in the UK



Source: own elaboration.

Figure 43: Strength of Initiative-Commonalities in the UK



Source: own elaboration.

The analysis enabled us to visualize the overall network of initiatives (or ecosystem) in the UK. As a **future step in the research**, we could analyse this ecosystem in more detail in order to answer, for example, the following relevant research questions:

1. Among the initiatives which have most in common (thickest line), which ones provide services with the greatest impact, and what elements (e.g. types of partnership, PSSGI focus) do they have in common? This could form the basis of comparative impact assessment and policy intervention across initiatives. For example, if two initiatives in the UK have a lot in common but generate significantly different impacts, the one with the lower impact could learn how to boost its impact quickly and easily from the other initiative, which might have a similar organisational structure or a similar starting point.
2. For the initiatives which have most in common (thickest lines), how could they make service provision more efficient, for example by integrating or sharing their services, borrowing service capacity from each other, filling gaps that the others do not have, creating new partnerships, and engaging more stakeholders in their service provision?
3. What can the initiatives which have less in common (thinner lines) learn from each others' different practices, methods, and stakeholder groups? Even initiatives which do completely different things and address different needs can still learn from each other. Indeed, the diversity of initiatives is vital for the ecosystem to be people-centred, sustainable, and appropriate to answer end users' needs throughout their lives. There is no 'one-size-fits-all', and no single ICT-enabled social innovation initiative can provide all services to all the people.

Importantly, this analysis can easily be replicated for all EU countries represented in the database. This can help researchers to obtain a better picture of the ICT-enabled social innovation ecosystem in each country. Further, a country-by-country analysis could be combined to analyse cross-country similarities and differences, which could help guide impact assessments and specific policy interventions at the European level.

5. Thematic analysis

This chapter presents the findings of specific thematic analyses conducted on a set of selected relevant topics, by looking at emerging phenomena in the areas of: 1) civic engagement for social change; 2) employability and employment, especially looking at disadvantaged groups; and 3) active and healthy ageing and long-term care.

The thematic analyses developed in this chapter focus on three areas. In terms of the policy agenda and the European socio-economic context, these areas may be considered highly important for the implementation of the Social Investment Package in general. Moreover, these areas are especially important for the development of the European Pillar of Social Rights.

The following sections aim to provide a deeper understanding of how initiatives in the fields of civic engagement for social change (§5.1), employment and employability (§5.2), and active and healthy ageing and long-term care (§5.3) respond to the three **objectives of the Social Investment Package** which is the focus of the IESI research: 1) modernisation of the social protection system; 2) implementation of active inclusion strategies; and/or 3) investing in individuals throughout their lives.

The thematic analyses look at the **four key dimensions of the IESI conceptual framework**, namely 1) ICT-enabled social innovation potential; 2) elements of social innovation; 3) levels of governance of service integration; and 4) types of service integration.

In particular, to recall the concepts composing the IESI framework (see Chapter 3 for more details), we explored through the dimension of **ICT-enabled innovation potential** whether:

- an initiative uses ICTs to automate repetitive tasks and improve efficiency in the process of the provision of social services (technical/incremental use of technology); or
- whether ICTs are used to support, facilitate or complement existing services, processes or organisational models in the provision of social services (sustained/organisation innovation).

Furthermore, we investigated whether ICTs are used to initiate new services or to improve existing ones, or to create new mechanisms for services delivery (disruptive/transformational). Ultimately, there could be wide use of ICTs outside the 'normal' institutional settings and service provision mechanisms could be radically modified by the introduction of the social innovation (radical innovation).

"**Elements of social innovation**" refers to the degree to which an initiative 1) may respond to particular needs of society or a specific group of beneficiaries; 2) may be carried out - or the services are devised and delivered - through an open process of co-creation, or within collaborative innovation networks formed by users/beneficiaries and key stakeholders involved in the service provision; 3) involves a fundamental change in the relationship between stakeholders, and/or 4) provides public value allocation or re-allocation by providing new services or extending the scope and reach of social innovation.

Finally, we discuss our findings with regard to service integration. Here we look at whether:

- the **integration** is carried out in a single **level of government** (i.e. the service providers innovate by integrating social services independently from other stakeholders (intra-governmental);
- the level of governance of the social innovation initiative is spread across multiple levels of government (inter-governmental), or along the group of stakeholders through collaborative agreements, joint investments strategies or formal network of service delivery (inter-sectorial). The level of governance of a service may even

be 'pervasive', where it is diffused beyond the traditional boundaries of administrative or operational integration, bearing in mind the specific **functional types of integration** (i.e. funding, administrative, organisational, service delivery) as well.

5.1. Civic engagement for social change

According to Adler and Goggin (2005), '*civic engagement refers to the ways in which citizens participate in the life of a community in order to improve conditions for others or to help shape community's future*'. This is an area where social innovation has been centre stage for some time and terms such as 'citizen participation' and 'democratisation' have been used in academic and policy debates with important repercussions on other spheres of social investment and societal arrangements (Jenson, 2012).

The consolidated Mapping database includes **41 ICT-Enabled Social Innovation initiatives which belong to the civic engagement for social change area**. This group of initiatives were collected over the three phases of data collection and includes a wide variety of cases from different sectors, which deal with different dimensions of civic engagement. There are grass-root movements and also initiatives mainly based on or oriented towards volunteerism. Other initiatives empower citizen participation or generally enhance civic engagement through crowdsourcing/funding activities. In **Box 1**, we highlight 4 initiatives that embody the concept of civic engagement for social change as regards their aim and scope.

Box 1: Four types of Civic Engagement ICT-enabled social innovations

Grass Root Movement	Citizen Participation
<p>Atenistas: The main aim of Atenistas is to provide a web space for the people of Athens to identify areas of their city that could be improved through collective actions. The platform provides four different 'creative groups':</p> <ul style="list-style-type: none"> ▪ Culture: this group aims to organise cultural events in order to create positive thoughts in the minds of locals; ▪ Act: this group carries out interventions – artistic and useful – that transform problematic areas into green spaces useful to the locals; ▪ Plus: implements social initiatives which target people in need and aim to establish communication with relevant authorities for their information and solution; ▪ Polis: promotes Athens' history through guided tours, inscriptions and guides. <p>The website offers social networking technologies that enable the creation of social networks and focus on building communities of interest that help Athenians to communicate, organize, and share with other users.</p>	<p>i-Voting: Since 2012, electronic voting services in Estonia have been provided by the Electronic Voting Committee responsible for conducting Internet voting. The National Electoral Committee supervises all the activities. Electronic voting services are available for local, Parliamentary and European Parliament elections. I-Voting was first piloted in local elections in 2005 where 9,000 voters cast their votes on the ICT platform. The services are straightforward: Estonian voters are allowed to vote electronically on either their computers or their mobile phones. The i-voting services are linked to voters' digital IDs. In order to cast their votes, the voters need to download the application software, link it to their electronic identities, and then vote by selecting from the list of candidates. Several safeguards are in place to ensure the identification of the voter and that each voter votes only once. The source code of the software used in the i-Voting system is publicly available.</p>
Organised Volunteerism	Crowdfunding Platform
<p>Volunteers' Agency: This is an ICT platform designed as a match-making tool where non-profit organisation can post their needs in the form of 'missions' and recruit volunteers accordingly. These can be classified in terms of needed tasks (office work, events, IT, etc.), areas of intervention (children and youth, refugees, health, etc.) and time commitment. It encourages everyone in Sweden to become a volunteer, making them part of the community. It allows volunteers to search across the various 'live missions' posted and even provides training for volunteers and management of volunteers and volunteering tasks.</p>	<p>Take Part: This is an open crowdsourcing platform, developed in Denmark. It allows its users to 'create a societal challenge' and invite others to help find solutions. If a user wants to put solutions into practice, other platform users are invited to an event where the new solution is implemented. Users can 'help' each other and 'build' on each other's solutions. The aim is to make users play a creative role in co-creating solutions to other users' challenges through new forms of relationships. Take Part aims to create opportunities for everyone to get involved in their community's life.</p>

5.1.1. Typology of ICTs used, innovation potential and integration of services

Almost 70% of the initiatives whose primary remit concerns civic engagement for social change make use of social networking technologies, though their use of other types of ICTs is very limited. Several of these initiatives rely exclusively on social network technologies to achieve their goals. Grassroots initiatives such as **Atenistas** and **Let's Do it Romania**, and many citizen participation initiatives such as **Citizen Reinforcing Open Smart Synergies** or **Co-participation in the Tuscany Region** and **Mobilearn** have been developed and are run through social network technologies. This is clearly related to the nature of civic engagement, which is mainly a matter of creating synergies and relationships. A number of initiatives can be categorised as a 'flat hierarchy' group, meaning that management of the networks is horizontal, open and collaborative. Other initiatives fall into a second group in which networks are instead managed centrally by a single organisation or public service.

Initiatives which promote volunteerism, crowdsourcing and crowdfunding also use e-service technologies to collect donations, and reach out to citizens to raise their awareness and mobilise them for an action. Two examples are **Take Part** in Denmark and **Volunteer's Agency** in Sweden. These initiatives also share the fact that they act as 'framework initiatives' which aim to enhance or empower other initiatives. Thus, they do not deal directly with specific social needs. Instead, they work on the social environment and existing social service provision ecosystems, increasing their effectiveness, outreach and transparency. They therefore can be found in contexts where social capital and volunteerism are already present.

With respect to the **ICT-enabled innovation potential** of the 41 initiatives included in this group, none exhibits the characteristics of incremental ICT-enabled social innovation. Most cases belong to the group of disruptive innovation, whilst 29% deliver sustained/organisation innovation. Only 5 cases – or 12% - have radical innovation potential. At the same time, the contribution offered by ICTs seems to be greater where volunteerism is present but not yet fully developed, because ICTs can quickly reach a great number of potentially interested people. On the other hand, initiatives which provide specific public services (**i-Voting** and **Gov.mt**) only use secured e-service technologies. Unsurprisingly, 80% of these initiatives use ICTs to promote social and active participation, networking and engagement in the local community. However, a small minority may use ICTs for other reasons: 19% use ICTs for promoting autonomy, self-expression, reasoning, analysis and communication. ICTs are widely used for front line services (68%) whilst for back office and case management, ICTs are used in 51% and 39% of civic engagement initiatives respectively.

As regards the **elements of the social innovation** dimension, as defined in the IESI conceptual framework, 76% of the civic engagement initiatives are 'needs-driven and outcomes-oriented'. Almost 70% are 'open to co-creation and collaborative innovation networks'. Around 54% engage primarily in 'allocation and/or reallocation of public value in order to achieve improved effectiveness and efficiency', and 46% have prompted a 'fundamental change in the relationships between stakeholders'. The **levels of governance** of service integration are mainly inter-sectoral or pervasive (both modes make up almost 70% of the 41 cases) in this pool of initiatives. Integration of services happens at the delivery end in 66% of the cases, while integration in the funding, administration and organisational level happens in just over 30% of civic engagement initiatives.

The **scale of service deployment** of civic engagement initiatives is mainly national (61% of the cases). However, regional and local level initiatives combined constitute 27% of the sample. Out of 41 cases, 5 of them operate transnationally. These are either large social network-based initiatives such as **Puzzled by Policy** and large (operating at the EU level) crowdsourcing platforms such as **Goteo**, or multi-country/locally-based initiatives such as **Citizen Reinforcing Open Smart Synergies (CROSS)**.

In **Box 2**, we provide a brief description of the CROSS initiative, which is deployed locally (in 4 cities) and in three different countries (Italy, Spain and the UK).

Box 2: A transnational initiative delivered locally

Citizen Reinforcing Open Smart Synergies (CROSS)

CROSS is a platform which provides tangible and innovative digital services to the 'non-monetary' economy. CROSS has three objectives:

- 1) introduce a digital transactional platform where citizens and organisations may interact for the provision of social services;
- 2) operate cross-border and allow management, transaction and accountability issues in the non-monetary economy to be tracked and reported;
- 3) provide incentives to public authorities, citizens, communities, public service providers and developers to engage in the creation of a social innovation ecosystem for the delivery of innovative digital services.

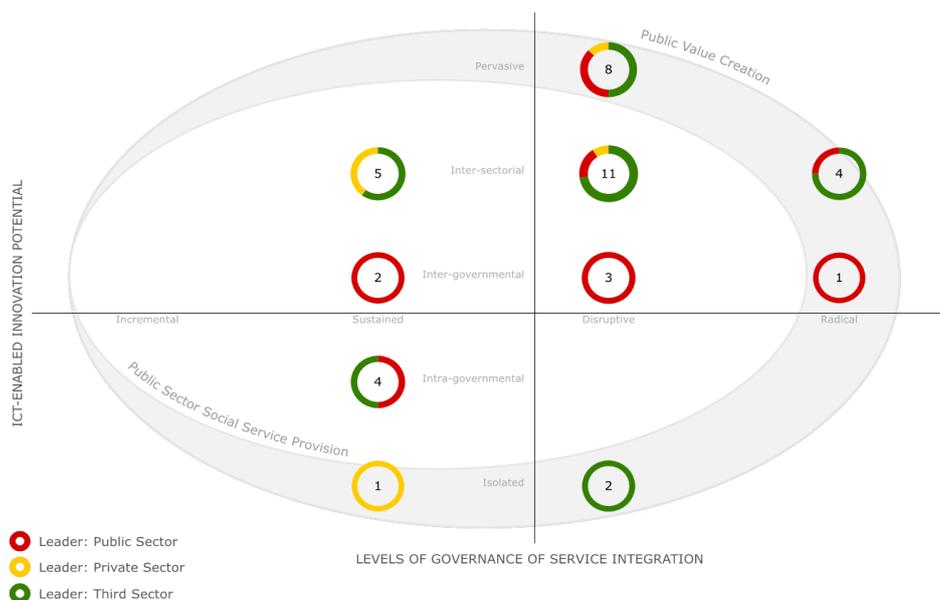
The initiative is run by a consortium of 10 partners, including municipalities and local government agencies, R&D performers and service providers. It is coordinated by Poste Italiane SPA and co-funded by the European Commission. The pilot initiatives are up and running in 4 European cities: Manchester, Rome, Seville and Turin in areas of social services (care for the elderly, school dropout rates, etc.). The platform carries out user identity management, transaction management, reporting of relevant non-monetary indicators, service exposure and discovery, semantic framework, and community management. It is based on Multi Services Platform (MSP) and Java 2 Enterprise Edition (J2EE), which enables the neutrality of the operating system used.

This initiative is based on a disruptive/transformational ICT innovation, which enables changes in inter-organisational levels, because it provides a new way of exchanging assets and gaining rewards. CROSS facilitates social innovation in an ecosystem that involves a number of stakeholders active in the non-monetary economy by providing inter-sectoral integration of interoperable services and applications.

5.1.2. Positioning in the Knowledge Map

Cross-referencing the type of ICT-enabled social innovation potential of civic engagement initiatives with the levels of governance of service integration, we can see that they are mainly positioned in the inter-sectoral integration quadrant (i.e. integration of services is carried out by multiple stakeholders) on the IESI knowledge Map, and they have disruptive innovation potential.

Figure 44: IESI Knowledge Map – Civic Engagement for Social Change

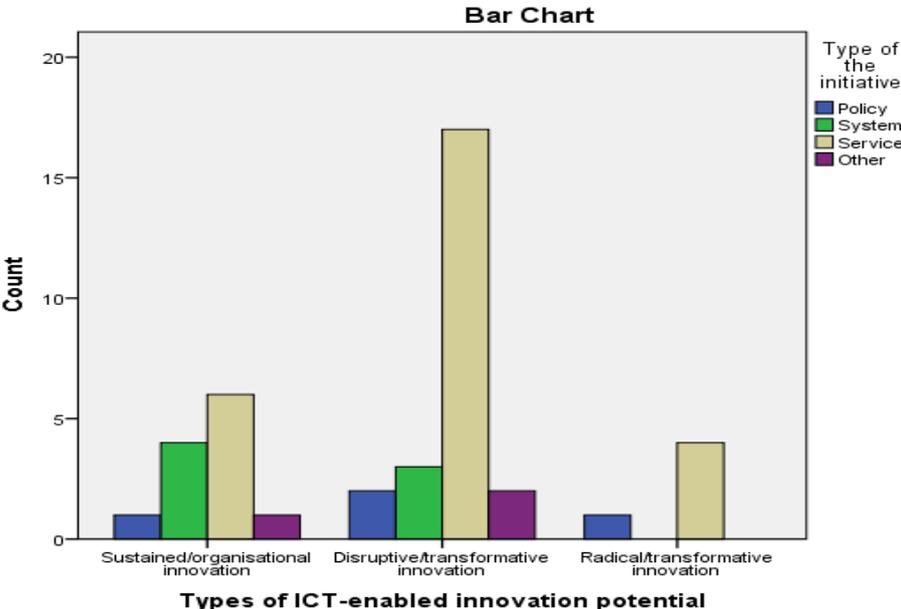


Source: own elaboration.

The above mentioned positioning of civic engagement initiatives in the IESI Knowledge Map follows the general pattern identified for the whole sample of the consolidated IESI Knowledge Map. This allows us to consider civic engagement ICT-enabled social innovation initiatives as representative of the broader phenomenon to which they belong. In fact, out of the 41 initiatives, 11 of them – or 27% – belong to this category. Around 20% exhibit pervasive levels of governance of service integration and disruptive ICT-enabled social innovation potential. About 10% of these initiatives exhibit governance of service integration at the inter-sectorial level, combined with radical ICT-enabled social innovation potential.

ICT-enabled innovation initiatives which are active in the civic engagement sector are also predominantly concerned with services, rather than policy or systems. As mentioned above, in none of the initiatives in this class, is their ICT-enabled social innovation potential classified as incremental. However, 17 out of 41 civic engagement initiatives operating in the services class exhibit the characteristics/potential of disruptive ICT-enabled social innovation.

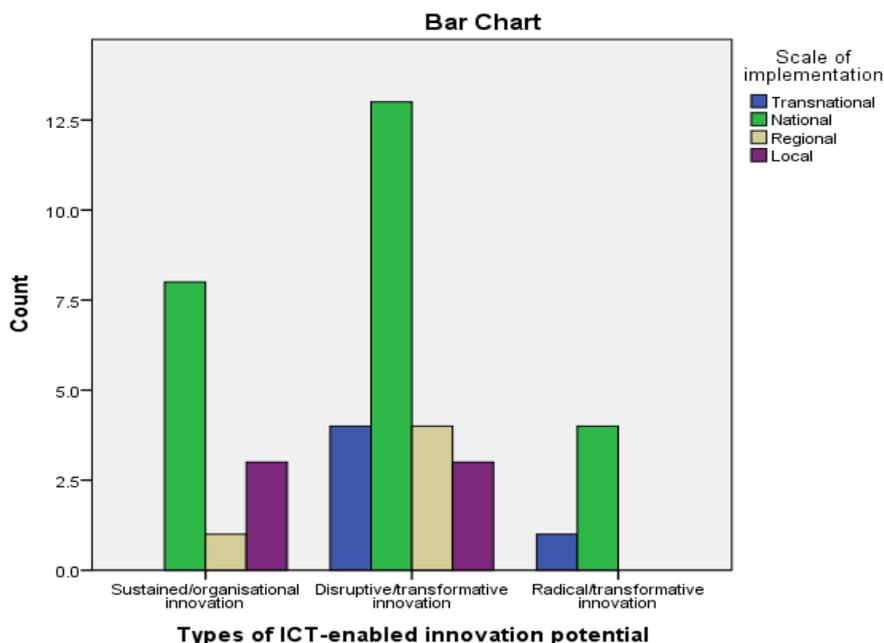
Figure 45: Types of Initiatives by type of ICT-enabled innovation potential in Civic Engagement



Source: own elaboration.

For the three types of ICT-enabled social innovation potential where civic engagement initiatives are located (sustained, disruptive and radical), the scale of implementation is mainly national. 13 of the 24 Civic Engagement initiatives are classified as having disruptive ICT-enabled social innovation potential, and 8 of 12 Civic Engagement initiatives present sustained ICT-enabled social innovation potential and operate at the national level. This could be explained by the role played by ICTs in this field, which, in turn, is related to the nature of civic engagement, i.e. social networking. These technologies tend to overcome boundaries and geographically defined areas, because they target and indeed involve specific typologies of users or citizens.

Figure 46: Scale of implementation by type of ICT-enabled innovation potential in Civic Engagement



Source: own elaboration.

5.1.3. Civic Engagement for Social Change and the Social Investment Package

Almost all the civic engagement initiatives respond to the SIP objective for active inclusion (80%) and are nearly equally split with regard to the other two objectives (social protection: 39% and investing in people: 34%). Their main policy objectives, in relation to the SIP, consist of improving access and take-up of services, increasing the quality of the services provided and improving cost-effectiveness.

The beneficiaries of the civic engagement ICT-enabled social innovation initiatives are the general population and society in general. Intermediary actors delivering the services are mostly volunteers (44%) and paid assistants (27%). The main stakeholder/enabler in civic engagement initiatives is mostly from the third sector (54% of the cases), followed by the public sector (34%).

In recent years, concern about the immigrant population and the refugee crises has grown. A number of initiatives are nascent in this area, though even their main remit is usually Social Inclusion.

Box 3: Let's Do it Romania and Thunderclap

Let's Do It Romania	Thunderclap
<p>This is the biggest social movement in Romania and proves that large scale, positive change is possible. The initiative started in a context of negativity and pessimism about the country's trash problem. However, it served as an inspiration for many other initiatives and NGO projects in Romania and the team has been invited several times (to TEDx events, amongst others) to share their story and inspire others. The 'Let's Do It, Romania!' movement has the support of all the main actors in the country:</p> <p>1) the population, who participate in the clean-up</p>	<p>This initiative helps people and organisations to broadcast their actions or causes to the largest possible audience by crowdsourcing social reach. The platform launches a campaign by coordinating social media promotions amongst supporters, which in turn generates a lot of social impact with a multiplier effect. To date, over 7 million people have donated their social reach to ideas and causes, reaching in excess of 12 billion visualisations in 238 countries and territories. Thunderclap synchronises actions on social media by crowdsourcing social reach.</p>

<p>activities and in educational activities;</p> <p>2) the public sector (central and local authorities, Ministries), which offers its support through its territorial structure (the initiative signed protocols with 5 Ministries: Environment, Education, Tourism, Transport, Internal Affairs);</p> <p>3) the private sector – multinational, national and entrepreneurial companies that support the projects financially and their employees who take part in volunteering activities;</p> <p>4) the NGO sector, which helps the organization of projects locally and promotes the initiative in its communities;</p> <p>5) The media (local and national TV, radio, print, online) which promoted LDIR actions from the beginning and helped transform the initiative into a national movement.</p> <p>The educational component is very important for LDIR which constantly organizes eco-trainings for schools and companies and launches educational projects (such as 'Let`s Do It, Danube!')</p> <p>The initiative is needs-driven/ outcomes-oriented, and outcomes are intended to meet the needs of society or specific groups in society sustainably. The initiative has managed to reallocate public value to activities where the country was performing very badly in international rankings for waste management and recycling.</p> <p>The initiative was developed using available technology such as social media and mobile applications to provide new services and create new mechanisms for service delivery (Disruptive/transformative). These are integrated beyond the traditional boundaries of administrative/operational integration (pervasive). Service providers and beneficiaries collaborate in an innovative manner (Let`s Do It, App!) in order to maximise public value creation.</p>	<p>Thunderclap is currently following some important causes, from mental health, cancer, climate change, missing children, human rights, laws, and volunteer actions.</p> <p>The impact is reflected in the 'social reach' of each cause/idea. For example, in the recent crisis in Syria, the United Nation's Relief and Works Agency used Thunderclap to push the 'Let Us Through' campaign and force the hand of the Syrian forces through popular demand (http://www.unrwa.org/let-us-through). Over 130 international organisations and celebrities joined the campaign and millions of people have been reached and continue to be reached by the simple #LetUsThrough and a single photo which captures the gravity of the situation in Syria. The hashtag went viral, reaching 38.5 million social media impressions (the target was set at 23 million). It received great world-wide press coverage featuring in the Times, the BBC, Al Jazeera, NBC and the New York Times. With the support of this campaign, the UNRWA was allowed a corridor into the crisis zone and over 10,000 food parcels were delivered.</p> <p>Thunderclap is a needs-driven initiative - positive actions and causes can get lost in the world of social media without coordination. It adopts an open process of co-creation/collaborative innovation networks. The technology used by Thunderclap is disruptive. It allows people to create and advertise causes and invites people to donate. It also allows messages to be sent through multiple social media platforms at the same time, enabling a 'long tail effect'. The level of governance is pervasive.</p>
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A final and general remark on civic engagement initiatives for social change relates to the fact that, as also highlighted in the co-occurrence matrix (**Table 4**, Chapter 4), these initiatives are also strongly committed to the provision of social inclusion and participation services (43%). This means that although civic engagement initiatives are generally more difficult to assess in terms of achieved outcomes, and their strength of evidence is usually weaker than that of initiatives in other fields, they nevertheless contribute to one of the main objectives of the Social Investment Package: i.e. a more inclusive society.

5.2. Employment and Employability

Employment and employability despite being two different PSSGIs are usually combined to refer to individualised services in support of unemployed or economically inactive people. Whilst employment services include the provision of information services, employment guidance and counselling and job search, employability services extend to skills assessment, coaching and up-skilling, supported employment and individualised career/job planning. Recent reforms in European labour market policies have led to the merging of employability and employment services in the transition from traditional labour market policies – such as subsidies and benefits – to active labour market policies – training and re-training, focusing on soft skills and competence building and inclusive policies (European Commission, 2011).

The consolidated IESI Mapping database includes **49 initiatives whose main focus relates to employment and employability** (25 and 24 initiatives respectively) collected over the three mapping phases (2014, 2015 and 2016).

Examples of employment and employability ICT-enabled social innovation initiatives are introduced in **Box 4**.

Box 4: Examples of ICT-Enabled Social Innovation initiatives in Employment and Employability

Employability	Employment
<p>INNICYA: The Innycia initiative is managed by the Guadalinfo Network of Telecentre in Andalusia, Spain. It promotes the development of the knowledge and information society, especially in rural areas. It offers professional services to improve personal skills, and nurture business opportunities. This social innovation strategy allows citizens with an idea to gain access to the community of innovators and receive guidance on how to promote / accelerate the commercialization of their ideas. This initiative supports design-driven projects. It aims to demonstrate that applying design thinking, co-creation methods and tools can improve performance and efficiency in user-driven innovations and innovation policies in the public sector. Innycia is therefore the Guadalinfo innovation ecosystem where the network of Internet access points, the platform software and applications are used for participatory and co-creation approaches to social innovation initiatives, supporting promoters, mentors and experts. The network introduces and capitalises on design services for the creation and nurturing of innovative ideas from the ideation phase to the project and implementation phase. The long-term objective is to promote employability, digital literacy, local innovation culture, community awareness, citizen participation, entrepreneurship and business digitization.</p>	<p>Dutch Public Employment Services: This initiative is led by the UWV (Employee Insurance Agency), an independent body established by the Ministry of Social Affairs and Employment to implement the employee insurance scheme, and address unemployment and related benefits. The reform of the Public Employment Services (PES) aims to modernise service provision so that 90% of the services will be delivered using digital means and interaction. In order to achieve this ambitious target, three stages of development for modernizing the PES have been implemented:</p> <ul style="list-style-type: none"> • Stage 1 (2011): basic services such as registration, booking of meetings, coaching, job matching are provided via online tools. • Stage 2 (2012): addition of online profiling, targeting services for specific client groups, more transactions via online e.g. control, reports, e-coaching and e-learning. • Stage 3 (2013): automated digital interaction on the main platform developed for PES. <p>The ICT platform not only enables services for the users, but also provides improvements in the way PES employees' work is planned, by enabling data sharing at national, regional, sub-regional ('office') and individual employee level.</p>

5.2.1. Typology of ICTs used, Innovation potential and Integration of services

ICT-enabled social innovation initiatives engaged primarily in the provision of employment and employability services make great use of information and training platforms and social networking technologies (these ICTs are used by 53% and 43% of the initiatives respectively) compared to other ICTs such as teleworking services and e-services which are used by 12% and 16% of the employment and employability initiatives respectively. In fact, information and training platforms are primarily used by initiatives engaged in employability (over 70%) whose remit extends to the provision of education and services as a secondary area.

With regard to the use of active inclusion technologies, 44 of the 49 initiatives engaged primarily in employment and employability make use of ICTs to promote access to the labour market. Technologies for learning, personal development and social participation are equally distributed and used by about 40% of these initiatives. However, when we split the sample into employability initiatives and employment ones, we can see that ICTs are used for skills and to access the labour market equally. In contrast, learning technologies, ICTs for the promotion of personal development and empowerment and those for promoting social and active participation are mainly used by initiatives whose main remit is employability.

ICTs are used mostly for frontline services in both types of employment-related initiatives. However, employment services initiatives are twice as likely to use ICTs for case management and back office operations than those engaged primarily in the provision of employability services. The use of all types of data is equally distributed between the two categories of initiatives, though all the initiatives use their own data. 63% of initiatives use linked data and 43% use open data. 35% of the initiatives use data with restricted access and 24% use crowdsourced data.

When it comes to the dimensions of the IESI conceptual framework, the **ICT-enabled social innovation potential** in employability and employment initiatives is mainly disruptive (43%) or sustained (37%). Technical-incremental innovation occurs in 14% of the cases whilst radical innovation only occurs in three cases. The sample is however non homogeneous: none of the initiatives in employment has technical/incremental innovation potential whilst 30% of cases in employability have incremental innovation potential. Cross-case comparisons also show that initiatives in employment are relatively more innovative than those in employability as a group.

In terms of **elements of social innovation**, all initiatives are needs-driven/outcomes oriented. For 63% of them, the innovation stems from an open process of collaboration and/or collaborative innovation networks. 26% of the initiatives fostered a fundamental change in the relationship between stakeholders and allocation and/or reallocation of public value respectively. There is no significant distinction between the two sub-groups.

The **levels of governance of service integration** of these active labour market policy interventions is mostly centred on inter-sectoral integration, i.e. 65% of the cases. Other levels of governance of service integration score around 10% (except for pervasive integration which occurs in only 2 cases, or 4%). There are, however some differences between the two sub-groups. In employability, the predominant mode of governance is inter-sectoral (83%). In employment, this level of integration is present in 48% of the cases, whilst integration in 20% of the cases is at inter-governmental level and in 16% at the intra-governmental level. This reflects the fact that national or local employment services require a more 'internal' or cross-departmental integration of services.

Most of the employability and employment services are integrated at the delivery end (69%) whilst organisational and funding integration is evenly distributed (around 50%). Administrative integration is carried out only in 14 of the 49 cases. There does not seem to be a big difference between the two groups.

The geographical reach of employability and employment initiatives is circumscribed by national boundaries. 63% of cases are national, and regional and local initiatives combined represent 26% of the sample. Only 5 out of the 49 initiatives in these two sectors operate internationally.

The fact that these initiatives mainly operate at national level may reflect a general trend, which also applies to other fields of intervention. The literature on social services uses the term 'localisation' to refer to services designed and delivered more and more locally in the belief that this approach may be more efficient and respond better to people's needs. However, ICTs generally contribute to a sort of 'de-localization'. In this sense, they make it easier to reach people in need who may live beyond the local boundaries.

In **Box 5**, we introduce an ICT-enabled social innovation initiative in employability which has the characteristics of disruptive ICT-enabled social innovation potential: Shuttle Job.

Box 5: Shuttle Job, an example of IESI in Employability

Shuttle Job

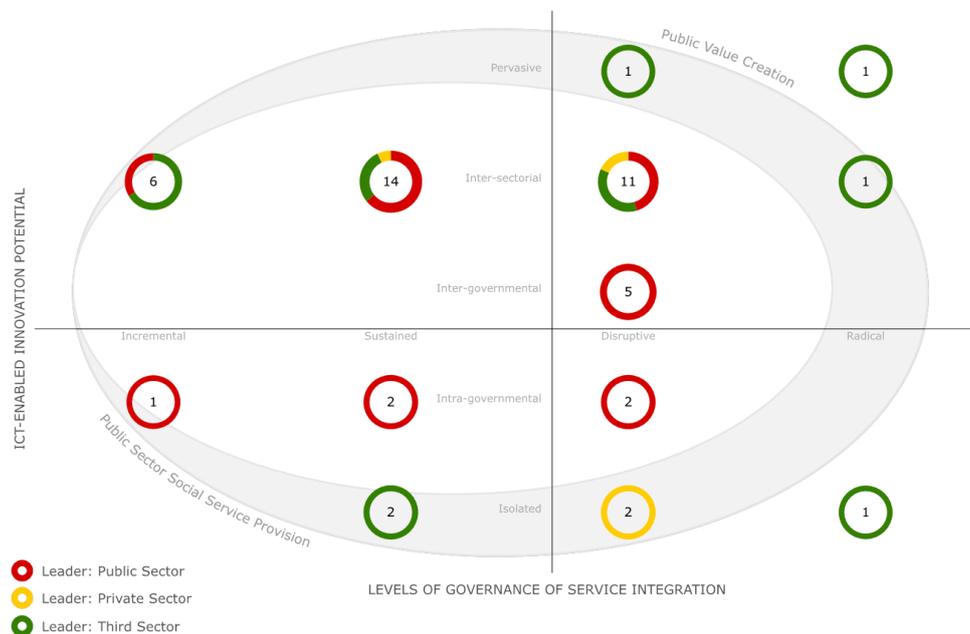
This initiative helps unemployed people to enhance their skills, generate collective knowledge, become visible and collaborate in achieving their common goal of getting jobs. This service aims to provide social intervention in unemployment through a coordinated coaching approach. It is offered by 'Lanzaderas' with the support of Telefonica, Barclays, the European Social Fund, La Caixa and Government agencies. It targets unemployed people who want to increase their skills and capabilities. This service began in Aguilar de Campo in 2013 and, by 2014 it had grown to 26 Shuttles all over **Spain**. ICT is used to enable volunteers to register on the programme and bring their expertise to coaching the unemployed. The website also provides subscription and search facilities for the unemployed (to look for jobs) and employers. The initiative is also active on social media (Facebook and Twitter) and has a YouTube channel.

Shuttle Job is a needs-driven/outcomes-oriented initiative where the final aim is to reduce unemployment. The aims are met through an open process of co-creation/collaborative network consisting of team coaching and co-participation of all involved. The ICT-enabling potential is disruptive and transformative. ICTs, apart from basic features such as subscription and dissemination, are used to enable volunteers and the unemployed to join the initiative and initiate the team coaching programmes. The level of governance is pervasive, since the services provided go beyond those offered by employment agencies and include reskilling/up-skilling, exploration of entrepreneurial capabilities, interview training and self-promotion.

5.2.2. Positioning in the Knowledge Map

According to the framework for the IESI Knowledge Map, Figure 48 cross-references the type of ICT-enabled social innovation with the levels of governance of service integration. This figure shows that inter-sectoral integration dominates three classes of ICT-enabled social innovation potential (sustained, disruptive/organisational and technical/incremental)³².

Figure 47: IESI Knowledge Map in Employment & Employability

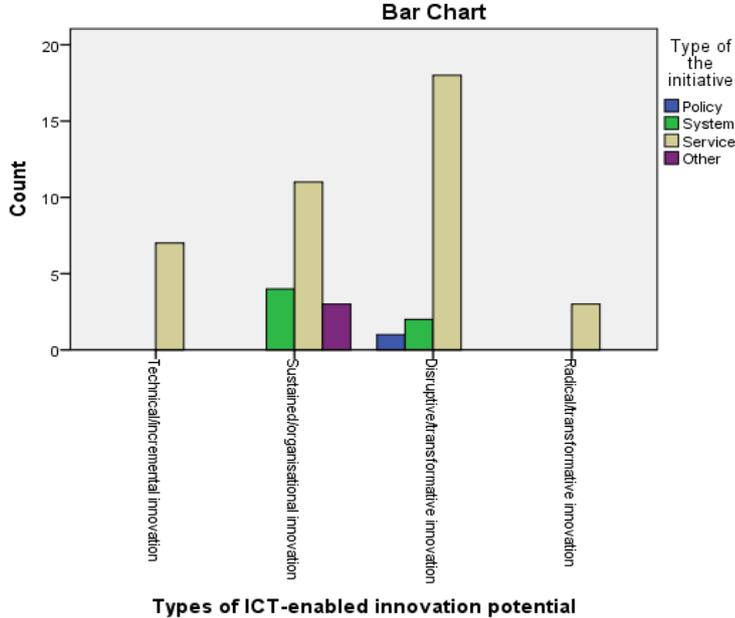


Source: own elaboration.

³² It is not possible to ascertain statistically the existence of dependence between the variables since one of the conditions for the calculation of the Chi² test of independence is violated (a high percentage of the cells presents values below 5) and the likelihood ratio is non-significant.

Cross-referencing the types of initiatives i.e. policy, system, service or other with the type of ICT-enabled social innovation, we see that the majority of cases concentrate on service and the most prevalent type of ICT-enabled innovation is 'disruptive'.

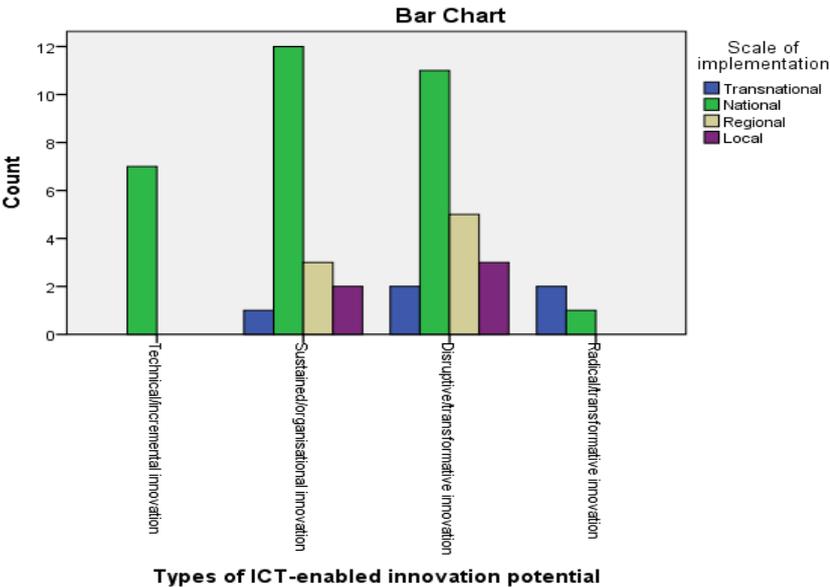
Figure 48: Types of Initiatives by type of ICT-enabled innovation potential in Employment & Employability



Source: own elaboration.

One further variable to assess against the type of ICT-enabled social innovation is the **service deployment level**. **Figure 49** shows that the national scale of implementation is predominant in all categories of ICT-social innovation potential. This seems to reflect the fact that initiatives to support employment traditionally addressed national labour markets. It is also due to the role played by governmental agencies and the regulations and legal frameworks, which normally operate within country-borders.

Figure 49: Scale of implementation by type of ICT-enabled innovation potential in Employment/Employability



Source: own elaboration.

5.2.3. Employment and Employability and the Social Investment Package

Practically all employability initiatives respond to the Social Investment Package objective of active inclusion and most of the employment initiatives respond to the SIP objective of providing social protection. The sub-groups are split equally with regard to the objective of investing in people. Their main policy objectives in relation to the SIP – service provision - consist of improving access and take up and improving the quality of available services. These initiatives are largely concerned with active inclusion of unemployed people; they also facilitate an inclusive labour market and self-employment via labour market intermediaries. In addition, ICT-enabled social innovation initiatives in employability and employment facilitate social inclusion through education and training and employment. The target beneficiaries of these initiatives are mainly the unemployed (long-term and short-term) and young people, including teenagers and those aged between 20 and 30. A small, but significant, percentage of these initiatives also cater for small and micro businesses and social enterprises.

The intermediaries delivering the services are mainly teachers and trainers (employability) and paid assistants and employees (employment). The main shareholder of ICT-enabled social innovation activities in employability and employment is the public sector (53%), whilst the third sector enables 37% of these services.

An ICT-enabled social innovation initiative engaged in supporting people in precarious work situations such as freelancers – usually employed in zero-hour contracts - is described in Box 6. This is a radical innovation in the employment and employability domain. It suggests that the policy challenges generated by the changing nature of work call for a rethink of the social protection system, rather than for policy initiatives that cannot affect –to a significant extent – the evolutionary patterns of jobs and the labour market.

Box 6: An initiative delivering ICT-enabled radical social innovation

Smart
<p>This initiative offers freelancers, who can be categorised as precarious workers, job security by sharing economic risks and creating economy of scale through mutualisation of means and production. It manages the administrative, bookkeeping and financial aspects of projects, takes care of debt collection, gives its members advice and guidance, and its mutual guarantee fund can advance cash flow, the pre-financing of projects and the purchase of professional material via leasing mechanisms. Smart also has partnerships that provide services such as professional training, creative hubs and co-working spaces - e.g. LaVallée in Brussels, Centre de Création des Tanneurs in Liège, La Grappe in Lille - to the beneficiaries.</p> <p>ICT solutions are an essential element of the Smart model, as they constitute the core of the service: they provide members with contract and project management tools online.</p> <p>Offline encounters and guidance from trained advisors and online tools that simplify complex administrative procedures are complementary aspects of the service offer. The online accounts are available 24/7 so that members can manage their contracts and projects independently, thereby gaining experience and becoming more productive and professional. Moreover, Smart aims for a paperless future, and continues to improve its tools by including the e-signature, for example. New applications are also being developed: a platform called 'Push', gives members the opportunity to launch a crowdfunding campaign, 'Agora' is an application in which the Smart community - the autonomous workers, clients and contractors - can connect. ICT solutions are used for communication and project management purposes, facilitating efficient communication and keeping travel expenses as low as possible.</p> <p>IESI Mapping 2016</p>

As highlighted in the co-occurrences matrix (**Table 4** in Chapter 4), employment and employability are strongly related. However, 73% of ICT-enabled initiatives whose main remit is to foster employability are also involved in providing employment services, whilst only 51% of the initiatives whose main remit is to provide employment services are also engaged in providing employability services. As we expected, initiatives engaged in employability have strong connections with education and training. 88% of the initiatives engaged primarily in employability also provide education and training services, whilst only 40% of the initiatives whose primary remit is the provision of employment services

do so. This raises doubts as to whether a sometimes too strict distinction between these two terms can be maintained in the policy debate. Also looking at the performance of individual initiatives from an outcomes perspective, a comprehensive approach to both employability and employment delivers services more effectively, while in those cases that distinguish between the two dimensions, outcomes tend to be substituted by outputs.

Both employability and employment initiatives are also strongly engaged in the provision of social inclusion and participation services. This shows that the initiatives in our sample which address especially vulnerable groups have an 'inclusive-growth' orientation.

5.3 Active and Healthy Ageing and Long-term Care

In the Active and Healthy Ageing (AHA) policy area, IESI research has focussed on three particular fields: 1) independent living in the home environment; 2) integrated health and social care; and 3) prevention, health promotion and rehabilitation.

The consolidated Mapping database includes **60 ICT-enabled social innovation initiatives**, 27 of which are classified as primarily supporting independent living, 20 of them belong mainly to the integrated health and social care field, while 13 relate to the prevention, health promotion and rehabilitation field. Nevertheless, it should be kept in mind that these fields are closely related and often overlap in practice.

In this group, there is also a great variety of initiatives which use social innovation in areas such as information and support to technology-based solutions. In Box 7, we present three cases of ICT-enabled Active and Healthy Ageing social innovation activities.

Box 7: Three examples of Active and Healthy Ageing ICT-enabled initiatives

<p>Independent Living: Seeing Assistant</p> <p>Seeing Assistant aims to help blind and visually-impaired people to live more independently at home and outside, increasing their autonomy and providing them with the opportunities and conditions for enhanced participation and inclusion in society.</p> <p>The Seeing Assistant Project was carried out from 2011-2013. It cost 846 thousand zł (about €190,000) in total, 343 thousand zł of which (circa €77,500) were granted by the Polish Agency for Enterprise Development, under the EU Innovative Economy Operational Programme.</p> <p>With the help of beneficiaries and in collaboration with the Polish Association of the Blind and the Institute for Regional Development Foundation, Transition Technologies s.a. developed a set of mobile applications which help blind and visually-impaired people perform their daily activities at home and outside, more easily and accurately. The applications respond to voice commands, provide advanced location and navigation services, and enable colour and light source recognition. They also have an electronic magnifying glass and a barcode scanner for automatic recognition of products/object.</p> <p>The most recent development is the Seeing Assistant 'See Sea' application that helps blind people navigate through seas and other water-ways and reservoirs and goes beyond typical daily activities.</p>
<p>Integrated health and social care: integrated and psycho-social rehabilitation services</p> <p>The City of Aarhus recognized that people recovering from mental health problems need to be connected with the world around them. Evidence showed that people recover better through this connection. The initiative is based on the recovery approach. The goal is for the individual with psychiatric difficulties to have a fulfilling life and to be in control of as many aspects of his or her life as possible. By linking online portals at different levels of government, individual action plans are being made available on the local e-government portal. In addition, the initiative enabled mobile device apps to help in areas such as monitoring treatment and sharing information with other service users who form peer support groups.</p> <p>The City of Aarhus made agreements with several organizations running similar projects. It created a network of contacts for the exchange of best practices and results. Members of the network could cooperate in finding solutions and methodologies to promote social inclusion and to raise awareness in citizens and public stakeholders on the issue of psycho-social diseases.</p> <p>The city of Aarhus works closely with London (on the development of a screening tool, measuring the level of recovery orientation in recovery organization), Boston University (on recovery orientation); and Holland (on care methodologies). It also works with other local organisations such as 'GalloJob' that provides jobs for people undergoing psychiatric treatment, and 'Tossekassen' that produces TV programmes about mental illnesses. Finally, the Mental Health Day/Sindets Dag event is organized in collaboration between the City of Aarhus and the organizations.</p>

Prevention, health promotion and rehabilitation: Integrated Care Gesundes Kinzigtal

IVGK is a regional integrated health and social care system managed by Gesundes Kinzigtal. It has been adopted by around 10,000 citizens of the Kinzigtal region.

The service is provided in partnership with the local network of General Practitioners (GP), a care management company specialised in medical sociology and health economics (OptiMedis AG) and two statutory health insurers: AOK Baden-Württemberg and SVLFG.

People insured with these health insurers are entitled to the service (30% of those who are insured have subscribed so far).

The service addresses all pathologies, but there is a strong focus on preventative care, life style changes and disease prevention. IVGK revolves around 3 pillars:

- 1- A broad range of tailored activities for primary prevention and public health, developed in cooperation with around 43 sports, fitness and social clubs. The target is older people and people at risk of suffering from health problems. In addition, lectures, training courses, information sessions and campaigns on health topics are regularly organised.
- 2- Services targeting secondary prevention which aim to reduce the progression of diseases and support self-management techniques. This is achieved by empowering patients in their relationship with GPs and, through the GP, specialist health professionals and social workers. Self-management, shared decision-making about individual treatment plans and goal-setting are strongly encouraged. Other services like corporate health promotion activities which target the employees of small and medium-sized local enterprises.

5.3.1. Innovation potential and Integration of services

Interestingly, most of the initiatives whose primary remit consists of supporting independent living make great use of assistive technologies, Smart homes, Telehealth, Telemonitoring and Telecare, whilst initiatives involved in integrated health and social care make comparatively greater use of telemedicine technologies. As we expected, the majority of initiatives used ICTs for case management, back office and front line services evenly.

When it comes to the elements of social innovation employed, all cases of AHA are needs-driven and outcomes-oriented, and 65% of them foster an open process of co-creation/collaborative innovation network. A fundamental change in the relationship between stakeholders was brokered in 38% of the initiatives while 30% managed a public value allocation and/or reallocation. The initiatives are evenly distributed across the three sub-groups.

The ICT-enabled innovation potential of the ICT-enabled social innovation initiatives operating in the Active and Healthy Ageing sector is disruptive for most of the cases (58%), while 22% of the cases have sustained/organisational ICT-enabled innovation potential. A relatively high percentage of cases (17%) in this group was classified as having radical innovation potential. If these are combined with the 58% of initiatives with disruptive potential, 75% of the initiatives can be positioned in the 'transformative social innovation' half of the IESI conceptual framework.

Within the three groups, the highest levels of ICT-enabled innovation potential was recorded in the sub-class of Independent Living, where 22% of the cases have radical innovation potential. In the groups of initiatives which operate mainly in Integrated Health and Social Care and Prevention, Health Promotion and Rehabilitation this percentage is somewhat lower (15%), with only 3 cases in the first sub-group and 8% in the second sub-group (1 case). In other words, the split between the three subsectors in terms of radical innovation potential is 60%, 30%, 10% for Independent living, Integrated Health and Social Care and Prevention, Health Promotion and Rehabilitation respectively. A slightly different pattern emerges for the level of disruptive ICT-enabled innovation potential: 51%, 23% and 26% for Independent living, Integrated Health and Social Care and Prevention, Health Promotion and Rehabilitation respectively.

Several examples of initiatives which have radical innovation characteristics may be found. In **Box 8**, we describe an initiative – Home Automation and Advanced Telecare - that uses several technological solutions, and has been developed to foster independent living for older people in their own homes.

Box 8: Radical Innovation in Independent Living

The Limousin Region in **France** was the first to deploy a '**Home automation and advanced telecare**' service to help older people live independently at home. Two of Limousin's three departments (Creuse and Correze) implemented the service using multiple public funds and Public Service Delegation as a framework.

The ICT-enabled service uses varied technologies such as 1) sensors and detectors of falls or anomalous movements of the users, and also environmental hazards like gas leaks, fires, temperature changes; and 2) automated light paths that can help orientate users with poor eyesight, or when visibility is reduced, to navigate a frequent route, e.g. between the bed and the toilet to avoid a fall as far as possible. The technologies installed in users' homes are connected through a bracelet or a pendant to a telecare system.

The telecare service call centre is available 24/7 and can be contacted by older adult users when they need care. Alternatively, it can be alerted through the sensors automatically when accidents or other presumed emergency situations occur, thus allowing care professionals to intervene appropriately. The users can contact the call centre when they feel lonely and want to chat with someone. The employees of the call centre also initiate phone calls at least once a month to all users to have a chat and a check up on their status.

More than 3,000 homes use the service in the two departments, and a study (ESOPPE) seemed to verify the following benefits: 1) reduction in falls and in hospitalizations due to falls; 2) reduction in the time caregivers need to spend with users; and 3) cost efficiency, as the service is cheaper than the cost of a hospital stay due to a fall.

Advanced Telecare is an example of ICT-enabled social innovation based on inter-sectoral integration at various levels such as funding, administration and service delivery. It is enabled by a public-private partnership, which contributes to a radical change in service delivery. The initiative is needs-driven, and has created fundamental change in the relationships between stakeholders.

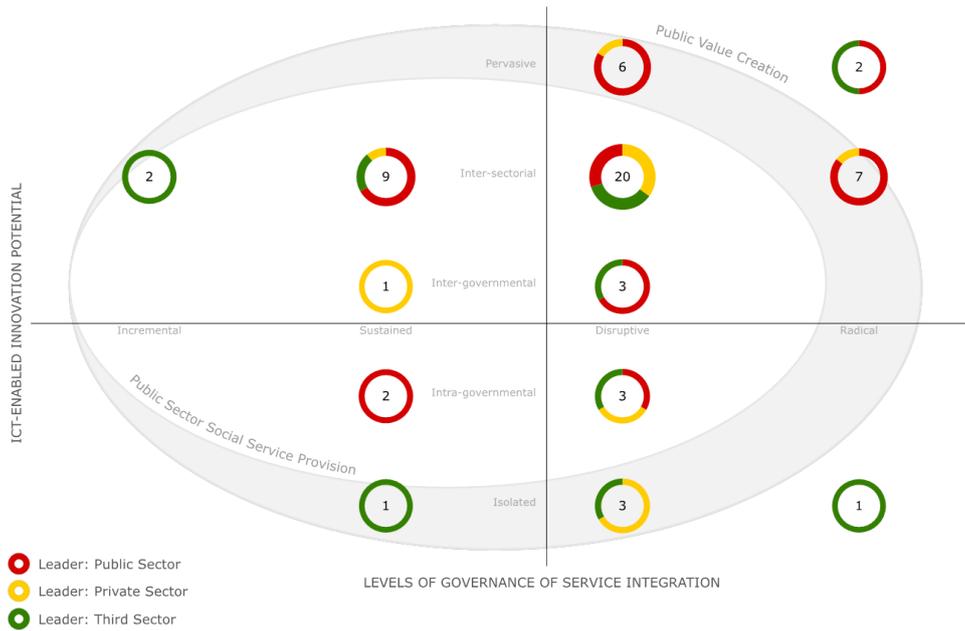
Regarding the level of governance of service integration, 63% of social innovation initiatives in Active and Healthy Ageing present integration at the inter-sectoral level. 13% are pervasive whilst other levels of integration score evenly below 10%. Intra-group differences are negligible. All types of integration score very highly in this category of ICT-enabled social innovation initiatives, though integration of services occurred in the delivery system in 80% of the cases (48 out of 60 initiatives were integrated at the delivery end). The other three types of integration (funding, administrative and organisational) also score very highly at around 60%. The split within the classes is also proportionate indicating that the type of integration of services is rather standard.

As regards scale of operations, 35% of the Active and Healthy Ageing initiatives are national, 32% are regional and 25% are local. Very few initiatives are transnational (5 or 8%). There is some heterogeneity between the three groups in relation to the scale of implementation. Of the initiatives that provide independent living services, 37% are national, 30% are local and 26% are regional. On the other hand, of the initiatives that provide integrated health and social services, 40% are regional, 25% are national and another 25% are local. Finally, most of IESI initiatives that provide prevention, health promotion and rehabilitation services are national (46%) or regional (31%).

5.3.2. Positioning in the Knowledge Map

In **Figure 50**, we cross reference levels of governance of service integration with the types of ICT-enabled innovation potential. This figure shows that inter-sectoral integration is predominant in all categories of ICT-enabled social innovation potential (sustained, disruptive/organisational and technical/incremental). The third category, which refers to disruptive ICT-enabled social innovation potential is the largest group.

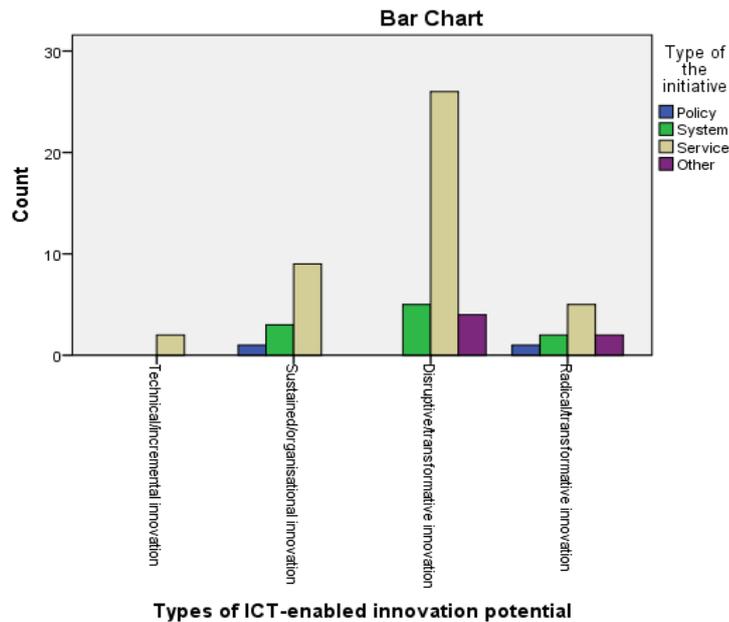
Figure 50: IESI Knowledge Map for Active and Healthy Ageing



Source: own elaboration.

Most of ICT-enabled social innovation initiatives for Active and Healthy Ageing, fall into the services category (42 of the 60 cases are in this category – i.e. 70%). As mentioned above, only 2 initiatives in this category have 'Incremental' ICT-enabled social innovation potential, whereas 26 of these initiatives have disruptive potential.

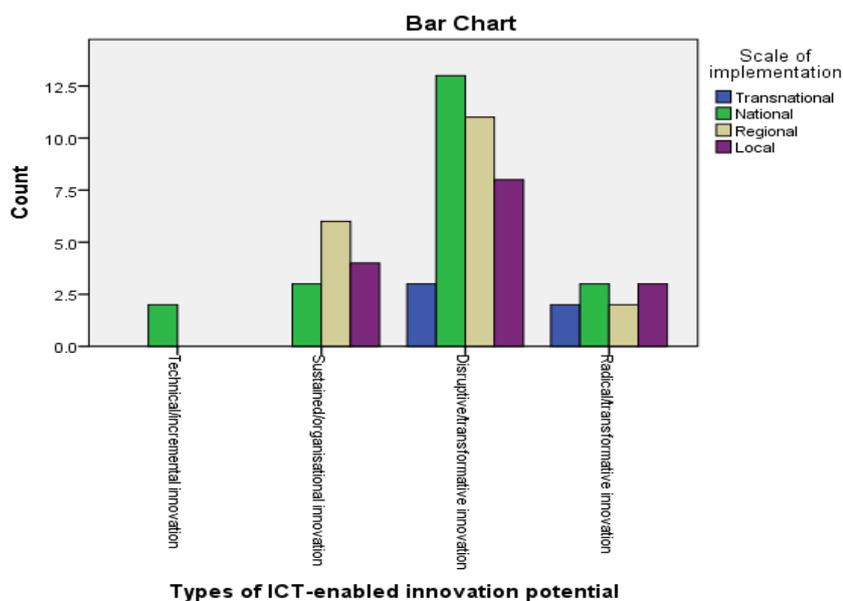
Figure 51: Types of Initiatives by type of ICT-enabled innovation potential in AHA



Source: own elaboration.

Finally, Figure 52 shows that only two of the Active and Healthy Ageing initiatives have incremental/technical innovation potential and both these have been implemented nationally. 35 of the 60 initiatives in this field have disruptive ICT-enabled social innovation potential and have been implemented at the national, regional and local level. Interestingly, 10 out of the 60 initiatives have radical ICT-enabled social innovation potential and operate at all levels (transnational, national regional and local) more or less evenly.

Figure 52: Scale of implementation by type of ICT-enabled innovation potential in AHA



Source: own elaboration.

5.3.3. Active and Healthy Ageing and Long Term-Care and the Social Investment Package

To a large extent, the AHA ICT-enabled social innovation initiatives respond to the SIP objective of Social Protection and Investing in People (72% and 68% respectively). 35% respond to the objective of Active inclusion. The variability between the three sub-groups is negligible. Their main policy objective is to improve quality of service provision. The main beneficiaries of AHA initiatives are older people but in some cases, they are also patients, people with physical and mental disabilities, and informal and formal carers. The intermediaries delivering the services are mainly formal and informal carers and social workers but in some cases, the beneficiaries may use the ICTs autonomously. This is the case, for example, of the Seeing Assistant presented above or Neuroforma, an example with disruptive potential described in Box 9:

Box 9: Neuroforma: Disruptive innovation from a multi-sector partnership

The objective of **Neuroforma in Poland**, is to help patients recovering from a neurological disease to improve their motor and cognitive functions after hospitalisation as part of their rehabilitation process. It also aims to provide therapists with a tool to make their work more effective and to motivate patients to undertake regular exercise. Beneficiaries can run the Neuroforma programme on their home computer with a webcam. The programme suggests exercises and records and assesses users' movements. It also provides incentives, guidance and support to people with impaired motor-skills to boost their physical and mental fitness. Users receive immediate feedback on their activities and also a summary of progress after the exercise. The automation and recording of users' performance relieves the pressure on formal and informal carers. The service is particularly recommended as preventative support for people at risk, independent living and rehabilitation. Neuroforma collaborates with scientists by using the results of research and trials with patients from clinical groups. This allows new elements of the Neuroforma programme to be developed to

improve patients' satisfaction.

Neuroforma is a needs-driven initiative. It has been created in an open process of collaboration between a technology company, practitioners, researchers, rehabilitation centres and beneficiaries from various associations. The technology, which uses virtual reality technology and registration of movements in 2D and 3D, is disruptive as it fundamentally changes the relationship between patients and doctors. The suggested exercises can help patients with neurological disorders, rehabilitation and orthopaedic trauma. The initiative is inter-sectorally integrated at organisational and delivery level. It was created by Titanis in collaboration with practitioners, researchers rehabilitation centres and the beneficiaries of the Polish Multiple Sclerosis Society, Huntington's Disease Society and Ataksja Polish Association of Families with Spinocerebral Ataxia. Moreover, it responds to the SIP Objective of implementing Active Inclusion Strategies and supports older people and formal and informal carers.

As expected, initiatives whose remit is Active and Healthy Ageing may span more than one service area. Indeed, 44% of IESI initiatives with a primary focus on Independent Living also provide integrated health and social care services and 20% provide prevention, health promotion and rehabilitation services as secondary areas. 66% of the integrated health and social care initiatives also provide independent living services and 20% also provide services for Prevention, Health promotion and Rehabilitation. Finally, over 70% of ICT-enabled social innovation initiatives, which are engaged primarily in Prevention, Health promotion and Rehabilitation, also provide other Active and Healthy Ageing services and services related to Social Inclusion and Participation.

This last consideration points to the fact that initiatives in the AHA and Long-term Care area are emerging that build partnerships and support network integration, bringing together stakeholders from public, private and not for profit sectors in formal networks. Thus, they are able to offer clients seamless and effective assistance and care.

There is growing recognition that ICTs can play an important role in supporting sharing information and enabling integration of services, thus enhancing impact of social services delivery. This is done by defining client pathways through more targeted and personalized approaches that enable clients with complex needs to receive coordinated services. There is evidence that demonstrable improvements can thus be achieved in the outcomes delivered.

Greater coordination between different levels of government is thus essential to improve system integrity, reducing duplication and gaps in service provision. In this regard, there is a consolidation of the 'one-stop-shop/no-stop-shop approach' where service users are provided with a single entry point into social protection systems, where health or social care provide the 'entry door'.

Moreover, the analysis also suggests there is increasing support for the notion that complex social problems are best addressed through coordinated local-level interventions, including resource sharing and joint social impact investment strategies.

6. Conclusions

This chapter discusses the main conclusions derived from the analysis of the three-year mapping of the contribution made by ICT-enabled social innovation to the implementation of the SIP. It also provides recommendations for future research, and outlines implications and possible directions for policy.

6.1 Consolidated mapping and conceptual framework validation

This report presents the **results of the analysis of the consolidated (2014-2016) Mapping of the project 'ICT-enabled Social Innovation to support the Implementation of the Social Investment Package' (hereafter IESI)**. It provides an enriched picture of the existing knowledge base and evidence of how ICT-enabled social innovation initiatives that promote social investment through integrated approaches to social services delivery can contribute to the policy objectives of the EU's Social Investment Package (SIP).

The IESI conceptual and analytical framework developed during the first phase of the research and further refined through the 2015 mapping was further validated in 2016 through an update of the review of the state of the art. The latter explored the stand point of digital service innovation focusing on ICT-enabled social innovation. Against the recent developments in digital service innovation **the definition of ICT-Enabled social Innovation adopted in the IESI research (Misuraca et al, 2015, p.8) is grounded both in the foundation work on social innovation and on the aspects brought forward by service innovation research.** In particular the adopted definition considers ICTs as part of the resources necessary to enable service innovation according to the theoretical orientations that are becoming established in the field of service science. In particular, it confirmed that ICTs play a **transformative role which can be both an enabler and a game changer.** It underlined the **fuzziness of the concept of social innovation** and the **importance of its value creation aspect.** It also highlighted the fact that social innovation and the provision of novel social services are evolving along with the emergence of co-creation and co-production trends. These trends are also gaining momentum in the debate on the collaborative social economy.

The empirical validation of the IESI conceptual approach started during the first round of mapping in 2014. 70 examples of ICT-enabled social innovations were analysed, out of an inventory of 140 initiatives gathered through desk research and consultations with stakeholders. The resulting 2014 IESI Knowledge Map set out to explore how innovations in the area of Personal Social Services of General Interest (PSSGI) that are both ICT-enabled and social in their ends and means, are changing the landscape of service provision from a governance integration perspective.

The second round of the IESI Mapping in 2015 included a further 280 initiatives in the inventory. It set out to address and overcome the limitations identified in the previous round as well as to better structure the field of analysis. In particular, initiatives collected during this phase of the research aimed to integrate the IESI knowledge base in order to define a sample of initiatives that illustrates the different EU welfare systems. **Of the 280 initiatives, 140 were mapped** to provide a more accurate overview of the phenomenon under investigation across Europe. The **IESI Knowledge Map 2015** also addressed gaps in geographic coverage identified in the 2014 data-set, i.e. the underrepresentation of Eastern Countries and some Southern and Central Countries.

During the 2016 mapping, **a further 196 initiatives were collected for the Inventory. These, added to those identified in 2014 and 2015, brought the total number of initiatives in the inventory database to 613.** IESI now has basic information and analysis **on initiatives from all the Member States in the EU28** and

also some non-EU countries which are considered to be in the vanguard of the field under analysis.

From this Inventory, 105 initiatives were further documented and analysed, and thus added to the initiatives already mapped in 2014 and 2015. This information forms the **IESI Knowledge Map 2016 - a mapping of a total of 300 ICT-enabled social innovation initiatives** which promote social investment through integrated approaches to social services delivery and present evidence of the impact achieved.

This consolidated database of initiatives mapped over the three years of the research follows the same pattern as the Inventory. It includes very similar shares of initiatives offering services dealing with social inclusion and participation, active and healthy ageing and long-term care, employability and employment. In the Knowledge Map, however, more initiatives deal with civic engagement than education and training, whereas in the Inventory the reverse is true. This is due to the fact that a number of initiatives have emerged as a response to recent social emergencies such as the refugee crisis or migration flows, which brought to the fore an underlying fear of the European society.

Only 12% of all initiatives in the Inventory operate across borders, a figure which is similar in the IESI mapping. The United Kingdom has the highest share of these initiatives (18%) in the Inventory and an even higher share in the Mapping, where the UK has 24% of all initiatives analysed. Most of the ICT-enabled social innovation initiatives operate in the largest area of the European Union, i.e. in Central and Eastern Europe (27%) and in Continental Europe (23%), followed by the Mediterranean area, the Anglo-Saxon System and the Nordic countries.

However, this ranking differs greatly in the IESI Mapping, where the Anglo-Saxon system has the most initiatives (26%), followed by continental Europe (24%). The Nordic countries system also has a higher share of initiatives in the Mapping than in the Inventory. The top countries with the largest share of cases are all from Continental Europe and Nordic country systems. This shows that in spite of searching for more initiatives in Central and Eastern Europe, these did not qualify for the Mapping in the same numbers as they did in other areas. This evidence is stronger for regions with welfare systems which were identified as having a longer tradition of collaboration between the public sector and the third sector in the provision of social services.

The IESI knowledge base is structured around the 'evidence base' of the initiatives. The project has a specific policy orientation: it aims to contribute directly to EU policy design and to support Member States in the implementation of their SIP-related policies. In this regard, an important element of the IESI project is the **design and in-house development of a relational database and online interface.** It allows the IESI research team at the JRC, colleagues from other policy DGs and EU institutions, and external experts such as collaborators and representatives of key stakeholders, to manage the knowledge base created in an interactive and user-friendly manner. This approach has been complemented by an ongoing process of **community building** since September 2014 that reaches out to a **large audience of practitioners and researchers and engages them in the research.**

The **online IESI community building**, has been put forward as a means of addressing pressing EU policy goals in the light of current societal challenges, such as the modernisation of social protection systems or the debate about the European Pillar of Social rights. It has also increased stakeholders' awareness about the need to strengthen capacities in the area of impact evaluation for evidence-based policy-making.

The lack of systematic monitoring and assessment of interventions makes it difficult to gather evidence on the success of initiatives and also to reach an in-depth and comprehensive understanding of the ICT-enabled social innovation phenomenon. Being able to demonstrate the effects of initiatives and the factors that affect impacts would facilitate scalability, replicability and transferability of practices and policies throughout

Europe. This in turn would shed light on the valuable contribution made by the public sector as regards the tools that might be used to improve performance and future scenarios for welfare systems.

6.2 The IESI Knowledge Map 2016

The classification of the initiatives according to the four dimensions of the IESI conceptual framework, which we refer to as the **IESI Knowledge Map**, shows that the majority of initiatives are needs-driven and outcomes-oriented and that the innovation process is open and oriented towards collaborative innovation networks. This seems to suggest that **ICT-enabled social innovation initiatives respond to the social needs of society or specific groups in society sustainably by engaging the stakeholders directly**. Stakeholders are able to participate in the co-creation and co-production process, bringing to the table specific information together with their knowledge and competences. Likewise, in the case of social innovations which pursue **public values the involved stakeholders try to ensure that the innovation is appropriate, for instance making sure that it adds to the value of democratic citizenship**, or addresses the multi-faceted needs of citizens.

Most of the initiatives use ICTs to initiate new or improve existing services or create new mechanisms for service delivery which would be impossible without ICT, resulting in product or service innovation. Also, a significant number of initiatives uses ICTs to support, facilitate or complement existing efforts and processes to improve organisational mechanisms of services provision. The introduction of this kind of innovation implies change at organisational, managerial, or governance/institutional level. The ICT innovation potential of the initiatives included in the knowledge map is therefore mainly disruptive or sustained. The analysis of the consolidated mapping with respect to ICT-enabled innovation potential and the level of governance of service integration provides indications of the **strong potential that ICTs seem to have in enabling integration across sectors and supporting public value creation**.

In relation to the level of governance of service integration, the characteristics of social innovation initiatives are 'operationalised' mainly through an inter-sectoral arrangement. In other words, **service integration is organised as collaboration between stakeholders belonging to different sectors**, led by the third sector and involving, in most cases, the beneficiaries. **This seems to confirm that the role of the stakeholders operating in the field is changing**. It also points to the emergence of a large share of initiatives where public and third sector organisations collaborate in a consolidated manner through shared service delivery mechanisms and innovative partnerships models. These initiatives make use of ICTs as the main tool for activating a network of partners and reaching out to their beneficiaries.

This seems to be in line with the needs emerging from the review of the state of the art. A more sophisticated service-orientation is needed, where ICTs can play a crucial role. They can not only sustain organisational reengineering and partnerships in service delivery, but also support disruptive and – to a more limited extent – radical innovation. **In this context, it seems that ICTs can achieve their full potential as game changers**.

The analysis of the knowledge map shows the great variety of initiatives in terms of sectors of engagement, the ways in which they approach their respective remits and the use they make of ICTs. They do however have a preferred mode of operation, which is clustered around inter-sectoral integration. True to their social nature, the initiatives progress towards service integration by involving stakeholders especially in service delivery. The innovation potential of these initiatives is mainly disruptive, and ICTs become increasingly embedded in the conception and innovation process of the services to the point that, in most cases, without technological integration, the provision of services would not be possible. In the small, but significant number of initiatives that exhibit radical/transformational innovation potential, the direct involvement of beneficiaries

and intermediaries is particularly strong, indicating that co-creation and co-production of services with the actual user is crucial to fine-tune technological appropriateness.

Taking a closer look at the analysis of the consolidated IESI Mapping, we note that **the great majority of cases are about services** - 76% - while systems and policies make up only 15% and 4% of initiatives respectively. The predominance of services may mean there is a gap between the implementation / action-oriented focus of third sector organisations, in particular social enterprises and private ventures, which altogether represent the largest part of the database, and the policy-oriented approach of public institutions. This may reflect some sort of distance between the 'welfare society' and the 'welfare state'. ICT-enabled social innovation acts as a very effective bridge between the two when an appropriate enabling environment exists.

ICTs are being used primarily for social and active participation, networking and engagement in the local community. So it is no surprise that social networking technologies are the most used, (followed by information and training platforms and e-services) and that ICTs are mostly used for interacting with users rather than for back office management or case management. Increasing connectivity and the established importance of ICTs in social domains make this group of general purpose technologies particularly apt at enabling social innovation via a number of different channels. They constitute a medium and a hub for the development of new social meanings and contexts where innovative social solutions can be experimented, tested and widely deployed.

In relation to the **SIP objectives**, 73% of the initiatives analysed in the mapping deal with active inclusion (investing in people's skills and capacities), 53% with investing in people throughout their lives, and 42% with social protection modernization. This represents relatively good coverage. Most of the initiatives (around 75%) pursue improved service quality and uptake and just over half of them pursue increased cost effectiveness of service provision. A third pursues the sustainability of social protection systems. However, many more initiatives contribute indirectly to this goal by, for example, improving cost effectiveness. Generally, third sector organisations lead, followed by public institutions and private actors. In 94% of the cases, the initiatives are based on partnerships, often with many stakeholders.

Because of the high number of partnerships and cross-sector collaborations that characterise the ICT-enabled social innovation initiatives considered, **the consolidated database was assessed using Social Network Analysis. This was done in an exploratory manner** to test whether knowledge on the dynamics and network effects characterising ICT-enabled social innovation ecosystems could be extracted. In the absence of a more specific data-structure which would have allowed a more in-depth analysis, correlation graphs were created using a Louvain algorithm, in order to establish a connection (edge) - or lack of connection - between IESI initiatives. First, different minimal spanning tree graphs were obtained, according to the nature of the correlations chosen for the various initiatives, which allowed us to investigate the variables of interest in the complex network of initiatives.

In addition, the analysis indicated that a country-based exploration could have potential. Hence a correlation graph was created for an exemplary country, the **United Kingdom**, which has a mature social innovation scene, and at the same time presents a higher density, in terms of initiatives present in the database, than any other EU Member State. The network analysis focus was then based on the degree of commonality (i.e. the number of data points in common) across all mapped variables in the database, creating a **network based on commonality in initiatives operating in that country**.

The preliminary findings provided interesting insights that will guide further analysis in the next phase of the research. This will help us better understand how social innovation cascades operate in real environments and how they could contribute to the modernisation of social protection systems within a specific context. Moreover, it would

be useful to identify network-related factors that enable the emergence and spread of ICT-enabled social innovations with the potential to transform the way public value is created.

Based on the consolidated 2016 Mapping, **three specific thematic analyses** were conducted. These provided more in-depth knowledge on their relationship with the implementation of the Social Investment Package:

1) **Civic engagement for Social Change:** initiatives in this area mainly provide social inclusion and participation services (43%). Though these initiatives are generally more difficult to assess in terms of achieved outcomes, and the evidence of their impact is usually weaker than that of initiatives in other fields, they nevertheless contribute to one of the main objectives of the Social Investment Package, i.e. a more inclusive society.

2) **Employability and Employment:** these initiatives often provide both employability and employment services, raising some doubts as to whether a sometimes too-strict distinction between the two terms should be maintained in the policy debate. In terms of outcomes and the performance of individual initiatives, a comprehensive approach to employability and employment may deliver more effective services. In cases where a distinction is made between the two dimensions, outcomes tend to be substituted by outputs.

3) **Active and healthy ageing and long-term care:** these initiatives aim to fulfil the SIP objectives of social protection and investing in people (around 70% of cases respectively) and their main goal is to improve the quality of service provision. They target mostly older people but also their carers, both formal and informal, and span more than one service area (e.g. integrated care services which also provide independent living services). This is where ICTs are probably most prominent. This may be because this area has been the focus of ICT research and policy for several decades and many EC and national programmes have sought to promote the development and implementation of ICT-based active and healthy ageing solutions.

When we combined the results from analysis of the entire dataset with insights from the more in-depth thematically-focused analyses, a number of **key findings** emerged.

The variety of services provided by ICT-enabled social innovation activities can be deduced by the co-occurrence of services (see matrix presented in Chapter 4) which can be considered a proxy for service integration. This shows that initiatives, even those operating on a smaller scale, may have multiple objectives (i.e. the provision of services in more than one area), which perhaps capitalise on economies of scale and/or scope.

The **dynamism of this sector** is indicated by the fact that a significant number of initiatives are not only active in more than one field but are extending their remit to further target groups, geographical areas or even different sectors. This is helped, in some cases, by the initiatives' organisational models, which start small and are easily replicated in other contexts. However, most of this dynamism is perhaps due to the relative youth of many of these initiatives. They are trying to make an impact and explore new areas of intervention or testing operative possibilities. However this shall not be seen as an indication of the sustainable growth of this sector in the long-term.

As regards **degree of innovativeness**, it can be said that initiatives led by large organisations undergo great scrutiny from their ideation, through to their inception and development. This preparation provides solid ground on which to build further integration. Smaller initiatives, however, have great flexibility because of their organisational structure and limited capital investment.

Technology appropriateness has been an issue in some of the cases that we analysed, which did not make the grade for inclusion. However, initiatives that have been truly co-created and co-produced with the beneficiaries demonstrated high ICT-enabled social innovation potential and high utility and hence an optimal level of technology appropriateness. This was true even in cases where the application technologies were fairly advanced and developed for the purpose of a specific initiative.

In terms of **ownership and governance**, we found that there are many possible combinations of ownership/partnership arrangements. However, co-creation and co-production arrangements are found mainly at the inter-sectoral level. Moreover, we have observed that almost all ICT-enabled social innovation initiatives are needs-driven and outcomes-oriented, and most lean towards open processes of co-creation/collaborative innovation networks. Hence, we can infer that the innovation model followed is mainly based on the principles of open/democratised innovation. Perhaps the most important aspect is the driving force behind this trend: i.e. the third sector. This sector is adopting a user-centric perspective where the service provided not only aims to satisfy the needs of the beneficiaries but also involves the beneficiaries in the creation and development of the services.

To sum up, one of the key findings of this study is that various different dimensions of ICT-enabled social innovation initiatives should be looked at. The **variety of services** and their **degree of innovativeness**; the **diverse role of ICTs** in the design and delivery of services (including considerations of technology appropriateness) and the **complexity of governance in the integration of social services of general interest** are all relevant aspects that should be carefully considered in order to understand better the potential impact of these interventions.

6.3 Policy implications and future research

6.3.1 Policy implications

The IESI research project set out explicitly to support the implementation of the Social Investment Package (SIP), launched by the European Commission in February 2013. It collected and analysed evidence-based initiatives to better understand the potential of ICT-enabled social innovation to strengthen integrated approaches to social services delivery. The ultimate aim of the study is to provide concrete examples of successful initiatives that introduce innovations into social policy design and social services delivery. Thus, **it contributes to the current debate on the modernisation of European social protection systems, and provides well-documented initiatives, which could be scaled-up, replicated or transferred across the EU.**

In his political guidelines for the current European Commission, the then-candidate President Jean-Claude Juncker made it clear that his first priority would be to strengthen Europe's competitiveness and stimulate investment to encourage job creation. This meant **looking at economic and social policy as two sides of the same coin**. From this perspective, the priorities set by the Barroso Commission in its Social Investment Package still seem to be relevant. Modernising EU welfare systems to make them more sustainable, and investing in people's capacities throughout their lives while maintaining adequate levels of social protection is fundamental for the achievement of the ambitious social targets set by the Europe 2020 Strategy and to reignite long-term growth in Europe.

While there seems to be clarity on 'where to go', evidence gathered through the IESI research shows that what seems to be missing is rather 'how' to get there: social protection and social investment policies have not been able to neutralize rising market inequality. The recent financial crisis has only accelerated this rise. The gap between rich and poor today is wider in most EU countries than it has been for 30 years (Piketty, 2014). Since the 1980s, productivity growth has not translated into a commensurate increase in incomes for the bottom 90% of earners. Europe will not leave the crisis behind unless it is able to reverse this trend, as income inequality has sizeable negative effects on economic growth (Cingano, 2014). As highlighted by the IMF in 2014 (Ostry, et al., 2014), inequality strongly and negatively affects not only social cohesion, but also economic growth. Tackling inequality must therefore become a priority in policy-makers' agendas across the world.

In this regard, fiscal consolidation cannot be Europe's main way out of the crisis. **Increased social investment, as well as better coordination and integration of economic and social policies among and across Member States are needed.** Findings from the IESI research confirm what part of the economic literature has been pointing out since the 2008 crisis: there is a need for a general rethink of the relationship between the State and the market (Stiglitz, 2009; Mazzucato et al., 2016).

From this perspective, **ICT-enabled social innovation can be seen as an opportunity to promote social investment** through integrated approaches to social services delivery. **ICTs often play a 'game-changing role' especially in the development of platforms to support innovative partnerships** where social challenges can be addressed by social impact investing strategies. This can support two objectives:

1. **The modernisation of social protection systems** in EU Member States, which is a crucial aspect of the EU agenda towards achieving the targets set out in the Europe 2020 strategy. Here, the SIP emphasizes that *'there is an added value in focusing on innovative social policies and embedding innovation in evidence-based policy-making'*. This is based on two hypotheses: i) that social investment relies on social innovation to create efficiency gains in social policies and effectiveness in addressing societal challenges, facilitating investment in human capital throughout people's lives, and ii) that the potential of social innovation is increased by the growing range of innovative ICT-based solutions.
2. **The operationalization of an innovation-driven rationale to social investments, through experimentation.** The Social Investment Package has already anticipated two main paths to experimentation: through the European Social Fund (ESF), which would then be complemented by the European Structural Investment Funds (ESIF). In these provisions, the Commission urged Member States to test new approaches such as ICT-enabled innovations to social policy and eventually scale-up the most effective innovation using the funds available.

Moreover, these two objectives have been further re-launched by **the emergence of a new type of business composed of firms, private or not for profit, which work in the field of social services and explore or even co-create innovative financial instruments.** Some years ago, social enterprises or cooperatives engaged in the welfare-mix economy were mainly labour-intensive firms (Calderini 2016). However, the increasing availability of sophisticated technologies at low prices has changed their nature: from labour-intensive to capital-intensive. Due to the resulting demand for further financial resources, a **general rethink of the relationships between this world and the banking sector is needed.** In particular, an exploration of how financial instruments can be co-funded by the European Social Fund to support the investment priorities outlined in the ESF Operational Programmes of Member States is called for.

In addition, **the rise of new business models clearly highlights the need to consider how the new European Fund for Strategic Investment (EFSI) could be used when there is no market failure, or there is no market at all.** In fact, based on evidence from previous rounds of the IESI mapping and further validated in this consolidated analysis, the 'social economy' market is characterised by micro-social-enterprises or not-for-profit organisations that have no access to traditional financial mechanisms or cannot guarantee investments beyond what is required for their day to day operations. This also means acknowledging the current limitations of EFSI and the need to design interventions that combine EFSI with ESF to reach out to target groups in need while respecting competition rules and leveraging on private capital through innovative Public Private Partnerships (PPPs).

The intrinsic characteristics of ICT-enabled social innovation (its multi-partnerships and the open collaborative process underlying its functioning) may make it a powerful catalyst. It can serve as an **instrument to attract private investment into welfare**

services through the establishment of new inter-sectoral governance models. It can also be a means of using available public resources more efficiently through the involvement of various stakeholders in innovative service delivery mechanisms, and of renewing social policy design and implementation.

Clearly, within this policy framework, the three-year **IESI research** project offers only a small contribution to addressing these complex social systems dynamics. However, it **gathers evidence-based ICT-enabled social innovation initiatives and assesses their impact in terms of scaling them up, replicating and transferring them across EU Member States.** This exercise is therefore a powerful tool to support the re-orientation of social policy reforms towards innovative approaches.

At the same time, initiatives have emerged that consider democratic citizenship and more generally, active citizenship, to be a foundational value of European society. Active citizenship is seen as a pre-requisite for discussing the needed redesign of social policies in Member States. It must be taken into account, especially when the **debate on the European Pillar of Social Rights** is bringing to the fore the difficulties in re-orienting the policy arena's institutional path-dependency and complexity. We are confronted with the challenging issue of **calibrating the past and the future**, or in other words, 'juggling' already acquired rights and supporting innovation in the welfare systems that would provide a more just 'intergenerational divide'. This would clearly require further analysis that is beyond the scope of the IESI research. It is nevertheless linked to the contribution the study of the role that ICT-enabled social innovation is playing in the modernisation of the EU social protection systems.

This issue may further confirm the need to support the trend toward 'opening up' access to finance for micro-social enterprises and third sector organisations. This is indeed a crucial aspect of **emerging social impact investment and the need to integrate innovative financial instruments into the portfolio of EU cohesion policy for regional and territorial development.**

6.3.2 Future research directions

The consolidated analysis of the IESI database allows us to see how the phenomenon under investigation has evolved. It also allows us to inform policy development as to the contribution ICT-enabled social innovation initiatives could make to promoting social investment through integrated approaches to social services delivery, and to supporting social policy innovation. To accomplish this objective, the IESI Research Team at the JRC made a number of improvements to the research approach. A specific **communication campaign** was launched in the first half of 2016, to ensure there would be enough time to gather data from practitioners and policy-makers.

In addition to this, **the IESI knowledge base has been made available online** in order to raise interest among practitioners and policy-makers in having their initiatives included in the IESI platform. Networks and key stakeholders were encouraged to contribute to the collection of cases by offering them the chance to gain visibility at European level.

For this purpose, a '**IESI Prize**' will be awarded to the winning initiative put forward by practitioners.³³ This is in line the JRC's planned research agenda in the field: i.e. to make the IESI Knowledge Base available to the public and start creating a '**Network-based Observatory for Social Change and Welfare Innovation in the EU**'.

In this connection, the experience of the first two 'rounds' of mapping pointed to the importance of the local level, and also the difficulties inherent in the process of gathering data, especially with regard to evidence of impact. This has been tackled to a certain extent in this third phase, but could be developed further.

³³ The promoters of the three best initiatives (selected by an expert panel including members of JRC-IPTS and DG EMPL) will be invited to showcase the initiatives during a policy event in 2017.

Future research will thus target further initiatives at the regional and local level, especially at city level or neighbourhoods within cities. A local focus in this analysis could allow us to study '**local ICT-enabled social innovation ecosystems**' to understand the dynamics across sectors, and which factors enable innovation and social change.

To address this need, **the potential of using Social Network Analysis methods has been explored** during this last phase of the research in order to appreciate better the drivers and barriers of ICT-enabled social innovation ecosystems. Although it must be kept in mind that the IESI data collection was not explicitly designed for the specific requirements of a SNA application, some insights have been obtained by applying this approach. Specific country or local ecosystems could be analysed in more detail in future research and, more importantly, this analysis can be easily replicated for all countries represented in the database. **This can help to build up a better picture of the ICT-enabled social innovation ecosystem in each EU Member State.** Furthermore, a country-by-country analysis could be combined to analyse cross-country similarities and differences, which could help guide impact assessment and policy design at the European level.

From a **theoretical perspective**, it may be beneficial to further our investigation into the role of ICTs as a primary component, together with skills and knowledge, of the service design and delivery process. Our research is one of the few attempts in this direction and it has improved our understanding and conceptualisation of ICTs as enablers of social service innovation. We have also made strides in considering ICTs a component of the service. However, more research is required in order to understand whether a service-dominant logic in digital service innovation may be applied to social service innovation and under what conditions.

Further research is thus necessary to ascertain the level to which an ICT-enabled social innovation initiative operating in more than one area does so because it may be particularly effective in capitalising on **economies of scale**. In other words, a minimum scale of operation somehow affects the reach of these initiatives that tend to provide similar services which satisfy complementary social needs other than those pertaining to their main remit. It may be that ICT-mediated social services could be adapted to cover more than one complementary area therefore extending the scope for service provision.

This observation also raises another interesting question: **what role can ICTs play in extending the scale and/or scope of social services?** It may be interesting to look into how innovative social services are designed and delivered in order to determine whether scalability is part of the service design (i.e. a social service may be designed to satisfy more than one social need) or the delivery reach (i.e. complementary social services may extend their reach because they are delivered through efficient ICT networks).

In order to investigate further the issues that emerged from the analysis of the initiatives mapped during the IESI research in the period 2014-2016, JRC will engage in **further mapping of Social Policy Innovations across the EU**. The evidence gathered so far will be used to ground the next activities of JRC research in the field. On the one hand it will help improve the methodological framework developed to assess the social and economic impacts generated by ICT-enabled social innovation initiatives (**i-FRAME**)³⁴. On the other hand it will also contribute to the scientific and policy debate on the design of the **EU Pillar of Social Rights**, and more specifically **the future of the EU welfare systems**.

³⁴ The i-FRAME proposal is being developed as part of Work Package 2 of the IESI research.

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