

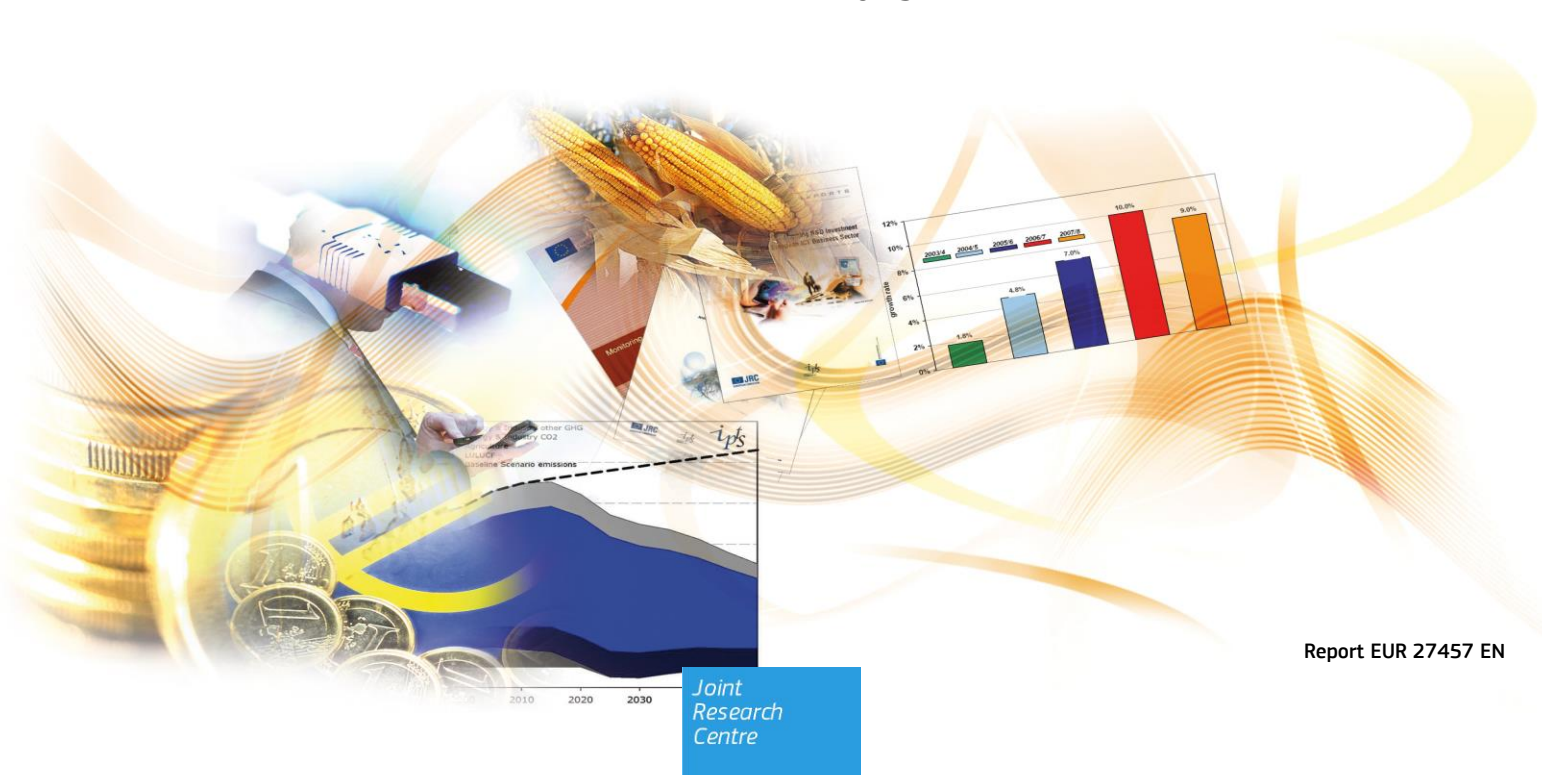
JRC SCIENCE AND POLICY REPORT

ICT-Enabled Social Innovation in support of the Implementation of the Social Investment Package (IESI)

Mapping and analysis of ICT-Enabled Social Innovation initiatives promoting social investment through integrated approaches to the provision of social services

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2015



European Commission

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JRC97467

EUR 27457 EN

ISBN 978-92-79-51781-5 (PDF)

ISSN 1831-9424 (online)

doi:10.2791/30502

Luxembourg: Publications Office of the European Union, 2015

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Abstract

This report presents the results of the mapping and analysis of ICT-enabled social innovation initiatives promoting social investment through integrated approaches to the provision of social services, which was conducted as part of the research on ICT-Enabled Social Innovation in support of the Social Investment Package (SIP). The main goal of the research carried out by the European Commission's JRC-IPTS jointly with the Directorate General Employment, Social Affairs and Inclusion, was to explore the potential contribution of ICT-enabled social innovation as an enabler of change in the EU Member States' efforts to pursue active policies to prioritise social investment and modernise their welfare systems. More specifically, building on a review of existing literature and theoretical approaches, this report defines the state of the art in the field under investigation and develops the conceptual and analytical framework of the research. The report also provides an overview of the findings from analysis of initiatives from both a quantitative and a qualitative perspective. The results of the analysis of the empirical findings are illustrated through a 'Knowledge Map' of ICT-enabled social innovation initiatives promoting social investment through integrated approaches to the provision of social services, including a special focus on the area of active and healthy ageing and long-term care for older people. The report concludes by outlining implications and directions for future research.

Acknowledgments

We are very grateful for the contribution made by several colleagues who were involved in the first phase of this research project. First of all, we would like to highlight the work of the researchers who contributed, as part of the mapping activities, to the two preparatory studies carried out in collaboration with Arcola Research and Brunel University¹.

Furthermore, we would like to thank the external experts who supported our work by reviewing different intermediate pieces of the work as well as participants in the 1st and the 2nd IESI Experts and Stakeholders Consultation Workshop which took place in Brussels on 4th November 2014 and 24-25th February 2015 respectively.

Finally, we would like to express our appreciation of the valuable suggestions made by our colleagues from DG Employment, Social Affairs and Inclusion (DG EMPL) and JRC-IPTS at different stages of the project. In particular, we are grateful to Mr Aurelio Fernandez-Lopez (DG EMPL) and Ms Clara Centeno (JRC-IPTS), who were instrumental in the initial design of the project, and without whom this research would have not been possible.

Note

This report has been prepared by the Information Society Unit of the Institute for Prospective Technological Studies of the European Commission's Joint Research Centre (JRC-IPTS).

This document is based on the analysis conducted as part of the 'ICT enabled Social Innovation in support to the Implementation of the Social Investment Package' Administrative arrangement (AA) for a research between JRC-IPTS and DG EMPL (JRC Nº 33268-2014-01 EMPL D.1).

For more information about the project see: <http://is.jrc.ec.europa.eu/pages/EAP/eInclusion.IESI.html>

This report may be referenced as *Misuraca, G., Colombo, Kucsera, C., Carretero, S., Bacigalupo, M., and Radescu, R. (2015) Mapping and analysis of ICT-enabled Social Innovation initiatives promoting social investment through integrated approaches to the provision of social services*, European Commission's Joint Research Centre, Institute for Prospective Technological Studies, EUR 2745 EN, JRC Science and Policy Report Series.

¹ Arcola Research LLP and Brunel University contributed to the review of literature and practice conducting two studies in the first half of 2014, respectively on 'ICT-enabled social innovation initiatives addressing active inclusion of youth at risk' and 'ICT-enabled social innovation initiatives in social services'.

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Executive Summary

Research objectives and methodology

The main goal of the research is to **explore the potential contribution of ICT-enabled social innovation to the implementation of the Social Investment Package (SIP)**. The SIP was launched in 2013 by the European Commission to encourage EU Member States to pursue active policies to prioritise social investment and modernise their welfare systems.

This report presents the results of **the mapping and analysis of policy-relevant initiatives** gathered during the first year of the research. These initiatives represent integrated approaches to social services provision and include a special focus on active and healthy ageing and long-term care. This exercise will be updated and expanded further during the remaining two years of the research.

The analysis aims to define the **state of the art** in the field under investigation and **develop a conceptual and analytical framework** for research. To this end, both scientific and grey literature was reviewed, using a systematic approach and objective criteria to ensure the relevance and usefulness of retrieved material. In parallel to the review of existing literature and theoretical approaches, information was collected on existing **documented policy-relevant initiatives, which were** analysed according to common typologies. For this purpose, initiatives were identified through a review of the literature, additional project repositories and other direct sources. This allowed the construction of an **inventory of 140 initiatives, from which 70 were selected for analysis** according to the following criteria: policy relevance; ICT-enabled social innovation; and evidence of outcomes generated. These initiatives have been analysed from both **quantitative and qualitative** perspectives, according to the dimensions of the conceptual and analytical framework developed as part of the research.

As regards **geographical scope**, most of the initiatives included in the mapping exercise took place in EU Member States. However, initiatives from some countries outside the EU, considered in the vanguard of the specific policy areas under investigation, were also explored in order to learn from their experiences and provide insights that may be of interest for EU Member States.

Key results

Conceptualisation and review of the state of the art

The research is exploratory since it concerns an area still in the early stages of definition. Policy and practice experience is still limited in most countries around the world. Therefore, the first result of the research is the development of a conceptual and analytical framework for mapping initiatives of ICT-enabled social innovation in the area of integrated approaches to social services provision, with a special focus on active and healthy ageing and long-term care.

As a starting point, a **working definition of ICT-enabled social innovation** was developed, which underlies the conceptual framework and helps to further operationalise the research. To this end, the dimension of ICT-enabled innovation potential was combined with the key elements of social innovation defined in the literature and practice. We propose the following definition:

'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 collaboration among stakeholders and foster open processes of co-creation and/or re-allocation of public value'.

This results from efforts to characterise the phenomenon of ICT-enabled social innovation and its underlying elements. It will serve to further guide the gathering of initiatives and the analysis of impacts in the following phases of the research.

Another contribution of the first phase of the research is the analysis of the state of the art. This provides, however, a **patchy picture of current developments in the field**. First of all, references found in the existing scientific literature are 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. Moreover, though social services reforms have been gaining momentum all over the world, the analysis of the grey literature and practice collected seems to show that the main focus of the reforms is on **promoting efficiency and cost savings through service integration and cross-sector collaboration**.

Furthermore, it appears that the majority of applications of ICT-enabled innovation emerging from the literature review address **mainly one policy or problem area or target group**, within an individual social service. However, a complementary review of practice has shown that **a number of 'pioneer' examples exist** where ICT-enabled innovations are actually leading the way in transforming how individuals interface with social service providers across a range of countries and types of services. For instance, a number of governments around the world are embracing ICT-enabled innovations to support the design and implementation of integrated approaches to social services, through the development of electronic user records, the use of data analytics and interoperable technologies that enable the identification of at-risk beneficiaries and a better understanding of service usage. This facilitates coordinated case management and more targeted use of resources. In this regard, although they do not seem to be well-established as yet in many EU countries, several initiatives based on ICT-enabled social innovation are starting to produce results and are **providing the basis for effective social policy reforms, by addressing reorganisation and integration of social services provision**. For instance, the analysis of the state of the art suggests that, although the great majority of applications of ICT-enabled innovation address mainly one policy, problem area or target group within an individual social service, **the 'one-stop-shop' model of integrated service delivery is emerging as a trend** in support of social policy innovation and reform of social protection systems. However, it seems it has not yet reached its full potential with regard to the 'game-changing' role that ICT-enabled social innovation can play.

Analysis of the empirical findings

The **quantitative analysis** performed is the first exercise of its kind ever conducted by the European Commission directly and provides an overview of the field under investigation. However, the sample of initiatives gathered at this stage of the research is not representative of the actual universe of initiatives and, due to its limited size, it is not statistically significant. Therefore, findings must be understood as illustrative and preliminary. Moreover, since the IESI research project puts a special focus on the area of active and healthy ageing and long-term care, a sub-sample of 20 initiatives were mapped and analysed separately from the 50 initiatives addressing the other **Personal Social Services of General Interest (PSSGI)** and which have been grouped into five main categories for analytical purposes: **1. Education and training; 2. Employability and employment; 3. Social assistance; 4. Social care and childcare; and 5. Social inclusion**.

With respect to these 50 initiatives, and their relationship with the three **Social Investment Package recommendation strands**, the analysis revealed that the vast majority of the initiatives in the sub-sample (72%) are related to 'Implementing active inclusion strategies': that is, investing in people's skills and capacities to improve their opportunities to integrate in society and the labour market. These are followed by initiatives addressing 'Investing in individuals throughout their lives' (46%), which aim to ensure that social protection systems respond to people's needs at critical moments during their lives. Finally, a third of the initiatives under investigation (34%) deal with: 'Modernising social protection systems' (i.e. spending more effectively and efficiently to ensure adequate and sustainable social protection).

Furthermore, it is important to mention that **most of the initiatives in this sub-sample are characterised by an elevated level of integration of services**. Thus, beyond initiatives with no integration (14%) or lower integration, such as intra-governmental integration (10%) and inter-governmental (16%), 46% of the initiatives show an inter-sectoral level of service integration, resulting from the collaboration between government and service delivery providers in private or not-for-profit sectors. In addition to this, 14% of initiatives achieve what has been defined as 'pervasive' levels of service integration. These initiatives entail a new *modus-operandi* where service providers and beneficiaries co-produce services, innovating delivery mechanisms and reallocating resources and roles in order to maximise public value creation.

The analysis also shows that the majority of the 50 initiatives mapped in the sub-sample of 'Integrated approaches to social services delivery' have a **functionalist conception of social innovation**. They tend to be 'Needs driven/outcome oriented' (100% of the initiatives) and include an 'Open process of co-creation/collaborative innovation' (present in 28% of them). However, the results also show that a large group of initiatives in this sub-sample promote a **transformationalist social innovation approach**, characterised by the presence of: 'Fundamental change in the relationships between stakeholders' (48%) and 'Public value allocation and/or re-allocation' (34%). According to the analysis of their **ICT-enabled innovation potential**, 51% of the initiatives in the sub-sample use ICTs for organisational/sustained innovation. However, it is worth noting that 43% and 16% out of the 50 initiatives use ICTs for disruptive or radical transformative innovation respectively. Therefore, it can be stated, albeit tentatively at this stage, that the analysis reveals signs that in this area, **ICT-enabled social innovation initiatives are characterised to a great extent by organisational/sustained innovation, supporting in many cases social policy reform at intra/inter-governmental level**. However, a growing number of initiatives is also taking the path towards transformative (mainly disruptive and to a lesser extent radical) ICT-enabled innovation.

Looking at the sub-sample of 20 initiatives mapped **in the area of active and healthy ageing and long-term care**, the analysis indicates that **the initiatives are aligned with the specific policy priorities of the SIP on long-term care**. More specifically, from the perspective of the beneficiaries, almost all of the initiatives analysed (19) aim to 'reduce incidence and prevalence of frailty and functional limitation' and also aim to 'increase the capacity of older people to manage self-care and independent living at home' through an ICT-enabled service. Moreover, 13 initiatives aim to 'support formal and informal carers'. From the service provider perspective, the enhancement of long-term care provision is the primary goal, with 18 initiatives aiming to 'raise the productivity of formal and informal care delivery'. This is followed by the intention to 'improve and assure the quality of the care delivery' (16 initiatives) and the aim to 'support integrated care, including informal care in the delivery chain' present in 13 initiatives.

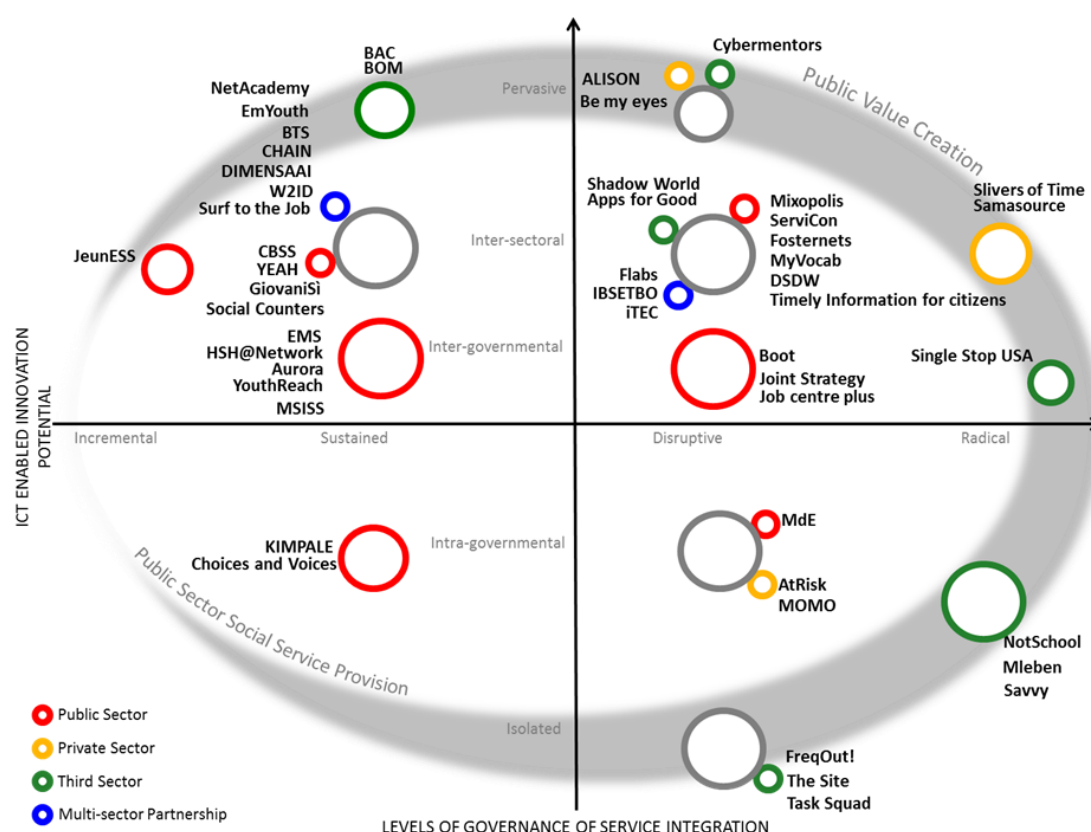
With regard to **the levels of governance of service integration**, the majority of the initiatives of this sub-sample are characterised by inter-sectoral integration, and in 12 cases a stakeholder from the private sector was a member of the partnership, closely followed by public bodies that participate in 11 inter-sectoral partnerships. The pervasive level of integration was embodied instead by 3 initiatives, while another 3 initiatives have been identified as isolated. When it comes to the dimension of **types of service integration**, the most frequent option is the collaboration among partners in **service delivery** (14). However, slightly more than half the initiatives mapped (11) collaborated in funding the service provision and / or through organisational integration as well. Also a key finding of the analysis is that the use of ICTs does indeed have **innovative potential** to rearrange the services, both in the way they are provided and in what they can offer. Half the initiatives mapped seem to have 'game-changing' potential to radically transform services by enabling their provision: 8 out of 12 independent living initiatives and 2 of the 8 integrated service initiatives have this potential. The rest of the cases (6) could instead be best described as functionalist – sustained innovations, characterised by the use of ICT tools to facilitate service planning and delivery.

All 20 initiatives in this sub-sample share a common element in their **social innovation** dimensions: they are all driven by a well-defined need (supporting the long-term care of older people), while 7 initiatives embodied a new collaborative network, and the fundamentally changed nature of relationships among the stakeholders also emerged in 7 initiatives, whereas 8 of the mapped initiatives - 6 from independent living and 2 from the integrated care - seem to contribute to the creation or re-allocation of public value.

Knowledge maps of ICT-enabled social innovation

Among the key outcomes of the first phase of the research there is what we have defined as the **'IESI knowledge maps of ICT-enabled social innovation'**. These knowledge maps serve to illustrate the key findings of the **qualitative analysis** of the 70 initiatives gathered during the first year of the mapping exercise, split between general social services and the more specific area of active and healthy ageing and long-term care. The two maps highlight the main characteristics of the initiatives with regard to ICT-enabled innovation potential; elements of social innovation; levels of governance and types of service integration (see Chapters 4 and 5 for details). The first Knowledge Map illustrates typologies of initiatives identified to cover seven of the main areas of **Personal Social Services of General Interest (PSSGI)** and grouped into five main categories for analytical purposes: **1. Education and training; 2. Employability and employment; 3. Social assistance; 4. Social care and childcare; and 5. Social inclusion.**

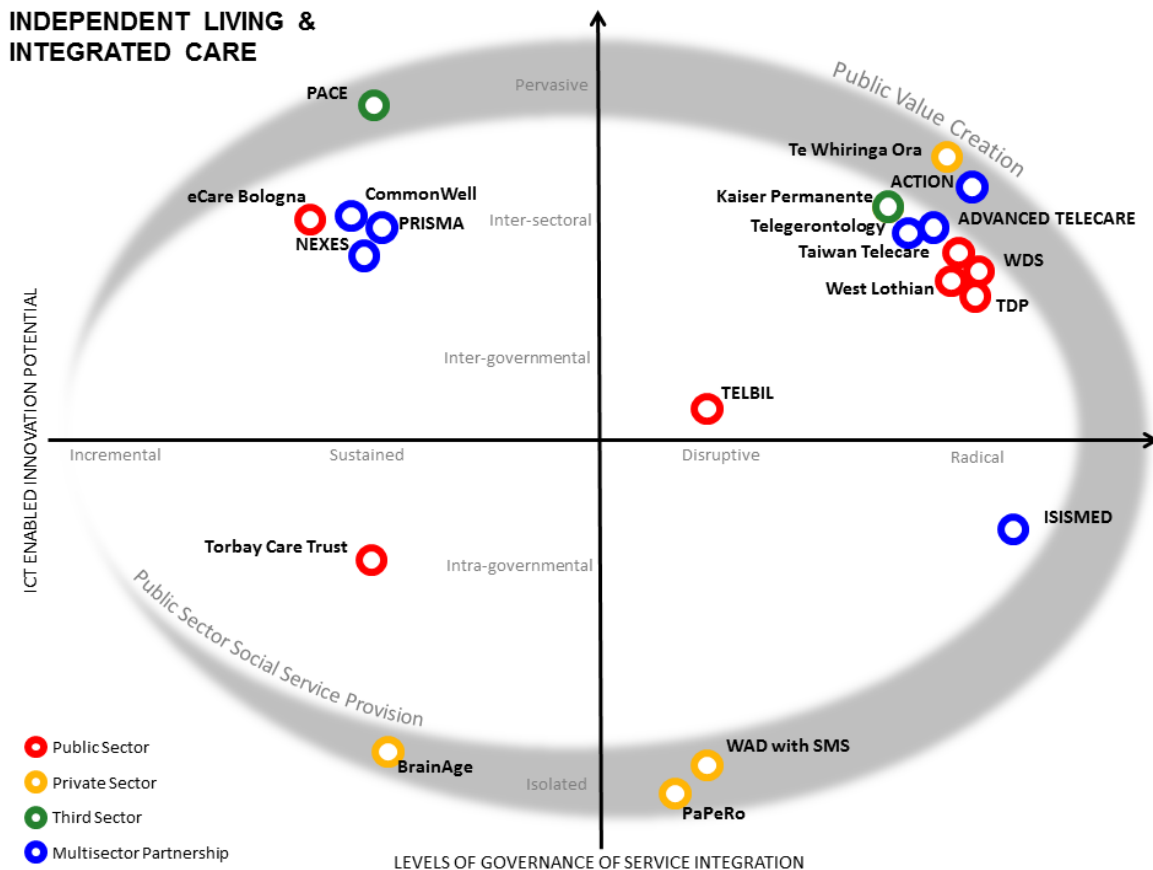
Figure 1: IESI Knowledge Map of integrated approaches to social services delivery in the areas of: education and training; employability and employment; social assistance; social care and childcare; and social inclusion



Source: own elaboration.

The second knowledge map illustrates initiatives which are integrated approaches to social services delivery in the area of **active and healthy ageing and long-term care**, addressing the specific sub-themes of 1) Independent living; and 2). Integrated care for older people.

Figure 2: IESI Knowledge Map of integrated approaches to social services delivery in the area of active and healthy ageing and long-term care (independent living and integrated care)



Source: own elaboration.

The IESI knowledge maps indicate common patterns and specificities of the initiatives analysed with regard to the main dimensions of ICT-enabled social innovation and service integration they entail. **Thus, they shed some light on the different approaches to the various social services areas addressed and they provide examples of what types of ICT-enabled social innovations are currently being implemented in some EU countries and beyond,** offering inspiration for policy and future research.

Implications for future research

This report provides an overview of the results of the first year of an exploratory research project which addresses a 'moving target', as ICT-enabled social innovation is by default in a state of perpetual flux. Moreover, many of the initiatives under investigation are experimental, often practice-driven and at an early stage of implementation, complicating further any study of the outcomes and impacts generated. Therefore, it is clear that **there are several limitations to this phase of the research.**

First of all, the examples that have been mapped in this first phase do not constitute a representative sample of the wealth of ICT-enabled social innovation initiatives in social services across Europe. The next mapping exercises will **integrate the knowledge map and possibly define a more representative sample** to provide a better overview of the EU landscape.

Secondly, the conceptual and analytical framework proposed requires **further validation** through its application to a larger set of initiatives and its contextualisation in different welfare models, social protection systems and delivery approaches. The next phase of the research will look at **how social services are structured in different EU Member States** to help us better understand the impacts generated and the relationships with socio-economic contextual factors according to different types of social services and target users. It will also **identify drivers and barriers** for the implementation of different types of ICT-enabled social innovation, including widening the scope and exploring promising socio-technological solutions, such as approaches based on open/big data or predictive modelling, just to mention a few. In this connection, while evidence of ICT-enabled social innovation delivering social services appears to be widespread across the EU and beyond, evidence of the **level of deployment** is not clear. In addition to a significant segment of policy interventions that are pan-European rather than national policy-driven initiatives supported by the central government, many experiments are being developed at grass-roots level, involving partnerships between community-based and third sector organisations, local authorities and the private sector. Additional analysis is required to gain a more accurate picture of the **degree of geographical deployment** of ICT-enabled social innovation, placing a special emphasis on gathering initiatives at local and municipal level.

Finally, the following phase of the research will propose a framework to analyse the impacts of ICT-enabled social innovation based on **social return on investment and social impact approaches**. This framework for measuring the impacts of ICT-enabled social innovation on public value, as a means of reducing inequality and improving wellbeing will be advanced further in the context of social investment, which will be assessed as an investment with the explicit expectations of both social and financial return. This is related to the need to ensure that policy reforms are not only evidence-based but also results-oriented, and to provide direct input into the implementation of the Social Investment Package (SIP) within/ at the level of Member States.

1. Introduction

1.1. Research background

In February 2013, the European Commission launched the **Social Investment Package (SIP)**² to support the implementation of the EU 2020 strategy. The SIP Communication urges Member States (MS) to prioritise social investment to modernise their welfare systems in order to address unemployment, poverty and social exclusion challenges brought about by the economic crisis and sustainability challenges posed by the ageing population trends.

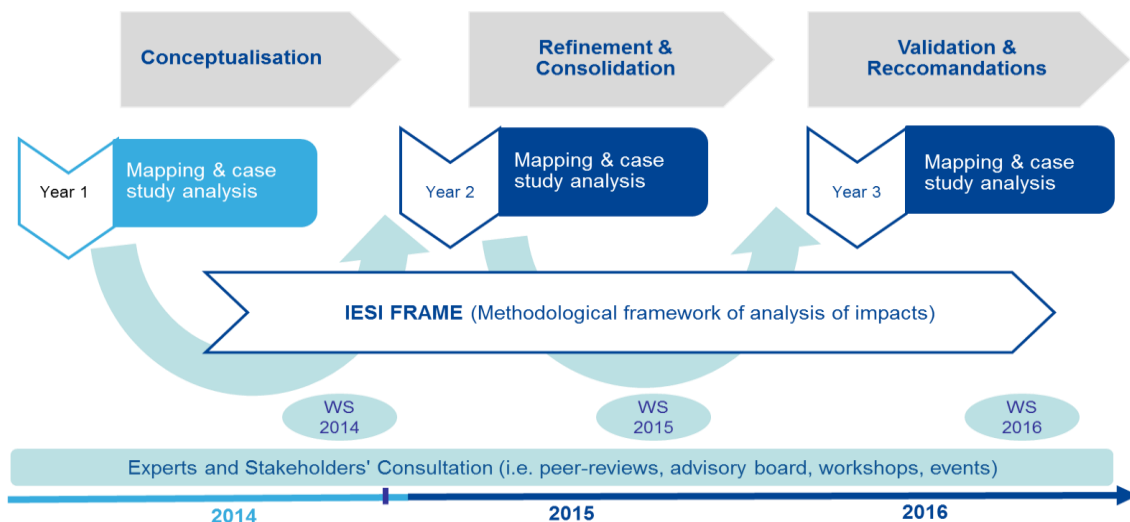
Social innovation is an essential element of the SIP. Social investment relies on social innovation to provide solutions that produce better results than existing solutions or the *status quo*. Social innovations can improve the efficiency of social policies and their effectiveness in addressing societal challenges and also facilitate life-long investment in human capital.

The SIP emphasizes 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.

In this context, the European Commission's DG Employment, Social Affairs and Inclusion (DG EMPL), through its Directorate (D1) – Social Policies, Innovation and Governance, and the European Commission's Joint Research Centre, Institute for Prospective Technological Studies (JRC-IPTS), through the Information Society Unit, have entered in an Administrative Arrangement to conduct a research project entitled '**ICT-enabled Social Innovation in support to the Implementation of the Social Investment Package**' (hereafter **IESI**).

IESI is a three-year research project designed according to three interrelated Work Packages, namely: Systematic mapping (WP1), Methodological framework of analysis of impacts (WP2) and thematic analysis/case studies (WP3). Figure 3 describes schematically the IESI research design. This report addresses the first phase of the research which included the conceptualisation and the first 'round' of mapping and analysis of ICT-enabled social innovation initiatives conducted in 2014.

Figure 3: IESI 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.

1.2. Objectives and scope of the research

The key goal of IESI is to support the implementation of the EU Social Investment Package (SIP) by addressing how ICT-enabled Social Innovation can support social investment policies.³

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 a knowledge bank on social policies as foreseen in the SIP, by providing results of a structured analysis of initiatives. Thus it contributes substantive evidence-based input to the gathering of knowledge and the sharing of successful policy experiences and initiatives implemented in EU Member States.
3. Develop a methodological framework of analysis of the impacts generated - from micro to macro level - by ICT-enabled social innovation initiatives promoting social investment.

The overall result expected from the research is to better understand how ICT-enabled social innovation initiatives can contribute to: simplifying administrations; better targeting benefits and services (e. g. through simpler procedures, better information or one-stop-shops); improving the management, provision and coordination of services; designing high-quality and cost-effective services meeting the needs of citizens; and supporting access to and take-up of services.

The following activities are carried out - during the three-year research- to achieve this result:

- Review of relevant literature, policies, theoretical approaches and the level of deployment and integration of ICT-enabled service provision amongst EU Member States.
- Collection and documentation of relevant examples of initiatives across the EU and beyond, including countries considered to be in the vanguard in the policy areas under investigation in order 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.
- A search for insights from EU Members States and an assessment of current initiatives 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 is to address the **Personal Social Services of General Interest (PSSGI)**⁴, classified in 10 typologies as follows⁵:

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.

More specifically, the scope of the research lay in policy relevant initiatives related to **integrated approaches to social services provision**, from both a service provision and a beneficiary's

³ See § 4.1 for the definition of ICT-enabled social innovation developed as part of this research.

⁴ See § 3.1 for more details on the concept of and definition of Personal Social Services of General Interest (PSSGI).

⁵ It should be noted that this classification is preliminary and in the mapping and analysis phase the proposed classification of PSSGI has been already grouped in a set of social services areas (see Chapter 5 for details).

perspective, and hence contribute achieving the following priorities defined according to specific objectives of the SIP⁶:

- From the **service provision perspective**:
 - Increase social protection systems productivity adopting a joint 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.
 - Increase quality and cost-effectiveness of services and designing policies better meeting the needs of final beneficiaries.
- From the **beneficiary's perspective**:
 - Promote active inclusion interventions, with a specific focus on those most distant from the labour market.⁷
 - Facilitate more inclusive labour markets, especially through supporting intermediaries (e.g. Public Employment Services, Public Social services and other social actors).
 - Support youth social inclusion, education and training, employment and more general civic engagement.
 - Promote access to and use of early childhood education and care, by improving the conditions of parents for combining raising children with work, and at the same time support the wellbeing of children.⁸

Moreover, the research has placed a special emphasis on initiatives related to the area of active and healthy ageing and long-term care due to the particular focus of the SIP to address the challenges posed by ageing population trends for the social protection systems. In this area the following policy objectives were identified:

- From the **service provision perspective**:
 - To raise the productivity of formal and informal care delivery.
 - To improve and assure the quality of the care delivery.
 - To support an integrated care, including informal care in the delivery chain.
 - To increase employment in the care sector.
 - To improve access and take up of services.
 - To increase the sustainability of the public care systems
- From the **beneficiary's perspective**:
 - To increase the capacity of older people to manage self-care and independent living at home.
 - To reduce incidence and prevalence of frailty and disability, through healthy and active ageing, prevention and promotion of physical and mental health, and rehabilitation.
 - To support formal and informal carers.

Therefore, **the research focuses on two interrelated policy areas**, namely:

- **Integrated approaches to the provision of social services.** The research addresses initiatives that are related to integrated approaches to the provision of all Personal Social

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

⁷ See SWD(2013)39 final on 'Follow-up on the implementation by Member States of the 2008 European Commission recommendation on active inclusion of people excluded by the market.

⁸ See Commission Recommendation 'Investing in Children: breaking the cycle of disadvantage' C(2013)778 final.

services of General Interest. More specifically, the research 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.

- **Active and healthy ageing and long-term care for older people**, The research puts a special emphasis on initiatives that are related to a) the process of optimising opportunities for health, participation and security in order to enhance quality of life as people age (Active and Healthy Ageing) and b) services and assistance over an extended period of time for older people who depend on help with basic or instrumental activities of daily living (long-term care for older people). This area is further divided into three themes according to the main EC policy objectives, namely: 1) independent living; 2) integrated care; and 3) prevention, health promotion and rehabilitation.

1.3. Aim and structure of this report

This report presents the results of the first year of mapping and analysis of ICT-enabled social innovation initiatives which promote social investment through **integrated approaches to the provision of social services**, with a special focus on active and healthy ageing and long-term care. The report builds on a review of existing literature on social services and current theoretical approaches to them. It then provides an overview of the analysis resulting from the mapping of policy relevant initiatives gathered during the first year of the research, which will be updated and expanded further during the course of the research.

The report is structured as follows:

- **Chapter 1** introduces the background, the overall objectives and scope of the IESI research. It also outlines the aim and structure of this report.
- **Chapter 2** provides a brief overview of the methodology followed, detailing research questions, units of analysis and the approach to conducting the literature review, the mapping and analysis of initiatives.
- **Chapter 3** reviews the state of the art in the area under investigation. It first defines key concepts and typologies relevant to the concept of ICT-enabled social innovation, defining in particular the role of ICTs in innovating and integrating social services, including in the area of active and healthy ageing and long term care for older people which receives a special attention in this research. It then describes the key findings from the literature review with regard to the areas of social services most impacted by ICT-enabled innovation and the degree of deployment of ICT-enabled social innovation in the EU.
- **Chapter 4** presents the conceptual framework, which underpins the research and has been used to guide the mapping and analysis of initiatives.
- **Chapter 5** provides an overview of the results of the analysis of the initiatives collected as part of the 'first round' of the mapping exercise, from both a qualitative and a quantitative perspective. The analysis builds a set of 'knowledge maps' of ICT-enabled social innovation, which will be further enriched and consolidated in the next phases of the research.
- **Chapter 6** discusses the main conclusions deriving from the first year of the mapping and analysis in terms of the contribution made by ICT-enabled social innovation to the implementation of the SIP in the policy areas of integrated approaches to social services provision and active and healthy ageing and long-term care. It also provides an analysis of the gaps identified; the limitations of the first year of the mapping exercise and the challenges encountered, as well as recommendations for future research.

2. Methodology

2.1. Research questions and unit of analysis

Overall, the IESI research aims to explore the nature of ICT-enabled social innovation and analyse its impact on initiatives devoted to promoting social investment through integrated approaches to social services provision. The research systematically collects evidence-based knowledge in the areas related to 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.⁹

This report addresses one of the key questions underlying the research¹⁰, namely:

RQ1 How can ICT-enabled social innovation support the implementation of policies which promote social investment?

The following sub-research questions are then investigated as part of the first phase of the project and addressed in this report:

SRQ1 What types of ICT-enabled innovation are being implemented to support the reform of social investment policy?

SRQ2 Which areas and target groups of social service provision are most supported by ICT-enabled social innovation?

SRQ3 What is the degree of deployment of ICT-enabled innovation to support social investment policy reform in the EU?

SRQ4 Which concrete initiatives involving ICT-enabled innovation to support social investment policy reform have been implemented and have evidence of outcomes generated?

With respect to the **unit of analysis**, this research investigates **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**.¹¹

In order to operationalise the research, we refer to the unit of analysis with the term '**initiatives**'.¹²

These initiatives have to be policy relevant, i.e. they must address the policy objectives of the Europe 2020 Strategy and the Social Investment Package (SIP). Moreover, they must aim to simplify and/or modernise social policies, social benefit systems and/or administrative procedures and service delivery mechanisms through ICT-enabled innovations. They should also present some evidence of outcomes generated, in order to facilitate the identification of drivers and key enabling conditions for success, and to outline policy opportunities and recommendations for possible transferability or replicability.

2.2. Literature review

In order to define the state of the art in the field of ICT-enabled social innovation in support of the implementation of policies promoting social investment and to build the conceptual and analytical framework of the research, a literature review was conducted following a systematic approach.

⁹ Although the methodology followed in general terms a common approach for both areas under investigation, different search terms, databases and repositories have been investigated with regard to the two areas of under analysis. Details on the approach followed for the literature review are available in the Methodological Notes annexed to the IESI Deliverables D1.2.1 and D1.1.1 respectively, available at: <http://is.jrc.ec.europa.eu/pages/EAP/eInclusion.IESI.html>

¹⁰ These research questions apply to the overall research scope of IESI. Other research questions defined in the IESI Research Design and methodological report will be addressed in other components of the research.

¹¹ See IESI Research Design and methodological approach (JRC-IPTS Working Document, 2014, unpublished).

¹² This term is also defined as: an act or strategy intended to resolve a difficulty or improve a situation; a fresh approach to something. See Oxford Dictionaries: <http://www.oxforddictionaries.com/definition/english/initiative>

The review was carried out following a standard set of steps, using objective criteria to ensure relevance and usefulness of retrieved material. The use of explicit and transparent methods also ensured that the research was replicable and updateable during the next phases of the project and after it. The review aimed firstly to identify available evidence on the nature and characteristics of ICT-enabled social innovation in integrated approaches to social services provision and with a specific focus on the area of active and healthy ageing and long-term care. The relevance of each study or report identified was then assessed and a summary of the key findings presented.

Both the scientific literature and practice- and policy-relevant documents (grey literature) were reviewed. An iterative approach was taken to the review which was carried out in multiple stages: (i.e. the initial scientific literature search served as a basis for the grey literature search, which in turn fed into further searches). The steps followed in the search protocols for the scientific and grey literature reviews were slightly different and are described hereafter.¹³

Scientific literature review:

This review identified relevant academic papers in the fields under investigation, related to the SIP. The steps followed were:

- **Step 1: Definition of search keywords.** The list of terms used was based on the research scope, the key terms in the research questions and the policy objectives glossaries.
- **Step 2. Identification of relevant scientific databases and search engines.** Relevant databases were selected as sources for queries on the policy fields investigated.
- **Step 3. Database Search.** The defined keywords were used to search in the databases and repositories selected.
- **Step 4. Refinement of search results.** The items collected were validated using selection (inclusion-exclusion) criteria, to select references relevant to the issues under investigation.
- **Step 5. Evaluation and synthesis of relevant findings.** Items selected were reviewed in detail for relevance of content regarding the research objectives, including information related to both the research questions and the identification of potential candidate initiatives for the mapping.

Grey literature review:

This review identified relevant policy documents and practitioner-generated reports, mainly at European level in the fields under investigation, related to the SIP.

- The **search terms** used were adapted from the search covering the different areas defined in the scientific literature search.
- Search terms were applied to **search engines and sources** such as policy-oriented research repositories, databases, research projects and platforms.
- The relevant references of the identified sources were followed up and included/excluded according to specific **selection criteria**.
- Relevant documents and reports selected were reviewed in detail for **relevance of content** regarding the research objectives, including information related to both the research questions and the identification of potential candidate initiatives for the mapping.

2.3. Mapping and analysis

The aim of the mapping activities was to collect information on existing documented policy-relevant initiatives in the domain of ICT-enabled social innovation promoting social investment through integrated approaches to social services provision with a special focus on active and healthy ageing

¹³ See Annex I to IESI Deliverables D1.2.1 and D1.1.1 available at: <http://is.jrc.ec.europa.eu/pages/EAP/elclusion.IESI.html>

and long-term care, and to analyse them according to common typologies. To this end, initiatives were identified through the review of the state of the art and through scanning additional projects databases and other direct sources. Initiatives were selected according to three **selection criteria**:

1. **Policy relevance:** the initiatives selected had to address the policy objectives of the Europe 2020 strategy and the SIP in the policy area under investigation, and in particular the policy priorities described above (see § 1.2).
2. **ICT-enabled social innovation:** initiatives had to include the introduction and use of ICT-enabled social innovation (see § 4.1 for the definition of ICT-enabled social innovation developed as part of this research).
3. **Evidence of policy outcomes:** initiatives had to provide sufficient evidence of their policy-relevant outcomes, documented in scientific or policy documents, or practitioner-generated reports.

The **geographical scope** of the mapping exercise included mainly initiatives from the EU Member States. However there were also explored initiatives from some countries outside the EU that may be considered in the vanguard of the specific policy areas under investigation in order to learn from their experiences and provide insights that may be of interest for EU Member States.

More specifically, initiatives that complied with the first two selection criteria (i.e. are policy relevant and include ICT-enabled social innovation) were included in an **'inventory' of initiatives** and documented gathering a limited set of basic information. In a second phase, initiatives that complied with all the three selection criteria (i.e. are policy relevant; include ICT-enabled social innovation; and have some evidence of policy outcomes) and for which sufficient information was available, have been included in the **'IESI knowledge map'**.

It has to be mentioned that the **sample of initiatives** gathered at this stage of the research is not representative of the universe of ICT-enabled social innovation initiatives. It is not representative either of the EU28 Member States, or the different areas of social services covered. Moreover, due to its limited size, it does not present statistical significance. However, as the first exercise of this kind ever conducted by the European Commission directly, it can be considered as an effort of 'structuring of the sample', being able to provide a first overview of the unit of analysis. More effort will be done in further phases of the research in order to build a representative sample.

Data was collected using a comprehensive **'template for data collection'** as the main instrument. This was designed for systematic gathering of information on variables of interest, aimed to investigate the spread of policy-relevant initiatives based on ICT-enabled social innovation across the EU, and to identify common patterns and emerging trends¹⁴. The template collects data on a total of 44 variables of interest (both quantitative and qualitative), organised in several categories including: description data, organisational data, resources data, monitoring and evaluation data, future prospects, lessons learned and challenges, and information sources¹⁵.

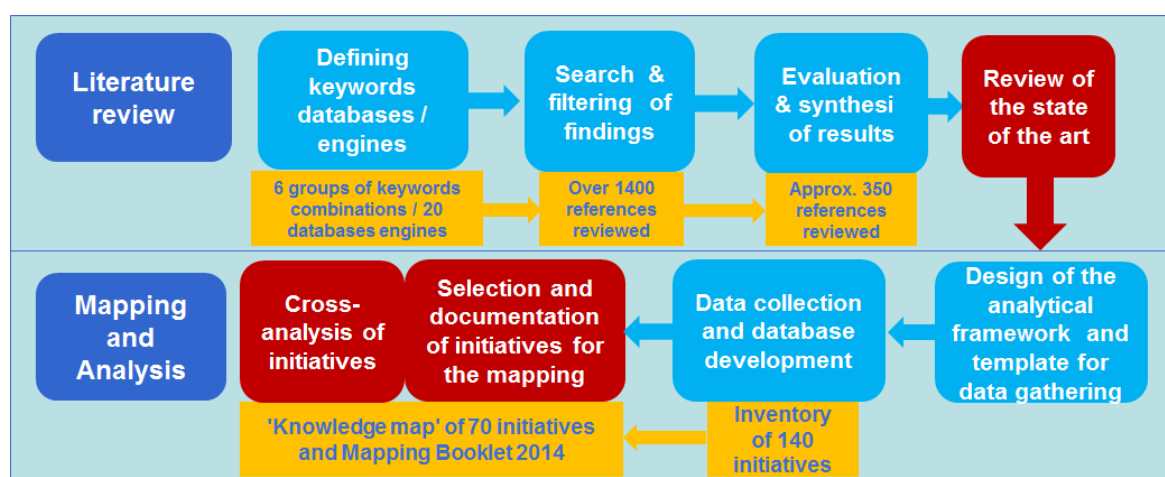
The template for data collection also allows the research team to manage information about the data management, its validation, and updates. It is structured in a database so that future revisions can be carried out and the initiatives integrated to facilitate the analysis.

The methodological approach followed for the mapping and analysis of ICT-enabled social innovation initiatives comprised several relatively sequential steps. However there were also important parallel efforts and synergies among them, as depicted in the Figure 4 below.

¹⁴ The template was developed and tested during the inception phase of the research. Following the 'piloting period', it was reviewed and used to document the initiatives selected from the inventory to be part of the 'knowledge map'.

¹⁵ The 44 variables of the template are divided in three sub-sets of variables, to be collected during different phases of the research. The first sub-set of variables is collected during the 'State of the Art' phase, the second sub-set is collected during the 'Mapping' phase, and the third is left to be collected in the 'Case studies' phase. Therefore, this deliverable has collected the first two sub-sets of variables, leaving for further phases the third sub-set.

Figure 4: Methodological approach



Source: own elaboration.

The initiatives collected and documented as part of the mapping activities were analysed quantitatively and qualitatively. From a **quantitative perspective**, we analysed and described the main characteristics and common patterns that emerged from the data gathered through the template. Thus, variables of the template that provided quantitative data were analysed using descriptive statistics. The focus of the analysis was twofold: a) general description of the initiatives gathered, done through variables such as: type of initiatives collected, area of social services, location, scale of implementation, starting date, status, operational funding, target users, stakeholders and partnerships built around the initiatives; and b) analysis of the initiatives against the analytical framework, done through variables such as: SIP recommendations strands, policy priorities of the SIP, elements of social innovation, ICT-enabled innovation potential, levels of governance integration; and (functional) types of service integration.

The initiatives were also analysed from a **qualitative perspective** according to the dimensions of the conceptual and analytical framework developed (see §4.1 and §4.3). This allowed the team to build the **'Knowledge Map' of ICT-enabled social innovation promoting social investment through integrated approaches to social services delivery**. All mapped initiatives were placed around the two axes of the analytical framework (i.e. ICT-enabled innovation potential and level of governance integration). Moreover, specific knowledge maps for the various social services areas were drawn up and groups of initiatives were also analysed with respect to the elements of social innovation showed, the (functional) types of service integration entailed, the sector from which they originated and the role they attribute to their beneficiaries. This provides understanding on their characteristics, any specific novelty they may have and the approaches they use.

The analysis has been done separately with regard to the initiatives mapped in the areas of: Education and training; Employability and employment; Social assistance; Social care and childcare; and Social inclusion and in the area of active and healthy ageing and long-term care for older people which concerns a specific sub-sample composed of initiatives related to the themes of independent living and integrated care (see respectively §5.2 and §5.3).

3. Review of the state of the art

3.1. Foundational concepts and theoretical orientations

This chapter presents the key findings of the literature review and analysis of the state of the art. Before doing this, the basic concepts that underpin this research are introduced. These are the basis upon which the conceptual framework and its operationalisation are built (see Chapter 4).

First of all, it is important to define the scope of **innovation** this research is focused on. The Oslo Manual defines an innovation as *'the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations'* (OECD, 2005)¹⁶. However, this research, does not address innovation in general terms. Instead, it is interested in the 'practice of innovation' that is developed within or across the boundary of what can be defined –to a large extent– public sector/public service¹⁷ and also the practice of ICT-enabled social innovation promoting social investment through integrated approaches to social services provision, which is the specific focus of this research.

The public sector in fact can be an actor of innovation in many ways including the way it functions, the way it exerts its conditioning role (e.g. from a regulatory and administrative procedural perspective), and also by inducing innovation in the private and third sector through its procurement activities (Hollanders et al. 2013; European Commission, 2008). Moreover, over the past 30 years the public sector in most parts of the world and in Europe in particular, has been shaken by various intellectual and political waves of (attempted) change. These have different names: 'New Public Management' (Dunleavy and Hood 1994), 'Public Value Management' (O'Flynn 2007), 'Reinventing Government' (Osborne and Gaebler 1993), New Governance (Osborne 2006; Rhodes 1996), and more (Muccio and Mauri 2012). The latest trend is that of ICT-enabled public sector innovation, starting with eGovernment followed by eHealth, eGovernance and Open Government (Misuraca, Codagnone, and Rossel 2013).

Moreover, according to data from surveys where public sector respondents are given a definition of innovation and asked whether they have introduced one or more of them, it seems that, contrary to popular belief, innovation in the public sector is more widespread than in the private sector (APSC 2011; Arundel and Hollanders 2011; European Commission 2009, 2011, 2012; Hollanders et al. 2013; Dutta and Bilbao-Osorio 2012; Bloch and Bugge 2013; Bugge, Mortensen, and Bloch 2011)¹⁸.

Notwithstanding the importance and the apparent diffusion of the phenomenon, the most comprehensive meta-reviews consulted indicate that though the number of studies on public sector

¹⁶ Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data, 3rd Edition, OECD, 2005 - <http://www.oecd.org/science/inno/oslomanualguidelinesforcollectingandinterpretinginnovationdata3rdedition.htm>

¹⁷ The definition of public sector is not an easy task and confusion is often made with regard to public service. As explained in a study delivered for the European Commission (Bauby and Similie, 2010), public sector and public services may not necessarily coincide depending on the organisation of provision in each country for some 'public' services may be provided by private or not fully public organisations. Moreover, the OECD Frascati Manual provide a definition of the public sector with the enumeration of included activities (OECD 2002, 63). It includes also bodies that do not provide services but are rather in charge of policy-making and/or of political decision, while public enterprises usually providing Services of General Interest (SGI) such as utilities are instead treated as part of the business sector. Therefore, Public Sector does not exactly coincide with public services. This is an important observation to define which dimensions / functions of the public sector should be considered in the context of this research to then focus on the innovation activities occurring within them.

¹⁸ In the last few years the study of innovation in the public sector, from being mostly based on case studies, has increasingly moved toward the survey based approach where data are obtained through simple self-reported answers provided from individuals drawn from a fairly large number of public sector organisations. For instance, according to the data from MEPIN (Measuring Public Sector Innovation in Nordic Countries) on average in these countries around 80% of respondents in 2010 reported to have introduced at least one form of innovation: 87.9% in Denmark, 79.2% in Finland, 91.5% in Iceland, 83.3% in Norway, and 80.9% in Sweden. According to the European Commission 2010 Innobarometer survey (European Commission 2011): At EU level, two-thirds of public administration institutions introduced a new or significantly improved service in the 3 years before the survey was conducted.

innovation is growing, they do not yet represent a consolidated body of literature (Djellal, Gallouj, and Miles 2013; Greenhalgh et al. 2004, 2005). In the majority of cases, the concepts and theories developed from the private sector are simply applied to the public sector. As yet, there is no theory, or broad empirical base on public sector innovation, or a conceptual definition of innovation specific for the public sector (Misuraca, 2012). As pointed out by many scholars, innovation theory has focused from the start on the manufacturing sector and has neglected services innovation even in the private sector (e.g. Djellal, Gallouj, and Miles 2013). As interest has only gradually moved to service innovation in the private sector, this broadly explains the lack of theory and empirical research focusing on the public sector.

In this perspective, despite the lack of a consolidated body of literature on public sector innovation, using general definitions reviewed in Hollanders et al. (2013) and the work of Windrum 2008; Walker, Jeanes, and Rowlands 2002, and Misuraca 2012, this research propose a conceptual framework and its operationalisation on social innovation enabled by ICT (see Chapters 1 and 4).

The other foundational element addressed in this research refers clearly to **social innovation**, which is recognised as quite a fuzzy concept (Bekkers et al, 2013) or a 'quasi-concept' (European Commission, 2013).¹⁹ 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.

Furthermore, the literature on social innovation is dominated by 'grey literature', such as policy advisory reports, applied research memoranda and normative 'to-do' lists (Mulgan, 2009; Howaldt & Schwarz, 2011). On one hand, this reflects the fact that research analysing social innovation can and has drawn on several quite different disciplines, including economics, political science, sociology, social policy, and in fewer cases, cultural studies (Moulaert et al, 2005).

On the other hand, this is because the field of social innovation research is still in its early stages and it lacks an epistemic community. It involves researchers that define themselves as interdisciplinary, depending upon a variety of research traditions rather than a single paradigm. Thus, the analysis of existing literature reveals significant theoretical variety and this variety is likely to continue to exist (WILCO, 2013).

Definitions of social innovation are multiple and the boundaries around the phenomenon are so vague and ill-defined that it is probably more appropriate to talk of social innovation 'literatures' than of one distinct and unified body of knowledge (Millard et al, 2013). For example, Mulgan (2006) defines social innovation as *'innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly developed and diffused through organizations whose purposes are social'*. Bason (2010:96) defines social innovation as *'innovation for the social and public good, or as new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations'*. Bates, (2012: XIX) perceives social innovation *'as the process of addressing the world's most pressing challenges with novel solutions that are better than current solutions, new to the world and benefit society as a whole and not just a single entity'*. Cels et al. (2012:4) argue that *'social innovations are the attempts to transform the way societies address social problems and produce public goods and services (...) in order to improve social outcomes and creating public value'*. The European Union (2010) looks at social innovation as *'innovation that is social in its ends and in its means, thereby embracing new ideas that meet social needs by creating new social relationships and collaborations'*.

Another term to be defined, which is central to our investigation, is **social services**. From the analysis of the literature in the field, it emerges that there is no agreed definition of the meaning of this frequently used term. Terms such as social services, social welfare, social protection, social

¹⁹ A quasi concept is defined as: *'... a concept which ... is more than simply a slogan or 'buzzword' because it has some reputable intellectual basis, but it may nevertheless be found vulnerable on analytical and empirical grounds. What is special about such an idea is that it is able to operate in both academia and policy domains'*. (McNeill, 2006, p. 335)

assistance, social care and social work are often used interchangeably as having almost the same meaning and as referring to the same services (Murray, 2007; Kuronen, Jokinen, & Kroger, 2010). These difficulties of classification are also evident when we look at social services in the existing different social policy schema and governance models, particularly when these include countries as diverse and numerous as those in the EU28. A variety of modalities of organisation, types of providers, regulatory frameworks and contract-based relationships are entailed. Social services can be provided either by public authorities, by the non-profit/social economy sector or by the private commercial sector. The relative role and mix of provider types depends very much on the historical, cultural, and socio-economic context and may differ according to the services provided (Huber, Maucher & Sak, 2006).

In this context, the concept of **Social Services of General Interest (SSGI)** was introduced for the first time by the European Commission in 2006²⁰. It identified two broad types of services:

- Statutory and complementary social security schemes covering the main risks of life;
- Services provided directly to the person, such as social assistance services, employment and training services, childcare, social housing or long-term care for elderly and for people with disabilities, defined as **Personal Social Services of General Interest (PSSGI)**²¹.

In 2007²², the Commission refined its definition of PSSGI and highlighted a certain number of objectives that social services pursue –such as responding to vital human needs, contributing to non-discrimination and creating equal opportunities. The Commission also highlighted the principles of organisation, which are common to these services, such as solidarity, proximity, comprehensiveness, personalisation and an asymmetric relationship between user and provider. SSGI are also defined in the Staff working document: 3rd Biennial Report on Social services of General Interest (2013) accompanying the Social Investment Package²³. Both documents show that social services play a prevention and social cohesion role, not only helping people to live in dignity and enjoy their fundamental rights, but also to fulfil their potential and to take part in society.

PSSGI can be identified as a key means used by all European welfare states to realise social, health and employment policy objectives. Generally, they are:

- provided by either governmental or non-governmental organisations and by commercial for-profit organisations. However, most of them, such as social care, are still provided informally and unpaid by family, friends, neighbours, colleagues and unpaid volunteers.
- organised and provided separately from, or as part of, other related services such as social protection (e.g. cash benefits), health and education services.
- provided in service users' own homes (domiciliary care); in day centres of various types; and in residential homes and institutions.
- staffed by social workers and other groups of staff with various titles: e.g. social assistant, 'animateur', or residential care worker. In some countries, local authority social services departments employ staff from related professions (e.g. psychologists and sociologists). Unpaid volunteers also make substantial contributions to them in many countries.

Social services in general, and Personal Social services of General Interest in particular, are fundamental for the social investment approach and for the social protection systems as they, along with benefits, cover different types of risks that an individual can face during his life course.

²⁰ Commission communication 'Implementing the Community Lisbon programme: Social services of general interest in the European Union', COM(2006) 177 of 26 April 2006.

²¹ As anticipated in §1.2, in order to capture the essential element of social services dynamics and trends and to understand how ICT-enabled social innovation impact them, we suggested to narrow the field of analysis to the Personal Social services of General Interest (PSSGI) that is, social services of general interest addressing the individuals, and on which we assume that ICT-enabled social innovation initiatives can have greater impact.

²² Commission communication: 'Services of general interest, including social services of general interest: a new European commitment', COM(2007) 725 final of 20 November 2007.

²³ SWD(2013) 40 final.

For this reason there has been an increasing interest in the critical role of social services to cope with new types of risks, such as ageing of population or women's participation to the labour market, and to develop a preventive approach. Besides, there has been in the last years an increase in the services diversity and complexity, also due to the empowerment of users and the request to take more complex needs into consideration (European Commission, 2014; Misuraca et al., 2014).

The economic and financial crisis has played a double role in relation to social services. On one side, it has highlighted how these services cushion the impact of the crisis and help people affected by the crisis to find a new start. On the other, focus on fiscal consolidation may have an impact on the financing of social services and on citizens' financial participation to access the services.

Integrated approaches to service delivery can help addressing this challenge by improving effectiveness and efficiency of service delivery from a financial perspective and from a user's perspective if they are designed with appropriate investment from start mobilising adequate resources and planning. In the perspective of the users, integrated services are likely to promote continuous care, avoid duplication and gaps in the delivery and reduce waiting times. Integrated services also facilitate information and knowledge sharing between professionals who play a role in identifying the needs and the adequate responses. This will have a positive impact on decision taking which can be faster and more holistic. An integrated approach improves the responses to complex needs and would better serve the citizens, especially the populations in need of priority services such as people from disadvantaged groups. Regarding the financial impact, integrated service delivery is likely to reduce the administrative burden of delivering support as multiple visits, and costly interventions are reduced. Some forms of structural integration could lead to savings due to mutualisation of some costs (European Commission, 2014).

The concept of **service integration** is indeed of direct relevance to this research. But again, the analysis of the literature shows that a clear and precise definition of this term has yet to be proposed. However, according to Fischer and Elnitzky (2014), although definitions vary, integration is often situated and defined within three conceptual frameworks:

- integration as **levels** which are places on a (theoretical) continuum of social structures or interactional environments that can be conceptually located within micro-, meso-, or macro-level (i.e., individual, organizational, or inter-organisational) frameworks;
- integration as a **continuum**, on which the point where a specific services integration model may lie can be described (other authors may prescribe a progressive stepwise manner in which integration either should or can occur);
- integration as **services, users, and communities**.

These categories are not exhaustive, nor are they mutually exclusive; for example, levels of integration may also exist on a continuum and may entail distinguishing among an array of users or services. However, Fischer and Elnitzky (2014) pointed out that factors facilitating and challenging integration tend to fall very broadly into one of three general categories: (1) level and scope; (2) planning, implementation, and (3) management and funding.

A specific perspective worth considering was put forward by Kodner (2009), who explored the concept of integrated care and attempted to define it through the different views of stakeholders and the different approaches to integration. He distinguished it according to: focus; type; level; breadth and degree of integration. Advancing on this, Cameron et al. (2014) assessed the effectiveness of integrated working based on the guidance of the UK's HM Treasury definition, namely the evaluation of how a policy or intervention is implemented, the effects it had, for whom, how and why. They reported several outcomes in terms of improvements in quality of life, health, well-being and coping with everyday living. However, they also found very limited evidence of the cost-effectiveness of integrated care.

Raeymaeckers and Dierckx (2012) instead combined insights from organisational sociology and social work to develop a comprehensive framework to study the concept of network integration. They distinguish four dimensions: communicative integration, cultural integration, normative

integration, and functional integration. Building on this perspective, Raeymaeckers (2013) showed that a high level of integration is often found in networks in which the governance is more developed and mature. Governance leads to an integration of the efforts of diverse service organisations, ultimately increasing the responsiveness of the entire network to the complex problems of the target group.

In this perspective, the study of **networks** is important with regard to service integration, as it is assumed that social services provision might be enhanced and improved through the effects that can be generated by ICT-enabled social innovations. Despite from the review of literature it did not emerge such link between network theories and ICT-enabled social innovation in integrated approaches to social service provision, we hold that they may have a crucial role in understanding the nature and impact of such emerging phenomenon, especially with regard to Public-Private partnerships and service delivery models emerging through Public-Third-sector collaboration. In this respect, the theoretical orientations emerging from the literature review show, first of all, that the idea that networks are crucial in spurring innovation has been widely applied at National Innovation Systems (NIS) level (Etzkowitz, et al., 2008; Lundvall, 1992). They are 'systems dealing with knowledge' which is seen as the most important input factor for innovation.²⁴

From a different viewpoint, social network analysis, though first developed and applied to the study of individuals' actions, has since been widely applied to organisations in the context of management studies focusing on inter-organisational networks.²⁵ Collaborative practices and networks are considered to be viable methods of innovation through knowledge creation and transfer (Kogut and Zander, 1992; Alexy et al., 2013). Moreover, from the perspective of evolutionary theory of economic and organisational changes, networks can form a bridge between already existing knowledge and experience about innovation, as innovation may more often be the result of recombination of already known aspects (Nelson et al., 2002). Networks are often studied to identify nodes enabling organisations to share information and knowledge (Monge et al., 2003).²⁶ Elements of knowledge in the environment are important for the innovative process and it has been empirically shown that innovating organizations search for external knowledge in their environment (Powell et al., 1996; Lipparini et al., 2013; Dahlander, L. and Piezunka, H., 2014).

Most research on organisational networks can be broadly characterized by two basic approaches: the '**network analytical**' approach and the '**network as a form of governance**' approach. The first approach focuses mainly on micro-level, egocentric aspects of networks, building largely on work done by sociologists studying networks of individuals. Scholars have contributed to the description and explanation of network structural characteristics using concepts such as density, centrality, and structural holes (Burt, R., 1992 and 2000; Wasserman, 1994). The network as a form of governance approach, in contrast, treats networks as the unit of analysis. The network is viewed as a mechanism for coordination, or what has often been referred to as network-governance.²⁷ Seen from an economic perspective, this literature challenged the conventional wisdom that the market is the only efficient system of non-hierarchical coordination.

Therefore, although the network perspective has not been considered in depth in this phase of the research it will be crucial to consider it in the following analyses, in order to better understand the

²⁴ Freeman (1987) defined the National Innovation System (NIS) as '*a network of institutions in the private and public sector whose activities and interactions engender, modify and spread new technologies*'. It has since become the categorical framework for analysing innovations and the theoretical foundation for governmental innovation policy. In this line, the tight linkage between the government, academia, and the economy and particularly industry is described as a 'triple helix' Etzkowitz (2003) and is a necessary precondition for successful economic growth.

²⁵ Inter-organisational networks are studied to understand how exchange of information between organisations impacts their rates of innovation (Baum et al., 2000; Monge et al., 2003; Nelson et al., 2002; Schilling et al., 2007).

²⁶ Evolutionary economic and organisational studies hold that diversity is a focal feature in the promotion of innovation and the cognitive distance between different nodes in a network may be beneficial for innovation as change agents contribute knowledge and skills (Nooteboom, 1999).

²⁷ Starting with Williamson's (1975) 'Markets and Hierarchies', a rich literature has developed on different forms of governance over the last three decades.

nature and impact of ICT-enabled social innovation, given the network effects they may generate or from which they could benefit.

Finally, it is worth defining the concept of **Active and healthy ageing and long-term care for older people** which holds a specific focus in this research. In fact, although long term care is normally referred as a subset of the PSSGI as it addresses the needs of people across their lives and in various circumstances, we refer more specifically to the policy objectives defined in the Social Investment Package (SIP) and its accompanying communication to guide Member States' public long-term care systems responding to the challenges of the demographic change (SWD(2013) 41 final).

The review of how these objectives were conceptualised in the main Commission policy documents that refer to the objectives of the SIP²⁸ led us to frame the concept under investigation adopting a terminology which is also in line with the European innovation Partnership on Active and Healthy Ageing (EIP-AHA, 2011) considered for the grounding of this research. Thus we adopted the definition of the WHO (2002) for **Active and healthy ageing**, i.e.: *the process of optimising opportunities for health, participation and security in order to enhance quality of life as people age. Healthy refers to physical, mental and social well-being. Active refers to continuing participation in social, economic, cultural, spiritual and civic affairs (and is also linked to autonomy and independence).* As regards **long-term care for older people**, we have adopted the definition of the Social Protection Committee and the European Commission, (2014) i.e.: *the range of services and assistances for persons who over an extended period of time are dependent on help with basic activities of daily living and/or instrumental activities of daily living. It also includes measures to help prevent, postpone or mitigate the onset of long-term care needs.*

The area of active and healthy ageing and long term care for older people is thus composed by three specific themes which are the focus in this part of the research²⁹:

- 1) Prevention, health promotion and rehabilitation. This theme refers to measures to keep people healthy and to reduce the incidence of frailty, postpone its onset and reverse or mitigate the course of illnesses, frailty, functional limitations and disability.
- 2) Integrated care. This relates to measures to increase the accessibility, take-up, productivity, quality and effectiveness of care (more and better care with fewer resources). It focuses on better organisation of care among care providers, and improving the supply and retention of carers, shifting care to the formal sector and making care more attractive in order to increase employment rates.
- 3) Independent living. This includes measures to compensate for older people's physical and mental restrictions, empowering and enabling them to deal with functional limitations; to achieve a greater degree of self-sufficiency and maximise their autonomy; and to reduce the need for care.

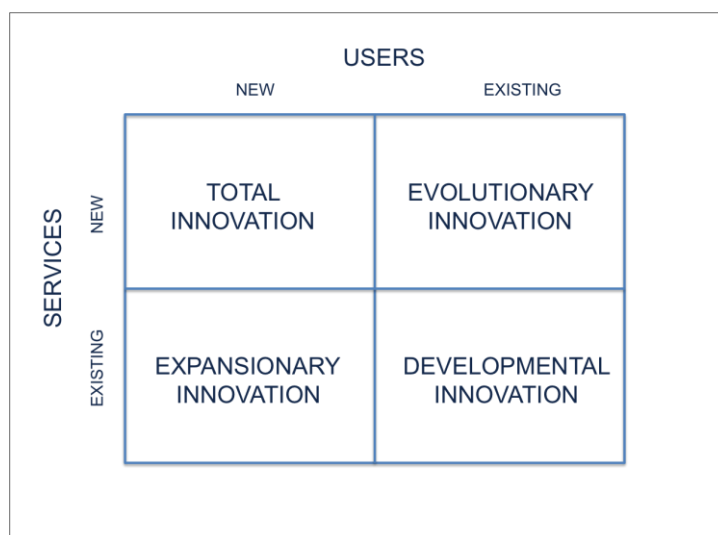
²⁸ The report on "Adequate social protection for long-term care needs in an ageing society" of the Social Protection Committee and the European Commission (2014), the Council Declaration on the European Year for Active Ageing and Solidarity between Generations (2012): The way forward (Council of the European Union, 2012), and the European Innovation Partnership on Active and Healthy Ageing: a) Strategic implementation plan for the European Innovation Partnership on Active and Healthy Ageing – Steering group working document, final text adopted by the Steering Group on 7/11/11: Operation Plan.; and b) Communication (COM (2012) 83 final) from the Commission to the European Parliament and the Council: taking forward the Strategic Implementation Plan on Active and Healthy Ageing (2012).

²⁹ It must be underlined the scope of the research in the area of Active and healthy ageing and long term care is delimited to older people and does not include all topics related with employment and social participation. This is mainly due to the fact that the research is driven by the main objectives defined in the SIP and in part because of resource constraints.

3.2. Typologies of ICT-enabled innovation in support of social policy reforms

The scope of innovation in this research has been defined above as the innovation happening within or across public sector / public services. In this regard, the European Public Sector Innovation Scoreboard (EPSIS) defines public sector innovation as: 'A *new or significantly improved service, communication method, process or organisational method*' (Hollanders et al. 2013, 9).³⁰ However, to address one of the specific research questions outlined in our approach (see § 2.1) we consider more useful looking at the typology developed by (Walker, Jeanes, and Rowlands 2002), which provides services and users as focus of innovation, as shown in Figure 5.

Figure 5: Typology of public sector/service innovation



Source: Walker, Jeanes, and Rowlands (2002, 15)

The typology above focuses exclusively on services and users and may therefore seem to lack the dimensions of changes in processes, organisation, and communication. A more careful analysis, however, shows that this is not so, since these internal (process, organisation) or external (communication) dimensions are to a large extent functional to a service improvement. Providing better services to existing users or new services to new users and to existing ones usually requires improving processes and organisation, not only budget resources. Reaching new users for an existing service is often a matter of communication.

An example in our field of analysis is the effort needed to spread the information about welfare benefits among the most disadvantaged members of the population who need them most, but tend not to apply. Studies of the relationship between eligibility and actual participation have found that welfare participation decisions depend not only on individual risk factors, but also on the social context in which individuals operate (Blank and Ruggles 1996; Blume and Durlauf 2006; Cohen-Cole and Zanella 2008; Manski 2004). On the one hand, potential beneficiaries are less well informed about the benefits. On the other hand, there are stigma effects: people do not like to be associated with welfare programmes that certify their poor economic and social conditions (e.g. EC funded Vienna study, Codagnone, C., et al. 2008).

³⁰ In defining public sector innovation, also the MEPIN project (Bloch and Bugge 2013; Bugge, Mortensen, and Bloch 2011) and the Commission Innobarometer (European Commission 2011) retained process and organisational innovation, but substituted product innovation with service innovation and marketing with communication innovation, where a communication innovation is defined as the implementation of a new method of promoting the organisation or its services and goods, or new methods to influence the behaviour of individuals or others.

In this respect, the approach advanced by Windrum (2008) provides a wider list of what should be considered when structuring the concept of public sector innovation:

- **Service innovation:** new service or an improvement to the quality of an existing service.
- **Service delivery innovation:** new or altered ways of supplying public services.
- **Administrative/organisational innovation:** changes in organisational structures and routines.
- **Conceptual innovation:** the development of new views and challenges to existing assumptions.
- **Policy innovation:** changes to thinking or behavioural intentions in policy making.
- **Systemic innovation:** new or improved ways of interacting with other organisations and sources of knowledge.

The first three components can be aggregated, since service innovation and service delivery innovation can be seen as two sides of the same coin, whereas administrative and organisational innovation are not usually introduced for their own sake, but to improve service provision. The last three dimensions represent Windrum's real addition to a full definition of public sector innovation as they go beyond the mere focus on services. They are also relevant for policy and political innovation and, in our view, conceptual, policy, and systemic innovations are all closely related. They bring the focus upstream when policies are conceived or even when changes to services are planned and strategically designed.

Thus, this research considers the two groups of innovations as it is focused, on the one hand, on social service provisions and, on the other hand, on the policy and systemic innovation of social service systems (see the scope of IESI presented in § 1.2).

Another comprehensive categorisation advanced recently by Bekkers et al. (2013) reviews literature in the field of innovation, and makes the specific link with the public sector, as follows:

- **Product and service innovations:** ICTs can be used to create new products and services.
- **Technological innovation** emerges through the use of new technologies.
- **Process innovation** is focused on the improvement of the quality and efficiency of internal and external business processes.
- **Organisational and managerial innovation** is focused on the creation of new organisational forms, and the introduction of new management techniques and working methods.
- **Conceptual innovation** occurs because the characteristics of ICTs may offer a new paradigm, a new frame of reference or a new concept for looking at things.
- **Governance innovation** reflects new ways of how to use the self-organising capacities of society in order to organize collective action by the fact that autonomous but interdependent actors make use of ICTs to share information, knowledge, contacts and experiences.
- **Institutional innovation** refers to fundamental transformations in the basic principles, which lie behind the relationships and positions of public organisations, companies and citizens.

As will be presented in Chapter 4, these typologies of innovation will be integrated in our conceptual framework.

We now introduce the crucial element of our analysis: the role played by **Information and Communications Technologies (ICTs)**. The literature confirms that, in general terms, these technologies, broadly defined, facilitate by electronic means the creation, storage, management and dissemination of information. ICTs are thus both a vehicle for communication and a means of

processing information. On one hand, they are part of the economic infrastructure that supports global production, trade, investment and capital flows. On the other hand, ICTs are the means by which individuals, institutions and organisations network, undertake activities, and participate in the development process at local, national and global levels. ICTs are also fuelling innovation and productivity, and there are signs of fundamental change in markets and user behaviour, as countries move towards a knowledge-based economy (e.g. Castells, 1996, Dutton, 1998, etc...).

Looking more specifically at the usage of ICTs in social services, it is clear that one of the most important contributions that ICTs can make to social initiatives is to leverage social relationships that are considered fundamental for the generation, development and up-scaling of such initiatives (Hochgerner, 2012).

In this respect ICTs, and in particular web 2.0 technologies (also called social computing or social media) lower the cost of collaboration as they are built around social relationships. They also enable easy, on the fly encounters and collaboration between similarly-minded people. According to Clay Shirky (Shirky, 2009), this not only increases the productivity of existing social enterprises, but also enables new forms of social innovation, through project-based initiatives and informal groups. Moreover, the availability of cloud-based software as a service solution allows anyone to create a social network in a few minutes thus enabling social innovations to reach out on a large scale through the Internet. An additional element to consider is the fact that web-based social technologies provide, through crowdsourcing efforts, or gamification approaches for instance, immediate gratification to participants and volunteers, who are thus encouraged to further participate. Another characteristic worth mentioning is linked to the fact that web 2.0 technologies typically increase social pressure by exposing individual behaviours to peers. This tends to reward positive behaviour, such as volunteering, and stimulate imitation (JRC-IPTS, 2009).

Last but not least, ICTs and particularly web 2.0 technologies benefit from network economies. In the social innovation context, this reinforces the self-help and mutual approach, and potentially enables an exponential growth of benefits. Traditionally, in public services, the quality of services is measured in such a way that increased usage corresponds to lower quality. In health or education, countries are compared in terms of hospital beds per inhabitant, or teachers per pupil. In this way, when expenditure remains constant, increase in usage lowers the quality of the services. When ICTs come in, services can scale up while quality of service remains constant.³¹

To sum up, the real novelty of ICT-enabled social innovation seems to be exactly the unprecedented opportunities for open collaboration and participation offered by ICTs. The potential of ICTs is multiplying and augmenting a trend which emerged some years ago. This is the increasing desire of multiple stakeholders and of citizens to have a voice, to better understand the choices affecting them, to take direct ownership of and action in the decisions that affect their daily lives, and to contribute to tackling social problems and renewing social policies. Matching ICTs with participative and collaborative innovations (social in their ends and/or their means) makes a big difference. In these cases, ICTs are no longer neutral general purpose technologies, as they are usually referred to in the economics literature (Bresnahan & Trajtenberg, 1995; Helpman, 1998; Crafts, 2004) or an add-on channel. Instead, they provide a medium that radically changes the social context of interaction,³² acting as a vehicle for change and innovation in different regards.

ICTs supporting open, collaborative and participative interactions are thus **not only enablers** but may represent a fundamental **game changer** for social innovation as they lower significantly the

³¹ We will be back on this outlining the framework of impact analysis under development as part of Work Package 2.

³² The novelty of ICT-enabled social innovation seems to match perfectly what can be learnt from the history of innovation. This is the rule of the great many of gradual and, over time, large numbers of remarkable innovations instigated by few 'basic innovations' (turning points in social change). Society develops and breeds social innovations in forms of new practices, institutions, 'rites, techniques, customs, manners and mores' (Kallen Horace, 1949), resting on technology and technological innovations.

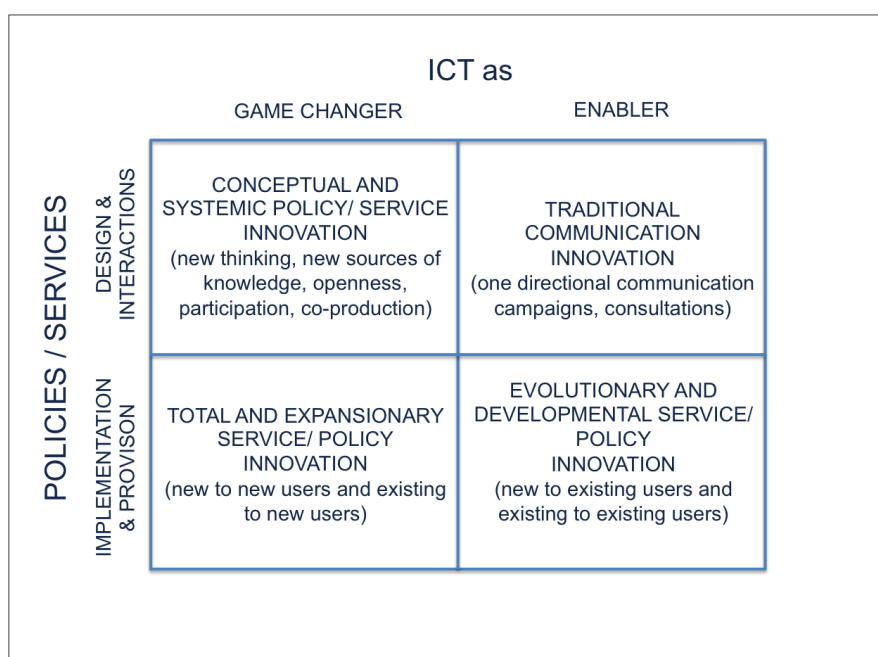
costs of coordination and help the move from an institutional approach to collaboration (Shirky, 2009)³³ through 'small pieces loosely joined' (Weinberger).³⁴

This distinction, especially for the definition of the concept of 'game changer' builds on classical medium theory (McLuhan 1964; Meyrowitz 1985). Medium theory states that media create new communicative and social spaces. To put 'the medium is the message' differently is to point out that the medium is not merely a channel of transmission of a message between two different environments, the medium is itself a social environment of interaction, and as such has social effects regardless of the content transmitted. Using ICTs as game changer, in other words, is the same as considering it as a medium that changes the context of social interaction and the roles of different social players (Misuraca, Codagnone and Viscusi, forthcoming).

Naturally, any of these varied innovations is socially relevant, and all are created and produced by societal actors from many walks of life. Thus, it is not the novelty and successful operation of ICTs alone turning collaboration and participation into innovation, rather the preparedness of society to adopt new solutions for needs and challenges that come into play. In addition the uptake of innovations requires more than purchasing power and disposable income, since money is only one factor among other resources to be mobilised and allocated. Public value creation or re-allocation, policy directions, power imbalances, other disparities, and prevailing patterns of innovations have an effect on the success of different kinds of social innovation.

In this regard, leaving aside for the moment the specific dimensions that will be considered in the building of the conceptual and analytical frameworks (see Chapter 4) based on the review of literature and practice, the following proposal for a taxonomy developed for the European Commission in 2013 is presented in Figure 6:

Figure 6: Typologies of the role of ICT-enabled innovation in the public sector



Source: own elaboration based on Open Evidence (2013).

The two dimensions of the taxonomy represent: 1) the way ICTs are used; and 2) different aspects of both services and policy in order to re-compact these two aspects. The first aspect 'design and interaction' is both upstream and downstream and considers both the definition of policies and services (and even the co-production aspect that is typical of social innovation as will be shown

³³ See also <http://www.goelinsights.com/clay-shirky-collaboration-institutions/>

³⁴ <http://www.smallpieces.com/index.php>

later) and the possibly participative evaluation of their results. The second aspect concerns the provision of services or the implementation of policies.

Looking at the figure, it can be said for instance that using ICTs simply as enabler can support traditional informational services, or can help to provide new services to existing users or improved services (i.e. delivery) to existing users (same for policy with substitution of 'provide' with 'implement' and of 'users' with 'targets'). Using ICTs as game changer could, however, provide new services to new users or existing services to new users. For instance, if we take again the example already mentioned above, disadvantaged groups in society that most need to receive welfare benefits are those who apply the least due to lack of information and to the social stigma of showing up to collect them. With the help of intermediaries who can reach out to this group and help them to go online to read blogs and other support groups, matched with the possibility of anonymity offered by interactive and user friendly online platforms, information and awareness could be increased and actual collection of benefits by the targeted groups achieved. This example shows how using ICTs as a new context would then help obtain what is both a service and a policy target in the context of the struggle against poverty and social exclusion. Naturally, the more ambitious goal is that of placing social service systems increasingly in the top left box of conceptual and systemic innovation where ICTs as game changer are leveraged to increase not only service delivery but open and collaborative ways of designing and implementing social policies, increasing at the same time the access to new ways of thinking and new sources of knowledge.

However, existing literature does not provide significant evidence of developments in the direction set out above. In fact, it mainly covers innovation in social services at the general level, and ICTs are primarily treated in this context as subordinate enablers of organisational innovations, rather than the prime movers of social innovation. For example, the WILCO review (WILCO, 2014) analysed in depth the characteristics of 77 social innovations, clustering them into five main types:

- **Innovations in services and how they address users:** innovations focused on investing in capabilities; open approaches avoiding targeting with stigmatising effects; initiatives that bridge the gaps between professional services and people's daily lives; and services that connect separated forms of support and access, allowing personalised support.
- **Innovations in regulations and rights:** innovations of this type included creating flexible forms of ad hoc support; developing offers beyond fixed social and participation rights and entitlements that protect people against newly emerging risks; and working with 'social contracts' for individuals and groups.
- **Innovations in governance:** most innovations that aim to develop new services also have a governance dimension. These include fostering units and types of organisation that operate in more embedded and networked ways; giving new concerns and groups a voice in the public domain; organising more intense forms of public debate and opinion-building around challenges in cohesion policies; and building issue-related coalitions/partnerships.
- **Innovations in modes of working and financing:** these include *flexicurity* in working contracts; levels of institutionalisation and security below traditional standards; combining professional teams and voluntary commitments; defining strong mission profiles; and combining resources from different stakeholders.
- **Innovations concerning the entity of (local) welfare systems:** these types of innovations include reaching out to all sectors of local welfare systems and reducing the state focus; aiming at less standardized, more diverse and localized welfare arrangements; upgrading the community component in mixed welfare systems (e.g. families, support); integrating economic and social logics (entrepreneurial action, developmental welfare) and integrating welfare and urban politics (WILCO, 2014).

However, this review did not provide any evidence on the effective contribution ICTs are playing in driving forward these types of innovation. Another review (Brandsden and Evehe, 2013) provides

instead some evidence of the nature of 'provider-driven' innovation. It concludes that the main types of innovation being developed to support service innovation cover five main areas:

- **Electronic methods of delivering** services to and communicating with citizens, allowing them quicker access to government services;
- **Electronic training** of civil servants, to facilitate the spread of specialised education;
- **One-stop shops** for public services, allowing citizens to collect information and services from one point, rather than having to go to several government agencies;
- **Innovation in regulation and taxation**, leading to smarter and more effective rules;
- **New ways of collaboration** between local actors (governments, businesses, NGO's, citizens), where actors start to play different roles.

Again, in this review, the role of ICTs as drivers of innovation is not specifically considered. Similarly, analysis of the major pan-European and national social innovation programmes identified in the literature review found only limited evidence of the contribution of ICTs to social innovation in support of social services and social investment policies more in general. This seems to indicate that the evidence base on the types of ICT-enabled innovations that are being implemented to support social policy reform is currently in the early stages.

However, a complementary review of practice has shown that there are a number of 'pioneer' examples, where ICT-enabled innovations are actually leading the way to transforming how individuals interface with social service providers across a range of countries and types of services (as it will be seen in the following § 3.3).

ICTs developments are in fact increasing the demand for user-friendly online options for accessing public services in general. Thus social service providers are responding to these changing preferences and usage patterns by developing a range of new digital platforms, including integrating websites, online accounts and mobile applications for smartphones and tablets. Beneficiaries are better able to manage their own care through these platforms, freeing up resources to support individuals and families with complex needs (KPMG-Mowat, 2013).

For instance, a number of governments around the world are embracing ICT-enabled innovations to support the design and implementation of integrated approaches to social services, through the development of electronic user records, the use of data analytics and interoperable technologies that enable the identification of at-risk beneficiaries and a better understanding of service usage. This facilitates coordinated case management and more targeted use of resources. Moreover, advances in data encryption and the proliferation of Internet usage and mobile computing devices have allowed more users to serve themselves through integrated web portals, secure online accounts and mobile device applications. We will see some of these examples in the following sections of this report (see § 3.3 and Chapter 5 for some concrete initiatives).

3.3. Deployment of ICT-enabled innovation in support of social policy reforms

This section addresses two of the specific research questions set out in the research design (see § 2.1). First, *which areas and target groups of social services provision are most supported by ICT-enabled social innovation?* Then, *what is the degree of deployment in the EU 28 of ICT-enabled innovation to support social investment policy reform?*

3.3.1. Areas of social services provisions supported by ICT-enabled social innovation

The results of the review carried out show that the references found in the existing scientific literature are predominantly related to major commonly-recognised challenges to social service delivery, such as long-term care, and secondly to social services targeted at groups with high political priority in most European countries. These include mainly a) unemployed adults and young people; b) children and c) adults with one or more challenging circumstances such as:

homelessness; disability; mental health problems; offending; illiteracy/language barriers; and cultural barriers to integration; and finally d) older people living with functional limitations.

The review of practice confirms the predominance of initiatives addressing health and social care or welfare systems in general among the most studied, suggesting a broad international policy interest, and associated directed funding, in improving effectiveness of services in these areas, with a strong focus on providing better home-based services and care for the mentally and physically disabled, and the older people.

In this sense, in the specific area of this research focusing on active and healthy ageing and long-term care for older people, 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). They can also support older people with both physical and mental long-term conditions, and assist carers thus reducing their burden. In fact, 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 about how their deployment is becoming widespread.

Evidence has also shown that these ICT-enabled services could improve the delivery and efficiency of health and social care systems and can be taken as examples of good practice for long-term care policies among Member States (Carretero et al., 2012a). In fact, this is part of the main results of the JRC-IPTS from the ICT-AGE project on ICT-based services for independent living of older people at home that contributed to the SIP (Carretero, 2015). The project has revealed a total of 14 good practices in technology-enabled services for older adults at home in line with European policy objectives of helping older people to continue to live independently at home, enhancing the quality and productivity of the care provision and provider, and also making care delivery more efficient.

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 actual social work practice, and the provision of a variety of services, including individual and group therapy and support through the Internet. However, they argue that given the power of ICTs to inform and transform knowledge and attitudes, it is surprising that relatively little has been written about training and encouraging social workers and other service professionals to make use of these various techniques for community service purposes.

Job centres (Aksim et al., 2011) and childcare services (DIT, 2011) are also increasingly supported by ICTs and there is a strand of literature that identified opportunities and challenges for harnessing the potential of digital games for empowerment and inclusion (JRC-IPTS 2013).

Active inclusion of disadvantaged groups of people is another policy area supported by ICT-enabled innovation in service delivery. For instance, in 2011 the DIT reported using a range of readily available ICTs to catalyse and deliver social service innovation, including laptops, phones, TVs, web sites, back-office systems, and secure online environments for socially-excluded groups. The social exclusion issues addressed were related mainly to unemployed, young people, children, mental health, offenders, families, immigrant groups and older people.

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 social work has been slow to capitalize on new approaches to communication despite communication being social work's core business. In terms of resources, Crepaldi et al. (2012) says that the lack of business models within the social sector make it difficult to invest in ICTs. This is a main challenge identified also with specific regard to ICT-enabled social innovation in the area of active and healthy ageing and long-term care for older people, where convincing scientific evidence and business models still need to be made available and further developed (Carretero et al., 2012a). Mano (2009) also states that it seems that large and well-founded organisations make use of ICTs to establish innovations, but

this is not the case for the majority of small or micro actors promoting inclusion of disadvantaged groups, as also shown by JRC-IPTS (2013) in a survey of inclusion intermediaries conducted across the EU. In the field of ageing, research at the JRC-IPTS also identified other obstacles for full implementation such as: the value of the technology for the long-term care provision is still questioned, users have still low or no digital competences, and professionals are reluctant towards digital change in their daily work environment (Carretero, 2015).

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, the 2011 SELUSI review of 550 examples of social innovation ventures in Europe (SELUSI, 2011) shows a significant presence of social 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 reviewed support the fact that they can indeed provide new opportunities but also new forms of exclusion. For example, Warburton et al. (2013) highlight that ICTs can help to improve social connection and also to gain access to a wide array of information. However, those at greatest risk of social exclusion or poverty are 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 work-oriented organisations. First of all, in comparison to other professions, social work has been traditionally undercapitalized. Second, a great deal of social work is not particularly amenable to the application of traditional ICTs: the bulk of social work involves high levels of activities that are difficult to automate. Third, the particular structure of the network of social work organisations, its scale and scope, with numerous independent nodes responsible for their own information management, has dictated against the development of transformative, boundary-spanning ICTs.

As a matter of fact, it appears from the literature and practice analysed that the majority of applications of ICT-enabled innovation address mainly one policy or problem area or target group, within an individual social service. However, it seems that the 'one-stop-shop' model of integrated service delivery is a clear emerging trend, although it seems it has not yet reached its full potential with regard to the 'game-changing' role that ICT-enabled social innovation can play. There are still only few initiatives that address service delivery as a way of providing solutions for the whole-person or the whole-problem and lead to integrated or co-ordinated outcomes which take into full account the capacities of ICTs (such as data analytics and predictive modelling just to mention an emerging trend in the domain) in combination with a changed paradigm in the way users and intermediaries can contribute effectively to innovate the design and delivery of social policies in different areas and contexts. For instance, a review of one-stop shops approaches for social welfare in Denmark, Norway and the UK (Aksim et al., 2011), shows that different models are being implemented to adapt to different contexts. In particular, the authors investigated municipal Job Centres in Denmark, which provide information, advice, social benefits and casework to unemployed people, the New Employment and Welfare Administration. Norway has merged employment and national insurance administrations and linked this new structure with municipal benefits and social services. The Jobcentre Plus system in UK provides access to training, employment and benefits through a single gateway. Comparing the approaches followed shows that organisational changes structuring the different models are enabled by different partnership types, policy objectives and governance systems. In the analysis, however, the role of ICTs is not considered as a crucial feature of one-stop shop models in this domain.

The combination of organisational change and ICT-enabled innovation is instead the focus of the research conducted by Mowat for KPMG (2013), which aims to better understand key drivers and enablers of social services integration. The study documents several initiatives that show the potential of ICT-enabled innovation to support social policy reforms. In this respect, there is growing interest in developing system-wide savings, efficiencies and better outcomes through improved coordination between different levels of government and exploiting the best ICT-enabled

innovations. For example, joint commissioning and case management, systems interoperability, integrated online access and harmonised reporting requirements stand out as the most promising ICT-enabled solutions to support social services provision and reforms.

In addition to this, social media, and especially when they are combined with mobile devices, are recognised as potentially innovative because they facilitate the creation of online communities of practice for almost any condition or interest and are easily accessible through Internet or wireless web technologies. For example, Healthcare Improvement Scotland (2013) has set up dedicated websites for interest groups with discussion forums, often tied to specific geographical areas or topics, which make use of social networking tools such as Facebook or Twitter for promotion or peer support. Similar examples of Web2.0 communities in support of healthcare provision or peer support, informal learning or inclusion of disadvantaged groups have been studied extensively over the last few years (see for instance JRC-IPTS, 2009).

Many examples exist in this respect and there is growing interest from social service systems in empowering beneficiaries to take collective responsibility for the design and management of services. For example, as part of their integrated psychosocial services, the city of Aarhus in Denmark has enabled users to develop mobile device apps – to help in areas such as monitoring treatment – and share them with other service users (KPMG-Mowat, 2013). Moreover, several local authorities around Europe and the world are also looking at enabling users to form peer support groups via Internet video conferencing or other ICT-based facilities. In this regard, local authorities play a diverse role in supporting and helping people affected by multiple disadvantages and it is important to highlight that, although no results or evidence from studies are available as yet, local governments are starting to experiment with social innovation approaches. This means that new ways of formulating policies, new organisational models, new legal frameworks, new partnerships and service delivery mechanisms are envisaged, and often this requires the introduction of ICTs.

Looking more specifically at the **effective deployment of ICT-enabled innovation in support of social policy reforms** the results of the literature review suggest that, in general terms, it is still at an early stage of investigation and evidence of results is not available in most scientific literature. Moreover, 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. However, there is a clear policy agenda attached to this which links service innovation to improved outcomes for beneficiaries (SIE, 2013).

Although it is difficult to assess the degree of deployment of ICT-enabled innovation to support social policy reforms, findings from the review can be analysed according to three criteria:

1. Geographical distribution of deployment (locations where the initiatives are implemented).
2. Level of deployment: local, regional, national or international.
3. Type of deployment: depending on the stakeholders engaged – public, private or third sector or a partnership between the three.

3.3.2. Geographical distribution of deployment

The analysis of the literature review conducted shows some evidence of activity in the field of ICT-enabled innovation to support social services in most European countries and elsewhere. However, according to the review of the existing practices, the geographical spread of innovation is uneven. There are several countries outside the EU that are beginning to develop a base in this field such as the USA, Canada and Australia. In the EU, the most representative countries are the United Kingdom, Spain, Italy, Germany and the Scandinavian countries.

Some examples of collection of case studies and research that provide evidence of the location of relevant policy experiences and initiatives are the following:

- The UK Social Exclusion Unit (2005) looked at the use of ICTs in social services for excluded social groups. This led to the setting up of the Delivery Innovation Team (DIT) which in 2011 analysed nine UK cases, often featuring a social or private enterprise actor as the key node in a new service provision network. The principal actor in each case is a local authority or a local agency of a national public service.
- The EU funded project MC-eGov (2009) analysed 18 cases across 12 EU countries: Belgium, Cyprus, Denmark, Greece, Hungary, Italy, Lithuania, Netherlands, Slovakia, Spain, Sweden and the UK. It focused on the role of the third sector and other intermediaries acting to join up, or integrate, a mix of appropriate public services on behalf of service users with complex needs.
- The INNOSERV (2012) and the TEPsIE (2013) EU-funded projects cover the whole of the EU, and in addition selected cases from around the world. Some case studies include examples of ICT-enabled innovation in social services (Millard 2012 and Millard et al 2013).
- Similarly, the Digital Social Innovation (DSI) EU-funded project focuses on the whole of the EU and in addition selected cases from around the world (Bria, 2013). Initiatives are based on ICTs and examples of ICT-enabled social innovation can be found, although not linked to social policy reforms.
- The JRC-IPTS has conducted several mapping research on ICT-enabled social innovation for carers (CARICT³⁵ and CARICT-PUBL³⁶ projects), independent living of older people at home (ICT-AGE³⁷), and integrated care (SIMPHS³⁸) where in total they have identified and studies more than 100 initiatives related to active and healthy ageing and long term care for older people.

3.3.3. Level of deployment

Findings from the review of the state of the art seem to be controversial when it comes to the level of deployment. While evidence of ICT-enabled innovation in support of social services seems to be widespread across the EU and beyond, the evidence of the level of deployment is not clear.

A significant segment of policy interventions are pan-European in nature, which in turn leads to a significant number of cross-national initiatives funded through EU programmes. In fact there have been some significant initiatives launched at the EU level, mainly promoted through EU research funding programmes like FP7, with some isolated cases of initiatives being developed through the use of Structural Funds.

At the same time there is another trend of local-level innovation in service delivery rather than national policy driven initiatives, involving local authorities, local public agencies and local civil society/third sector organisations. Specific programmes at the national level – i.e. supported or sponsored by central government – are in fact rather sparse. Many initiatives are instead being developed at grass roots level, involving partnerships between community-based and third sector organisations, local authorities and commercial enterprises.

A complementary underlying trend focuses thus on the devolution of responsibility for service delivery and service innovation to local authorities, intermediaries and young people themselves (Selusi, 2011). This trend appears to be growing but its implementation varies across Europe according to the type of welfare system in place in different countries. The devolution of responsibility from the national state to regions and to cities themselves is also suggested in the theory and research around ‘governmentality’ (Muncie, 2006).

³⁵ <http://is.jrc.ec.europa.eu/pages/EAP/eInclusion/carers.pastprojectCARICT.html>

³⁶ <http://is.jrc.ec.europa.eu/pages/EAP/eInclusion/carers.html>

³⁷ http://is.jrc.ec.europa.eu/pages/EAP/eInclusion/carers_ICTAGE.html

³⁸ <http://is.jrc.ec.europa.eu/pages/TFS/sps.SIMPHS.html>

For example, the WILCO research (WILCO, 2014) states that much of the innovation for active social inclusion is being driven, on the one hand, by trans-national policies emerging from the EU institutions, but the strong growth is 'bottom-up'. In this context, the findings of analysis of literature and practice in the field (WILCO, 2014) show that the nature of the social innovation being supported is determined to a great extent by the governance arrangements of the administrations and partners involved.

These findings are reinforced by the work carried out by Eurocities (2013) which shows, with regard to active inclusion of young people, 'that effective local policies and practices can help young people achieve their educational and career goals, and therefore contribute to broader local and regional economic development'.

However in both the WILCO and Eurocities examples, there is little evidence of the contribution played by ICTs to innovation. The review did, however, identify a small number of examples of ICT-enabled social innovation for active inclusion of young people. For example, the city of Bologna supports a virtual network created by and for young people: Flash Giovani (Flash Youth). It aims to increase awareness on youth issues, such as the transition from education to work or to address health questions. The success of the project lies in its bottom-up approach, with young people themselves producing the information for the web portals, allowing them to acquire practical work experience. Cases of local innovation are typically independent as opposed to being part of a nationally co-ordinated scheme, but it is possible that national level policy can have an enabling or indirect effect on their implementation. In cultures where public services are open to the involvement of private or social enterprise, these may be the providers of ICT solutions adopted by public and third sector actors as shown by examples in the UK, Scandinavian countries and the USA.

Finally, in the field of active and healthy ageing and long-term care for older people, the level of deployment on the public care systems is also low, with a lot of initiatives that are not going beyond the pilot phase. As we stated above, this is mainly due to the existence of challenges related with the technology, and to the lack of sound impact evaluation and business models.

3.3.4. Type of deployment

With respect to the 'type' of deployment, the main stakeholders involved in ICT-enabled innovation to support social policy reforms emerging from the review of the state of the art are often EU institutions or national governments and agencies operating mainly as funding bodies or coordinating agencies. This was the case of mostly of the 14 good practices of ICT-enabled social innovation for independent living of older people of the ICT-AGE project where a wide range of these social innovations are already mainstreamed services in their region, and in operation and implementation mainly due to public sector strategies, i.e. the public sector put in place the appropriate policy framework, institutional change and funding to support the private sector and the end-users (Carretero, 2015).

National governments and agencies are, however, complemented by a large number of local administrations and grass-roots social enterprises, as the Selusi (2011) review demonstrates. They act as social innovators on the ground and work in strict collaboration with communities of practice, intermediaries and groups of disadvantaged people, social workers and volunteers. The use of ICTs as networking tools and to facilitate openly collaboration and peer-support is promoted as a crucial enabler of innovation of social practices and policy implementation. In this regard, innovation in social services is recognised to take place at the intersection of connectivity and interdependencies (Jalonen, Juntunen, 2011), using cooperation, sharing information, creating trust and networks.

When looking at the type of deployment of ICT-enabled innovation to support social policy reforms, it is also clear that networks and networks of networks play an important role. In this sense, the analysis conducted as part of the MC-eGov (2009) concluded that the links in the delivery network are crucially enabled by ICTs, in a mix of systems, technologies and media, including human-based interactions. ICTs act as the critical catalyst, which facilitates new types of organisational and

human interactions, thereby creating new value for disadvantaged groups through new sustainable service models. In countries where the ICTs are well-established in the social services provision system, third sector actors feature in networks created using ICTs – a phenomenon more prevalent in the Scandinavian and Anglo-Saxon welfare models.

Another element worth pointing out is that the initiatives found through the review of the state of the art range from incipient, pilot, and experimental cases up to very mature initiatives, which have been validated as sustainable and transferable. However, in literature there is a predominance of experimental initiatives, due possibly to the recent trend in social policy experimentation to test innovations before implementing them widely.³⁹ In this connection, the literature suggests that the main actors involved in ICT-enabled innovation to support social policy reforms are firstly public agencies following a 'top-down' approach. At the same time, the practice shows that many examples identified constitute local 'bottom-up' initiatives in which ICTs are typically used to add value to existing service deployment. In this regard, several initiatives based on ICT-enabled innovation are starting to produce results or forming the basis of effective social policy reforms, although this type of innovation is not well established in many countries around the world. In particular, initiatives studied are addressing reorganisation and integration of social services provision. These initiatives are mainly drawn from anglo-saxon countries such as Australia, Canada, New Zealand, the UK, the USA, Scandinavia (e.g. Denmark, Finland, Norway and Sweden) and Germany, but also from emerging countries such as Singapore. They are pioneering innovative approaches for service integration, experimenting with ICT-enabled innovations as enablers or transformational tools (see KMPG-Mowat, 2013).

Given the limited information available, two basic hypotheses can be advanced at this stage:

- On the one hand, countries where there is a greater level of local autonomy and decentralisation of funding for social services provision are more likely to provide a fertile ground for ICT-enabled social innovation with a 'bottom-up' approach.
- On the other hand, countries with a long history of ICTs use in public administration reform, a public sector workforce familiar with ICTs, and a reasonable level of digital competence among their citizens, are likely to adopt ICT-enabled social innovation faster than others, moving from experimentation to deployment in different areas of social services provision.

However, it is too early to elaborate on such hypotheses that will indeed guide the next phase of the research and the analysis of the 'second round' of the mapping exercise. This shall allow us to gain a more accurate picture of the degree of deployment of ICT-enabled social innovation in integrated approaches to social services provision, in terms of geographical spread, different areas of social services covered and to provide insight into the levels and types of deployment.

³⁹ Social policy experiments are used on a small scale because of existing uncertainty as to their impact, in conditions which ensure the possibility of measuring their impact and in a way that allows their replication on a wider scale if the results prove convincing. The European Commission has been exploring the effectiveness of this approach through the PROGRESS programme and is continuing with the programme for Employment and Social Innovation (EaSI).

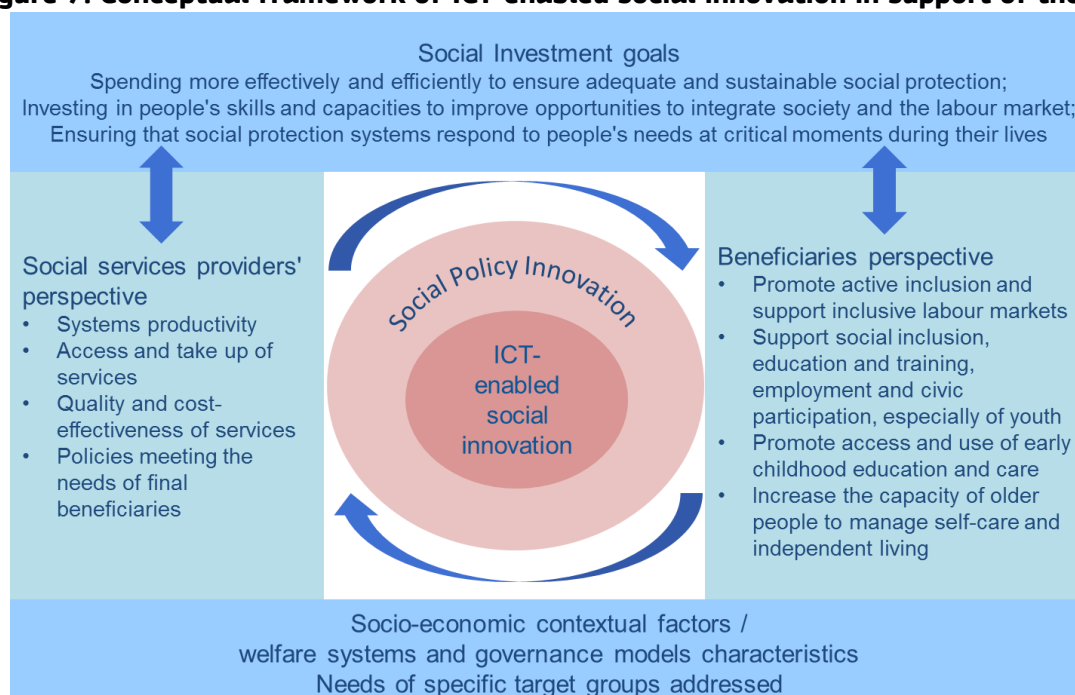
4. Conceptual framework

4.1. Conceptualising ICT-enabled social innovation

As the ground work for the analysis of the initiatives mapped and the future development of the research, this chapter addresses and defines the concepts shaping our analysis. Building on the key results of the state of the art presented in Chapter 3, it first outlines briefly the challenges social services are confronted with today. It recalls the notions of social investment and social innovation and how these two concepts are related to the modernisation of social policies in a particular approach to social innovation termed ‘social policy innovation’. This approach builds on integrated approaches to social services provision, innovation in social services and more specifically, ICT-enabled social innovation in social services. In this regard, an original working definition of ICT-enabled social innovation is put forward. The chapter ends with the operationalisation of the conceptual framework, elaborating on the interrelationship among the key concepts defined above. This framework is used as a basis for the analysis of the initiatives identified as part of the mapping exercise and as a starting point for developing a methodological approach to assess the social and economic impacts generated by ICT-enabled social innovation initiatives.

Figure 7 below presents how we understand and build the analysis. Social policy innovation and ICT-enabled social innovation, as an integral part of it, are placed at the centre of the interplay between social services provision, from both the providers' and the beneficiaries' perspective. Thus, ICTs act as enablers to achieve social policy innovation objectives, which are also interrelated with social investment goals and can in turn enhance social impact and societal change. However, as the figure shows, there are other important elements which shape ICT-enabled social innovation in different approaches to social services provision, namely: socio-economic contextual factors, welfare systems and governance model characteristics, and the needs of specific target groups.⁴⁰

Figure 7: Conceptual framework of ICT-enabled social innovation in support of the SIP



Source: own elaboration.

⁴⁰ These factors are considered as part of the research on the development of the methodological framework for analysis of the impacts generated by ICT-enabled social innovation, carried out in Work Package 2.

4.1.1. Social policy innovation

Traditional European welfare systems are currently facing two main challenges to their social models and social protection schemes. Firstly, the economic and financial crisis has worsened the social situation: poverty has increased, as has social exclusion, inequality and unemployment. Secondly, the European population ageing is shrinking the working age population and increasing the number of older adults in need of long-term care. These social and demographic processes will be putting the budgets and capacities of social protection systems under high pressure. In this context the EU Member States need to re-engineer their welfare systems to provide adequate support and, at the same time, be financially sustainable.

The concept of social policy innovation has emerged in the EU debate as a possible response to such challenges. There is in fact a need to do things in new ways, and to develop new ideas, services and models to better address social policy issues. So, social policy innovation can be of great use as a tool for designing social policy reforms with important innovative elements. It can also be used in delivering the necessary reforms for the modernisation of social protection systems and improving social services delivery. Moreover, it applies the range of lessons learned in practice and on the ground; promotes new solutions; identifies the ones that work; and scales them up effectively (European Commission, 2014).

The evidence available so far from the work conducted at EU level on social policy innovation shows that the most successful social policy innovations involve a broad spectrum of actors. Thus, to achieve sustained outcomes, social policy innovation needs to be based on partnerships which bring together the public sector, civil society organisations, social entrepreneurs and other private actors operating in the broad economic system. The role of private and third sectors in investing in welfare services is growing, especially in times of economic crisis, public finance cuts and new trends in social finance such as impact investing and sustainable investments. Social enterprises and social entrepreneurs can complement public efforts to pursue social policy objectives by activating and driving innovative ideas. This approach participates in functional and transformational elements of social innovation as conceptualised in the academic literature (see Chapter 3 and § 4.1.4 below). It needs to combine top-down and bottom-up approaches while also taking into account partnerships with actors from different sectors.

4.1.2. Renewing social services...

Social services aim to improve quality of life and provide social protection to enable the active inclusion of citizens. Childcare, health and medical care, and social insurance (for example, against unemployment) support everybody at some point in their lives. Social services also assist vulnerable people who, for example, need long-term care, are disabled, live in poverty or are at risk of social exclusion. These services are embedded into a broader institutional and regulatory framework.

As already seen (Chapter 3) social services are facing significant changes due to financial constraints and public budget cuts in European Member States; and the growing importance of some of Europe's great societal challenges (i.e. ageing, unemployment, immigration, increase in poverty, social exclusion, and lifestyle changes, among others). Today, investment in affordable, efficient and high-quality social services is needed as much as ever. In this context, a number of innovations have emerged –though none of them are radically new– such as new/better services for existing needs, new services for new needs, new forms of management and service organisation, new types of resources (e.g. volunteers, self-help, etc.) and new ways to evaluate (e.g. by the users themselves). It is worth pointing out that in most cases, the innovation is not a completely new service but lies instead in the way a service is delivered.

In this respect, ICTs have the potential to provide back office efficiencies and savings and to extend the range of information, advice and tools available to service users, especially with regard to Personal Social services of General Interest (PSSGI).⁴¹

4.1.3. ... through social investment...

The idea of social investment (i.e. investing in people) has arisen as a means of providing an adequate standard of living for all citizens in a context of economic and financial crisis. This investment is used to prepare citizens throughout their lives to confront risks, rather than simply repairing their consequences – especially considering the societal challenges Europe faces today. The need to invest in people's skills and capacities starts at a very early age and continues throughout their lives (European Commission 2013). This can result in considerable savings later on and supposes a better use of public resources (OECD 2012).

The Social Investment Package (European Commission, 2013) presents an integration approach to social challenges, stressing the need for more effective and efficient social spending. The focus is on prevention, by providing benefits and services that strengthen people's skills and capacities and support their participation in society and the labour market. Concretely, it proposes:

- Spending more effectively and efficiently to ensure adequate and sustainable social protection;
- Investing in people's skills and capacities to improve their opportunities to integrate themselves into society and the labour market; and,
- Ensuring that social protection systems respond to people's needs at critical moments during their lives.

Therefore, although the SIP recognises that targeting specific social groups can indeed be effective, and it emphasises that social policies should focus primarily on 'disadvantaged or at risk groups' (e.g. people excluded from the labour market, disabled people, children, young people, older people and people at risk of poverty and social exclusion in general), it also stresses the crucial importance of education and long-life-learning to prevent such risks and situations of disadvantage. As a matter of fact the social investment agenda concerns all citizens and not exclusively disadvantaged groups – especially if considered from an 'active inclusion' perspective. Barriers to inclusion are not only strictly related to unemployment and poverty. Social exclusion is in fact often determined by a mix of causes (e.g. poor alimentation and health conditions, poor or inadequate education, ethnic, religious and cultural factors, just to name a few). Many different social services may be necessary to address these situations, even before thinking about getting people into employment.

In this sense, social investment is explicitly expected to have both a social and a financial return (OECD 2014). In times of economic and financial crisis, social and-economic returns are related to savings generally made by public funding cuts, especially taking into account that economically sustainable business models are needed to spread social innovation initiatives⁴². Moreover, they are also related to how social investments –in the capabilities of citizens– strengthen the long term resilience of the economy. Hence, the SIP focuses specifically on improving the measurement of social and economic returns and emphasises the need for tools for policy-makers that improve their capacity to assess the social and economic returns from policies.⁴³

⁴¹ As explained in the introduction (see § 1.2), this research focuses on PSSGI and it considers the following 10 types of social services as typologies of initiatives to be investigated: childcare; education and training; social assistance; social care; housing; employability; employment; social inclusion/participation; civic engagement; and long-term care.

⁴² The sustainability or the transformation of the business models to guarantee the continuation of the service will be analysed in next phases of the research, with specifically collected financial data. This will also contribute to classifying the initiatives in terms of their outcomes (e.g. proven, promising, or emerging initiatives).

⁴³ In this respect, as part of Work Package 2 of IESI a specific framework to analyse impact of ICT-enabled social innovation based on social Return on Investment and social impact approaches will be developed.

4.1.4. ...and social innovation

As already seen in § 3.1, social innovation is multi-disciplinary and cuts across sectors and fields of action. This has undoubtedly contributed to the diversity of meanings and uses of the term social innovation itself (Schmitz, et. al., 2013). In 2013, as part of the EU-funded WILCO project, a survey was carried out among researchers and practitioners in order to have a better understanding of the meaning of 'social innovation'. Of all the responses received, the following three different definitions have been retained as particularly significant, because they cover multiple dimensions, reflect a complex reality and operate on two registers: results and process.

- 'Social innovations are new solutions that simultaneously meet a social need and lead to new or improved capabilities and relationships and better use of assets and resources. In other words, they are good for society and enhance its capacity to act';
- Social innovation 'must be structured to meet a social need; it must involve a new or significantly improved product, process, marketing method, and/or organisational model';
- 'Social innovation is a process where civil society actors develop new technologies, strategies, ideas and/or organisations to meet social needs or solve social problems.'

These definitions show that social innovation is often used to delineate a changing reality in terms of both outcome and process and that it should be recognised as a particular mode of action and social change. It must be distinguished from other forms of action or similar notions such as social entrepreneurship or social economy.⁴⁴

The European Commission refers to social innovation in many of its flagship initiatives launched to contribute achieving the targets of the Europe 2020 Strategy which commits the EU to address societal challenges, such as becoming more inclusive, innovative and secure.⁴⁵ To this end, it has supported social innovation through several instruments⁴⁶ and it has contributed to reforming social policies by improving Member States' targeting and efficiency through investments in social innovation, made especially through the European Social Fund (ESF). Social innovation is also included in the legislative package on cohesion policy for the period 2014-2020, as well as in the new programme for Employment and Social Innovation (EaSI). Social innovation is expected to play a key role in social investment because it can support effectively the delivery of several SIP agenda goals. This research thus, in line with the definition advanced by the European Commission (BEPA, 2010) understands **social innovation** as follows:

'The development and implementation of new ideas (products, services and models) to meet social needs and create new social relationships or collaboration. It represents new responses to pressing social demands, which affect the process of social interactions. It aims to improve human well-being. Social innovation is an innovation that is social in both its ends and its means. It is an innovation that is not only good for society but also enhances individuals' capacity to act'.⁴⁷

To make it more concrete, **two main conceptions** of social innovation that have emerged in literature are worth mentioning: one functionalist and the other transformationalist (Bouchard, 2006) or, according to the definition of Laville (2011), weak innovation and strong innovation:

⁴⁴ Social innovation is in fact often linked to **social entrepreneurship**, that is defined for instance by Mair (2010:19) as 'a process of catering to locally existing basic needs that are not addressed by traditional organisations. Depending on the needs addressed the process usually involves the provision of goods or services and/or the creation of missing institutions or the reshaping of inadequate ones (...) in order to change or modify the social/or economic arrangements that create the situation of failure to satisfy basic needs'.

⁴⁵ Reference to social innovation can be found for instance in the 'Digital Agenda for Europe', the 'Innovation Union', and the new research and innovation programme 'Horizon 2020', but also on the 'European Platform against Poverty and Social Exclusion' and the 'New Skills for New Jobs Agenda'.

⁴⁶ It included funding instruments such as EQUAL, PROGRESS and research and development. framework programmes.

⁴⁷ Inspired by the BEPA Report "Empowering People, driving change. Social Innovation in the European Union", May 2010, at http://ec.europa.eu/bepa/pdf/publications_pdf/social_innovation.pdf, and the TEPsIE Project at www.tepsie.eu

- **Functionalist approach / weak innovation** understands social innovation as 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** understands social innovation as a way of transforming institutions, contributing to institutionalising new practises, standards and rules founded on values inherent to solidarity and intended to work towards social and political transformation. Thus, the resolution of social problems brought about by social services is part of a broader perspective of transforming institutions.


Furthermore, we have identified the following four key **elements of social innovation**, building on recent analysis of the literature and practice in the field (Bekkers et al.2013):

1. **Need-driven/outcome-oriented production:** outcomes are intended to meet the needs of society or specific groups in society in a long lasting way (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; Sörensen & Torfing, 2011). Relevant stakeholders bring in their knowledge, information, experiences and resources so that they can be shared 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 to each other, how they interact with each other, and how they collaborate with each other are radically changed. Social innovation tries to act as a 'game changer', breaking through 'path dependencies' (European Commission, 2011:33). As a result of social innovation processes, it is argued that need-driven services require the establishment of new collaborative relationships and new institutional arrangements (European Union, 2010; Sörensen & Torfing, 2011; Bates, 2012).
4. **Public value allocation and/or re-allocation:** in the achievement of these values it is not only important to look at the presumed or achieved consequences of the innovation in terms of effectiveness or efficiency. The public values pursued by social innovation also try to ensure 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 (Cels et al 2012; Mulgan, 2006).

Moreover, it is recognised that most mainstream innovation theories are mainly 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. Thus, it is suggested that in the case of social services, the dimension of the needs, demands, and societal challenges targeted is crucial. Thus, this research looks at both the supply and the demand side as they are inherent characteristics of the social innovation construct, in theory and in practice.

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). As will be presented later (§ 4.3), the specific key elements of social innovation defined above are crucial dimensions considered in evaluating ICT-enabled social innovation initiatives.

Table 1: Social innovation conceptions and elements

Conceptions of social innovation	Elements of social innovation
 Functionalist / Weak social innovation	Need-driven/outcome-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)

4.1.5. Defining ICT-enabled social innovation

Indeed, the current socio-economic crisis is forcing our societies to look for a different growth path and increasingly, policies are being put in place to stimulate the supporting/enabling and transformative role played by ICTs (see on this also Tepsie, 2014). 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.

Previous evidence-based research work carried out by JRC IPTS⁴⁸ shows that ICTs can support socio-economic inclusion for actors in many contexts, enabling social innovation processes. Thus, ICTs are seen as a contributing factor to social innovation. However, their impact must be seen in terms of the contribution made by other enablers (INNOSERV, 2012). Indeed, ICTs *per se* do not constitute a policy instrument at the same level as direct public services, regulation, taxation or grant giving, among others, but they do provide many ways of improving how efficiently and effectively social services systems address the policy challenges they are confronted with. It is here that the opportunity for ICT-enabled social innovation lies: in the design of innovative social policies and service delivery mechanisms for their effective implementation.

In order to be more systematic in classifying the different potential impacts of ICT-enabled innovation,⁴⁹ we adopted a taxonomy first developed in Misuraca (2012) and further elaborated in Misuraca and Viscusi (2014 and 2015). Into this taxonomy, the types of innovation described by Bekkers et al. (2013) (see § 3.1) have been also integrated, as follows:

1. **Technical/incremental innovation:** use of ICTs to facilitate automation of repetitive tasks and thereby improve efficiency (e.g. automated applications for jobs, periodic alerts and health information to carers). 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 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.

⁴⁸ See <http://is.jrc.ec.europa.eu/pages/EAP/eInclusion.html>

⁴⁹ It should be underlined here that although the term ICT-enabled innovation has been largely used in literature and practice, an agreed compelling definition is not available. For instance, the multi-year research carried out as part of the ICT-NET Project, a research network financed by the European Commission which aimed to enhance the coordination of research into the economics of ICTs in Europe, and conducted in collaboration with the OECD and leading research institutes active in the field of ICTs and innovation, did not define the term despite the fact that one of its research areas specifically looked at ICT-enabled innovation.

3. **Disruptive/transformative innovation:** use of ICTs to initiate or improve new services or create new mechanisms for service delivery which would be impossible through non-ICT modes (e.g. use of ICTs for teleworking or for learning purposes from remote and beyond office/school hours, or the use of social networks for peer support), resulting in product or service innovation.
4. **Radical/transformative innovation:** substantial use of ICTs that takes place outside of the recognised institutional setting and aims to radically modify the existing mechanisms of services provision (e.g. self-organised community to deliver services through social networks). This implies or leads to a paradigm shift that reframes the nature of specific problems, as well as their possible solutions. For example, when insurance physicians look at a person's work (dis)ability, they no longer analyse what people cannot do, but instead analyse what they still can do, hence focusing on work ability potential.

Building on this classification of ICT-enabled innovation potential and integrating the conceptions of social innovation defined above, to further operationalise the research the following working definition of **ICT-enabled social innovation** is proposed:

'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'.

In particular, 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. Emphasized as a commitment to change, social practice occurs in two forms: activity and inquiry (Smolka, A. L. B., 2001).⁵⁰

Moreover, given the scope of the research, we are particularly interested in investigating both the direct and indirect impacts of ICT-enabled social innovation on individuals' quality of life, and the 'systems effects' that can be promoted through this process. In this sense, although difficult to capture in a single definition and not easy to represent graphically in the proposed conceptual framework (see later § 4.3), we acknowledge the need to also consider unintended consequences of ICT-enabled social innovation and the network effects that can be generated.

This implies that single initiatives cannot alone explain the innovation dynamics triggered by such a complex and multi-network process. Instead, a systems approach should be considered which integrates a complexity theory perspective (e.g. Lane, 2007) and a multi-level and dynamic approach to innovation (e.g. Padgett, J., and Powell, W., 2012). Clearly, ICTs contribute to this approach as both an enabling and a game-changing factor (see Chapter 3).

Therefore, Figure 8 below presents the four types of ICT-enabled innovation potential and their interrelation with the social innovation concepts that we have defined and that will guide our analysis of the mapped initiatives. At the same time, it provides the starting point for the next component of the research, namely the development of a framework for analysis of the impact generated by ICT-enabled social innovation in relation to social investment.⁵¹

This will allow us to advance the conceptual and analytical framework proposed and take into account the multi-dimensional characteristics underlying the ICT-enabled social innovation phenomenon, with specific regard to social service integration.

In this respect, it is worth mentioning that ICT-enabled social innovation is a broad concept that

⁵⁰ Most often applied within the context of human development, social practice involves knowledge production and the theorization and analysis of both institutional and intervention practices. 'Social practice and social change: activity theory in perspective. *Human Development*, 44(6), 362-367'.

⁵¹ This component of the research is investigated as part of Work Package 2 of the project. For more details see the IESI Research design and methodological approach (JRC-IPTS Working document, 2014).

could take many forms, of which service integration is just one – albeit crucial – aspect. As stated before (see Chapter 1), however, this research focuses specifically on ICT-enabled social innovation in integrated approaches to social services provision, analysing how different (ICT-enabled) social innovations contribute enhancing social service delivery through integrated approaches (see below).⁵²

Figure 8: ICT-enabled innovation potential and types of social innovation

ICT-ENABLED INNOVATION POTENTIAL		CONCEPTIONS OF SOCIAL INNOVATION
Disruptive/Transformative ICT-enabled innovation	Radical/Transformative ICT-enabled innovation	
Technical/Incremental ICT-enabled innovation	Sustained/Organisational ICT-enabled innovation	TRANSFORMATIVE/ STRONG
		FUNCTIONALIST/ WEAK

Source: own elaboration, inspired from Misuraca 2012 and Misuraca and Viscusi 2014 and 2015.

4.2. ICT-enabled social innovation in integrated approaches to social services provision

In line with the above, and considering that a current trend in European social services is the move towards a greater **integration of service provision**, special efforts are being made by EU Member States to increase the coordination of operations within the social services system with the overall aim to improve efficiency and produce better outcomes for the beneficiaries.

The SIP stresses in particular the critical role of high quality, integrated and personalised services in developing people's skills and capabilities, improving their opportunities and helping them make the most of their potential throughout their lives. To do so, social services should focus on the individual's situation and respect the general quality principles presented in the 'Voluntary European Quality Framework for Social services'.⁵³

Integration of services refers to different approaches to improving coordination between services in order to enhance outcomes for their users (Council of Europe, 2007). Two types of integration are generally identified: 1) vertical integration: which implies a stronger coordination between different levels of government; and 2) horizontal integration which brings together previously separated social services.

Though this classification is considered useful, the research adopts a different terminology (see below) to classify the aspects of services integration. This looks at the levels of governance of service integration (which includes vertical integration but expands it to include non-governmental

⁵² Future phases of the research may consider widening the approach to other aspects of ICT-enabled social innovation beyond integrated approaches to social services provision.

⁵³ Social Protection Committee – A Voluntary European Quality Framework for Social services (SPC/2010/10/8 final, see <http://ec.europa.eu/social/main.jsp?catid=794>).

integration of social services provision as well) and the (functional) type of service integration (which includes horizontal integration, but also other forms of functional integration that are not only related to the service delivery system). These categories describe better the dimensions of analysis in which this research is specifically interested.

As a matter of fact, integration has evolved significantly over the last decade as governments search for ways to address beneficiaries' needs better and, at the same time, 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 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). An OECD study on social services (OECD, 2011) confirmed recently that better access to integrated services in healthcare, childcare, housing and care for the older people contribute significantly to reducing inequality in society and thus can reduce the level of poverty across various segments of the society.

Social innovation and more concretely ICT-enabled social innovation can provide an important contribution to social policy reforms, providing new/better/different ways of integrating the provision of social services. However, while a number of studies have drawn lessons from past integration initiatives, little effort has been made to capture what is currently happening globally and in particular in the EU. Little information is available on where the social services integration agenda is heading, or on the role that ICT-enabled social innovation plays in this scene.

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).

In this respect, as indicated in the SIP COM (page 19), the one-stop-shop model is a typical example of an integrated approach to the provision of social services. It is recognised that *it contributes to improving the efficiency and effectiveness of social protection systems, simplifying the organisation, enhancing delivery and increasing take-up of services. This approach improves accessibility of user-friendly information, coordination among different levels of government and capacity that could reduce the administrative burden on both customer and provider.*

As anticipated in Chapter 3, however, no clear and precise definition of the concept of 'services integration' has been proposed in the literature, where several different classifications of integration can be found (Fischer and Elnitzky 2014, KPMG-Mowat 2013, Raeymaeckers and Dierckx 2012, Kodner 2009).

Moreover, it must be said that integrated approaches to social services can generally improve efficiency but they can also better solve what are known as 'wicked problems', such as the ones characterising the provision of social services in the current context of economic and social turmoil. These problems are related to a plurality of causes and effects, overlapping and intertwined. They require multifaceted solutions and multi services provision. Therefore, social services integration can be considered as an answer to these wicked problems, and ICT-enabled social innovation as a strong 'change' factor associated with it.

More specifically, in this research, '**services integration**' is understood as 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 service intermediaries) in the centre and treat their needs holistically.

Therefore, bearing in mind the analysis goals, the following **levels of governance of service integration** are considered (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 and roles in order to maximise public value creation.

Moreover, as part of the analytical framework the initiatives under investigation are qualified according to their -functional- '**types of service integration**' (adapted from Kodner 2009):

- **Funding:** e.g. pooling of funds at various levels; and 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.
- **Delivery system:** centralised information, referral and intake; case/care management; multidisciplinary/interdisciplinary teamwork; joint training; around-the-clock coverage.

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.

Looking more specifically at the role of **social innovation in social services**, it is worth mentioning that it is an evolving phenomenon. It can be defined as a process related to delivering services in another way, or as an answer to current and future challenges in society (Crepaldi et al., 2012). It is stimulated by cultural and institutional changes and by the multidimensional crisis that shook insurance-based welfare to the core (i.e. demographic ageing; high dependency ratios; grey economy; low activity rates; out migration; or minimum declared wages).

Innovation in social services is *interactive*, and based on utilising connectivity and interdependencies, cooperation, sharing information, and creating trust. It mainly concerns designing and implementing new social services to face new needs or unmet needs; and introducing new social services (or new mechanisms or practices), new interfaces with clients or new practices in social work in pre-existing social services. This results in new forms of service delivery and/or new target groups (Hermans, Vranken 2010), or in new mechanisms or social practices introduced in pre-existing social services. It also means tearing down walls between sectors and 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 does not have an autonomous existence as a physical thing with technical specifications does. It is a social construction (with its world of reference), which fits into time frames in different ways (time horizon) and into matter (degree of materiality) (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). The margin for innovation in services would thus appear to be more complex, requiring more negotiation and more room for cooperation between the various actors. It can arise (among other possibilities) in the transactional space where the service offering encounters the customer. It also requires essential transformations of spheres and actors at both production and consumption levels, arising from observation of the specific kinds of service activities and the social relationships involved. 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 summarised as follows (Crepaldi et al. 2012):

- The **emergence of new needs** or the search for new solutions to old needs. Innovation is enhanced by the demand side, according mainly to socio-demographic and socio-cultural change. It is also enhanced by the supply side, where it is mainly associated with technical innovations or with the diversification and specialisation of social services; the growing number of welfare professions which creates an expansion of the definition of requirements; the 'activating role' of the welfare state; and the introduction of protocols and guidelines in professional care.
- The **need to tackle the affordability** of the welfare state. In the context of recent structural changes in welfare-state arrangements, based on the tension between the need to increase social welfare services and growing demands for cost saving.
- **A growing awareness of the effectiveness or otherwise of policies**, due to a move towards citizenship/inclusion approach and an increasing business orientation of organizations involved in welfare policies. As INNOSERV (2012) suggests, the key drivers of innovation in social services are rooted in elements that improve effectiveness –like new forms of organisation; new forms of investment; the entry of different actors into service delivery; the setting up of new partnerships and networks and the application of new knowledge.
- **Modification of organisational systems**. This involves the search for possible "solutions" through the implementation of methods of management in multi-stakeholder activities which can translate new frameworks into action.

Social innovation in social services impacts on 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 results; and new perspectives, new targets and new practices for old targets. In this context, the technological dimension can play an important role in the social service innovation process and can contribute positively to the quality and productivity of services with new solutions to policy challenges (Randle & Kippin 2014). However, in order to ensure that ICT-enabled innovation has a positive effect on social services, technologies have to be embedded in the service delivery model (instead of using them as a substitute for services). Thus, the technological solution has to fit the social problem to be addressed, rather than the other way around. In this sense, innovations where a particular application of ICTs is seen to be the solution to a social problem have a low chance of success (Shaw et al 2009, White et al 2010; and DIT 2011).

At the same time, there are some controversial elements when integrating ICTs into social services innovation. First, the digital divide has to be taken into consideration in order not to create new forms of exclusion for people with less, worse or no access to technologies (e.g. those at greatest risk of social and health-related poverty) (Warburten et al. 2013). Moreover, the social services sector is centred on people and service delivery, and not technological products: technology players do not easily understand the welfare and care market (Leys 2009, in Crepaldi et al. 2012).

Building on the above consideration in the next section (§ 4.3), the analytical framework developed to assess the role of ICT-enabled social innovation in integrated approaches to social services provision is presented. Then, in Chapter 5, this framework is applied to the analysis of the initiatives identified and documented by a mapping exercise. Thus, addressing main research questions underlying this component of the research, we aim to provide preliminary insights into how ICT-enabled social innovation can support the implementation of policies promoting social investment, with respect to the policy area of integrated approaches to social services provision.

4.3. Operationalising the conceptual framework

This section presents the operationalisation of the conceptual framework underpinning the research. It elaborates on the interrelationship between the four main dimensions of analysis under investigation, namely: 1) typologies of ICT-enabled innovation potential; 2) levels of governance integration 3) types of service integration; and 4) elements of social innovation.

For simplicity's sake, the graphic representation of the framework is designed according to a cartesian coordinates system, based on two orthogonal axes namely: ICT-enabled innovation potential (Misuraca and Viscusi 2014; and Bekkers et al. 2013); and levels of governance integration (inspired by KPMG-Mowat 2013).

The initiatives analysed in the research are therefore positioned on each main axis according to the categories they fall into:

- **ICT-enabled innovation potential:** technical/incremental; sustained/organisational; disruptive; and radical⁵⁴.
- **Level of governance of service integration:** isolated, intra-governmental, inter-governmental, inter-sectoral, pervasive⁵⁵.

Moreover, these initiatives are assessed from the perspectives of the social innovation elements (adapted from Bekkers et al. 2013) and the functional types of service integration (adapted from Kodner 2009), namely⁵⁶:

- **Social innovation elements:** need-driven/outcome-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.
- **Types of service integration:** funding; administrative; organizational; and delivery system.

Taking these four categories into consideration, ICT-enabled social innovation initiatives in integrated approaches to social services provision fall into two partially overlapping 'ellipses'⁵⁷ indicating the areas in which ICT-enabled social innovation initiatives in integrated approaches to social services provision can be placed and/or have impact:

- **Public sector social services provision:** provision of social services generally involves public sector organisations, and in particular governments at different levels. These could act as main service providers through traditional public service delivery mechanisms. Alternatively, the services could be contracted out through concessions, delegation / transfer, outsourcing, or other public-private partnerships systems (e.g. service-levels agreements, framework contracts, or others). Organisations from the private or third sector,

⁵⁴ See above section 4.1 for details.

⁵⁵ See above section 4.2 for details.

⁵⁶ See section 4.1 and 4.2 respectively for details.

⁵⁷ We refer here to the graphical shape of an ellipse and not to the concept of ellipse in mathematical terms, i.e. a curve on a plane surrounding two focal points such that a straight line drawn from one of the focal points to any point on the curve and then back to the other focal point has the same length for every point on the curve. As such, an ellipse is a generalization of a circle, which is a special type of an ellipse that has both focal points at the same location. The shape of an ellipse (how 'elongated' it is) is represented by its eccentricity, which for an ellipse can be any number from 0 (the limiting case of a circle) to arbitrarily close to but less than 1.

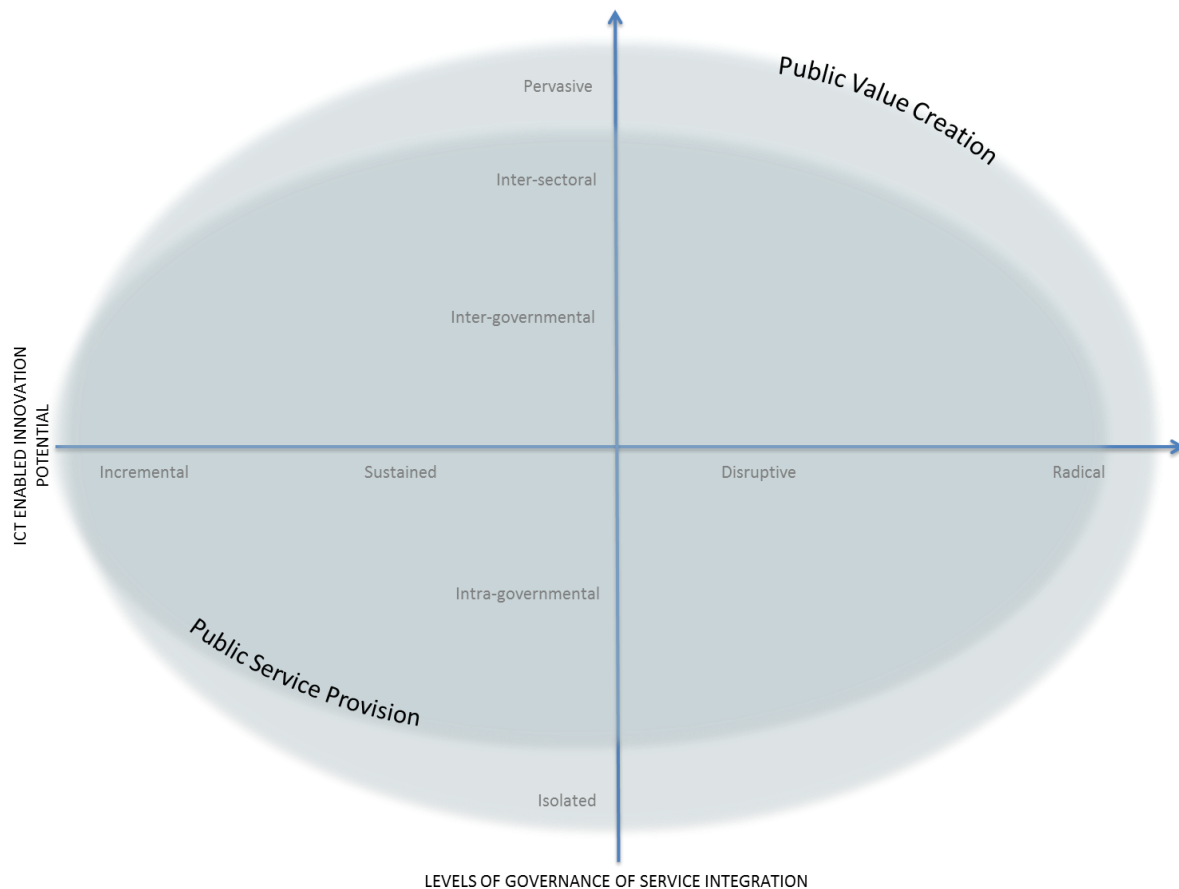
and also citizens, are involved but they normally play a subsidiary role to the public sector as service providers or as partners in the design or implementation phases of the services. In some cases, however, although the public sector keeps an important role, the design and provision of new or innovative social services may be initiated outside the public sector sphere by private or third sector organisations and it is then integrated/embedded in the public service delivery system.

- **Public value creation.** In a broad sense, public value refers 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 also trust and legitimacy. It addresses issues such as equity, ethos and accountability. These can be considered as elements that also generate value as regards the internal stakeholders involved in the management of innovation processes. Generating public value for citizens through services depends on the level of quality with which they are delivered. This 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, considering the presumed or achieved consequences of the innovation in terms of effectiveness or efficiency. According to Bekker et al. (2013), in fact, one of the characteristics inherent in social innovations is *'assuring 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'*. In this respect, social innovations enabled by ICTs may increase the public value from public service delivery and/or generate additional public value with respect to traditional service delivery mechanisms implemented or driven by the public sector. At the same time, new or innovative ICT-enabled solutions can facilitate a re-allocation of public value in favour of specific social groups or people at risk, thus increasing social welfare and well-being.

Figure 9 below presents the proposed analytical framework of our research on the role of ICT-enabled social innovation in integrated approaches to social services provision. The framework serves to 'map' the initiatives collected as part of the mapping exercise, positioning them in the graph according to the two dimensions of '**ICT-enabled innovation potential**' and '**Levels of governance of service integration**'. The other two dimensions (i.e. elements of social innovation and types of service integration, and other characteristics such as the sector they belong to (i.e. public, private, third sector or multi-sector partnership) are not represented in the graphic in order to enhance its readability. They are, however, analysed in depth qualitatively and are presented at this stage of the research in a separate table (see Chapter 5).⁵⁸

⁵⁸ In the next phase of the research the graphical representation of the framework may be reconsidered taking into consideration both the possibility to include all key dimensions in the graph and using possibly mathematical methods to represent the initiatives mapped as part of the two ellipses defined.

Figure 9: Analytical framework



Source: own elaboration.

Finally, as anticipated in § 1.2, this research took a broad approach as a starting point, and looked at the organisation of social protection, social security, health or social systems or a specific part of them. Examples are assistance benefits, social services, integration services, unemployment services or long-term care services, all of which respond to an overall design and implementation mechanism.

In this sense, the research investigates ICT-enabled social innovations that could clearly produce a change in the way certain policy fields or services are implemented or delivered, rather than 'disconnected projects or practices'. The key element to assess this is the outcome/impact associated with the innovation introduced and how they are connected to potential structural reforms in social policies or services in the Member States. However, and with specific regard to the evidence of impact, it should be underlined here that due to the exploratory nature of the research and the broad and unknown 'universe' of initiatives under investigation, the 'policy relevance' of the findings needs to be structured using a solid framework for impact analysis (foreseen as part of the following component of the research).

Therefore, in this 'first-round' of the mapping exercise (year 1), initiatives are mapped and analysed as individual entities and groups of initiatives, according to the various social services areas. They are categorised by the potential impact of the underlying ICT-enabled social innovation, and by levels of governance and types of service integration. In the following phases of the research, once the impact analysis framework has been consolidated, it should be possible to assess the nature and impact of different types of ICT-enabled social innovations according to different typologies of social services.

5. The knowledge map of ICT-enabled social innovation promoting social investment

5.1 Mapping of ICT-enabled social innovation initiatives promoting social investment through integrated approaches to social services delivery

This chapter presents the results of the quantitative and qualitative analysis conducted on the ICT-enabled social innovation initiatives gathered during the first phase of mapping activities in 2014.

Concretely, after a brief introduction of the two sub-samples of initiatives mapped in this paragraph, §5.2 presents the results of the analysis of initiatives promoting social investment through integrated approaches to the provision of Personal Social services of General Interest (PSSGI) in the categories of: 1. Education and training; 2. Employability and employment; 3. Social assistance; 4. Social care and childcare; and 5. Social inclusion; while §5.3 presents the results of the analysis in the area of active and healthy ageing and long-term care for older people.

As already anticipated, this first mapping exercise served, first of all, to structure the research design and the instruments for data collection, and also to develop the conceptual and analytical framework required to build what we define as the 'knowledge map' of ICT-enabled social innovation promoting social investment (see Chapter 4).

More specifically, during the first phase of the mapping activities, an inventory of 140 ICT-enabled social innovation initiatives promoting social investment through integrated approaches to delivery social services have been compiled.

This is composed of two sub-samples, an inventory of 100 initiatives in the areas of: Education and training; Employability and employment; Social assistance; Social care and childcare; and Social inclusion and an inventory of 40 initiatives in the area of active and healthy ageing and long term care for older people.⁵⁹

From the inventories of initiatives gathered, 70 initiatives in total, 50 in the areas of: Education and training; Employability and employment; Social assistance; Social care and childcare; and Social inclusion and 20 in the area of active and healthy ageing and long term care for older people, were selected for inclusion in the mapping process and subsequent analysis as part of the 'IESI knowledge map'.

The initiatives were selected on the basis of the availability of some evidence of outcomes achieved and due to their characteristics as interesting examples to illustrate the potential of ICT-enabled social innovation initiatives to promote social investment through integrated approaches to social services delivery.

Table 2 and Table 3 below present respectively the list of the 50 and 20 initiatives mapped in each sub-sample which have been chosen also to provide an overview of the diversity and richness of the field and of examples from various countries in the European Union and in countries considered vanguard in some of the areas under investigation.

With specific regard to the initiatives selected in the area of active and healthy ageing and long term care for older people it should be underlined that the first mapping exercise focused on two out of the three themes forming the area under investigation, namely independent living and integrated care. Prevention, health promotion and rehabilitation will be studied in the next phase of the IESI project, when an update to the themes covered in this report will also be provided.

⁵⁹ For the complete inventories of initiatives, see the Annex 3 of the IESI project Deliverables D1.2.1 and D1.1.1 respectively, available at: <http://is.jrc.ec.europa.eu/pages/EAP/eInclusion.IESI.html>

Table 2: ICT-enabled social innovation initiatives promoting social investment through integrated approaches to delivery personal social services of general interest in Education and training; Employability and employment; Social assistance; Social care and childcare; and Social inclusion

	Name of the initiative and acronym	Country*	Website
1	Advance Learning Interactive Systems Online - ALISON	Ireland	http://alison.com
2	An internet based service for employment and training brokerage organisations to help hard-to-reach groups into employment - IBSETBO	United Kingdom	www.diteam.org.uk
3	Apps for good	United Kingdom	www.appsforgood.org
4	Assistance for Rehabilitation, Guidance and Reintegration of Teenagers in the penal system - AURORA	Italy	http://archivio.pubblica.istruzione.it/innovazione/progetti/aurora.shtml
5	At-Risk	USA	http://www.kognito.com/products/k12
6	Be My Eyes	Denmark	http://www.bemyeyes.org
7	Beyond the Street - BTS	Italy	http://sociale.regione.emilia-romagna.it/prostituzione-e-lotta-alla-tratta
8	Blue Assist and Cloudina - BAC	Belgium	http://www.blueassist.eu http://www.cloudina.eu/en
9	Brightside online mentoring - BOM	United Kingdom	http://www.thebrightsidetrust.org
10	Choices and Voices - C&V	United Kingdom	http://playgen.com/play/choices-and-voices
11	Cisco Networking Academy - NetAcademy	USA - Global	http://www.cisco.com/web/learning/netacad/index.html
12	Combined Homelessness and Information Network - CHAIN	United Kingdom	http://www.mungosbroadway.org.uk/chain
13	Crossroads Bank for Social Security - CBSS	Belgium	https://www.ksz-bcss.fgov.be/en/international/home/index.html
14	CyberMentors-Beat Bullying Mentors - BBM	United Kingdom	http://www.beatbullying.org
15	Digital Welfare Strategy (2013-2020) - DSDW	Denmark	http://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/Strategy-for-Digital-Welfare
16	Diversity and Mentoring Approaches to Support Active Ageing and Integration - DIMENSAAI	Germany	http://www.dimensaai.eu
17	Eligibility Management System - EMS	USA	http://www.ct.gov/hix/lib/hix/appendix_9h_-_deloitte_mcsd_scope_of_work1.20.12.pdf
18	Empowerment of Youth - EmYouth	Turkey	http://www.bilenlerbilmeyenlerebilgisayarogretiyor.net
19	Family Lives Anti-Bullying - FLABS	United Kingdom	http://www.bullying.co.uk/?_ga=1.172410787.1860054203.1407329023
20	Fosternets - FN	United Kingdom	http://www.redhood.co.uk/our-products/new-fosternets-is-here
21	FreqOUT!	United Kingdom	http://vitalregeneration.org/our-projects/freqout/about
22	GiovaniSi	Italy	http://www.giovanisi.it
23	Hospital School Home - HSH	Italy	http://archivio.pubblica.istruzione.it/innovazione/progetti/hsh.shtml
24	Innovative Technologies for an Engaging Classroom - iTEC	Multi country EU	http://itec.eun.org/web/guest/about

#	Name of the initiative and acronym	Country*	Website
25	Integrated Service for Mental Health and Substance Abuse Care - KIMPALE	Finland	http://www.tekes.fi/tekes/tulokset-ja-vaikutukset/caset/2013/paihte--ja-mielenterveyspalvelut-saman-katon-alle
26	Job Centre Plus - JCP	United Kingdom	https://www.gov.uk/jobcentre-plus-help-for-recruiters/overview
27	Joint Strategy for Sick and Vulnerable Citizens in Copenhagen - Joint Strategy	Denmark	www.kk.dk
28	Manitoulin Sudbury Integrated Social services - MSDISS	Canada	http://www.msdsb.net
29	Mind of My Own - MOMO	United Kingdom	www.mindofmyown.org.uk
30	Mission Leben - Mleben	Germany	http://www.mission-leben.de/unsere-einrichtungen/behinderte-menschen.html
31	Mixopolis	Germany	www.mixopolis.de
32	Mundo de estrellas - MdE	Spain	http://www.mundodeestrellas.es/opencms/index.htm
33	MyVocab - Language support for newcomers - MyVocab	Sweden	www.stockholm.se/sprakstod
34	Neighbourhood Stores for Education, Research and Talent Development - BOOT	The Netherlands	www.boot.hva.nl
35	NOT SCHOOL - NotSchool	United Kingdom	http://www.inclusiontrust.org.uk/notschool
36	Programme Jeun'ESS - JeunESS	France	http://www.jeun-ess.fr
37	SAMASOURCE	USA and developing countries	http://samasource.org
38	Savvy Chavvy - Savvy	United Kingdom	http://www.onroadmedia.org.uk/work/savvy-chavvy-a-social-network-for-young-gypsies-and-travellers-in-the-uk/
39	Services Connect - ServiCon	Australia	http://www.dhs.vic.gov.au/for-service-providers/for-funded-agencies/services-connect
40	Shadow World	Finland	http://www.varjomailma.fi
41	Single Stop USA - SSS	USA	http://www.psfk.com/2014/07/single-stop-usa-social-services.html
42	Slivers of Time - SoT	United Kingdom	http://www.sliversoftime.com
43	Social Counters	Italy	http://www.comune.bologna.it/sportellosociale
44	Surfen-Zum-Job - Surfen	Germany	http://www.surfen-zum-job.de/jobsurf/content/sections/index.cfm
45	Task Squad	United Kingdom	http://tasksquadhq.com
46	TheSite	United Kingdom	http://www.thesite.org
47	Timely Information for Citizens - TIC	United Kingdom	http://www.esd.org.uk/InformingCitizensGoodPractice/index.php?title=Main_Page
48	Web2 for people with Intellectual disabilities - W2ID	United Kingdom	http://blog.klikin.eu/about-us/united-kingdom/about-the-w2id-project
49	Youth Employment Agency Hamburg - YEA	Germany	http://www.hamburg.de/jugendberufsagentur
50	Youthreach	Ireland	http://www.youthreach.ie

Source: own elaboration.

*Note: The country refers to the country where the initiative is originated and is mainly implemented with the exception of some initiatives that are clearly global as they originated and were implemented in several countries worldwide, or across the EU (e.g. multi-country research projects).

Table 3: ICT-enabled social innovation initiatives promoting social investment through integrated approaches to delivery personal social services of general interest in active and healthy ageing and long term care for older people: independent living and integrated care

#	Name of the initiative and acronym	Country*	Website
1	Assisting Carers Using Telematics Interventions to meet Older Persons' Needs (ACTION)	SE	www.actioncaring.se
2	Brain Age	JP (and worldwide)	http://brainage.nintendo.com/
3	Common Platform Services for Ageing Well in Europe (CommonWell)	EU-wide	http://www.commonwell.eu/commonwell-home/
4	e-Care	IT	http://comune.bologna.it/sportellosociale/servizi/2628/57404/
5	Home Automation and Advanced Telecare (Advanced Telecare)	FR	http://www.correze.fr/personnes-agees-et-handicapees/les-personnes-agees/tele-assistance-et-domotique/
6	Intelligent System for Independent Living and Self-care of Seniors with Cognitive Problems or Mild Dementia (ISISEMD)	DK, FI, UK, EL	http://www.isisemd.eu/
7	Kaiser Permanente Tele-home Health research Project (KPTHH)	US	www.healthy.kaiserpermanente.org/html/kaiser/index.shtml
8	National Telecare Development Programme (Scottish Telecare)	UK	http://www.jitscotland.org.uk/resource/telecare-development-programme-final-report/
9	NEXES	EL, NO, SP	http://www.nexeshealth.eu/media/pdf/nexes_final_report.pdf
10	Partner Personal Robot (PaPeRo)	JP	http://jpn.nec.com/robot/en/index.html?
11	PRISMA	CA	www.prismaquebec.ca
12	Programme of All-Inclusive Care for the Elderly (PACE)	US	http://www.local.gov.uk/documents/10180/12193/PACE+-+Driving+national+change+locally/e77a6eea-5e8d-46af-8d3d-a1d4499c2349
13	Robot Stride Assistance System (WAD)	JP	http://corporate.honda.com/innovation/walk-assist/
14	Taiwan's Telehealth Pilot Project (Taiwan Telehealth)	TW	http://telecare.com.tw/eng_Index.htm
15	Te Whiringa Ora -Care Connections - Enabling people to actively manage their long-term health condition (TWO)	NZ	http://www.healthcarenz.co.nz/clients-families/long-term-conditions/te-whiringa-ora
16	Telegerontología	SP	www.gerontologia.udc.es/investigacionL/proyectosubvencionados/proyectos/telegerontologia.php?lan=en
17	Telehealth - Whole System Demonstrator (WSD)	UK	http://www.telecare.org.uk/industry/whole-system-demonstrator-project
18	Telemonitoring Service for Chronic Conditions for Primary Care (TELBIL)	SP	http://www9.euskadi.net/sanidad/osteoba/datos/eval_impactel.pdf
19	Torbay (Care Trust)	UK	www.torbaycaretrust.nhs.uk
20	West Lothian Telecare	UK	www.westlothianchcp.org.uk

Source: own elaboration.

*Note: The country refers to the country where the initiative is originated and is mainly implemented with the exception of some initiatives that are clearly global as they originated and were implemented in several countries worldwide, or across the EU (e.g. multi-country research projects).

5.2 Analysis of the knowledge map of ICT-enabled social innovation initiatives promoting social investment through integrated approaches to social services delivery in education and training; employability and employment; social assistance; social care and childcare; and social inclusion

This section provides an overview of the analysis of the 50 ICT-enabled social innovation initiatives mapped in the areas of Education and training; Employability and employment; Social assistance; Social care and childcare; and Social inclusion. The aim of the analysis is to provide an overview of the initiatives collected in order to illustrate examples of what types of ICT-enabled social innovations are currently being implemented in some EU countries. The 50 initiatives mapped were first analysed using statistical descriptive techniques in order to illustrate the sample and examine the quantitative variables gathered using the data collection template (see § 5.2.1). Second, an analysis of the initiatives against the conceptual and analytical framework developed as part of the research has been conducted in qualitative terms (see § 5.2.2).

Before proceeding to the analysis it must be underlined the fact that the universe of initiatives that could be part of the 'IESI knowledge map' is clearly unknown (and unknowable) and this must be taken into account. Thus issues of overrepresentation and inherent biases will always be present and must be considered in the process of data interpretation and analysis. However, it is our intention in the following phases of the research to address these challenges by adopting a non-probability sample strategy. This sampling method involves identification of elements in the population based on a set of criteria and knowledge of the population of interest. Although it does not allow sampling errors to be calculated, this sampling method is particularly appropriate when the population number is unknown or cannot be accurately determined.

In practice, as this is the first exercise of its kind ever conducted by the European Commission directly, which will be updated and expanded over the next few years, it can be said that it represents a preliminary effort to 'structure the sample'. The next mapping exercises should attempt to 'reconstruct' a possible universe of initiatives from which a representative sample may be extracted and analysed in depth. In this perspective, the initiatives gathered during the next two years of research will be selected for integration in the knowledge map. They could possibly define a sample of initiatives that, although not statistically representative, may be representative of different welfare systems in the EU Member States.⁶⁰

5.2.1 General description of the 50 ICT-enabled social innovation initiatives promoting social investment through integrated approaches to social services delivery in education and training; employability and employment; social assistance; social care and childcare; and social inclusion

The sample of the initiatives collected and selected for the analysis at this stage of the research is composed by initiatives that are considered promising with regard to their potential impact in terms of ICT-enabled social innovation characteristics to promote social investment through integrated approaches to social services delivery in the social services areas mentioned above.

Although the sample of initiatives is limited (n=50), the results of the analysis are sometimes presented in percentages for the purposes of clarity. At other times, especially when analysing multiple response questions, the results are presented in absolute or relative frequencies.⁶¹ As already mentioned above, it should be underlined here that the sample of initiatives analysed at this stage of the research is not statistically representative due to its limited size. Moreover, it does not contain initiatives from all the EU Member States. Therefore, the results presented below must be understood in this context as an illustrative analysis of the first sample of initiatives collected.⁶²

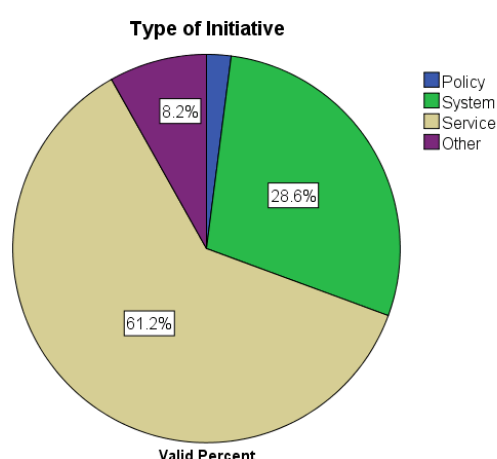
⁶⁰ See § 6.3 for future research directions.

⁶¹ For these questions the total percentage might exceed 100%, since they allow different responses in each case.

⁶² Further analysis will be developed at later stages of the research (in years 2 and 3) with an extended sample.

The analysis that follows looks at the coverage of the initiatives mapped in terms of type and area of social services in which they are embedded. For each initiative analysed, it presents basic figures, such as the location and scale of its implementation, the starting date, its status and its operational funding. It concludes with data on the target users, the stakeholders and the partnerships built around the initiatives.

Figure 10: Types of initiative (n=50)

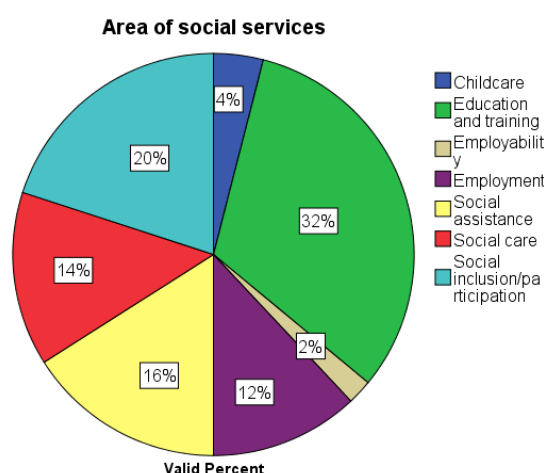


First of all, according to the unit of analysis of the research,⁶³ initiatives investigated could be *services, systems or social policies*. As Figure 10 shows, the majority of initiatives in the sample (61%) are **services**. This is due to the focus of the mapping activities in this phase of the research, which addresses integrated approaches to social services, where a crucial aspect is clearly the service component.

Almost 29% of the initiatives are **systems** whereas only 2% are **policies**. Those in the systems category address social service/benefit systems in general, and

include initiatives which aim to improve the organisation of social protection, social security, health or social services systems, or specific parts of them. Those in the policies category focus mainly on enhancing social assistance schemes for benefits entitlements or social services provision, mainly through the integration of services as part of a global design.

Figure 11: Area of social services (n=50)



The sample contains initiatives from seven areas of social services defined as personal services of general interest (see Chapter 3 for details). However, as Figure 11 shows there is certain heterogeneity in the initiatives regarding this variable. Thus, the area of 'Education and training' is the biggest in the sample (32% of the initiatives), followed by initiatives from the 'Social inclusion/participation' area (20%), and 'Social assistance' area (16%). All seven areas and the initiatives that belong to them are further analysed in detail with a qualitative analysis in the following §5.2.2.⁶⁴

⁶³ See § 2.1 for the definition of the unit of analysis of the research.

⁶⁴ For the purposes of clarity, please note that ten types of social services, defined according to the classification of PSSGI (see § 1.2) were actually addressed in this research. However, as already explained in § 1.1, the area of Active and Healthy Ageing and long-term care for older people is addressed as a separate complementary analysis (see § 5.3), while for the area referred to social housing no relevant initiatives have been identified. In addition to this, the area of civic engagement has not been considered explicitly in this first phase of the mapping. Moreover, as already explained in §1.2 and described in § 5.2.2, the seven types of social services were grouped into five for this analysis.

Figure 12: Geographical coverage (n=48)

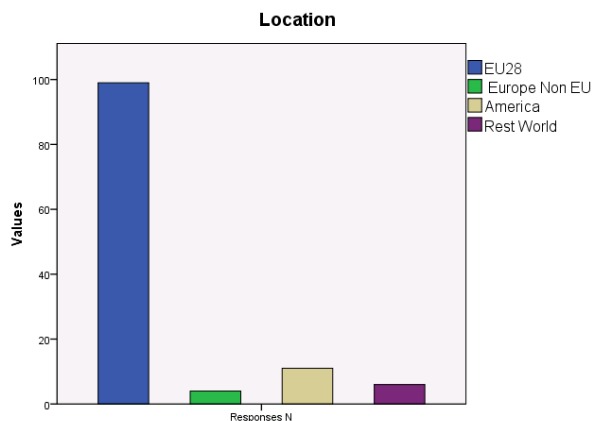
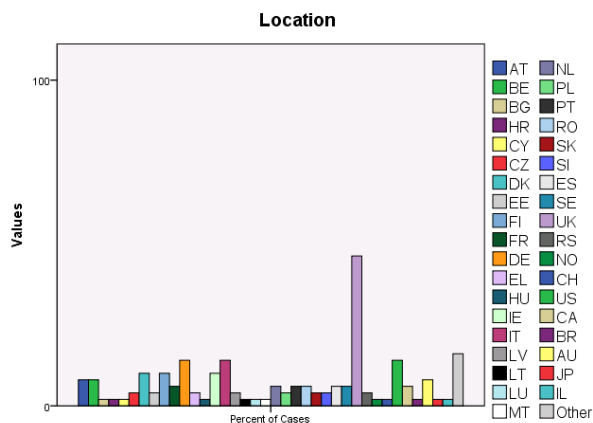


Figure 12 shows that the majority of the initiatives gathered in the first round of the mapping are being implemented in EU Member States. A few examples from non-EU countries are also present: e.g. other European countries such as Turkey, and also Australia, Canada, the USA, Brasil, Japan and Israel. This is in line with the design of the research that aims to map ICT-enabled social innovation initiatives in the EU, and to also study some initiatives from other vanguard countries.

Figure 13: Country location of the initiatives (n=50)

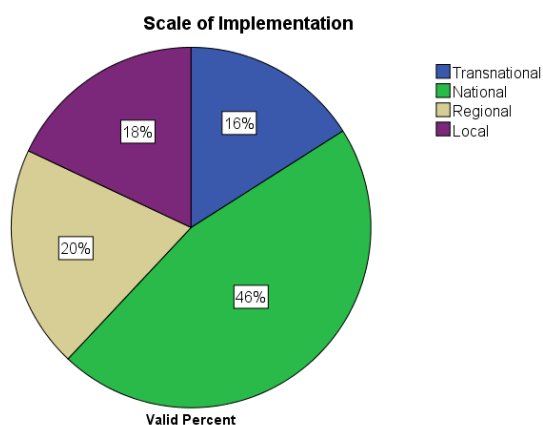


If we look at the **countries where the initiatives are implemented** (Figure 13) in more detail, we see that most are in the United Kingdom (46%); followed by Italy (14%); Denmark and Finland (10%); and Austria and Belgium (8%).

As we have already clarified above, due to the exploratory nature of the research, the sample of initiatives is not representative of the EU landscape. However, some of the indications that emerge from this first mapping exercise tend to confirm the results of our review of the state of the art. These results indicate that countries such as the UK and the Scandinavian group are

pioneers in the domain. These are followed by some countries where experimentation at local level is growing fast. 14% of the sample is located in the USA, with a global outreach. This confirms the leading role in the field of ICT-enabled social innovation of Anglo-Saxon and Scandinavian countries already identified in the review of the state of the art. Moreover, it is worth pointing out here that there are initiatives which were implemented in several countries, either across the EU or the rest of the world.

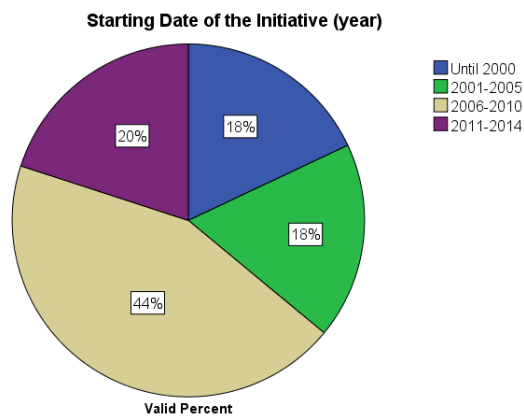
Figure 14: Scale of implementation (n=50)



In terms of **scale of implementation**, Figure 14 shows that 46% of the initiatives of the sample were implemented on a national scale and 38% on a sub-national level (combining 20% and 18% of initiatives implemented respectively at regional and local level). 16% of the initiatives were transnational, showing the importance of cross-border or global outreach initiatives. This seems to confirm the lack of clarity about the trends identified in the review of the state of the art, where initiatives in the field appear to be driven either by internationally-funded projects (e.g. EU) or by grass-roots local initiatives.

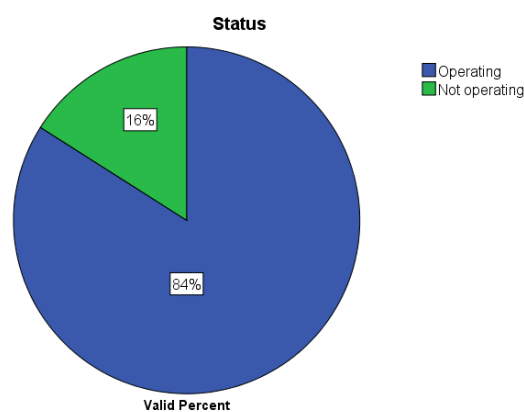
National initiatives are less studied in scientific literature and did not emerge prominently in the review of the state of the art. However, because initiatives addressing social policies and social services are the focus of our research, national initiatives form a major part of our sample.

Figure 15: Chronology of initiatives (n=50)



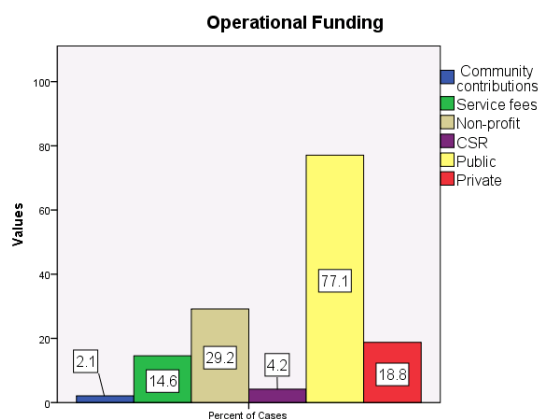
If we look at the **chronology of the initiatives** (Figure 15) we can see that most of the initiatives mapped (64%) are relatively recent, i.e. they started from 2006. More specifically, 44% of initiatives were established in the period 2006-2010, and 20% started operating between 2011 and 2014. However it is worth pointing out that a sizable group of initiatives (18%) started before 2000 and another 18% started between 2001 and 2005.

Figure 16: Status of initiatives (n=50)



As depicted in Figure 16 the vast majority of the initiatives (84%) are still operating. It is worth mentioning here that though the continuation of the initiatives over time can be understood as a sign of success, this research also aims to collect and analyse potentially successful initiatives that might be ended. This can be due to their development as pilot projects, or because they are linked to public funded research projects (i.e. European research projects) that come to an end. This however does not mean that they are not valuable as examples of ICT-enabled social innovation and for this reason they are included in the knowledge map of initiatives analysed.

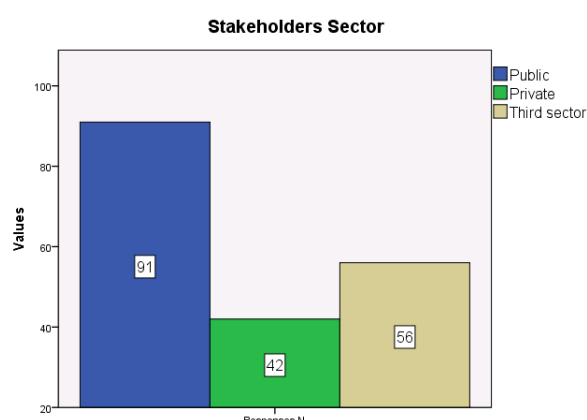
Figure 17: Operational funding sources (n=48)



Operational funding for initiatives may come from several different sources at the same time. Figure 17 shows that 77% of the initiatives have funding from public sources (i.e. governments, the EU or other international organisations). Almost 30% are funded by non-profit organisations (e.g. charities, volunteers, philanthropic organisations or NGOs). Almost 19% of the initiatives are funded by private organisations and 14.6% by service fees. Funding from corporate social responsibility and community contributions plays a small part in this sample. From this overview, it appears evident that public funding remains crucial although the diversification of sources

covering operational costs is increasing. This seems to be in line with the need to innovate, not only in service delivery but also in business and governance models.

Figure 18: Sector of stakeholders involved (n=50)



An analysis of stakeholders shows how important the role played by the public sector is. Figure 18 shows that the majority of the stakeholders involved in the sample are from the public sector, followed by the third and the private sectors. As Figure 19 shows in more detail, most of these are governments, especially at the national level, but also at regional or local level, and - to a lesser extent - international organisations. Stakeholders from third sector organisations also have considerable weight, equivalent to national governments.

Figure 19: Type of stakeholders (n=50)

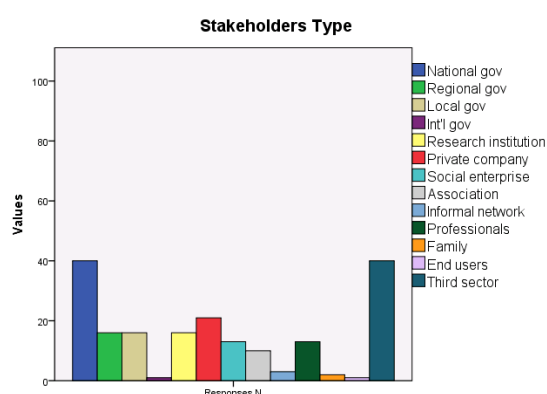
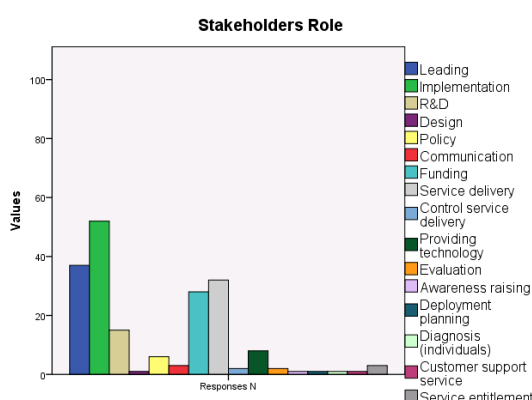
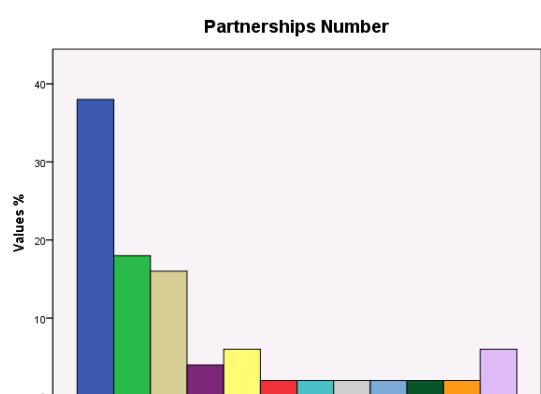


Figure 20: Role of stakeholders (n=50)



If we look then at the **role of stakeholders** (Figure 20), we can see they carry out many activities. It is worth noting that stakeholders mostly frequently play a role in implementation, followed by a role in leading, service delivery and funding. The other different roles played by stakeholders involved in the initiatives seem to be much smaller. Another important aspect of the analysis regards the **presence of formalised partnerships** in the implementation of the initiatives. Although this element clearly needs further analysis, Figure 21 would seem to show that most of the initiatives (38%) are implemented without established formal partnerships.

Figure 21: Number of partnerships (n=50)



However, when a partnership is formalised this involves in the majority of cases (34%) a limited number of partnerships (1 or 2 partnerships in the 18% and 16% of the initiatives respectively). Moreover, it should be emphasized that 14% of the initiatives reported having an elevate number of partnerships, that is, more than 10 partnerships (with 6% of them reaching even 25 partnerships). As said, this analysis requires further exploration especially with regard to the type of partnerships and their implications.

Figure 22: Target users addressed by the initiatives (n=48)

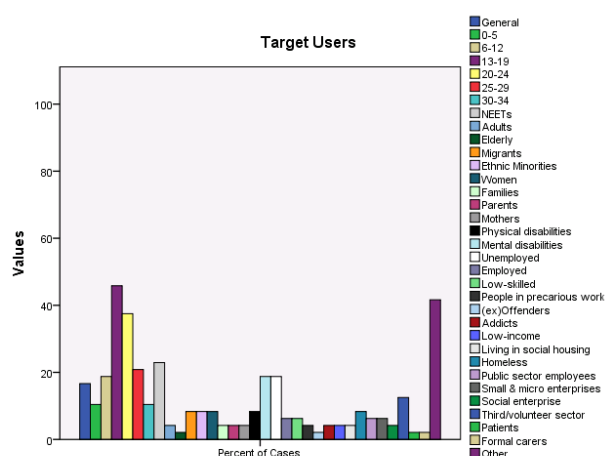


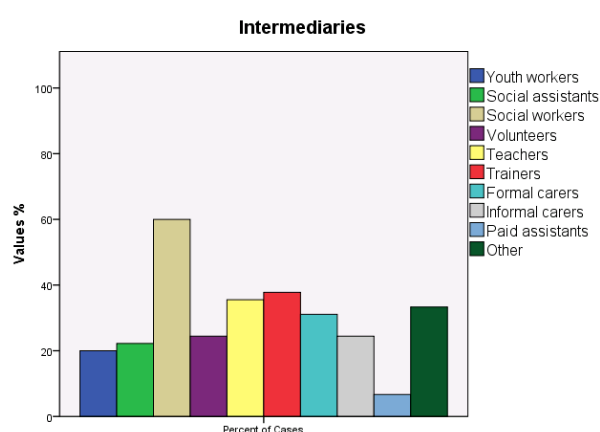
Figure 22 shows that the majority of the mapped initiatives target young people. Most of these initiatives are aimed at 13-19 or 20-24 year olds, focusing especially on those that are not in education, employment or training (NEETs).

This is partly due to the special emphasis placed in the mapping activities on searching for examples of ICT-enabled social innovation in support of social investment at an early stage in life.⁶⁵

However, it also reflects the fact that currently, due to the extremely high levels of youth

unemployment, young people, especially when they are at risk of social exclusion, receive particular attention at policy level. In addition, they are often the objects of experimental research, as identified in the review of the state of the art (Chapter 3). The remaining set of users targeted by the initiatives is fragmented into a multitude of user groups addressed by social services. This aspect will be analysed in more detail in the qualitative part of the analysis (see § 5.3).

Figure 23: Type of intermediaries involved (n=45)



Finally, an interesting element of analysis is the important **role played by intermediaries** in the initiatives under investigation. As shown in Figure 23, these intermediary roles range from social workers (who are involved in 60% of the initiatives), trainers and teachers (involved in 37.8% and 35% of the initiatives respectively). This is probably related to the major target group of initiatives in our sample biased to young people. Other intermediaries, such as formal and informal carers, volunteers, youth workers, social or paid assistants are however present in various initiatives analysed, as we will see in detail in § 5.3.

5.2.2 Analysing the initiatives according to the IESI conceptual framework

In this section, the sample of initiatives selected for the mapping is analysed according to the conceptual and analytical framework of the research (see Chapter 4). For this purpose, first of all, and in line with the main goal of the research, initiatives are analysed with respect to their policy relevance. In this research, this means the recommendations and policy priorities of the Social Investment Package identified as relevant for the IESI research. Then, initiatives are studied according to the specific dimensions of analysis defined, namely: elements of social innovation; ICT-enabled innovation potential; level of governance and type of service integration.

⁶⁵ In this regard it must be mentioned that one of the preparatory studies conducted for JRC-IPTS focused specifically on mapping initiatives of ICT-enabled social innovation in support of active inclusion of youth. See the JRC Technical Report Exploring the Role of ICT-enabled Social Innovation for the Active Inclusion of Young People available at: <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC95506/jrc95506.pdf>

Figure 24: SIP strands addressed by the initiatives (n=50)

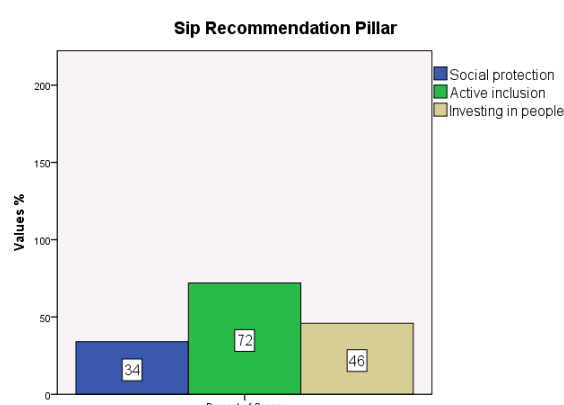


Figure 24 shows that most of the initiatives (72%) are related to the SIP strand **‘Implementing active inclusion strategies’**, investing in people’s skills and capacities to improve their opportunities to integrate into society and the labour market.

The second SIP strand most often addressed by the initiatives in the sample (46%) is **‘Investing in individuals throughout their lives’**. This means investing as early in their lives as possible to prevent hardship later and preparing people ‘against’ life’s risks rather than simply ‘repairing’.

Finally, 34% of initiatives are related to the SIP strand **‘Modernising social protection systems’**, which entails spending 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 (on participating in training, for example).

In the Figure 25 and 26 the policy objectives addressed by the initiatives from both beneficiaries’ and service provision perspectives are considered. In particular, it involves the effects of the initiatives on the end beneficiaries (i.e. outcomes at micro-level) and the results in terms of service-delivery by the organisation providing them (i.e. outcomes at meso-level).

Figure 25: Policy priorities: Beneficiaries (n=49)

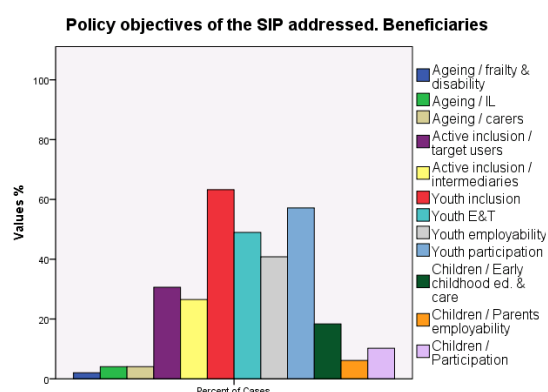
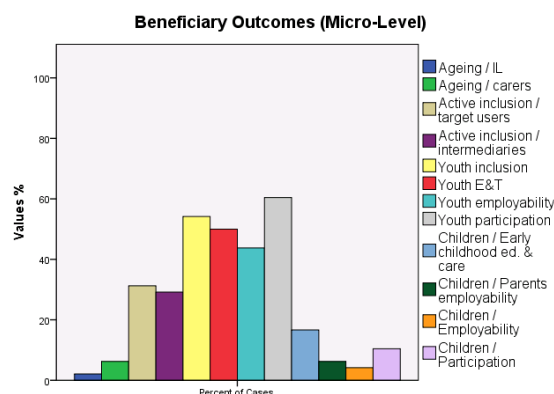


Figure 26: Beneficiaries' outcomes (n=48)



Looking at the two figures it seems that there is a certain **match between the policy objectives of the SIP addressed by the initiatives, and their effect on the end beneficiaries** in relation to these objectives. Thus, most of the initiatives address policy objectives related to **young people** –promote youth social inclusion (67%), support participation of young people in society (57%), support education and training (49%) and promote employability of young people (41%). Moreover, about 57% of the initiatives have policy objectives related to **active inclusion** (i.e. 31% support the active inclusion of people furthest from the labour market; and 27% support inclusive labour markets, self-employment and job market intermediaries).⁶⁶ As it would be expected, this has a direct relation with beneficiaries’ outcomes achieved, and mainly active inclusion of youth.

⁶⁶ In the figure labelled as ‘Active inclusion target users’ and ‘Active inclusion intermediaries’ respectively.

As it is shown by combining the Figure 27 and 28, there seems to be a similar link between the policy objectives of the SIP addressed by the initiatives and their effect on the service provision by the organisation providing them (i.e. outcomes at meso-level). It can be observed in fact that the initiatives under investigation mostly address policy objectives related to **better targeting benefits and services** (78%), improving **access and take-up** of services (76%), and promoting **cost-effective** social services meeting the needs of citizens (53%).

Figure 27: Policy priorities. Service provision (n=49)

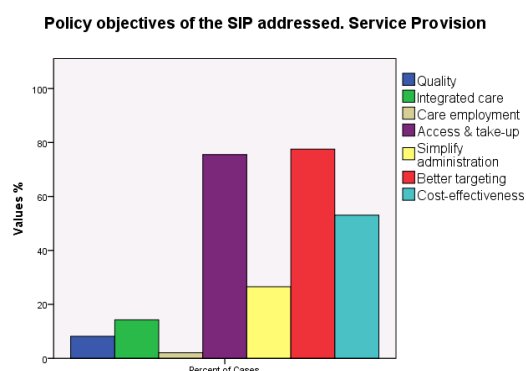
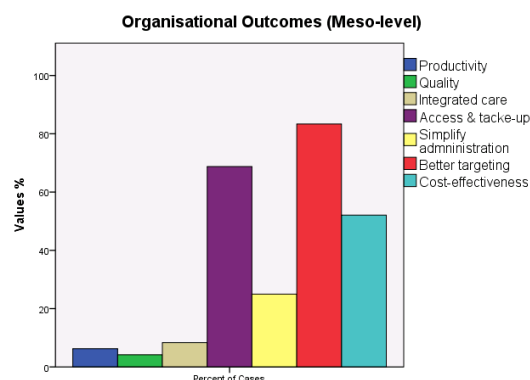


Figure 28: Organisational outcomes (n=48)



These policy objectives seem to achieve related organisational outcomes, with effects at meso-level mainly related to better targeting benefits and services (83%), improve access and take-up of services (69%), and at a lower scale promote cost-effective social services meeting the needs of citizens (52%).

Figure 29: Elements of social innovation (n=50)

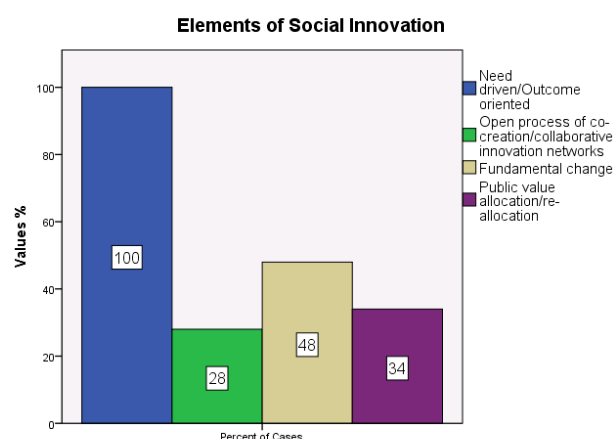


Figure 29 analyses the elements of social innovation that characterise the mapping initiatives. Firstly, it is worth noting that all the initiatives analysed (100%) present the element of **'need-driven/outcome-oriented production'**, that is, the outcomes try to meet the needs of the society or specific groups in society in a long lasting way. In fact, this seems to be the minimum requirement for an initiative to be considered social innovation. And of course ICTs can play an important role in providing user-centred services, in line with the SIP objective of responding better to users' demands and needs.

A second important group of initiatives (48%) are characterised by the presence of the element **'Fundamental change in the relationships between stakeholders'**. This means the way in which stakeholders relate to each other, how they interact and how they collaborate is radically changed. Therefore, in these initiatives social innovation tries to act as a 'game changer', breaking through 'path dependencies'. Again, ICTs facilitate new roles for stakeholders and contribute to changing 'power-relations'. At the same time, they strengthen the contribution of non-public sector organisations and users themselves in the service design and delivery.

Furthermore, it is worth mentioning that 34% of the initiatives are concerned with '**public value allocation and/or re-allocation**'. This means that, in the process of achieving their objectives, they also try to ensure that the innovation is an appropriate one and do not only look at the presumed or achieved consequences of the innovation in terms of effectiveness or efficiency. In this respect, ICTs support this process by increasing the outreach and enabling network effects that would not be possible without them.

Finally, although only 28% of initiatives seem to be characterised by an **open process of co-creation and the presence of collaborative innovation networks**, this element of social innovation is particularly important as it represents one of the game-changing capacities that ICTs can enable by putting the users in the 'driving seat'. It can go beyond formal or institutionalised collaboration practices by substantially modifying the innovation process and actors' roles within the innovation networks, related service design and delivery mechanisms.

From this analysis, it emerges that most of the initiatives belong to a **functionalist conception of social innovation**,⁶⁷ characterised by the elements of 'need-driven/outcome-oriented production' and 'open process of co-creation/collaborative innovation'. However, it is worth pointing out that there is a large group of initiatives in the sample which promote a **transformationalist social innovation approach**, characterised by the elements of 'fundamental change in the relationships between stakeholders' and 'public value allocation and/or re-allocation'. These elements will be further analysed in the qualitative part of the analysis (see § 5.2.3).

Figure 30: ICT-enabled innovation potential (n=49)

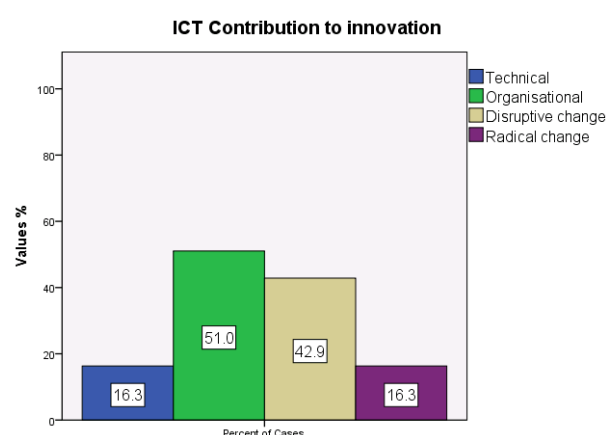


Figure 30 shows that most of the initiatives (51%) use ICTs for **organisational/sustained innovation**. This means that these initiatives use ICTs to support, facilitate or complement existing efforts and processes to improve organisational mechanisms for services provision. This implies change at organisational, managerial, or governance/ institutional level.

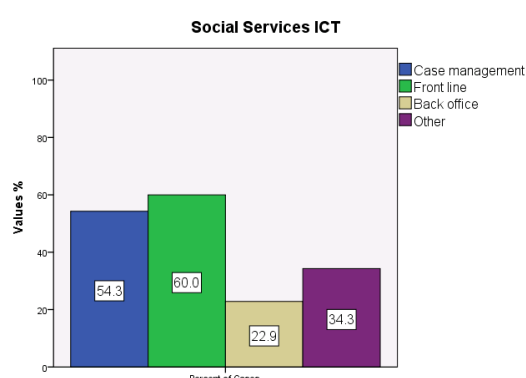
43% of the initiatives in the sample use ICTs for **transformative/disruptive innovation**: i.e. they initiate or improve new services or create new mechanisms for service delivery which would be impossible through non-ICT modes, resulting in product or service innovation.

Finally, as well as the 16.3% of initiatives that use ICTs for **technical/incremental innovation**, 16.3% of initiatives use them for **transformative/radical innovation**. They make substantial use of ICTs outside of the recognised institutional settings and aim to radically modify the existing mechanisms of service provision. This implies or may lead to conceptual innovations: such as a paradigm shift that helps to reframe the nature of specific problems and also their possible solutions.

Thus from the analysis of the two key variables of ICT-enabled social innovation initiatives (i.e. social innovation elements and ICT-enabled innovation potential), it seems possible to state that, although **ICT-enabled social innovation initiatives are characterised to a great extent by a organisational/sustained innovation supporting social policies reforms**, there are signs indicating that a growing number of initiatives are also positioning themselves along the way towards a transformative (either disruptive or radical) and 'strong' ICT-enabled social innovation.

⁶⁷ View Table 1 in Chapter 4 for details on conceptions and elements of social innovation.

Figure 31: Types of ICTs used (n=50)

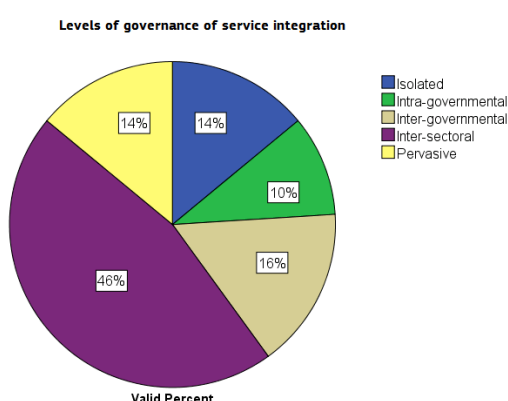


More specifically, if we look at how **ICTs are used** (Figure 31) by the initiatives mapped, it emerged that 60% are mainly operating through an informatisation of the front-office, while over 54% introduced ICTs to better manage cases. Only 23% of the initiatives used ICTs to re-engineer their back-offices, while 34% used them for supporting other processes. However, this part of the analysis needs to be further investigated to better understand in details what kind of technologies are used and how.

Regarding the **level of governance of service integration**, as shown in Figure 32 initiatives analysed appear being mainly characterized (46%) by **inter-sectoral** level of governance of service integration, resulting from the collaboration between government and service delivery providers in private or non-for-profit sectors.

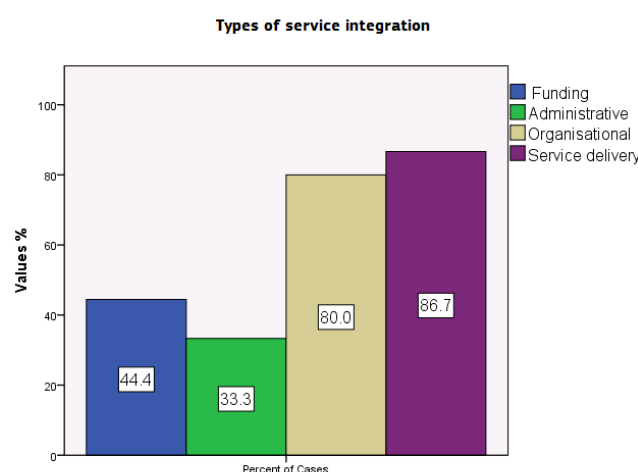
However, even if less spread, it is important to mention that 16% of the initiatives are characterised by **inter-governmental** level involving multiple levels of government in the design/implementation of social services policies or services, while 10% of initiatives are addressing **intra-governmental** level.

Figure 32: Levels of governance of service integration (n=50)



Moreover, it is worth noting that the rest of initiatives are distributed equally between the two extremes: 14% are **isolated** (no integration) and another 14% are **pervasive** (14%) (characterised by a level of governance of service integration goes beyond the traditional boundaries of administrative/operational integration and is embedded in a new *modus-operandi* where service providers and beneficiaries co-produce services and innovate delivery mechanisms and reallocate resources and roles in an attempt to maximise public value creation).

Figure 33: Types of service integration (n=45)

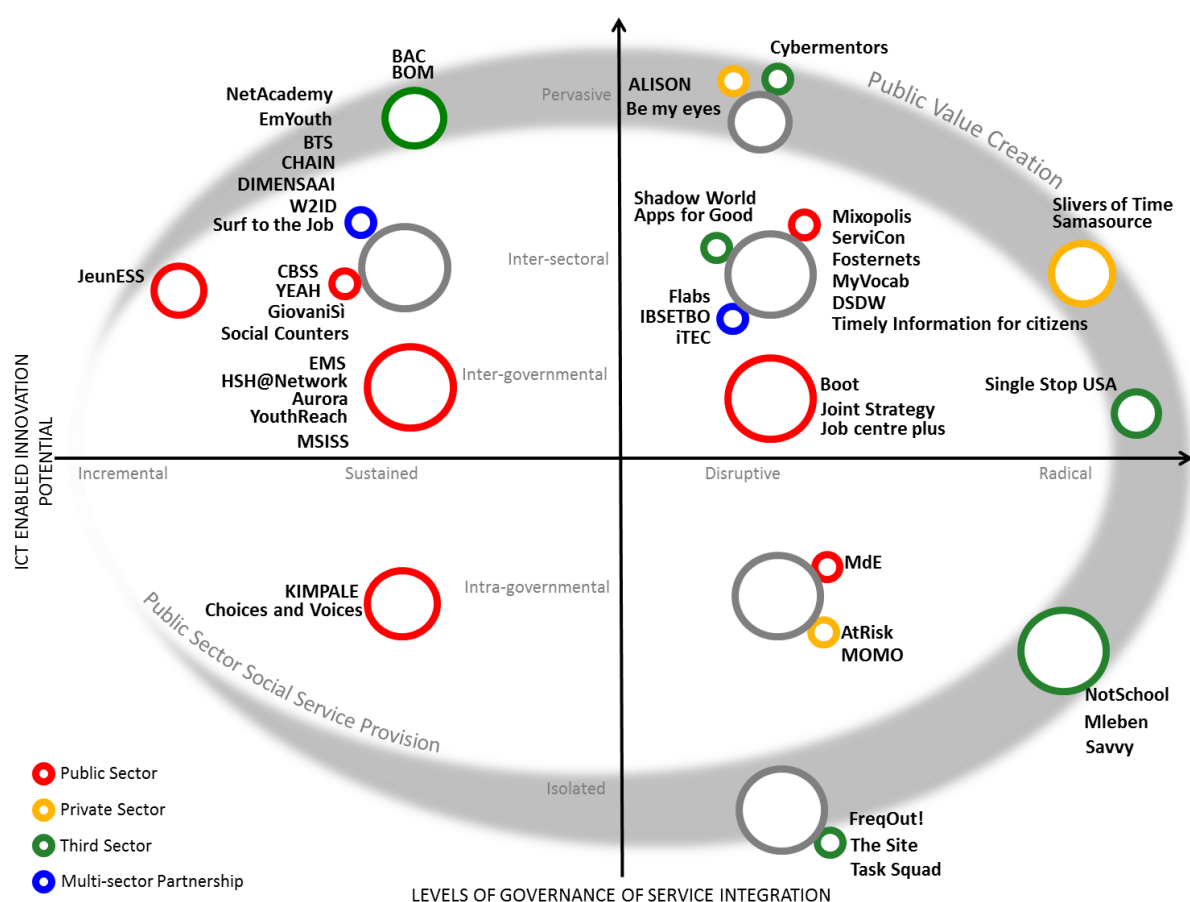


With respect to the **types of service integration** as shown in Figure 33 it can be highlighted that most of the initiatives (86.7%) have a **service-delivery type of integration**. Moreover, 80% of the initiatives present an **organisational type of integration**. A 44.4% instead have a **funding** type of integration and 33.3% of the initiatives an **administrative** type of integration.

5.2.3 Qualitative analysis of the IESI knowledge map of ICT-enabled social innovation initiatives promoting social investment through integrated approaches to social services delivery in Education and training; Employability and employment; Social assistance; Social care and childcare; and Social inclusion

This section presents the results of the qualitative analysis of the 50 ICT-enabled social innovation initiatives promoting social investment through integrated approaches to social services delivery in Education and training; Employability and employment; Social assistance; Social care and childcare; and Social inclusion mapped in the first phase of the research. These initiatives are represented through the **IESI Knowledge Map of ICT-enabled social innovation** presented in Figure 34.

Figure 34: Knowledge Map of ICT-enabled social innovation initiatives promoting social investment through integrated approaches to social services delivery in Education and training; Employability and employment; Social assistance; Social care and childcare; and Social inclusion



Source: own elaboration.

As explained in Chapter 4 presenting the conceptual and analytical framework underpinning the IESI research (see § 4.3), defined as 'knowledge map', this divides the space of the graphic into two 'ellipses'. The smaller one, with a white background in this graphical representation, contains initiatives that are mainly emanating from the realm of 'Public Sector Social Service Provision'. The larger one with a grey background, labelled 'Public Value Creation', contains those initiatives that have sprung up outside traditional public social service provision. It also illustrates the positioning of the entire set of initiatives according to two orthogonal axes that represent two of the key dimensions of ICT-enabled social innovation, namely ICT-enabled innovation potential and governance level of service integration.

The Knowledge Map is the result of positioning on the above illustrated axes all the initiatives at an imaginary intersection between 2 coordinates: their level of ICT enabled innovation potential (the horizontal axis) and the level of governance of service integration which characterise each of the initiatives (the vertical axis). The representation of the initiatives on the two axes is not associated with any hierarchy between the cases and the positioning on the map is not the result of any evaluation of the quality or success of the initiatives (see § 6.1 for more details on this).

To enhance the readability of the knowledge map, a bubble is placed to mark a group of initiatives divided per sector type (public sector driven initiatives are indicated by a red dot; private sector driven initiatives are associated to a yellow dot; third sector is represented by a green dot and multi-sector initiatives are indicated by a blue dot); the relative names of the initiatives belonging the group are specified aside. Bubbles are grey when initiatives originating in different sectors are present at the same crossing point. They are sided by coloured dots to indicate which sectors the initiatives they contain originate from.

Conversely, if at a certain crossing point, only initiatives pertaining to a single sector are present, then the bubble uses the same colour code of the sector. Bubbles vary in size according to the number of initiatives they contain, one, two or more than two. In the top right quadrant for instance, at the crossing between pervasive integration and disruptive innovation potential, a grey medium-sized bubble is located, surrounded by one yellow dot and a green one. It indicates that initiatives in that area of the map are three, two pertaining to the private sector (i.e. ALISON and Be my eyes) and one to the third sector (Cybermentors): labels report the names of the initiatives per each sector, three in this case.

Overall the Knowledge Map of ICT-enabled social innovation initiatives promoting social investment through integrated approaches to social services delivery in Education and training; Employability and employment; Social assistance; Social care and childcare; and Social inclusion consists of 50 mapped initiatives of ICT enabled social innovation predominantly belonging to the public sector (marked by red colour). Although most of the initiatives have a sustained or disruptive ICT enabled innovation potential, 6 initiatives however proposes radical models of innovation and these are driven either by private or third sector organisations. In terms of levels of governance of service integration, most of the initiatives are facilitated through inter-governmental, inter-sectorial or even pervasive levels of governance integration, while there are few isolated initiatives (lower right quadrant of the Map).

In the following of this section a more in-depth analysis of the initiatives is presented according to the various social service areas in which they have been classified. In fact, recalling what already anticipated in Chapter 1, the spectrum of social services captured in this research is originally derived from a classification made of the so defined Personal Social services of General Interest (PSSGI). These have been divided into 10 types of social services of which 7 out of the 10 categories are considered in the sample of 50 initiatives under analysis, either as examples for given categories or as combinations of 2 or more types, as in the case of one-stop shops, or of integrated social services for employment and health care for vulnerable groups, etc.

As already indicated, the 7 types of PSSGI have been then grouped, for the purposes of this analysis, especially where the initiatives encompass more than one service field, into five main areas of social services, namely: i) Education and Training; ii) Employability and Employment; iii) Social Assistance; iv) Childcare and Social care; and v) Social Inclusion. A knowledge map for each social services area has been drawn to illustrate the main commonalities and differences of the initiatives or 'clusters'⁶⁸ of initiatives (where such a grouping emerges).⁶⁹

⁶⁸ We do not refer here to the statistical concept or technique for cluster sampling and data analysis. The term 'cluster' is used here to indicate a small group of initiatives with similar characteristics evident in the figures representing them.

⁶⁹ It should be underlined that most of the initiatives under analysis have a multiple focus. For the purposes of analysis, they have been selected as belonging to an area depending on their primary focus.

In the analysis, in addition to the dimensions represented in the graphic model of the knowledge map, the initiatives are analysed with regard to the other dimensions characterising the ICT-enabled social innovation concept (i.e. elements of social innovation; and types of services integration)⁷⁰, as well as the sector from which they originate and are implemented, the specific impact of ICTs and the role of beneficiaries.

Clearly, as discussed in more details in § 6.1, this analysis has several limitations. However, the portrait offered by the knowledge maps presented in this report and originating from the preliminary findings of the research in its first phase, provide interesting insights and a starting point for further consolidating the mapping exercise in the next phases of the investigation. Moreover, at this stage of the research the analysis was not supposed to elaborate on the outcomes and impacts such initiatives are producing and on what are the relations with particular policies, welfare models, and social service delivery systems. Nevertheless, the picture emerging from this first series of Knowledge maps provides important indications on the main dimensions characterising the phenomenon of ICT-enabled social innovation in general and the specific feature of a sample of exemplarily initiatives which are to be considered the first 'building block' of a larger construction exercise. By the end of the IESI research project, the data collection and analysis shall be able to have built a larger data set and through its analysis it should be possible to elaborate more robust results and draw conclusions in terms of policy and research recommendations.

5.2.3.1 Education and Training

Sixteen of the 50 initiatives analysed make use of elements of ICT-enabled social innovation to transform existing modes of Education and Training provision in formal, non-formal and informal Education, Learning and Training (E&T) services. Overall, the wealth of initiatives in this area reflects the turmoil that the Education and Training area is undergoing, due to challenges like public spending cuts, changing learning needs linked to the transformation of the labour market on a global scale, including the need for lifelong learning, the pervasive role of ICTs in society, and the global demand for high quality Higher Education. It gives account of the broad range of experimentations that are currently occurring in the learning field.

5.2.3.1.1 A heterogeneous landscape

Figure 35 shows how these initiatives are heterogeneous in every respect. The majority (13 out of 16) pertains to the ellipse of public sector social service provision, but the knowledge map includes initiatives that generate public value outside traditional service delivery mechanisms driven or implemented by the public sector.⁷¹ Among the former, most initiatives are example either of inter-governmental integration, implying collaboration across multiple levels of government or examples of inter-sectoral integration, resulting from collaboration between government and service delivery providers in private or non-for-profit sectors.

Outside the sphere of public sector social service provision, in what we have labelled 'Public Value Creation', three examples of isolated initiatives can be found: **ALISON**, **FreqOut!** and **NotSchool**. These originated outside the control of the public sector, to fill gaps in existing service models. Two of them (ALISON and NotSchool) have started to penetrate the boundaries of public sector social service provision, demonstrating that initiatives born in isolation can become pervasive. Thus, they contribute to blurring the boundaries between traditional social service provision in the public sector and public value creation, beyond the traditional settings of public sector areas of intervention.

The initiatives under review are diverse with respect to the role ICTs play in their service model and thus in enabling their innovation potential. Eight out of 16 initiatives in our mapping use ICTs to support, facilitate or complement existing efforts and processes to improve organizational mechanisms for service provision. Another 7 use ICTs to initiate or improve new services or create new mechanisms for service delivery which would be impossible through non-ICT-enabled modes,

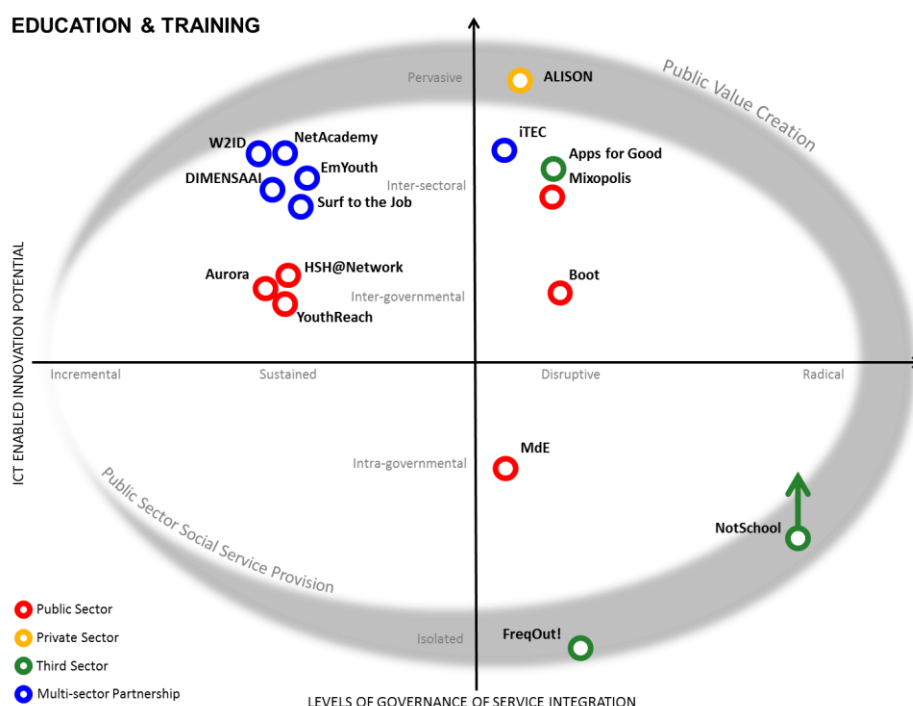
⁷⁰ According to the classification of Personal Social services of General Interest (PSSGI) (see § 3.1).

⁷¹ See § 4.3 for details on this.

resulting in product or service innovation. One of the initiatives mapped in the area of Education and Training uses ICTs to radically modify the existing mechanisms of service provision, implying a paradigm shift in the approach to drop-outs and their re-engagement in learning.

In this fragmented landscape, some clusters can be identified at a glance by observing how the initiatives can be grouped in the different quadrants of the Education and Training knowledge map.

Figure 35: Initiatives in the social service area of E&T mapped with respect to their ICT-enabled innovation potential and the levels of governance of service Integration they entail



Source: own elaboration.

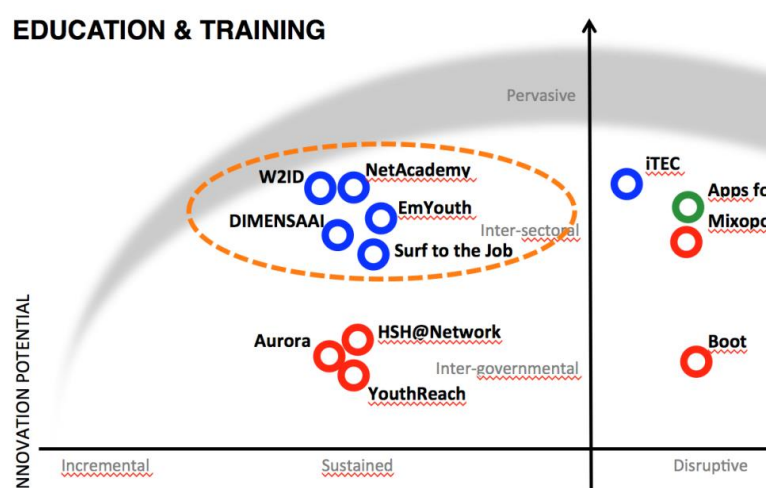
5.2.3.1.2 ICT-enabled sustained innovations implying inter-sectoral level of governance of service Integration

In the upper left quadrant of Figure 35, a number of initiatives propose new models of integrated service provision using ICTs. **NetAcademy, W2ID, Surf-to-the-job, EmYouth** and **DIMENSAAI** are part of this first cluster (see Figure 36). Not surprisingly, all result from a joint effort by partners from different sectors collaborating to deliver the intended service.

The initiatives pertaining to this cluster have a specific emphasis on vocational training but as additional focus include also employability⁷². For example, NetAcademy focuses on network management training to provide beneficiaries with industry-relevant competences and recognised qualifications, to facilitate their employability in the ICT industry. W2ID has developed a set of Web 2.0 resources tailored to the needs of people with Intellectual Disabilities. It uses these new tools to deliver content which aims to foster their placement. Surf-to-the-job aims to train social workers in the area of employment to use ICT job market platforms in order to deliver a better service to the beneficiaries (i.e. employment centres). EmYouth is aimed to raise the digital literacy levels of Turkish youngsters to increase their employability. DIMENSAAI seeks to improve the employability of older workers and people with disabilities by delivering training and job qualifications in the health and care sectors.

⁷² As explained in the introduction to § 5.3 initiatives often have multi-focus. This is particularly evident in the case of education and training as such initiatives are normally oriented to improve employability of beneficiaries.

Figure 36: Multi-sector partnerships for ICT-enabled sustained innovation



Source: own elaboration.

The elements of social innovation in the initiatives of this first cluster are strongly focused on the outcome. These initiatives respond to the need to deliver effective training to the intended beneficiaries to support their inclusion in society by enhancing their employability. Only one of them shows elements of openness, including end-users (people with intellectual disabilities) as co-designers in the process of tailoring Web 2.0 tools to empower them to acquire skills which contribute to their employability.

Broadly speaking, the role played by ICTs in these initiatives facilitates the collaboration among partners in providing the intended level of service and supports the pedagogical model on which the service is built (e.g. distance learning, peer learning, on the job training). **Error! Reference source not found.** summarizes the key features of this first cluster of initiatives.

Looking more closely at the types of service integration these initiatives entail (see Table 4 above), it can be noticed that all the initiatives of this cluster encompass organisational integration. In practice, they can be defined as strategic alliances set up to jointly manage a service that pulls competences from different agencies (and sectors) to effectively meet the needs of the beneficiaries. These initiatives are not integrated at an administrative level. In the case of projects supported by EC grants or by the private sector, there might be a funding type of service integration. Service delivery integration is not strictly a requirement of this type of initiative: strategic integration may be limited to the design phase, not requiring integration at the delivery stage.

The initiatives in this first cluster involve multi-sector collaborations to respond in a more targeted and effective way to the education and training needs of their target beneficiaries. These needs are closely linked to the beneficiaries' employability, i.e. their capability for gaining and maintaining employment. Finally, with respect to the relationship between the provider and the beneficiary, our analysis shows that, in most cases, beneficiaries are primarily seen as service receivers and take no active part in the service model. W2ID is an exception, in that it adopted a user-centred design approach, which involved end-users as design partners in the service definition phase of the project.

The problem: to deliver effective training to enhance beneficiaries' employability.

The solution approach: to pull competences from different sectors to better design, implement and deliver an effective solution to address the problem..

The impact of ICTs: to sustain the organisational transformation required by the solution approach; to support the actual delivery of the services designed to address the problem.

The role of the beneficiaries: service beneficiaries are merely receivers of the E&T service. However, they can be involved as co-designers in the requirement definition phase.

Box 1. Key features of ICT-enabled sustained innovations implying inter-sector integration in E&T

Table 4: Initiatives in the area of E&T: Intended beneficiaries, Types of Service Integration, Elements of Social Innovation and Role of Beneficiaries

Acronym	Intended beneficiaries	Types of Service Integration	Elements of Social Innovation	The role of beneficiaries
ALISON	Disadvantaged students/jobseekers.	Service delivery	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders; Public value (re) allocation.	ALISON students are empowered to tailor their own learning pathways and to manage their study time at their own pace.
Apps for good	Young people 10-18 years old.	Organizational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders; Public value (re) allocation.	The beneficiaries of the initiative are empowered to become social innovators, thus they become co-creators of public value.
AURORA	Young offenders in detention or probation centres.	Funding, Administrative, Organizational, Service Delivery	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders.	Beneficiaries are service receivers, not deeply engaged in service design or service delivery.
BOOT	University students and citizens of deprived neighbourhoods of Amsterdam.	Organisational	Need-driven/outcome-oriented production; Public value (re) allocation	Here university students produce of public value: they both receive education and provide social support to deprived communities.
DIMENSAAI	People with minor disabilities, or the elderly (55+) who want to work in the care sector.	Organizational	Need-driven/outcome-oriented production.	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
EmYouth	Young people, the marginalized and unemployed, women.	Funding, Organizational, Service Delivery	Need-driven/outcome-oriented production.	Beneficiaries are service receivers, not deeply engaged in service design or service delivery.
FreqOUT!	Marginalized young people aged 8-25.	Service Delivery	Need-driven/outcome oriented production; Open process of co-creation/collaborative innovation networks.	Beneficiaries become co-producers of content.
HSB	Sick children who have to leave their classroom for medical reasons (because they are hospitalized or have to stay at home).	Funding, Administrative, Organizational, Service Delivery	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders.	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
ITEC	Teachers, children, youngsters.	Organizational, Service Delivery	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders.	Beneficiaries are co-design partners.

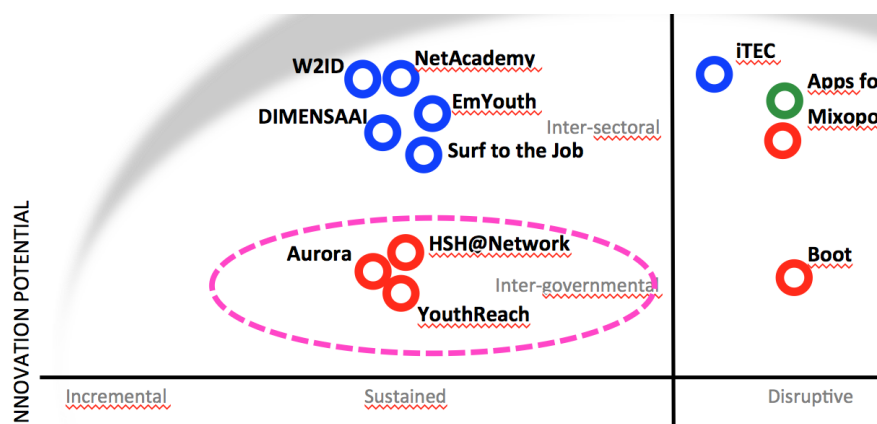
Acronym	Intended beneficiaries	Types of Service Integration	Elements of Social Innovation	The role of beneficiaries
MdE	Sick children who have to leave their classroom for medical reasons (because they are hospitalized or are receiving domiciliary therapy).	Funding, Organizational	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders.	Beneficiaries are service receivers, not deeply engaged in service design or service delivery.
Mixopolis	Migrant young people	Organizational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders.	Beneficiaries are co-designers and become co-producers of content. They are supported by peer mentors and are actively engaged as mentees
NetAcademy	Learners interested in an IT career.	Funding, Organizational, Service Delivery	Need-driven/outcome-oriented production.	Beneficiaries are service receivers, not deeply engaged in service design or service delivery.
NotSchool	11-18 years old not in education or training for behavioural or health reasons.	Funding, Organizational	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders.	Beneficiaries see their role transformed. Students become researchers; they are empowered by a pedagogical model that makes them actively build their competences. Some remain engaged in the community as experts, becoming co-providers of the service.
Surf to the Job	Young people further from the job market and at risk of exclusion (e.g. migrants); unemployed with low skill levels	Organizational, Service Delivery	Need-driven/outcome-oriented production.	Beneficiaries are service receivers, not deeply engaged in service design or service delivery.
W2ID	People with intellectual disabilities	Organizational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks.	Beneficiaries are involved as active stakeholders in the service design phase, they become co-producers of content and thus partners in service delivery.
Youthreach	Young people aged 15- 20, including early school leavers and NEETS.	Organizational	Need-driven/outcome-oriented production.	Beneficiaries are service receivers, not deeply engaged in service design or service delivery.

Source: own elaboration.

5.2.3.1.3 ICT-enabled sustained innovations with inter-governmental level of governance of service integration

In the upper left quadrant, another cluster of initiatives emerges. These are public sector-led initiatives which target vulnerable youngsters at risk of exclusion from formal E&T, due to criminal offences (**Aurora**), medical reasons (**HSH@Network**) or unemployed early school leavers (**Youthreach**) (see Figure 37). These initiatives result from a joint effort of different governmental departments that cooperate to deliver the intended service to a specific target group. As a secondary focus (and ultimate objective), they address social inclusion (Aurora and HSH@Network) and employability (Aurora and YouthReach) and have been set up to give young people at risk of marginalisation a concrete opportunity to participate in society through education and training. HSH@Network and Aurora are both experimental initiatives launched by the Italian Ministry of Education to reach students that cannot participate in classroom education. The former was established in collaboration with Italian Ministry of Health and the latter with the Italian Ministry of Justice. YouthReach is an Irish initiative, based on a partnership between the Irish Department of Education and Skills and the Irish Department of Enterprise, Trade and Employment to support lifelong learning across all society, by re-engaging early school leavers in education.

Figure 37: Inter-governmental partnerships for ICT-enabled sustained innovation



Source: own elaboration.

The elements of social innovation arising from the initiatives of this cluster are primarily need driven. In HSH@Network and Aurora the need is to grant hospitalized children and children who cannot attend school due to their health condition (HSH @Network) and young offenders in detention centres or secure juvenile communities (Aurora) the opportunity to remain engaged in formal education. These initiatives enable their beneficiaries to keep up the pace of their education and to remain in contact with their peers. In the case of YouthReach, the intended outcome is to re-engage in Vocational Training early school-leavers who have left school without qualifications, have low employability and thus are experiencing serious difficulties in entering the labour market. HSH@Network and Aurora are also examples of a fundamental change in stakeholder relations, in that they create a virtual bridge between schools and hospitals/young offender institutions. They suggest that there may be opportunities to create i) collaboration, as yet unexplored, between organisations that have different missions (i.e. education, healthcare, re-integration of young offenders) ii) new communities of learners made up of students in school and outside it.

In this cluster of initiatives, ICTs are key enablers of service delivery. E-learning platforms are instrumental to the creation of a virtual learning environment that students outside the physical boundaries of the classroom can access. In HSH@Network and Aurora, ICTs have established a shared learning space for students in school and hospitalised students/students in detention centres. In the case of YouthReach, the use of ICTs can develop students' digital skills, enabling them to re-engage in learning processes.

In terms of types of service integration, both HSH@NetworkK and Aurora encompass **funding, administrative, organisational and service delivery integration**. Formal administrative agreements between the involved institutions (schools, hospitals, young offender institutions or secure juvenile communities) were required to set them up. In addition, dedicated cable connections and secure communication systems had to be established to ensure students safety and to prevent the use of the ICT infrastructure for infringing the limitations imposed by the rehabilitation regime (for young offenders). These initiatives have required organisational change both in schools and hospital/juvenile detention institutions to establish a joint intervention strategy and a shared management of the service and also to implement service delivery through ICT-enabled co-location of educational activities (E-learning platform and video conferencing system). YouthReach on the other hand has entailed primarily an organisational level of integration, since the initiative is highly localised and delivered through vocational training centres distributed throughout marginalised areas of the country. Box 2 summarises the key features of this second cluster of initiatives.

The initiatives in this cluster involve collaborations among governmental departments in charge of different social service areas to jointly define an integrated approach to the needs of the target group. This integrated approach to service delivery is motivated by the particular conditions of the beneficiaries whose conditions are both vulnerable and complex and can be better tackled by a synergic cross-agency effort. Table 4 indicates that services pertaining to this cluster adopt a provider-centred approach. The target group is not involved in the design of the solution or its delivery, even though the pedagogical approach of these initiatives entails an active role of the learners.

The problem: to keep engaged /re-engage into E&T vulnerable youngsters at risk of exclusion.

The solution approach: to adopt multi-stakeholder approach in tackling the complexity of the situation these fragile youngsters are experiencing.

The impact of ICTs: to sustain the organizational transformation required by the solution approach; to support the actual delivery of the service designed to address the problem.

The role of the beneficiaries: service beneficiaries are mainly intended to be receivers of the new E&T service.

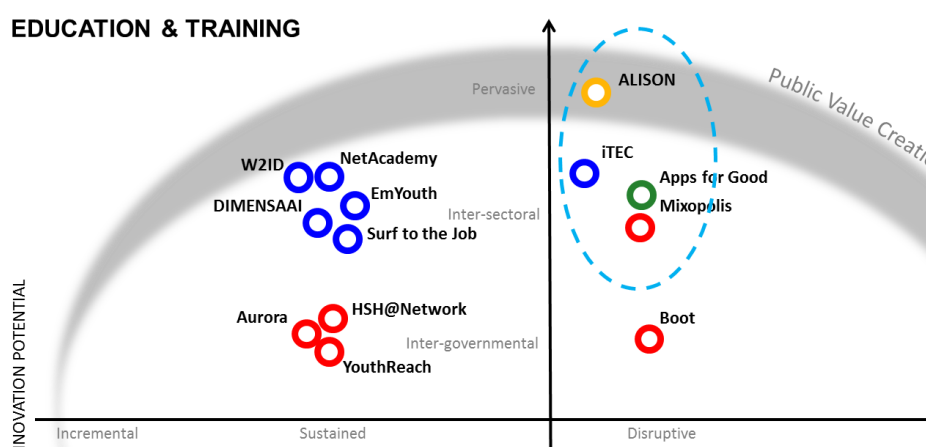
Box 2. Key features of ICT-enabled sustained innovations implying inter-governmental integration in E&T

5.2.3.1.4 Disruptive innovations entailing inter-sector and pervasive level of governance of service integration

In the upper right quadrant Figure 38 shows a group of four initiatives: i.e. Mixopolis (public sector led), Apps for Good (third sector driven), iTEC (a multi-sector research partnership) and ALISON (private sector). The first three initiatives entail inter-sectoral integration and the last one to a pervasive degree. All of them make use of ICTs to disrupt existing mechanisms of service delivery. However, they profoundly differ in the way they approach this transformation.

Mixopolis is a public/third sector partnership commissioned by the German Ministry of Education to increase participation of young migrants in society by engaging them in vocational training in the creative media sector. ICTs are used not as alternative channels to deliver instructional material but as enablers of a disruptive transformation in education and training for youth at risk of social exclusion. The role played by ICTs is in fact to provide support for young migrants, which develops their self-confidence and empowers them by actively building their capacity to co-construct knowledge and produce valuable cultural artefacts that they can share. Moreover, the project has created a tight collaboration network where young migrants co-create the service that empowers them, together with a variety of agencies including vocational education centres, schools and third sector associations, including adult migrants who participate in the initiative as volunteer mentors. It thus brings about a fundamental change in the relationships among stakeholders, a change that sees institutional service providers encouraging the target population to engage in deploying the solution to their needs. Integration - both at organisational and service delivery level - is functional to create a community of practice around the needs of youngsters with a migration background.

Figure 38: Disruptive innovations entailing inter-sectoral integration



Source: own elaboration.

iTEC is a multi-sector collaboration network which aims to redesign teaching and learning. It is not a social service *per se*, but an initiative that reflects on the potential evolution/transformation of social services in the area of Education and Training as enabled by the progressive integration of ICTs in society. Funded by the EC under the 7th Framework Programme, iTEC is an integrated project which promotes the construction of a shared vision on how the school of the future should look, pulling together the perspectives of policy makers, researchers, technology suppliers, experts on technology-enhanced learning, innovative teachers and learners in both primary and secondary schools. It is driven by the need to envisage future schooling systems in a context where the pervasiveness of ICTs will widen the possibilities to learn outside the walls of the classroom. The initiative aims to explore how the proliferation of ICT-enabled innovative and advanced teaching and learning in schools will affect the future of E&T by actively testing future school scenarios in real educational contexts. It explores the role that ICTs would play in enabling future school scenarios by prototyping innovative educational activities and evaluating them in different schools and in different educational context across Europe. As an EU-funded IP project, iTEC entails an organisational type of service integration. It also has an experimental service delivery integration in the pilot initiatives run to test the envisaged future E&T scenarios.

Apps for Good is driven by an open education movement which aims to transform the way technology is taught in schools and to empower students to use ICTs to create solutions to problems they care about. It is designed to foster programming literacy in schools, based on the assumption that mastering technology empowers students to transform the world they live in. The initiative proposes a disruptive approach to digital skills, which challenges existing models of using teaching and learning with and about technology in today's school. In doing so, it promotes outcome-oriented production (ICT-enabled solution to meet social challenges as perceived by the beneficiaries of the initiative). This is done through an open process of co-creation, which promotes fundamental change in the relationships among stakeholders, by having a formal educational setting host a third party-led educational format. It actively seeks to demonstrate how public value (re)allocation can be enhanced through a disruptive transformation of ICT-based educational activities. This initiative is an example of ICT-enabled social innovation that supports students' civic engagement. At the same time, it develops their ICT-related skills and creates a platform for generating ICT-enabled social innovation. Apps for Good requires the establishment of local partnerships with schools and other E&T institutions that allow students to participate in their activities. It thus requires organisational and service delivery types of integration, which allows the open education movement to enter classes and engage students in their initiatives.

ALISON is a free vocational Massive Online Open Course (MOOC) platform which targets individuals at risk of exclusion from other E&T channels. The initiative proves to be pervasive at the level of service integration since in many American schools it has become an E&T tool embedded in the public school practices. Moreover, by coupling the ICTs component with a disruptive business model ALISON has changed the traditional provider-centred approach to education to a model where open educational content is co-created by different providers and pulled together to match the individual needs of learners. So far, ALISON has exploited the potential of web-based E-learning technology to deliver free self-paced learning to millions of learners worldwide.

Box 3 summarises the key features of this cluster of initiatives. As previously mentioned, the initiatives are very diverse in terms of aims, use of ICTs and level of integration among stakeholders from different sectors. While Mixopolis, iTEC and Apps for Good have the role to provide inclusive educational models, ALISON's ultimate goal is to improve the employability of its target group. Nonetheless, all four examples engage their beneficiaries as partners in the definition of the strategy to address their needs, in the design of the service model or in the actual delivery of the service. Furthermore, all the initiatives in this cluster have transformative potential in that they use ICTs to disrupt existing models of service provision, by challenging existing models of teaching technologies and with ICTs themselves.

The problem: to transform E&T to develop sustainable and inclusive educational models.

The solution approach: to adopt a multi-stakeholder approach to piloting innovative ICT-enabled E&T formats.

The impact of ICTs: to enable new pedagogical formats which aim to transform current models of E&T, to pilot innovative E&T scenarios and to test their sustainability and inclusiveness.

The role of the beneficiaries: actively involved as partners in the design, development and deployment of ICT-enabled disruptive innovations.

Box 3. Key features of disruptive innovations entailing inter-sector integration in E&T

The top right quadrant of the Education and Training Service area Knowledge Map also includes **BOOT**, an initiative promoted by the Amsterdam University of Applied Sciences (HVA) to generate socioeconomic improvement of deprived neighbourhoods in Amsterdam through the civic engagement and active participation of university students. It aims to meet social needs (e.g. provide access to social assistance) by deploying a one-stop shop service model, in which the services are provided by students. It entails a high degree of integration between the E&T goals of the HVA Centre of Practice for Urban and Social Issues and the socio-economical goals of Amsterdam City Council. The initiative takes an innovative approach to social service delivery, whereby students contribute to the social wellbeing of deprived neighbourhoods and to the empowerment of citizens living in those areas. The students carry out concrete activities to contribute to community development and develop their own skills at the same time.

BOOT is an example of social innovation based on outcome-oriented production (one-stop shop social service delivery, enhanced educational experience, civic engagement). It adopts an open process of co-creation (students are active stakeholders in the deployment of the new service model) to allocate public value creation through community engagement, creating new stakeholder relations among previously detached actors (university/city council, teacher/students, professional/students, students/community) to achieve its goal.

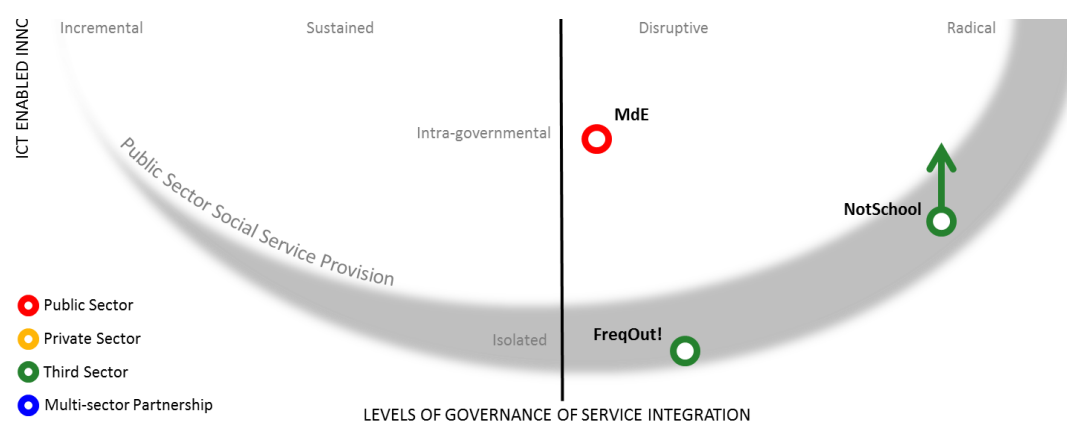
5.2.3.1.5 ICT-enabled disruptive and radical innovations implying a low level of governance of service integration

The lower right quadrant of the Education and Training Knowledge Map includes three initiatives (see Figure 39): **Mundo de Estrellas (MdE)**, a virtual environment designed to address the need for socialisation and learning of hospitalised children; **NotSchool** and **FreqOut!**, two distinct programmes designed to engage school dropouts (NotSchool) and young people from marginalised groups (FreqOut!) in E&T by using emerging technologies and social media.

Each initiative comprised in the quadrant has devised a different solution to respond to the needs

of vulnerable minors: hospitalised children (MdE), young people at risk of social exclusion due to their lack of access to E&T opportunities (FreqOUT! and NotSchool). Each of them spans another social service area beyond E&T: MdE, NotSchool and FreqOut address social inclusion. These initiatives result from intra-governmental integration as they aim to deploy a new service model/product within the offer of a specific public sector social service provider, whereas FreqOUT! and NotSchool are isolated initiatives that stem from the sphere of public value creation (i.e. outside the traditional sphere of intervention of the public sector). However, as the arrow in Figure 39 shows, NotSchool, crosses the borders between the two spheres of value creation. Though it was initiated far from institutional E&T settings to address unmet needs in the field, its effectiveness in responding to pressing needs of its target beneficiaries has raised interest in the public sector. Thus, it is being integrated progressively into public sector E&T provision to fill gaps in service provision that this sector has not been able to fill with its own resources.

Figure 39: ICT-enabled disruptive and radical innovations implying a low level of integration with Public Sector provided E&T



Source: own elaboration.

Box 2 summarises the key features of this cluster. All the initiatives use ICTs to enable the creation of new mechanisms for service delivery, which result in disruptive product or service innovation. MdE uses a virtual environment to create a space where children in hospital can socialize with classmates, friends and family members in and outside the wards. ALISON has exploited the potential of web-based E-learning technology to deliver free self-paced learning to millions of learners worldwide. FreqOUT! uses ICTs to empower users as content creators and media producers. NotSchool exploits ICTs - especially social media - to create learning communities where members appropriate, generate and share content. NotSchool uses ICTs to transform students into researchers.

The problem: to tailor alternative mechanisms of E&T service delivery to reach special targets.

The solution approach: to actively engage beneficiaries in the definition (design or delivery) of the solutions that will respond to their needs.

The impact of ICTs: to support new education formats which aim to transform current models of E&T by changing the pedagogical approach.

The role of the beneficiaries: beneficiaries are actively involved as partners in the design, development and deployment of ICTs, enabled disruptive (or radical) innovations in the field E&T.

Box 4. Key features of ICT-enabled innovation with a low level of integration

In these initiatives, ICTs play a game changer role in that they enable an approach to E&T which is different from the traditional one, and aims to radically modify the existing mechanisms of service provision to meet the needs of a population for whom traditional approaches have recursively failed to deliver any value. Notschool is an example of ICT-enabled radical innovation in that it makes use of ICTs to support the delivery of a conceptually new educational format tailored to the specific characteristics of school drop-outs.

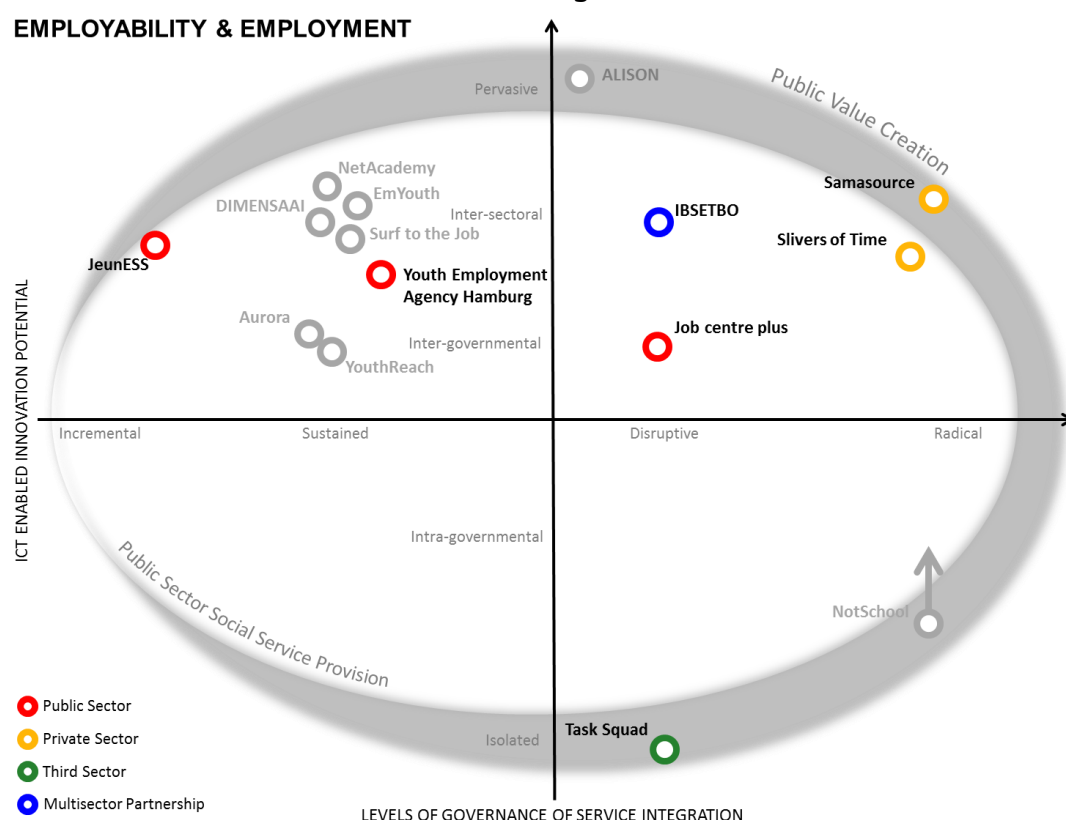
5.2.3.2 Employability and Employment

Given the current situation of unemployment and social crisis all over the world, and in particular in the EU, it is no surprise to see that many initiatives identified address employability and employment. Out of the 50 mapped initiatives, 15 (i.e. 30%) address the challenges of finding a job or becoming better prepared to find a job as their primary or secondary objective. In addition to services directly targeted at helping unemployed people to find employment, we have focused our analysis on initiatives that can enhance, through ICT-enabled innovation, employability, which is defined as *'the combination of factors and processes that enable people to progress toward or find employment, to remain employed, and/or to advance in the workplace'* (Green et al, 2012).

In this respect, several cases are actually at the crossroads between education and training and employability activities, increasing the opportunities for individuals to progress towards employment. For this reason, although it is difficult to make a clear distinction between initiatives that only belong to one area or the other, we have opted for a pragmatic approach. We have categorised those initiatives that include mainly an educational component and also address intermediaries (e.g. Surf to the Job) or the specific needs of people with disabilities (e.g. DIMENSAAI) or disadvantaged groups (e.g. Aurora for offending people) as part of education and training. In the same area, we also include initiatives which address young people at risk of exclusion, by empowering them and helping them get back to education and training, either formal or informal (e.g. ALISON, Empowerment Youth; NetAcademy; NotSchool and Youthreach). These initiatives have been already analysed in § 5.2.3.1.

Thus, the Knowledge Map of Employability and Employment initiatives *stricto sensu* is composed of seven (7) initiatives as represented in Figure 40 and described in Table 5. They are presented in colours, according to the sector where they belong, while the other ones are presented in grey.

Figure 40: Initiatives in the employability and employment social services area mapped with respect to their ICT-enabled innovation potential and their level of governance of service integration



Source: own elaboration.

Table 5: Initiatives in the area of employability and employment: intended beneficiaries, type of service integration, elements of social innovation and role of beneficiaries

Acronym	Intended Beneficiaries	Types of Service Integration	Elements of Social Innovation	The role of beneficiaries
IBSETBO	Employment and training brokerage (ETB) organisations in support of hard-to-reach groups of unemployed people	Funding Service Delivery	Need-driven/outcome-oriented production Public value allocation	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
Job Centre Plus	Unemployed people with special focus on helping young people and people with disabilities find employment	Administrative Organisational Service Delivery	Need-driven/outcome-oriented production	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
Programme Jeun'ESS	Young people interested in social solidarity/sharing economy (i.e. working for a social enterprise or becoming social entrepreneur)	Administrative Funding Service Delivery	Need-driven/outcome-oriented production Open process of co-creation / collaborative innovation networks Public value allocation	Beneficiaries become co-producers of content, thus becoming primary contributors to the mission of the initiative
Samasource	Mainly women and young people in developing countries earning below a local living wage, performing micro-task work for large private corporations over the Internet	Organisational Service Delivery	Need-driven/outcome-oriented production Public value allocation Fundamental change in the relationships between stakeholders Open process of co-creation / collaborative innovation networks	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
Slivers of Time	Individual/volunteers who need to 'sell their spare time' around other commitments or to move to other career pathways, and organisations that need access to a pool of 'top-up workers'	Organisational Service Delivery	Need-driven/outcome-oriented production Public value allocation Fundamental change in the relationships between stakeholders Open process of co-creation / collaborative innovation networks	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
Task Squad	Young volunteers eager to undertake paid work and organisations who are looking to fulfil short-term staffing needs	Service Delivery	Need-driven/outcome-oriented production Public value allocation	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
Youth Employment Agency Hamburg	Young people in transition from education to the job market	Organisational Service Delivery	Need-driven/outcome-oriented production	Beneficiaries are service receivers, not deeply engaged in service design or service delivery

Source: own elaboration.

5.2.3.2.1 Addressing youth unemployment in an innovative way

The Knowledge Map of ICT-enabled social Innovation for Employability and Employment is composed of initiatives that mainly address young people and/or disadvantaged groups and people at risk of poverty and social exclusion. This is partly due to the specific focus of the mapping activities conducted during the first phase of our research, which made young people at risk of social exclusion the priority in response to active inclusion policy objectives. However, it also reflects the fact that in the current situation of extremely high unemployment of youth, especially in Europe, innovative ways of matching the needs and demands of the younger generations and the job market are required and are being implemented.

As summarised in Box 5, all the initiatives of this cluster involve several public organisations from different levels of government with integrated funding schemes and administrative procedures. They include forms of vertical and horizontal organisational integration, and also involve stakeholders from the private and third sectors and end users. Some of them such as **JeunESS** in France, **Youth Employment Agency** in Hamburg, Germany, and **Job centre plus** in the UK, are driven by the public sector and follow a fairly traditional model of service integration. These initiatives aim to provide employment opportunities to young people who are in transition from school to the job market, or who are suffering disadvantages, or have a specific 'solidarity' vocation.

The problem: how to best enable people to advance in their careers, either by finding (more suitable) jobs or by acquiring new skills and competences, improving their career opportunities.

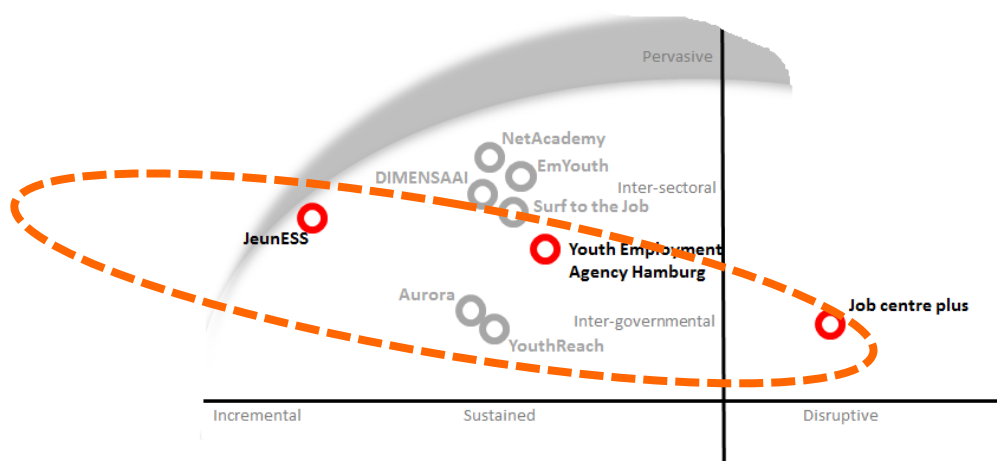
The solution approach: matching the offer and the supply on the job market by providing (re)qualification and personalised integrated services for finding a career-path out of unemployment.

The impact of ICTs: ICTs mostly enable the integration of service delivery designed to address the problem;

The role of the beneficiaries: service beneficiaries are mainly mere receivers, although the more disruptive and pervasive innovations also involve the beneficiaries as active partners in the service delivery.

Box 5. Key features of ICT-enabled social innovations implying inter-governmental integration in Employment and Employability

Figure 41: Public sector driven initiatives involving ICT-enabled service integration



Source: own elaboration.

As shown in Figure 41, the ICT-enabled innovation potential of these initiatives is different. It generates incremental innovation in the French case, where the ICT component is mainly structured around social networking tools and e-Learning platforms. It is more structured in the German case, where case management tools and online front-office service automation have been mainstreamed among the various agencies involved, producing a sustained innovation model based

on the integrated one-stop shop approach implemented. It is even more disruptive in the UK case, as the online one-stop shop for welfare services is complemented by GIS technologies and sophisticated databases which allow Jobcentre Plus staff to visualise administrative information and combine it with other useful geo-locational data for the benefit of end users.

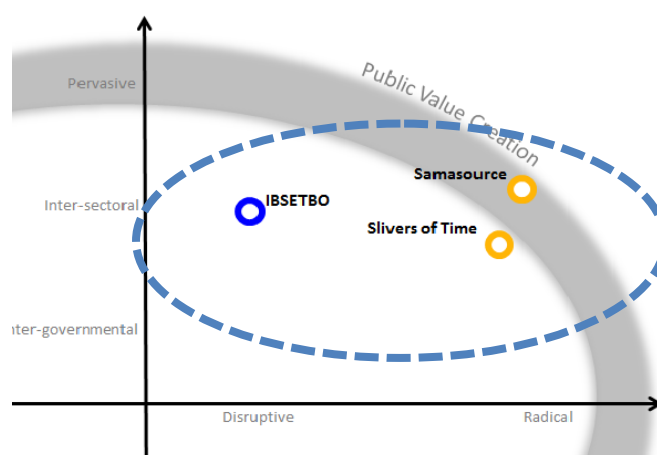
Furthermore, as shown in Table 5, all the initiatives are characterised by a need-driven / outcome-orientated element of social innovation. However, the Jeun'ESS programme also has elements of openness and networked-collaborative innovation, as it includes young people interested in working for a social enterprise or becoming social entrepreneurs as active co-producers of knowledge and services. Thus, this initiative falls close to the area of public value creation on the map.

Despite the limited number of examples studied, the results, especially in Hamburg and the UK, where integrated one-stop shop services have been offered for several years now, are quite promising. It can be argued, in fact, as a preliminary consideration to be further confirmed, that the models proposed are robust enough and may represent useful approaches for the public sector to tackle the specific needs of young people and disadvantaged groups in their search for employment. The analysis also suggests that ICT-enabled innovation could support social services integration and social policy reforms. However, it is clear that organisational changes and re-engineering of administrative processes and service delivery mechanisms are crucial for ICTs to effectively enable transformation.

5.2.3.2.2 ICT-enabled social innovations transforming social services provision models

Unlike the previous set of initiatives, these initiatives have a strong ICT component which, together with the fundamental change in their business and service models, positions them on the disruptive and radical part of the axis. As depicted in Figure 42, this group of initiatives includes **IBSETBO**, an Internet-based service for Employment and Training Brokerage (ETB) organisations. It supports hard-to-reach groups of unemployed people and was established as an inter-sectoral partnership involving the city of London, private companies and local ETBs. The novelty here is not only the technological approach used (which includes a web-based auditing, tracking and networking system that actively matches job opportunities with job seekers) but also the fact that it goes beyond the traditional separation between social services providers and the multiple roles of the ETBs and other 'employment brokers'. This initiative is characterised by funding and service delivery integration at both vertical and horizontal level. Moreover, it is clearly need-driven and outcome-oriented, and ultimately seeks to reform social policy and the service delivery through an integrated approach. This denotes the social innovation elements on which the initiative is based.

Figure 42: ICT-enabled social innovations involving disruptive/radical ICT-enabled innovation potential



Source: own elaboration.

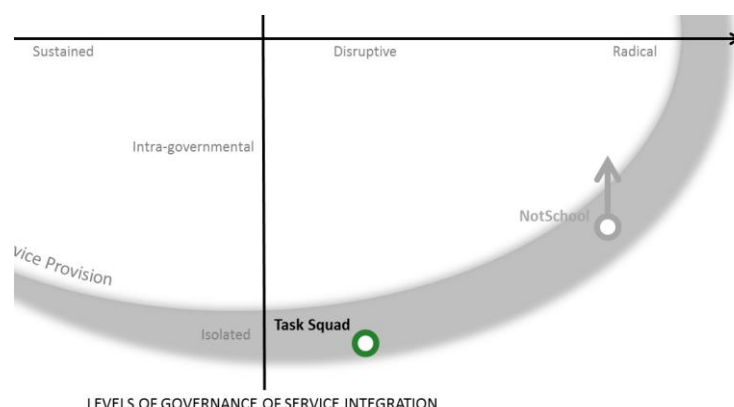
The group includes two leading examples of ICT-enabled social innovation - **Samasource** (in the USA) and **Slivers of Time** (in the UK). These initiatives originated outside the public sector as they were established by social enterprises in collaboration with private sector organisations, but they have a social purpose thus contributing providing public value. Both of them entail a fundamental change in the relationships between stakeholders and establish collaborative innovation networks to address needs of different users, while producing outcomes and re-allocating public value. Clearly, all the elements of social innovation are present. Moreover, innovative business and service models have also been developed. These are based on an ICT-enabled process which, in the Samasource case, matches women and young people in developing countries who earn below a local living wage to micro-task work for large private corporations over the Internet. Slivers of time matches individuals/volunteers who need to 'sell their spare time' around other commitments or to move to other career pathways to organisations that need access to a pool of 'top-up workers'.

These initiatives also focus on a 'sharing' approach from a pro-poor developmental or social inclusion perspective, as they allow individuals in need to contribute actively to economic development or to increase social cohesion in their local environment. In these cases, the social innovations underlying these examples are strongly supported by ICTs that act as 'game changers.' Without ICTs, it would not be possible to perform the activities or services provided, especially as they have a global outreach, particularly in the Samasource case. For this purpose, they require deep service integration, both from an organisational and a service delivery perspective.

5.2.3.2.3 Isolated ICT-enabled social innovation with potential for disruptive innovation

Finally, **Task Squad** is an isolated example of potentially disruptive ICT-enabled innovation in the area of Employability & Employment. This online platform was developed by a not-for-profit organisation to match young volunteers eager to undertake paid work with organisations which are looking to fulfil short-term staffing needs (Figure 43).

Figure 43: Isolated ICT-enabled social innovations with potential for disruptive ICT-enabled innovation



Source: own elaboration.

At present the platform is being used in collaboration with large private corporations and third sector foundations in the UK. However, it has the potential to go beyond this. It may be worth exploring the possibility of using this platform, and other similar initiatives, in collaboration with governmental organisations to match job offers with individuals from specific groups, such as young people at risk of exclusion or disadvantaged people. In doing so, the need-driven orientation of this initiative may well contribute to public value re-allocation and, through being 'embedded' into the official social services provision, become an important way of addressing active inclusion policies and supporting social investment.

5.2.3.3 Social Assistance

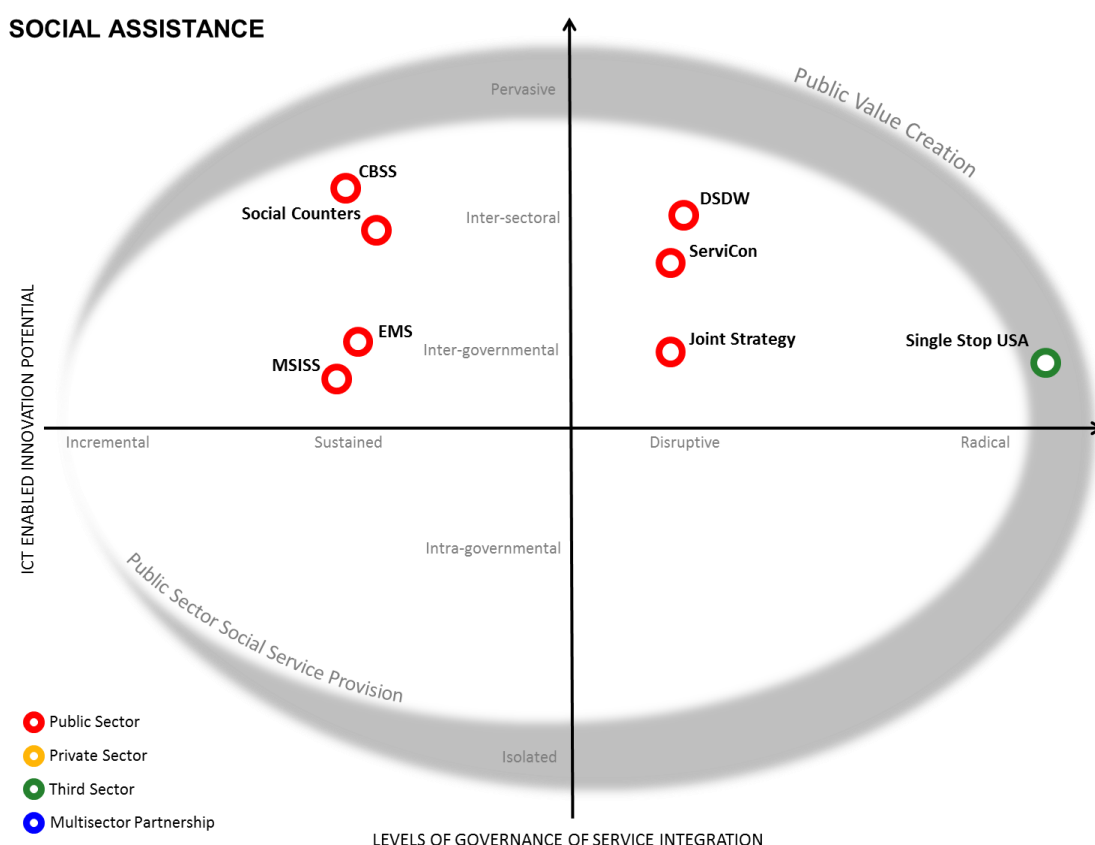
The Social Assistance service area covers the provision of social support and benefits to help citizens meet their basic needs when they are unable to provide for themselves. Among the initiatives compiled by the first mapping exercise, eight (8) pertain to this area and not surprisingly, they are examples of fully-fledged integrated initiatives, pulling together a service offer otherwise spread across different governmental agencies or agencies belonging to different sectors.

5.2.3.3.1 Public sector-driven initiatives with the third sector as 'gap-filler'

Seven of the eight initiatives are led by the public sector and thus pertain to the sphere of Public Sector Social Service Provision. **Single Stop USA** is an exception in that it is single stop service centre provided by the third sector that helps citizens understand what benefits they are entitled to. It is intended to fill a gap in the USA service market, where public sector social service providers have failed to give their intended beneficiaries simple access to the benefits they are entitled to.

Therefore, compared to other social service areas, the Knowledge Map in Figure 44 presents a quite homogeneous picture.

Figure 44: Initiatives in the Social Assistance area mapped with respect to their ICT-enabled innovation potential and the levels of governance of service integration



Source: own elaboration.

At first glance, 2 groups of initiatives emerge, differentiated according to the innovation potential of their technological setup (Single Stop USA is an exception). On the left of the Map, four initiatives use ICT to support and sustain their strategic and organizational efforts and processes to improve their existing service provision mechanisms. The right of the Map includes three initiatives that transform their service offer by deploying innovative services or services enabled by their ICT component.

Table 6: Initiatives in the area of Social Assistance: Intended beneficiaries, Type of service Integration, Elements of Social Innovation and Role of Beneficiaries

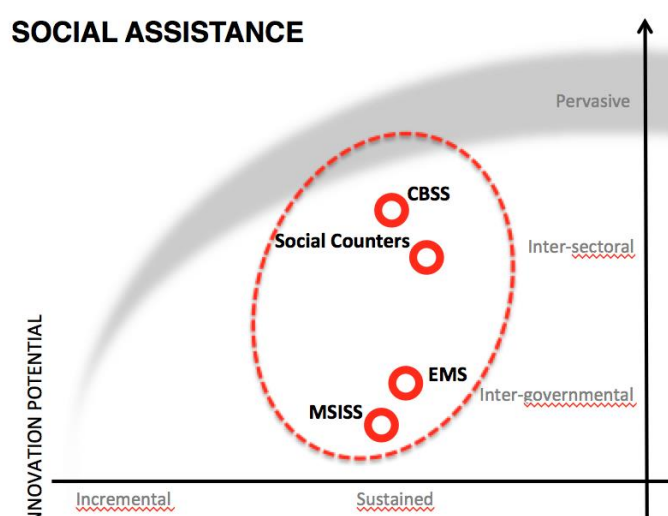
Acronym	Intended Beneficiaries	Types of Service Integration	Elements of Social Innovation	The role of beneficiaries
CBSS	Citizens	Funding, Administrative, Organizational, Service Delivery	Need-driven/outcome-oriented production;	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
DSDW	Public services	Funding, Administrative, Organizational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders; Public value (re) allocation;	Beneficiaries are seen as potential co-providers of public value
EMS	Citizens	Funding, Administrative, Organizational, Service Delivery	Need-driven/outcome-oriented production;	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
Joint Strategy	Sick and vulnerable citizens	Organizational, Service Delivery	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders;	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
MSISS	Citizens	Funding, Administrative, Organizational, Service Delivery	Need-driven/outcome-oriented production	Beneficiaries are seen as active stakeholders of their inclusion pathways and not mere receivers of social assistance.
ServiCon	Citizens accessing social services; expanded to the most vulnerable groups	Funding, Administrative, Organizational, Service Delivery	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders;	Beneficiaries are co-designers , they are active stakeholders in the definition of their social assistance strategy, services are tailored not only to the weaknesses of the individual but also to their strengths
Single Stop USA	Citizens on social benefits	Organizational Service Delivery	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders;	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
Social Counters	The elderly, families, disabled and chronically ill citizens, general public	Funding, Administrative, Organizational, Service Delivery	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders;	Beneficiaries are service receivers, not deeply engaged in service design or service delivery

Source: own elaboration.

5.2.3.3.2 Systemic change through ICT-enabled sustained innovation and integrated social assistance schemes

More in detail, the four initiatives on the sustained innovation side of the Map (Figure 45) integrate competences across departments and sectors to simplify administration in order to better target the existing benefit/service offer to the entitled beneficiaries and in turn to improve access to entitlements by the intended target groups. They all entail some degree of harmonization to meet beneficiaries' needs in a more effective and efficient way, which is achieved through funding, administrative, organizational and service delivery integration. It should be noted that none of them is a service as such, though they integrate a service component. They are all classified as social protection systems responding to a global design and a strategic vision.

Figure 45: ICT-enabled sustained innovation initiatives



Source: own elaboration.

Crossroads Bank for Social Security (CBSS) is a broad initiative by the Belgian Government aimed at creating a common social security registry to achieve functional interoperability in social services. Its scope includes the definition of an electronic identity framework for legal entities (e.g. citizens and enterprises) to be seamlessly recognized in their interactions with the Public Administration as well as the proactive management of entitlements based on the recognition of the beneficiaries' profiles. More than a service *per se*, CBSS is a service-enabling platform. It encompasses functional integration across government departments to reduce the administrative burden on citizens, on different legal entities, and to enable effective service provision based on an integrated management of subjects and entitlements. It uses ICT as an infrastructure for shared case management across institutions, enabling the reduction of red tape in service delivery.

Eligibility Management System (EMS) is a Connecticut initiative that modernizes social protection by creating a fully integrated data processing support for the determination of eligibility, benefit calculation and issuance, financial accounting, and management reporting. It is another initiative that establishes an interoperable registry for administration to lighten the administrative burden on citizens, to avoid duplication of effort and deliver services more efficiently. EMS establishes a common basis for different social assistance provision agencies to serve their target groups in a cohesive way through, e.g., Temporary Family Assistance (TFA), Medical Assistance (Medicaid and State Medical Assistance), Supplemental Nutrition Assistance (SNAP), State Supplement to the Aged, Blind, and Disabled, State Administered General Assistance (SAGA), Refugee Cash and Medical Assistance and the Managed Care Program.

Manitoulin Sudbury Integrated Social services (MSISS) aims to integrate social assistance provision across government sectors to better serve the Manitoulin Sudbury district (Ontario, Canada). It covers four social service areas, namely employment, social housing, emergency medical services, early childhood education and childcare. In the early childhood education and childcare action line, for instance, the Manitoulin Sudbury integrated social service system has put in place one-stop centres for families which bring together kindergarten, child care, parent-child programs, parenting supports, and access to a wide range of specialised services. Parents are involved in an advisory group and are active stakeholders in the early childhood education and action line.

The role of ICTs in the support of the integrated social service system is to provide access to information on the social service offer and to facilitate preliminary self-assessment with respect to eligibility criteria (e.g. through an online quick income test). Its role thus is to help the public administration to ease citizens' access to information, benefits and services and to modernise the local social service provision system.

Bologna Social Counters are nodes of a city network of one-stop shops for social and health services designed to improve citizens' access to information on the offer of all active service providers from the public, private or third sector. The initiative includes integrated case management: cases are shared among officers, case owners and medical staff responsible for health condition evaluation. ICTs thus are used in the back office to support cross-organisation workflows and joint case management, and at the front end of service delivery as an additional access channel for users. The adoption of ICTs is thus intended to support the modernisation of the social services provision system by simplifying administration so as to effectively deliver better-targeted benefits.

The problem: to modernize social assistance systems, reduce red tape and address target needs cohesively.

The solution approach: to integrate social assistance provision services in a systemic way, working both on the back-end and the front-end of service provision.

The impact of ICTs: to support new workflows based on shared registries and case management tools, to ease user access to information.

The role of the beneficiaries: beneficiaries are seen as receivers of streamlined integrated services, though they can be consulted during the system redesign phase or actively involved in the definition of the social assistance strategy that would best suit their individual situations.

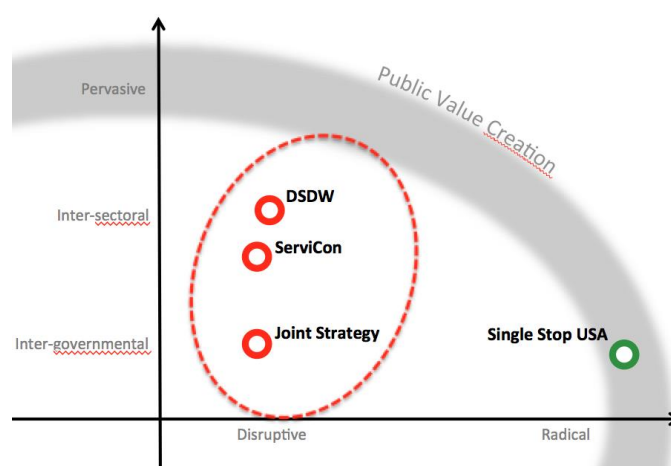
The four cases above are examples of systemic innovation based on the transformation of existing modes of service delivery to cohesively address specified needs (ranging from reducing red tape for the citizens and the administration itself, to improve beneficiaries' access to the social assistance portfolio they are entitled to). Whereas CBSS and EMS are primarily focused on outcome-oriented administrative integration, MSISS and Social Counters put a greater emphasis on need-driven service delivery integration, and entail a change in stakeholder relations, in that they adopt a beneficiary-centred approach.

Box 6. Key features of ICT-enabled sustained innovation in the Social Assistance area

5.2.3.3.3 ICT-enabled disruptive innovation and organisational integration to improve service-delivery

In the top right quadrant of the Social Assistance Knowledge Map (Figure 46), there are three initiatives that adopt a disruptive approach to social assistance delivery and rely on ICTs to sustain this transformation. The **Joint Strategy for Sick and Vulnerable Citizens in Copenhagen** (The Joint Strategy) and the Victoria (Australia) **Services Connect** initiative (ServiCon) are both examples of systemic transformation of social service provision that build on the personalisation of the intervention to deliver better services to the intended beneficiaries.

Figure 46: ICT-enabled disruptive innovations



Source: own elaboration.

The Joint Strategy foresees the systemic integration of the services offered by three entirely separate local authority administrations in Copenhagen (Denmark) in order to cohesively address the needs of vulnerable (chronically ill), uninsured, unemployed people. The system integrates at organizational and service delivery level welfare-related services targeted to help beneficiaries move into employment. The Joint Strategy coordination is ICT-enabled in that cross department integration required by the Strategy is based on the Danish identity registry and a dedicated case management tool, which helps civil servants belonging to the 7 administrations to work in a more integrated and coordinated way in addressing the needs of the citizens.

The elements of social innovation that the Joint Strategy entails are need-driven /outcome-oriented production in that the underlying vision is to integrate the service offer of different governmental departments to holistically address vulnerable citizens' complex needs (linked to unemployment, lack of social insurance and chronic health problems which hinder their capability to enter and be retained in the labour market). The intended outcome is to better serve beneficiaries by tackling their conditions with a strategic intervention that considers the individual cases in a comprehensive full-fledged manner, rather than offering a scattered portfolio of social benefits provided by different public sector entities to those entitled to such benefits. Furthermore, the Joint Strategy changes the relationships among stakeholders. It calls for unprecedented collaboration between actors from different administrations to coordinate action according to a beneficiary-centred vision of service design and provision and engages the beneficiaries in the self-management of those aspects of support strategy that require their collaboration (e.g. through a mobile health platform).

Like the Joint Strategy, the Services Connect initiative in Australia focuses on streamlining and simplifying access to social assistance. It carries out an in-depth analysis of beneficiaries and their contexts to ensure that they are connected with appropriate services and support.

ServiCon deploys an inter-sectoral one-stop shop integration model based on integration at funding, administrative, organizational and service delivery levels, which achieves integration at the service backend (user registry, case management, intervention progress tracking) and at the front end or user experience side (access portal to the social service offer, personalised intervention management over time), via ICT tools. Person-centeredness is the leitmotiv and main driver of the initiative. ServiCon aims to meet the need for the public sector to tackle social assistance demand in a more customized manner to better support the individual in disadvantaged conditions. Beneficiaries are key stakeholders in ServiCon interventions. They are actively engaged in the definition of the social intervention plan, which is devised to empower and support them, support them and give them a self-support path that allows them greater autonomy in facing adverse conditions. Case follow ups, which are based on the continuous tracking of the intervention plan and promote consistency over time, constitute an important feature of this initiative.

The **Danish Strategy for Digital Welfare (DSDW)** is a Danish government umbrella policy which promotes ICT-enabled approaches to social services and welfare and accelerates the take up and use of ICT in frontline public service delivery. The DSDW acknowledges the role of ICTs in the modernization of social protection systems because they i) facilitate the streamlining of administrative, organizational and service delivery processes, ii) support knowledge sharing across organizations and sectors, iii) enable the constitution of virtual communities of practice and collaboration networks across governmental departments or agencies and sectors, and finally iv) have the potential to empower the end-user in self-managing part of the strategies defined to improve their wellbeing.

In all the initiatives in this group, ICTs are 'game changers', not because they enable new services or products, but because they support new approaches to social service delivery. These approaches are centred around individuals and their life paths. They consider the complexities of their conditions when tackling their needs, establishing new collaboration networks and integrating services either within the public sector or across sectors, to encompass private and third sector offer.

As mentioned earlier on in this section, the Map in Figure 4446 includes a third sector initiative born out of the sphere of Public Sector Social Service Provision: Single Stop USA. This initiative is driven by the citizen's need to be relieved of the administrative burden involved in claiming social assistance benefits, aids and services. Single Stop USA is a one-stop service centre designed to help citizens with public social services and social security. It fills a gap in the market of social service provision as it compensates for the lack of user-centredness in publicly-provided social assistance benefits. It has developed proprietary software to allow citizens to self-screen themselves for eligibility for the different public sector aids and to understand what benefits they are entitled to. Citizens can do this directly from a service centre where counselling and legal advice is also provided. The use of ICT is deemed radical in this example because it demonstrates how scattered systems can be pulled together by a third party.

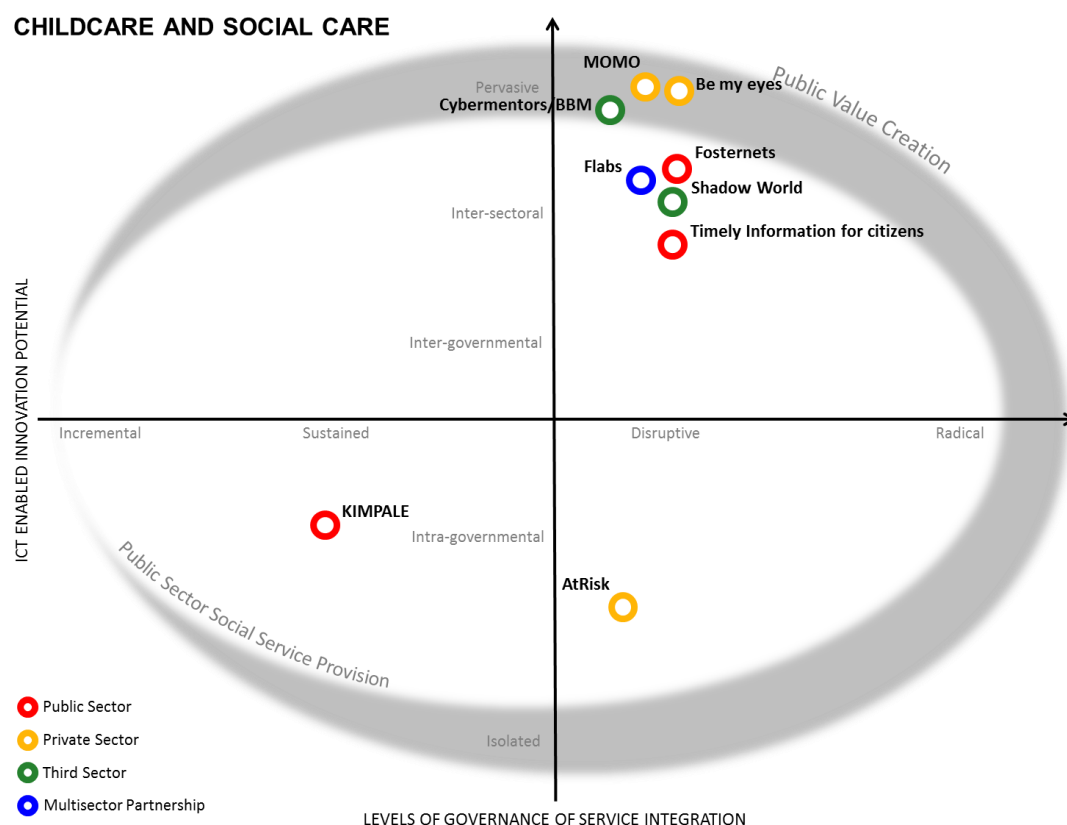
The initiatives mapped in the Social Assistance service area, show that ICTs do not have innovation potential per se: in this field, the technology base is similar in all the initiatives. However, how technology is embedded in a service model contributes to different degrees of transformation of service provision. An online interactive eligibility form can be used to support cost effectiveness in request processing by the service provider. It can also be used to empower citizen in the dialogue with social workers, to collect data on how beneficiaries' requests are matched by the current service offer and to identify unmet needs to feed back into the revision of social assistance schemes.

5.2.3.4 Childcare and Social care

5.2.3.4.1 A wide range of action and a promising land of opportunities

The overall coverage of the 9 initiatives in the field of Childcare and Social Care is quite large, and they deliver a wide range of social services (Figure 47). The services in this cluster go from game-based learning initiatives targeting intermediaries for the prevention of mental health distress in educational centres (**At Risk**), to strategies and services initiated by the public sector to deal with issues such as bullying (**Cybermentors - BBM, FLABS**), the consequences of substance abuse and mental health care (**KIMPALE and Shadow World**), foster carers (**Fosternets**), assistance for children in care **MOMO**, online services facilitating independent living and active inclusion for the blind by involving the community of care (**Be My Eyes - BME**), online mentoring programs for youth employment and training (**Brightside Online Mentoring - BOM**), and initiatives aimed at improving the delivery of public services (**Timely Information for Citizens - TIC**).

Figure 47: Initiatives in the Childcare and social care areas mapped according to their ICT-enabled innovation potential and their levels of governance of service integration



Source: own elaboration.

All of the 9 initiatives presented here address unmet needs in the wide spectrum of social care services. They target hard-to-reach groups such as people with disabilities (e.g. remote assistance for the blind in Be My Eyes), youth (e.g. mentoring and education, support against bullying and digital technology for the hard-to-reach group of children/ youngsters in care or leaving care), and people suffering from substance abuse/ mental health issues, also their children. Although there are only three initiatives driven by the public sector (Fosternets, Kimpale and TIC), the private and multi-sector driven initiatives rely on the support of the public sector as a recipient for initiatives such as Fosternet, MOMO, At-Risk and FLABS. Although these initiatives have been developed outside the public sector, they create public value within public services, by addressing pressing social needs in an innovative manner. These models of service production act as either enablers for public sector actors to improve their services (MOMO, Fosternet) or they complement the public sector with better or even new services, which fill gaps in the wider spectrum of unmet social needs (At-Risk, Be My Eyes). Many of the initiatives in this cluster are ICT-enabled social innovations which contribute to tackling unmet needs in the social services provision market. Three of these initiatives represent outsourcing by the public sector.

Figure 47 above illustrates the diversity of the initiatives, from the perspective of levels of governance of service integration, ICT-enabled innovation potential, and service/value creation. They are colour coded according to the type of organisation that led their development: 3 of the 9 initiatives were developed by the public sector, 3 by the private sector, 2 by the third sector and 1 is an example of a multi-sector partnership.

Table 7: Initiatives in the Childcare and social care area: Intended beneficiaries, Types of service Integration, Elements of Social Innovation and Role of Beneficiaries

Acronym	Intended beneficiaries	Types of Service Integration	Elements of Social Innovation	The role of beneficiaries
At-Risk	Young people enrolled in an educational programme	Service delivery	Need-driven/outcome-oriented production; Public value (re) allocation.	Beneficiaries are not involved directly: the initiative works with the surrounding environment of the target population, where informal intermediaries are empowered to detect students at risk. The community is thus involved in preventive social care.
BBM	Teenagers affected by cyber bullying and people working with them in the third sector working	Service delivery	Need-driven/outcome-oriented production; Public value (re) allocation	Beneficiaries are supported by peer mentors (and referred to experts when necessary), and they are actively engaged as mentees.
BME	Blind people	Service delivery	Need-driven/outcome-oriented production; Public value (re) allocation	Beneficiaries are supported by the community.
FLABS	Children in middle childhood	Organizational, Service Delivery	Need-driven/outcome-oriented production; Public value (re) allocation	Beneficiaries and their families have been involved in the definition of the strategy.
Fosternets	Young children, middle children and teenagers in care or about to leave care services; third sector organizations	Organizational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders; Public value (re) allocation	Beneficiaries become co-producers of public value.
KIMPALE	People suffering from mental health issues or substance abuse and the personnel involved in caring from them	Funding, Administrative, Organizational, Service Delivery	Need-driven/outcome-oriented production;	Beneficiaries are service receivers, not deeply engaged in service design nor in service delivery.
MOMO	Children in care and social workers who provide assistance to children and vulnerable young people.	Service delivery	Need-driven/outcome-oriented production;	Beneficiaries are empowered by being given a way to directly communicate 24/7 with their case managers.
Shadow World	Children of substance abusers	Funding, Administrative, Organizational, Service Delivery	Need-driven/outcome-oriented production;	Beneficiaries are empowered by the intervention, they become co-producers of content (narratives).
TIC	Citizens and local authority service providers engaged in public service provision and influencing decision-making	Organizational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders; Public value (re) allocation.	Beneficiaries are co-design partners, and where appropriate co-providers of service.

Source: own elaboration.

As regards ICT-enabled innovation potential, most of the initiatives in these areas can be categorised as disruptive. Kimpale is the only sustained social innovation in the sense that by delivering a one-stop service for substance abuse and mental health care, it has managed to innovate at the level of integrated organization. It overcomes the traditional separation of management and organisation between different authorities in charge of these services. It is a customer-oriented service chain where the client gets comprehensive care from the moment the first visit occurs. The role of the ICT technology used, a case management tool, is largely to enable the delivery of the services. All the other initiatives entail the design and deployment of new services based on ICT-enabled possibilities. ICT offers an innovative approach to beneficiaries' needs, which can be tackled in a more tailored way than the traditional service provision-centred approach.

From the integration point of view, two initiatives are based on intra-governmental integration; four on inter-sectoral integration and three exemplify pervasive integration. The latter, Be My Eyes, MOMO and Cybermentors, were initiated by the private or third sector. They focus on the involvement of the community of care (volunteer carers, peers and social carers) in addressing the needs of the intended beneficiaries. They create public value outside the sphere of traditional public sector service delivery mechanisms. They are examples of pervasive integration in that they have the potential to be taken up by the user community because they tailor solutions to their specific needs and have expanded autonomously from a public sector endorsement or appropriation. MOMO in this respect differs from the other two initiatives because it directly involves social workers, and thus requires adoption by a social care provider institution to deliver it.

Overall, the diversity of the ICT-enabled social innovations in these social service areas reflects the complexities of the needs in the care sector, while emphasizing their specificity. In a world of increasing human needs and pressing budget cuts and reforms in the welfare services, six out of the nine initiatives provide examples of how care can be provided outside the traditional framework of public service delivery, by involving the community of care, the private sector and even by empowering the users to help themselves. Their objective is to provide better outcomes and serve more efficiently.

5.2.3.4.2 Initiatives that help beneficiaries voice their needs

In the Social care and Child care area, examples can be found of service models based on the transformation of relationships among stakeholders, entailing greater participation of the beneficiaries or their extended community. Be My Eyes, MOMO, TIC and Shadow World are good examples of how technology can empower service beneficiaries to speak their needs and engage them in a service based on dialogue and interaction. Be My Eyes is a mobile application which allows blind people to ask the community for help to overcome any challenge they may find in carrying out their daily activities, from reading the expiry date on a product to getting help in crossing the street. By providing an easy way for blind people to ask for help, and making this request visible to the community, the application fosters a distributed crowd-sourced support model that helps the beneficiaries lead a more independent life and overcome barriers to greater participation in society.

MOMO conversely is a mobile app which targets young people in care and care leavers. It aims to

The problem: to deliver high quality very specific services targeting hard-to-reach groups to fulfil the unmet needs in a cost effective, integrated manner for better outcomes.

The solution approach: to co-create new services, coordinated across public service delivery/ involving the community of care in order to find new ways to address the problem.

The impact of ICTs: to support the creation of new models of service delivery, contributing to a disruptive change in the present delivery.

The role of beneficiaries: service beneficiaries are considered partners in service implementation, in that they are involved in a dialogue with the service providing entity. In some instance, they are also co-producers of the services.

Box 7. Key features of intra-sectorial collaboration in the field of Childcare and social care

improve their self-advocacy by providing a platform for them to express their views, wishes and feelings to their social workers and anyone involved in their support. By providing youth in care with a usable channel to speak out, it engages them more in their own social care pathways that have been built to support them. MOMO also helps the social care provider establish a communication channel with their recipients and thus better target their interventions. Furthermore, MOMO offers the social care sector case management integration and provides a shared platform for inter-worker, inter-agency and inter-departmental collaboration and service integration.

TIC is a platform which aims to encourage citizens to take ownership of and participate in the way public services are delivered. It facilitates citizens' access to public information and their participation in local decision-making processes. It also gives citizens the opportunity to challenge poor service performance and seek redress. TIC provides citizens with concrete opportunities to be heard by the public administration, including options such as geo-tagging to highlight poor service delivery or social blogging tools to support collaborative working between citizens and service providers.

Shadow World is an online platform, equipped with a Forum and an interactive website which enable youngsters aged 12-18 suffering from parental substance misuse to deal better with these complexities. It helps them to help themselves by accessing information and the right support. It pursues its aim by providing children with the tools to express their concerns, feelings and stories of dealing with substance abusing parents through the use of narratives. One of these tools is an application for children to build their own comic strips by choosing from a menu and filling it in with their own captions. The initiative leverages on the engaging power of technology to have children voice their distress and help them take ownership of their situation.

In addition to the initiative above, in this area there are other initiatives that harness peer support to respond to the needs of the intended beneficiaries: FLABS and Cybermentors both address the needs of young victims of bullying, and lever on the creation of a community to promote community-based alternatives to institutional intervention. Fosternets uses social networking technologies to improve service delivery and communication between social service providers and foster carers. It increases the capacity of foster carers to provide a good service by helping them access information more easily, exchange practices and organize their work better.

5.2.3.5 Social Inclusion

The Social Inclusion service area covers a large array of ICT-enabled social innovation initiatives, which aim to facilitate the social inclusion of vulnerable groups and disadvantaged people, such as: victims of different types of exploitation, people with intellectual disabilities, unemployed migrants, youth at risk of exclusion, homeless people, newcomers and refugees, among others.

The initiatives in the Social Inclusion area, as seen in the Knowledge Map in Figure 48, are quite scattered. Diverse models of social service delivery coexist in this field. At present, no initiative belongs exclusively to the private sector: 5 of the initiatives are driven by the third sector (**BAC, BOM, The Site, Savvy Chavvy and Mission Leben**), 3 of them belong to public sector (**Choices and Voices, Giovani Sì, My Vocab**) and 2 are run by multi-sector partnerships (**CHAIN and Beyond the Streets**).

Overall, 5 out of the 10 initiatives in this area have sprung up in the area of Public Sector Social Service Provision. The other 5, however, began outside the public arena.

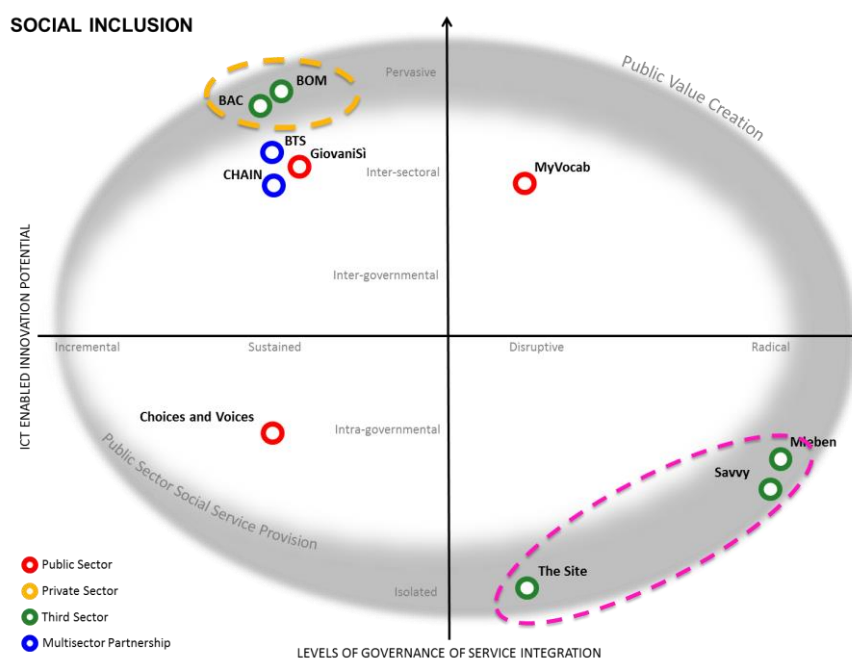
Figure 48: Initiatives in the Social Inclusion area mapped with respect to their ICT-enabled innovation potential and their levels of governance of service integration



Source: own elaboration.

Among those initiative that have sprung outside the traditional sphere of public service delivery two clusters can be identified, on the top left corner BOM and BAC are examples of pervasive integration with a sustained innovation potential (circled in orange in Figure 49), on the bottom right quadrant The Site, Savvy Chavvy and MLeben are isolated initiatives with different potential for innovation, spanning from disruptive to radical (circled in magenta in Figure 49)

Figure 49: Isolated and pervasive social inclusion initiatives in the sphere of public value creation



Source: own elaboration.

Table 8: Initiatives in the area of Social Inclusion: Intended beneficiaries, Type of service Integration, Elements of Social Innovation and Role of Beneficiaries

Acronym	Intended beneficiaries	Types of Service Integration	Elements of Social Innovation	The role of beneficiaries
BTS	Victims of work exploitation	Service delivery	Need-driven/outcome oriented-production; Fundamental change in the relationships among stakeholders;	Beneficiaries are service receivers, not deeply engaged in service design or service delivery.
BAC	People with Intellectual Disabilities	Service delivery	Need-driven/outcome oriented-production; Public value (re) allocation	Beneficiaries are mentees who are supported by peer mentors (or referred to experts when necessary).
BOM	Young people in school	Funding, Organizational, Service Delivery	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders; Public value (re) allocation	Beneficiaries are actively engaged as mentees.
C&V	Young people	Organizational, Service Delivery	Need-driven/outcome-oriented production;	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
CHAIN	The homeless, people sleeping rough, or living on the street	Organizational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks;	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
GiovaniSi	Young people aged 18-40: different provisions address different age groups.	Funding, Administrative, Organizational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders; Public value (re) allocation	Beneficiaries are co-designers in some aspects of the initiative and co-producers of content that relates to the initiative itself
MyVocab	Newcomers	Service delivery	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders;	Beneficiaries are service receivers, not deeply engaged in service design or service delivery
Mleben	People with Intellectual Disabilities	Service delivery	Need-driven/outcome-oriented production;	Beneficiaries are empowered by technology which makes them independent in performing their jobs.
Savvy	Young gypsies and travellers in the UK.	Service delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders;	Beneficiaries become co-producers of content, thus becoming primary contributors to the mission of the initiative
TheSite	Young people aged 16 to 25;	Service delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders;	Beneficiaries become co-providers of support as peer members of TheSite community.

Source: own elaboration.

BOM, Brightside Online Mentoring, aims to help young people (especially from disadvantaged groups) make their educational and career choices. Support is provided by mentors, whose experience is harnessed to offer guidance to the service beneficiaries. Mentoring is provided through an online platform set up by a charity. The initiative uses ICT to deliver its service more efficiently online than could be done offline, e.g. in face-to-face encounters between mentors and mentees. BAC consists of a number of micro services offered to people with intellectual disabilities (ID) to help them achieve a more autonomous life and better social integration. The BlueAssist strand of services engages the community of care in helping the person with ID in need, whereas the Cloudina (Cloud-based inclusion, network and autonomy) strand is made up of a collection of integrated applications which are controlled through a management website. ICT is used in this initiative to complement the effort that the non-profit association Ithaka is carrying out to foster social inclusion of persons with ID by looking at their overall quality of life.

Both these initiatives may have a civic engagement component, leverage on community contribution. Both can be considered pervasive, in that their take up is open and does not require any particular arrangement at any integration level with the public sector and institutional social service provision. However, both these services could also be easily integrated into a public social inclusion scheme, thus permeating the sphere of public sector social service provision.

MLeben consists of a series of ICT-enabled sheltered workshops connected to a residential home for people with intellectual disabilities which provides them with a place to live and jobs. The positioning of this initiative on the far right of the bottom right quadrant of the Social Inclusion area is due to the fact that the initiative fosters the inclusion of people with ID by tackling both housing and employment in an assistive environment where ICT interfaces are used to lower the barriers to autonomous living. The initiative proposes an intervention model that could introduce radical innovation, mainly due to synergic blending of different strategies to respond to the needs of the beneficiaries. The initiative is considered isolated because replicating it elsewhere or scaling it up would require major integration efforts in public sector social service provision. However, due to the success of the model embedded in MLeben, the public sector is funding the initiative. It is also providing incentives to the private sector to encourage it to procure professional services from the community of people with ID living and working with MLeben. Whereas the BAC strategy is to support the autonomy of people with ID by offering task-based ICT-enabled support, the MLeben approach is based on the adaptation of the environment where people with ID live and work to reduce the complexity that contributes to their exclusion.

Savvy Chavvy is a social network for young gypsies and travellers in the UK, run by a charity. Launched in 2008 as an experimental project, it originally engaged its beneficiaries in digital media training, so that they learned video-making and post-production and social media skills to promote the creation of a self-sustaining community online based on participant storytelling. The initiative originally aimed to empower young gypsies and travellers, helping them to grow in self-esteem and providing a safe environment for their communication and sharing. The community is still alive though the media training side of the initiative came to an end after its first cycle. Savvy Chavvy is an isolated self-sustaining initiative that uses ICT to build a safe community for youngsters at risk of social exclusion because of their migration background or travelling lifestyle.

The Site is the final example of an initiative provided by the third sector, not integrated in the sphere of Public Sector social inclusion service provision. It is a portal that addresses youth information needs to support them in every aspect of their lives. It offers a one-stop information centre for young people and provides room for social networking and peer support. The Site uses ICT and particularly the web, as its name suggests, to provide a guide to life for young adults. It offers them non-judgmental support in any area they may need, from sex and exam stress to debt and drugs. The initiative is owned and run by YouthNet, a registered charity, which has 20-years of experience in supporting young people through technology. It leverages on beneficiaries who become co-providers of support as peer members of TheSite community.

All the initiatives above are need-driven and provide very tailored services to their target beneficiaries. BOM, Savvy Chavvy and The Site lever on the community of beneficiaries for the provision of elements of the service (peer support). BAC engages the community of carers in providing on-demand support to people with ID. They all entail a certain degree of public value reallocation.

The map also includes 5 initiatives that are strictly connected to public sector social services provision: Choices and Voices, CHAIN, Giovani Sì , Beyond the Street and My Vocab. Giovani Sì and Oltre la strada (BTS) are systemic initiatives, which respond to a global design and a strategic vision of public service delivery. Both initiatives are characterised by inter-sectoral integration and they use of ICTs to complement their organisational effort in integrating public service provision. Giovani Sì targets young adults and aims to increase their autonomy by investing in their independence via a range of concrete provisions. These provisions cover education and training schemes; actions to improve employability and access to the labour market; and support for entrepreneurship, civic participation, housing and work-life balance in young mothers via early childhood care actions. This is achieved by integrating the funding, administration, organization, and service delivery of different social services provision agencies at regional level.

Integration is considered pivotal for effectively addressing the needs of young people to gain employment and to obtain autonomy from their families of origin. Integration embraces the private and third sector organization by involving different partners at different levels of service delivery. In Giovani Sì, ICT sustains the new functional organization and provides one-stop access to information on the initiative to its target population. It also engages beneficiaries throughout the lifespan of the initiative by offering them the opportunity to speak their needs and give their evaluation of the measures adopted by the initiative.

BTS is a systemic initiative promoted by the Emilia-Romagna Region in Italy in partnership with nine local municipalities and local third sector organizations that encourages victims of work exploitation to exit the vulnerable situation they are in and gives them social protection so that they can achieve full individual autonomy. Its system of social and sanitary solutions integrates, at service delivery level, reception, health and social services, legal support for reporting their experience, accompaniment and guidance during regularization, and assistance with integration in employment. This is a need-driven initiative that entails a fundamental change in the relationships among stakeholders. It promotes a cohesive approach to the victims of different types of exploitation. It uses ICTs to support collaboration among the stakeholders, by providing a common registry of beneficiaries and shared case management tools. These are used not only to deliver integrated care and social assistance to the target beneficiaries, but also to collect data on the exploitation phenomenon and to monitor the intervention for policy-making purposes. BTS does not involve its target in the design of the solution or the service to address their situations, though it has set up a 24/7 call centre so that victims of exploitation can ask for support and access the service. The potential of ICT in this initiative is thus focused on a sustained evolution of the way its services are coordinated and managed at organizational level.

The problem: addressing the needs of people belonging to vulnerable/ hard-to-reach/ in risk of exclusion groups and empowering to become an inclusive part of the community;

The solution approach: enabling the community of care and the beneficiaries with tools and skills to overcome the social exclusion, while valuing human capabilities and integrated paths to social rehabilitation in a more effective manner;

The impact of ICTs: ICTs in the Social Inclusion area play mostly an enabling role in the service delivery but there are also game-changing innovations present due to unique ICT approaches and contributions;

The role of the beneficiaries: involvement of the community of care and the beneficiaries in the service delivery is key in empowering the ones in risk of social exclusion and avoiding their back fall.

Box 8. Key features of ICT-enabled social innovations implying Public Sector Social Service Provision and beyond in the area of Social Inclusion

At the crossing between the two axes of ICT-enabled sustained innovation potential and inter-sectoral integration, the Social Inclusion map includes another multi-sector partnership: Combined Homelessness and Information Network (CHAIN). CHAIN is a need-driven initiative that facilitates integration among the public and third sector at organizational and service delivery level. It aims to collect information about homelessness in London and to provide shelter to people sleeping rough on the premise that dignified accommodation will facilitate their social inclusion. It is a web-based database containing integrated information, collated by outreach workers, about the support needs and history of individuals sleeping rough. The beneficiaries' use of services and their movement in and out of homelessness can be tracked, enabling agencies to coordinate service delivery, target resources, monitor and evaluate the outcomes of services or interventions. Again ICTs in CHAIN complement the intervention strategy of the initiative by making it easier to coordinate and manage services delivered by several organizations.

The Social Inclusion knowledge map then displays two additional initiatives. In the bottom left quadrant at the crossing between ICT-enabled sustained innovation and intra-governmental service integration Choices and Voices (C&V) is placed. This initiative by the public sector (UK Midlands Counter Terrorism Unit) entailed collaboration between the Department of Education, police officers, and teachers to engage young people in discussions about violent extremism. C&V aims to change young people's attitudes by encouraging them to explore different points of view and make a range of moral decisions. It uses an interactive game as a prompt for reflection on underlying issues and adverse influences, which can lead to divisions and tensions in communities and in turn to violence and extremism. Players interact with a virtual community with a multicultural population. They face various scenarios and a number of moral dilemmas in which their decisions define their own outcomes, as well as those of their friends and family. The choices players make become the subject of guided group discussions and debate, which constitute an integral part of the experience, and help to develop a culture of respect in young people. C&V is accompanied by a teachers' guide that covers the background to the game, learning objectives, curriculum links, character profiles, lesson plans and questions for discussion and debate. The initiative is embedded in the public school system. C&V uses ICTs as trigger for discussion, thus complementing the effort to prevent violent extremism.

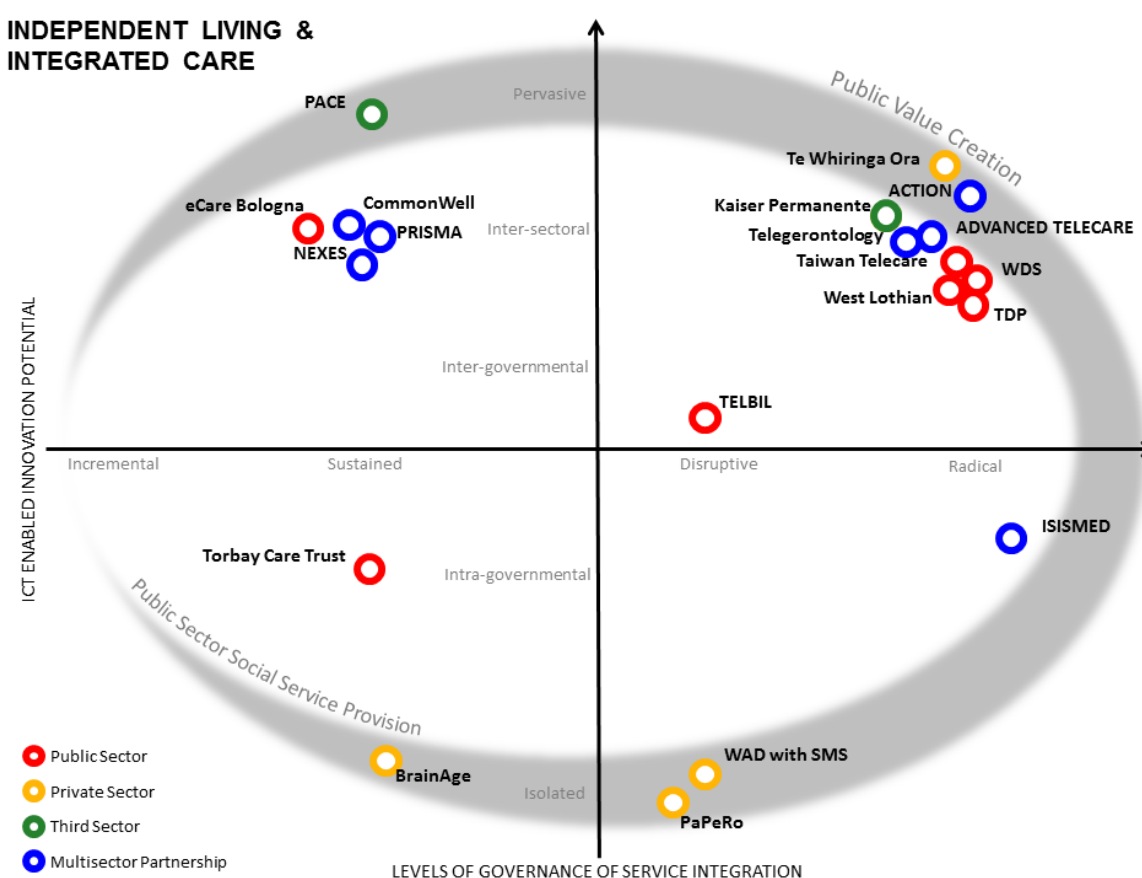
The last initiative in this area is My Vocab, a public sector-driven initiative, fully integrated across a wide range of funding, administrative, organisational, service delivery areas. It involves different partners at different levels of service delivery, to better address the social inclusion needs of newcomers (migrants, refugees) by helping them to overcome barriers caused by their poor mastery of the Swedish language. Led by the Employment Office in Stockholm, the service's integrated Vocab Tool and the Tutoring Tool for employment help newcomers to Stockholm to acquire language skills faster and to ultimately gain employment. ICTs supports the initiative's strategy and provides a platform to bridge employment services and the real job context.

In conclusion, it appears from the analysis that initiatives in the social inclusion area are generally targeted at addressing the very specific needs of certain communities, such as young Roma people and travellers in the UK, newly arrived migrants with poor mastery of Swedish, victims of work exploitation or people with intellectual disabilities. They all have an element of need-driven social innovation and have set up strategies which aim to empower the intended beneficiaries with material and immaterial tools. They help their target groups to overcome the conditions that put them at risk of social exclusion (socio-economic background, history of migration or exploitation, intellectual disability etc.) and include efforts to foster their current and future capacities. However, the initiatives vary enormously in all other respects. From an integration perspective, they range from isolated to pervasive and use ICT diversely. Thus, their ICT-enabled innovation potential is also diverse. Furthermore, they have different levels of integration and approach beneficiaries in ways that are closely linked to the service model behind. They all aim to improve social inclusion by facilitating and fostering their beneficiaries' self-development, peer support and community building in order to contribute to their empowerment, autonomy and self-efficacy and to promote their active participation in society.

5.3 Analysis of the knowledge map of ICT-enabled social innovation initiatives promoting social investment through integrated approaches to social services delivery in active and healthy ageing and long-term care for older people

This section presents the results of the qualitative analysis of the 20 ICT-enabled social innovation initiatives promoting social investment through integrated approaches to social services delivery in active and healthy ageing and long-term care for older people mapped in the first phase of the research. These initiatives are represented through the IESI Knowledge Map of ICT-enabled social innovation presented in Figure 50.

Figure 50: Knowledge Map of Integrated approaches to social services delivery in the area of active and healthy ageing and long-term care (independent living and integrated)



Source: own elaboration.

As anticipated in §5.1, this sample is composed by examples of initiatives in the themes of independent living (12) and integrated care (8), while the themes of prevention, health promotion and rehabilitation will be studied in the next phase of the IESI project. An in-depth analysis of the 20 initiatives representing the two themes under investigation is then presented below. First the subsample of initiatives is described along with the most relevant quantitative information collected, using the template for data gathering. This provides the context for the more thorough qualitative analysis of each initiative that follows.

5.3.1 Independent living

The analysis of the 12 ICT-enabled initiatives which support independent living of older people at home shows a high variety as regards **type** and **location**: 6 services, 3 devices, 2 service pilots, and 1 policy initiative were mapped. 7 initiatives were created in the EU: including the UK, Denmark, Finland, France, Greece, Spain, and Sweden; and 5 of them outside of the EU: 3 in Japan, and 1 each in the United States and Taiwan. With respect to the year in which the initiatives started – became operational, existent or were launched, depending on the type of the initiative – this goes back to pre-2000 in 2 cases, while 4 started between 2001 and 2006 and additional four between 2007 and 2012. 7 of them were **still operating** at the time of the data collection (2014), 5 of them had either already completed activities because funding had come to an end, or were pilot projects yet to be mainstreamed.

Look more closely at the **type of technology**, often a combination of technologies is used to provide complex services to support independent living: the 12 mapped initiatives together provide 10 health care services (5 telehealth and / or telemonitoring); 8 home care services (6 telecare and 2 medication optimization); 4 initiatives include some assistive technology; 3 initiatives belong to a smart home; and 2 wellness services are also represented in the sample.

When it comes to the **policy objectives of the SIP (SWD on LTC)**⁷³: on **the supply side**, almost all initiatives are linked to the policy objective of care productivity (n=10) and quality improvement (n=11), while **on the beneficiaries' side**, all the SIP objectives addressed are related to ageing, and in fact all of them try to support independent living, to enhance productivity as well as to increase the quality of care. 4 initiatives also aim to achieve cost-efficiency gains.

Looking then at the elements of **social innovation**, characterising the initiatives, as expected, all of them (12) are driven by a need, 5 include some kind of open process of co-creation / collaborative network, 4 initiatives have the potential to radically renew the relationship between the stakeholders, and half of them (6) contribute to public value re-allocation.

With regard to the **innovation potential enabled by ICTs**, most of the 12 initiatives under analysis can be considered innovations capable of transforming the way service delivery in the area of independent living is approached. Almost all the initiatives have either disruptive or radical innovation potential, though there are differences in the extent to which they are integrated into their care delivery ecosystem (see Figure 48 below). Specifically:

- Regarding the **types of innovation**, most of the initiatives have the potential to transform existing power-relationships among stakeholders. In fact, only one of the initiatives belongs to the sustained/organisational group, whereas the vast majority (8) have the potential to generate radical change with a substantial use of ICTs.
- In terms of the **levels of governance of service integration**, almost half the initiatives are inter-sectoral, one is intra-governmental, 3 are pervasive, and 3 initiatives are isolated.
- The most frequent **types of service integration** are funding and system with 9 initiatives integrated in each areas. Almost half of the initiatives (5) also show integration in their administrative procedures or their organisational settings.

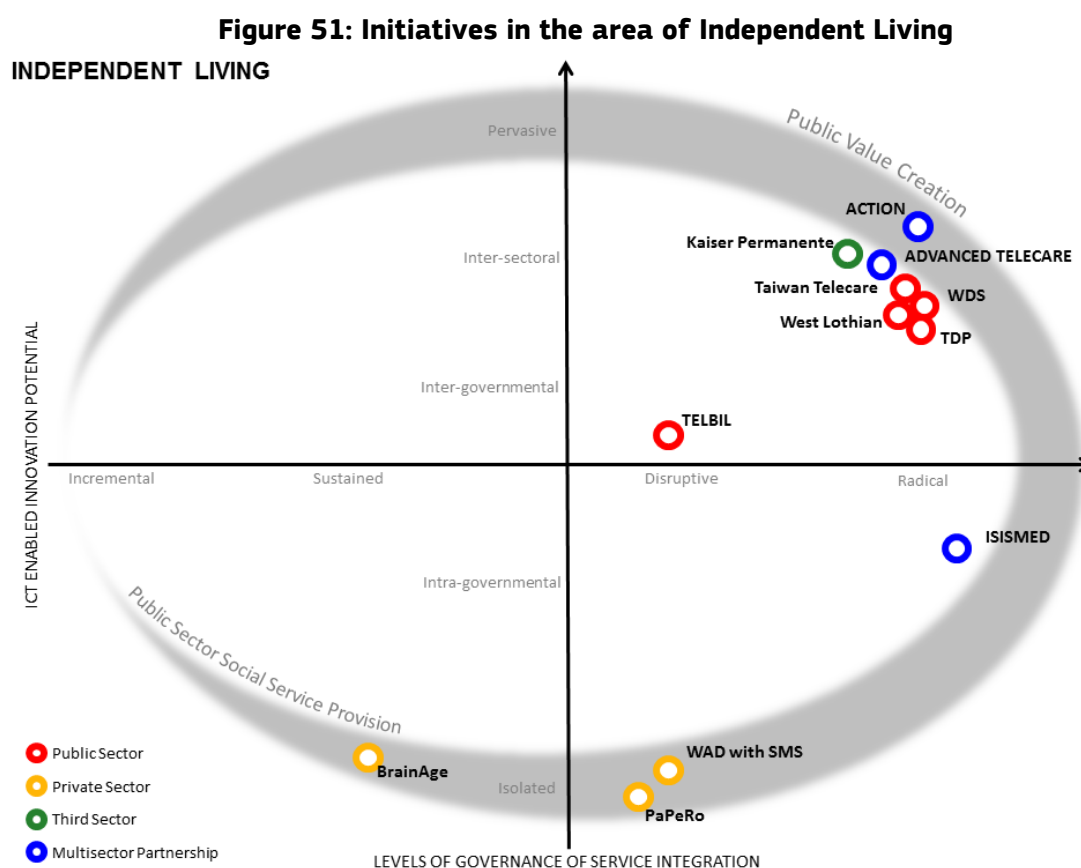
Observing the results by initiative in the map in Figure 51, we can see:

- In the lower quadrants, three isolated initiatives (**Brain Age**, **WAD with SMS** and **PaPeRo**) are available on the market as stand-alone products, such as games and robots, that increase the capacity of the individual to cope with ageing-related impairments by providing support. They are not integrated into any service model.
- Outside public provision of care services, one initiative stands out in the upper right quadrant: **ACTION**. This is a public-private partnership technology-based home care service that uses ICTs to enable independent living by empowering (through training and expert

⁷³ European Commission (2013b) SWD(2013) 41 final.

support) older people and their family carers. The service model of ACTION is fully based on the active participation of older people and their family carers. It exemplifies a reallocation of care to the person in need's environment. This generates benefits for the person in need, his/her informal caregivers and, in turn, to the formal system of care provision.

- The map shows a cluster of initiatives at the intersection between radical innovation and inter-sectoral integration. Many of the initiatives in this cluster are not deployed services. Apart for the **Scottish Telecare Development Programme**, which is a public policy initiative, **Taiwan Telecare** and **WSD** are pilot experiences which aim to test the effectiveness and sustainability of a service model based on telecare. These initiatives - from the IESI perspective - are proof of concept for the telecare-based independent living service area, but they are not examples of integrated service provision for independent living. Their position in the map reflects the nature of the multi-sector interest in telecare as a potential “game changer” in the support of independent living of older people.
- **Kaiser Permanente**, **Advanced Telecare** and **West Lothian** are examples of new care service models based on telecare that actively contribute to the independent living of older people. They are respectively driven by a large non-profit organization, a public private partnership and a public entity, indicating that Telecare for independent living is opening up a mixed economy in the field of care provision in the home environment, which is transforming the general approach to older age groups.



Source: own elaboration.

Table 9 provides an overview of the initiatives for the independent living policy theme that have been mapped according to their attributes in the most important dimensions of our conceptual approach.

Table 9: Initiatives in the area of Independent living

Acronym	Types of Service Integration	Elements of Social Innovation	The role of beneficiaries
ACTION	Funding, Administrative, Organisational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders; Public value (re)allocation	Informal carers are empowered in caring and actively involved in care delivery as well as in Research & Development activities.
BrainAge	No integration.	Need-driven production	Beneficiaries are service receivers, not deeply engaged in service design nor in service delivery.
Advanced Telecare	Funding, Administrative, Service Delivery	Need-driven/outcome-oriented production	Beneficiaries are the care recipients; they are not deeply engaged in the delivery or planning.
ISISEMD	Service delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Public value (re)allocation	Beneficiaries are co-design partners, the project involves all relevant end-user groups in the whole process of design,
Kaiser Permanente	Organisational; Service delivery	Need-driven/outcome-oriented production	Beneficiaries are service receivers, not deeply engaged in service design nor in service delivery.
TDP	Funding, Administrative, Organisational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders; Public value (re)allocation	Beneficiaries are the care recipients, they are not deeply engaged in the delivery or planning.
TELBIL	Funding	Need-driven/outcome-oriented production	The beneficiaries helped to provide certain health-related data to the health professionals that were not automated.
WAD w SMS	Funding; Service Delivery	Need-driven/outcome-oriented production	Beneficiaries are the care recipients; they are not deeply engaged in the delivery or planning.
West Lothian telecare	Funding, Administrative, Organisational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Public value (re)allocation	Beneficiaries are the care recipients, and as the service empowered them to self-care and live more independently.
WSD	Funding, Administrative, Organisational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders; Public value (re)allocation	Care (telehealth and telecare) recipients were involved in planning and delivery.

Source: own elaboration.

To better understand the ICT-enabled social innovation and integration aspects of the initiatives, we now take a closer look at each example, describing their aims, the context in which they are embedded, the service they offer, and the technology they use. We start the detailed analysis with the only service that represents a sustained innovation, and does so without any type of integration.

5.3.1.1 ICT-enabled sustained innovation isolated from the public provision of long-term care: BrainAge

BrainAge is a technology-based wellness product developed by Nintendo, a Japanese company. Its innovative potential can be labelled 'sustained' as it allows the user to get immediate and standardised feedback about his/her cognitive status and to track its trends.

It helps users to train their residual cognitive ability by applying mechanisms in an innovative, gamifying way, that transforms training into entertainment. This is particularly important at an age usually associated with cognitive decline. The game can be played on the manufacturer's gaming console, and contains stroop tests, mathematical questions, and Sudoku puzzles. The name 'BrainAge' is also given to one of the possible game types, which also assesses the cognitive performance of users. Their scores are compared to cognitive capacity averages measured in society at any given age.

BrainAge is not integrated into a care delivery chain. It is a commercial product that people buy and play out of personal interest. There are only inconclusive scientific results available as to whether doing brain fitness activities could indeed prevent, delay or help people to cope with overall cognitive decline – e.g. dementia. It could be, for example, that maintaining physical activity and fitness could be a more effective strategy in the long run. However, just being conscious and aware of the problem, and taking "active" countermeasures, like playing BrainAge could enhance older people's belief in their self-efficacy, and their overall subjective quality of life, which could contribute to their ability to live independently in old age.

5.3.1.2 ICT-enabled disruptive innovations in isolation: PaPeRo and WAD

These two devices have disruptive potential.

PaPeRo – Partner Personal Robot is an example of the area of personal assistant robots. It is a communication robot prototype designed to provide innovative support for people living with dementia, like reminding them to execute certain tasks – from the instrumental everyday activities to supporting adherence to treatments, like taking medication, visiting care professionals, etc. – and keeping them company. It was developed in Japan by the NEC Corporation and can be considered – since it has not yet been commercialised – a prospective technology.⁷⁴ The advanced and radical technological solutions applied here include speech recognition, speech synthesis, facial image recognition, and other sensors (like ultrasonic range finders).

The other initiative in this cluster, **WAD** – Walking Assist Device with Stride Management System, is an assistive robotic technology developed entirely by a private company, Honda. This is a wearable robotic system that can help people, who have reduced ability to walk due to a stroke, or an age-associated capacity loss – an everyday reality for many older people. It provides external assistance to lengthen reduced stride and speed up slowed walking speed back or closer to normal, and since 2013, clinical trials have been underway to assess whether this device can compensate for physical capacity loss and facilitate rehabilitation, as any help to regain some of the loss could contribute to independent living and overall quality of life.

⁷⁴ The robotic industry is particularly advanced in Japan, and this device – like HAL, a wearable exoskeleton – got funding from NEDO (New Energy and Industrial Technology Development Organization, an agency of the Japanese government) to assess its potential in supporting or rehabilitating people with reduced physical mobility.

5.3.1.3 ICT-enabled disruptive innovation in an inter-governmental integration: TELBIL

TELBIL – Telemonitoring Service for Chronic Conditions from Primary Care – was originally a pilot project, initiated by the public authority of the Basque Country in Spain. It is part of a wider regional governmental strategy to address efficiently and sustainably the challenges posed by the increase in chronic conditions on the 1) quality of life of those affected (and those around them, their informal / family carers) and on the 2) financial and caseload pressure on the healthcare sector.

TELBIL formed part of the healthcare portfolio of Bilbao's health care department. This service made it possible to monitor remotely the health status of – mostly older – people with chronic conditions, like heart failure and chronic obstructive pulmonary disease (COPD). Monitoring and analysing certain health-related data (that includes, inter alia, heart rate, respiratory rate, oxygen saturation, blood pressure, patient's weight, and a short self-administered questionnaire about the way the user felt), made it possible for healthcare professionals to check the trends in patients' health status and modify their care plans and treatment when necessary. The system was also capable of identifying emergency situations and triggering an alarm and immediate response by healthcare professionals at the telehealth centres. Additionally, the service reminded the user to take medication and follow a diet when applicable, and regular, bi-weekly phone call follow ups were initiated by a nurse at the medical centres. The main element of social innovation was that it was driven by the need to support people with certain chronic conditions and to provide better, more responsive and more efficient care for them.

The service had positive results, like enhanced subjective quality of life of the users, lower stress levels, more self-assurance, and reduced hospitalizations and emergency health-service visits. Overall, it was cost-effective as compared to the conventional healthcare treatments. It was provided within a regional primary healthcare system in Spain between 2009 and 2014 when it closed down due to the fact that the national funding dried up.

5.3.1.4 ICT-enabled radical innovation in an intra-governmental integration: ISISEMD

ISISEMD – Intelligent System for Independent Living and Self-Care of Seniors with Cognitive Problems or Mild Dementia – was an R&D project financed by the EU's Information and Communication Technologies Policy Support Programme (ICT-PSP). The prototype developed is an assistive technology, which provides a complex service for those living in the community with mild cognitive impairments like dementia, and also for their carers. People who have up-to-mild cognitive capacity loss can be supported with technology, so they can maintain independent living. For instance forgetfulness, problems with performing tasks or structuring the day can all pose various problems, from those with a relatively innocent outcome to others with more severe consequences.⁷⁵

This European-funded pilot initiative is based on an open process of co-creation/ collaborative innovation network which involves relevant end-user groups in the design, validation and assessment process of the intelligent services in real-life conditions and in diverse regional settings. This is an example of intra-governmental level of governance of service integration, which brings together an expert consortium of 12 partners from the public and private sector and covers the full spectrum of deployment of service: from conception to development, installation and system. Since this project validates the use of ICT-enabled services for achieving independent living / better quality of life for older people and people with dementia, it may also contribute to a process of public value (re)allocation.

⁷⁵ The following examples show how innovative ICT-enabled support can help with everyday tasks: 1) home and outdoor safety (cooking monitors, fire alarms, flood detectors, bed occupancy sensors, wake-up sensors, fridge door alarms, etc.); 2) structuring the day (to do list, calendar, etc.), 3) contacting informal carers in case of suspected emergencies; 4) cognitively stimulating the user (with games installed to the device); 5) enhancing communication with carers, health and care professionals (videophone); and 6) enhancing professional care-givers' support (reporting lifestyle patterns, collected by various sensors); outdoor safety (fall alarms, panic buttons with outdoor location reporting).

5.3.1.5 ICT-enabled radical innovation in an inter-sectoral integration: Advanced Telecare, West Lothian, TDP, Kaiser Permanente, Taiwan Telecare, and WSD

The six radically innovative initiatives in this cluster represent one level up in governance of service integration mapped in the IESI conceptual framework. They entail – at least to some extent – inter-sectoral partnerships in their service models. In five initiatives, this means public and private sectoral partnerships completed by third sector involvement in some cases. The first ICT-enabled initiative presented here, Advanced Telecare, is the only mainstream service, i.e. fully integrated into the care delivery chain.

Advanced Telecare – Home Automation and Advanced Telecare – is a French initiative provided in two of the three departments of the Limousin Region. The departments included this service in their mainstream care portfolio by using multiple public funds in the framework of Public Service Delegation, i.e. they subcontracted the service delivery to private companies, forming an inter-sectoral service model, and the financial sustainability of the service seems to be ensured for at least the foreseeable future. The main reason for developing and mainstreaming this service was to address the prevalence of falls of older people in their home environment. The innovative aspect of this service is that by providing telecare, many falls could be prevented and independent living could be supported.⁷⁶ Although the actual technical solutions are somewhat different in the two departments, overall the Advanced Telecare system uses several technologies such as 1) sensors and detectors of falls, anomalous user movements, and environmental hazards like gas leaks, fire, temperature changes; and 2) automated light paths that can help orientate the user with poor eyesight and/or during reduced visibility on a frequent route, e.g. between the bed and the toilet to avoid falls as far as possible. The technologies at home are connected through a bracelet or a pendant, worn by the user, to a telecare system. The telecare service call centre is available 24/7 and besides user-initiated calls it can also be alerted automatically in the case of a possible accident or other presumed emergency situation through the sensors, thus allowing care professionals to intervene as appropriate. Users can also 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. At the moment (2014), more than 3,000 homes are covered by the service in the two departments, and a study (ESOPPE) verified the following benefits: 1) reduction in falls and reduction in hospitalizations due to falls; 2) reduction in the need for carers' time; and 3) cost efficiency, as the service is cheaper than the cost of a hospital stay due to a fall (Tchalla et al., 2012).

The **West Lothian** telecare service was a vanguard innovative project of its time, provided by the Council of West Lothian, in Scotland, United Kingdom. In 2002, the existing social alarm service was upgraded with additional services to help older people live independently. These services embodied “second generation” telecare services, i.e. they were capable of triggering an automatized alarm dimension. The upgrade allocated certain ICT-components from a set of sensors, like flood detectors, smoke detectors, movement sensors and a temperature sensor, to a user's home after a comprehensive needs assessment. This “Home Safety Service” enhanced the perceived safety and provided peace of mind for older people and their informal carers, especially as it was complemented by the “West Lothian Care Line” call centre that was open to calls 24/7. The level of governance of service integration was pervasive, as the service provision involved collaboration between the local authority (council) and a private company as a technological partner, therefore going beyond the traditional organisational boundaries of care provision. The service was offered to anyone over the age of 60 living alone or with a partner. The Scottish Government funded this initiative, and an important aspect of the service was that the experiences of its provision and evidence of its effectiveness influenced the decision of the Scottish Government to extend the funding and step up its efforts to spread telecare and telehealth services throughout the nation.

⁷⁶ Falls are a major health concern, as they often cause serious injuries and consequences, and consume a significant amount of the caring resources. Not only the consequences of an actual fall, but also the uncertainty a fear of falling brings to those living alone could lead to the loss / giving up of independence in old age.

The further development of the West Lothian experience was funded from resources allocated to the **TDP** – National Telecare Development Programme –, a nationwide telecare-mainstreaming policy initiative. This initiative was launched by the Scottish Government in August 2006 and lasted until 2011. The aim was to mainstream telecare services that could support the independent living of – predominantly older – people at home, and by so doing, save money for the welfare system. The government made available a total fund of around 24.6 million EUR and provided other assistance (management, knowledge base and information hub, guidance, etc.) to help mainstream telecare services throughout the nation. It was a need-driven policy initiative to address the increasing demand for care provision in the home environment. By the end of the programme, 30,000 net new telecare users had been registered. Although telecare services are available to anyone depending on a needs assessment, users are usually older people (85 % of the user base were 65 years old or older in 2013).⁷⁷ An important integration aspect of the TDP policy initiative was that only social and health care partnerships could apply, and that application had to be approved by the local Community Planning Partnerships, a multidisciplinary body composed of representatives of public, voluntary, community and private sector organisations. The 32 partnerships in Scotland were organised around, and led by the local authorities (all 32 territorial councils of the country) that are responsible for care provision. These partnerships also included actors from other – private and non-governmental – sectors with different expertise and operating areas, like: housing associations, voluntary organisations and charities, private providers of health related technologies, and health sector organisations, constituting thus a pervasive approach.

Kaiser Permanente – Kaiser Permanente Tele-Home Health Research Project – supports independent living and more appropriate and responsive healthcare by a "tele" delivery mode. This transformative/radical innovation enables the remote diagnosis of patient health status according to certain vital data that are measured by the patient and assessed by a nurse in a "tele" home-health centre. A real-time audio and video connection can be established for these diagnosis and consultation events. Thus, in addition to the "hard" measured vital data, visual and audio checks can be done by the nurse via the videophone link. This is an example of radical change in service provision, which contributes to outcomes which would not have been possible without the use of the videocare service. The Kaiser Permanente is a fully-integrated hospital-doctor-insurance company service, provided by one of the largest non-profit health plans in the USA, with a view to facilitating access to integrated health care services.

Taiwan Telecare – Taiwan's Telehealth Pilot Project – was a comprehensive project that was started in 2007 to model and assess the usability of ICT-enabled services in healthcare in particular. The Taiwanese government wanted to improve the otherwise already very high level healthcare system further with the application of technology to tackle the challenges that chronic conditions pose, both for those affected and to the welfare system. It was a comprehensive approach, covering a wide variety of chronic conditions, from health failure to dementia. The Taiwan telecare service ecosystem constituted an inter-sectoral collaboration, though the most important types of services integration (funding, service planning and delivery) were exclusively or predominantly taken care of by public bodies.

Due to their relevance for the independent living policy objective, we only cover the home and community care models here.⁷⁸

In the home-care model, the following stakeholders were involved: medical institutions, information and communications technology laboratories, and home security providers (the private sector

⁷⁷ This is in line with the original aims of the TDP, which were to address the following societal challenges: 1) the demographic ageing of the Scottish population; 2) the increase of informal carers; and 3) the high expenses in the social and health care systems and services.

⁷⁸ To be able to assess the advantages and disadvantages of using tele-services for the wide coverage of chronic conditions, living contexts and environments, they identified three main caring settings – home, community and institutional – and provided targeted services to address the needs of the users and the service provision model in the different contexts of use. Using the pilot services was free for all participants, regardless of the setting.

partners). The ICT component monitors certain physiological parameters (blood pressure and/or blood sugar) at home, providing health information and medication instructions to the older people and offering videoconference-consultations with healthcare professionals (dietitians, therapists, pharmacists, and nursing professionals). The data collected with the telemonitoring system are uploaded by the older people or their carers to a central database with an automatic alert system placed in the telehealth central station. The telehealth central station staff are in charge of responding to any critical values and reminding patients or their carers to upload the data when they fail to do so. Older people are eligible for this care option if they receive home care, if their Barthel's index⁷⁹ is equal or below 90, or if they have diabetes mellitus or hypertension.

In the community-care model, the services delivered are similar to those of the home-care model, except that the telemonitoring is operated by a trained member of staff in a community-care station. Older people included in the community-care model are those who live alone, or who have dementia, hypertension, or diabetes mellitus. In addition to telemonitoring, some other local community services (such as laundry, haircut, and meal delivery services) are also included in this model, which aims to deliver appropriate care services in a familiar context for older people.

WSD – Whole System Demonstrator – was a pilot programme in three council areas – London Borough of Newham, Kent County and Unitary Authority of Cornwall – in the United Kingdom. It was set up and financed by the Department of Health (DoH) in 2008. With the launch of complex and integrated care provision by means of telehealth and telecare, the DoH wanted to demonstrate and assess the potential of these services in addressing comprehensive and complex care needs in the following domains: service utilisation, clinical effectiveness, cost-effectiveness, patient and professional experience, service delivery and organisational effects. It represented a social innovation model based on a public value (re)allocation. It was the largest randomized control trial ever carried out at the time to provide sound scientific evidence on the outcomes.

The trial constituted an inter-sectoral collaboration, as it was designed to involve all relevant stakeholders in ICT-enabled care delivery. Besides the local authorities of the 3 council areas, the National Health Service, a private-industrial actor (Tunstall), and researchers responsible for the evaluation of the outcomes all contributed to the programme in close collaboration. It implemented the functional integration of its services in all four areas of our conceptual framework: funding, administrative planning and management, organisational elements and service delivery.

Although the appropriateness of ICT-enabled services was the focus of this programme, the three sites were free to design their own services and their enabling technology solutions (devices, standards). Thus a varied constellation of services/technologies were applied and tested which only strengthened the outcome results. These were generally positive, and it was claimed that "if delivered properly, telehealth can substantially reduce mortality, reduce the need for admissions to hospital, lower the number of bed days spent in hospital and reduce the time spent in Adult & Elderly care." (Department of Health, 2011). One of the most striking results associated with the WSD was a fall in the mortality rates.

5.3.1.6 Pervasive ICT-enabled radical innovation: ACTION

The last cluster contains one initiative which not only has the potential to induce a radical transformational change, but is also the most enduring and far-reaching integration, as it integrates and incorporates the end users / beneficiaries in public value creation.

More specifically, the initiative **ACTION** – Assisting Carers using Telematics Interventions to meet Older Person's Needs – aims to increase the autonomy, independence and quality of life of frail older people and their family carers with the support of ICT. ACTION has three components: 1) integrated multimedia caring programmes for informal carers; 2) ACTION call centre; and 3) education and supervision programmes for users and staff. The service is provided by ACTION

⁷⁹ An instrument to assess the functional limitation in activities of daily life.

Caring AB (a spinoff company of University College of Borås), currently in partnership with EVRY Healthcare Solutions AB (part of a large private IT company) in Sweden, and is fully integrated into the care delivery chain wherever it is provided. It also aims to address several of the SIP objectives: improving the productivity of informal care, improving and assuring the care delivery, supporting the integration of formal and informal care, supporting the informal carers and empowering the informal carers and the care recipients.

Here all four elements of social innovation can be identified, as it is 1) need-driven, because it supports independent living; 2) facilitates the collaborative network-building among and across the formal and informal caregiving sectors; 3) empowers the primary beneficiaries to transform the relationships between them and the care professionals; and finally 4) reallocates public value. Additionally, this service can be considered as pervasive because it involves the informal carers as well as cared-for older people in the creation of the public good by empowering them. It also presents a broad services integration: funding (national and municipality resources as well as user service fees), administration (municipality and ACTION Caring AB), organisational (ACTION, municipalities, EVRY) and service delivery (ACTION, municipalities, EVRY). The service went through several implementation pilots in Sweden and at one point it had 350 clients. However, when the national funds dried up, it could not become sustainable. At the moment, it is only operational in Borås with about 100 users. ACTION is trying to innovate (making its service available on new, mobile platforms), but struggles to sustain itself without the national funds.

5.3.2 Integrated care

Integrating health and social care services to address the long-term care needs of older people is a challenging task because of the prevailing differences in the two systems. They usually have different / separate governance models, protocols, budgets, data collection and processing, staff requirements, training and education, knowledge bases and even professional/organisational cultures. In addition, when it comes to technology, they often adopt and apply different technology solutions and standards. Nevertheless, the efficiency gains found in the context of changing care needs is driving the process towards integration as a social innovation.

The initiatives mapped in the integrated care subsample are composed of 8 ICT-enabled initiatives that propose integrated care models. According to their **types**: 5 are established services, 2 are pilot projects, and 1 is a policy approach. 3 initiatives are outside of the EU (Canada, New Zealand, United States), whereas the rest of the initiatives (5) are from the EU (or at least the majority of their stakeholders). Their **geographical coverage** is also varied, only one initiative is nation-wide, two are transnational and 5 are regional. Half of them **started** in 2010 or later, and two of them are still **operational**, while the other 4 initiatives started almost 10 years or more ago (2005 and earlier), and 3 of these are still operating. All of the initiatives mapped provided some kind of case management solution – often they also provide access to the data for the service user – and other back office support systems. The 8 mapped initiatives altogether provided 8 health care services (4 telemedicine, and 2 telehealth and telemonitoring); 2 initiatives provided home care (both were telecare), and 1 included a wellness service in its portfolio.

The number of **stakeholders** varies from 4 to 7. The majority are from the public sector as these stakeholders are most frequently responsible for service delivery and funding. Besides the older people that all the initiatives consider to be a **target group**, informal and formal carers are targeted by 5 and 4 initiatives respectively. Paid assistants are also an important group in the integrated service models. Three initiatives target them as beneficiaries, and they are also the second most important **intermediaries** (5). Not surprisingly, however, all the initiatives in the integrated care domain identified the formal carers as intermediaries. Outside the **SIP objectives** (SWD on LTC) and on the **service provision side**, all of them, naturally aim to support integrated care, but also to raise the productivity of care. 5 initiatives aim to enhance the quality of care and the cost effectiveness and also to simplify the administration.

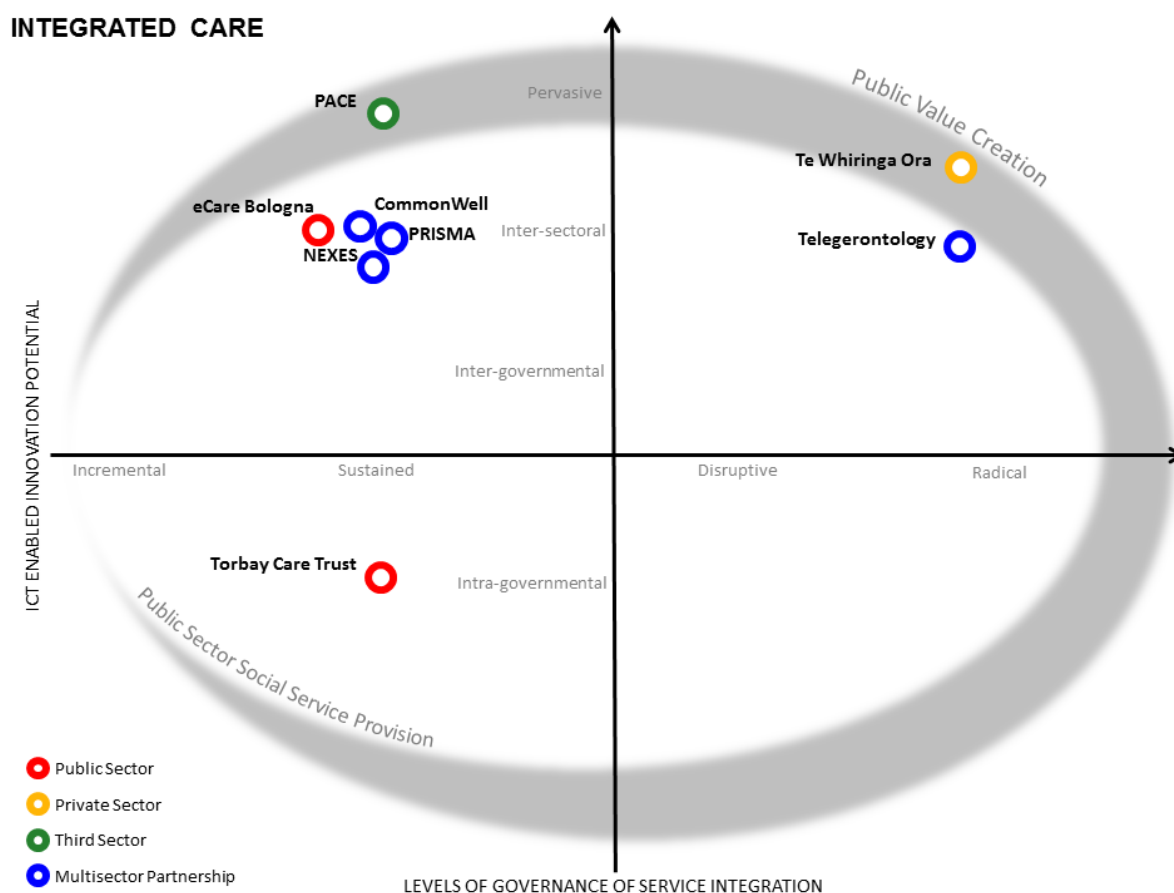
Evidence of the outcomes show that, at the micro level, all the initiatives address long-term conditions, aiming at the same time to help older people to live independently and support formal and informal carers. At the **meso-level**, the most frequent benefit of the initiatives is productivity gain (7), followed by simplified administration (5) and improved care delivery and cost-effectiveness (4 and 4) of the initiatives. Better targeted caring services (3) and improved access and service take up were also detected in two cases.

When it comes to the **conceptual framework** we apply to analyse the ICT-enabled innovation potential and the level of governance of service integration components, we can say that the initiatives predominantly have sustained/organisational **innovative potential**, and two of them have the technical opportunity to induce a transformative change of the radical type. All the initiatives were inspired by a social need – the ever-present attribute in our **element of social innovation** dimension –, and three of them facilitate a fundamental change in how the stakeholders relate to each other, while 2 initiatives entail a new way of collaboration / networking and contribute to the public value re-allocation.

The most prevalent **level of governance of service integration** is inter-sectoral. 5 initiatives belong to this category, 2 of which are pervasive and one intra-governmental. The **area where services are most often integrated** is organisational, 6 of the initiatives can be described as such, while 5 are integrated in their delivery, and 2 in the administrative and funding domains.

In Figure 52 we put these elements together, showing that initiatives in the integrated care service area mostly make instrumental use of ICTs in order to ease and support the organisational changes that an integrated care approach requires:

Figure 52: Initiatives in the area of integrated care



Source: own elaboration.

From the analysis of the map emerges that:

- Six of the eight initiatives in this area have sustained innovation potential. Thus, they belong to the functionalist group of social innovation (see Chapter 4). This means that in the integrated care service area, ICTs are not “game changers” in that they are not used to transform the way care services are provided, but rather to **improve the management of care services** (e.g. by rationalising service provision), to **handle in a more efficient way the transfer of cases** (users) in the care “flow” (e.g. by sharing information about individual interventions through case management tools), to **foster case-based collaboration across institutions**, and to better tailor the services to the individual needs (e.g. by allowing multidisciplinary teams to coordinate their effort around the beneficiary), in other words to deploy a **person-centred approach** to address the needs of the target population in a holistic manner. However, this is not always true, as in the Knowledge Map, two initiatives are placed on the top right quadrant showing a radical innovation potential. Both these initiatives provide integrated care; have deployed a telecare system which aims to help people to live independently at home, and both use ICT to empower the patient’s care community to be more effective and efficient in supporting the individual at home.
- Not all initiatives in the integrated care sector have been deployed from the traditional sphere of social services provided by the public sector. Two initiatives lie in the area of public value creation. They both devise integrated care solutions to maximise the opportunities for care recipients to remain in their homes and communities of origin, not only to reduce the strain on social and healthcare institutions but also to grant older people and chronically ill people better quality of life. Both initiatives set out to respond to the increasing demand of community-based care and to fill a service market gap in addressing the needs of i) older people with a migration history in a neighbourhood of San Francisco (PACE) and ii) the need of people with long-term medical conditions, Te Whiringa Ora. Whereas PACE is a non-profit initiative, Te Whiringa Ora is a service delivered for profit.

In Table 10, we provide the list of the integrated care initiatives mapped and the category or categories they belong to in the most important dimensions of our analytical approach.

The table then is followed by a detailed analysis of each initiative mapped in the policy theme of integrated care.

Table 10. Initiatives in the area of integrated care

Acronym	Types of Service Integration	Elements of Social Innovation	The role of beneficiaries
Te Whiringa Ora	Funding, Administrative, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders; Public value (re)allocation	Care recipients are empowered: better informed, more aware and capable of self-care and being partners in the caring domain rather than being "just" "cared for" persons.
CommonWell	Organisational	Need-driven/outcome-oriented production	Beneficiaries are service receivers, not deeply engaged in service design nor in service delivery.
eCare Bologna	Organisational	Need-driven/outcome-oriented production	Beneficiaries are service receivers, not deeply engaged in service design nor in service delivery.
PACE	Organisational; Service delivery	Need-driven/outcome-oriented production	Beneficiaries are service receivers, not deeply engaged in service design nor in service delivery.
PRISMA	Service delivery	Need-driven/outcome-oriented production; Fundamental change in the relationships among stakeholders; Public value (re)allocation	Beneficiaries are service receivers, not deeply engaged in service design nor in service delivery.
NEXES	Organisational; Service delivery	Need-driven/outcome-oriented production	Beneficiaries are service receivers, not deeply engaged in service design nor in service delivery.
Telegerontology	Organisational	Need-driven/outcome-oriented production	The beneficiaries are empowered and that could lead to a different relationship between them and the health- and social care professionals as well as they could be better prepared to self-care, prevention.
Torbay	Funding, Administrative, Organisational, Service Delivery	Need-driven/outcome-oriented production; Open process of co-creation/collaborative innovation networks; Fundamental change in the relationships among stakeholders;	Care recipients are empowered: better informed, more aware and capable of self-care and being partners in the caring domain rather than being "just" "cared for" persons.

Source: own elaboration.

5.3.2.1 ICT-enabled sustained innovation in inter-sectoral integration: PRISMA, NEXES, CommonWell, e-Care Bologna

PRISMA – Programme of Research to Integrate Services for the Maintenance of Autonomy aimed to coordinate and integrate hospital, respite, and residential and community-based care for frail older people in the Quebec province of Canada, as an umbrella organisation.

The level of governance of service integration here is inter-sectoral, and the element where we could identify integration was delivery of service, as the care could be provided by actors from any sector (public, private or voluntary). The type of innovation is sustained, and could be found in supporting the coordination of care between the actors. It used a shared electronic client data record to make care coordination / case-transfer – the flow of care – between the providers easier and more efficient. This ICT-element is only one of the elements of the informal integration/coordination, which also includes the following five other components: 1) coordination between decision-makers and managers at the regional and local levels; 2) single entry point; 3) single assessment instrument coupled with case-mix management system; 4) case management; 5) individualised service plan (Stewart, 2013).

An additional element of social innovation – besides the fact that all the initiatives are need-driven – in PRISMA's case is the way those caring organisations under its umbrella framework changed their relationships with each other. They now provide coordinated care facilitated by the ICT-component. Another element of social innovation is the way they pursue the initiatives' appropriateness by involving researchers / evaluators to assess the outcomes of the processes.

The next case in this cluster is **NEXES** – Supporting Healthier and Independent Living for Chronic Patients and Elderly. This was an EU-funded project (ICT-PSP). It aimed to investigate, assess and develop further the WHO's Chronic Care model with the application of integrated care and ICT-enabled services. In particular, it looked at whether efficiency gains could be attained at the system level. This complex project investigated the applicability of the integrated care approach supported by ICT-enabled services, using a standard methodological tool designed to assess telemedicine applications in the healthcare sector (MAST-Model for Assessment of telemedicine applications) in the following areas: wellness and rehabilitation, enhanced care for frail patients, home hospitalisation and early discharge and remote support to primary care for diagnosis and therapy. The two ICT-platforms tested – Health Information Exchange (HIE) and Health Information Sharing (HI-Sharing) – were used to share information between caring actors with various backgrounds: public (care provision), private (technology providers, care provision) and voluntary. They found that the platforms could indeed increase the efficiency of these systems (like cost-efficiency and increased care effectiveness).⁸⁰

The technology used in the project was provided by private companies, and the service is delivered by public and private healthcare providers. The main benefit of the service is the potential for deployment based on the outcomes of the initiative. The initiative uses an inter-sectoral model of governance of service integration which brings together public, private and third sector actors at the level of organization and service delivery of care. It contributes to a sustained model of ICT-enabled innovation.

Another initiative belonging to this group is **CommonWell** – Common Platform Services for Ageing Well in Europe. This was a research project to test a common ICT-enabled platform that aimed to facilitate the work of integrated health and social care services. It was piloted in 4 different countries and institutional settings: 1) Better emergency care through telecare integration in Andalusia, Spain; 2) Managed hospital admission for care clients in Bielefeld, Germany; 3) Early Intervention and Telehealth for COPD Patients in Milton Keynes, England; 4) Integrated support for heart failure patients in Veldhoven, Netherlands. The first two focused on helping older people to

⁸⁰ It is important to mention that the NEXES consortium also used certain "tele" services providing care at home in these pilots, but focus here only on that part of the project that investigated the role of ICT in facilitating the integration of service provision at different care levels and in different fields (horizontally and vertically).

live independently, while the last two focused on the management of prevalent chronic diseases.

The integrated services are to support the effective management of chronic conditions, and to address issues, such as reduced agility, vision or hearing, in order to significantly improve the quality of life for older people and their families. With the help of the platform, the initiative resulted in the organisational integration of social and health services to facilitate processes which can improve service provision from different stakeholder groups, including service providers, care professionals and clients, leading to an inter-sectoral model of governance of service integration. CommonWell leverages on the enabling potential of ICT in contributing to a sustained change in the way service provision takes place.⁸¹

The **e-Care Bologna** service is an Italian regional initiative started in 2005, after the need for a new model of care emerged following the heat wave of 2003 that claimed the lives of many older people, whose deaths could have been prevented. The e-Care Bologna is a network for tele-assistance, company and support for older people with chronic conditions. The project aims to empower citizens, facilitate prevention, social and health service integration, and increase de-hospitalization and home care, and personalization of care. E-Care provides an example of an initiative operating on a regional basis that aims to connect various actors – public, voluntary and private – to deliver co-ordinated health and social care services to older people, where the ICT-component facilitates case management. Therefore, the initiative is a model of inter-sectoral integration resulting in organizational, sustained change due to the improved functional mechanisms of service provision.

Initial funding for the service was provided by the 'Fund for Non-Self-Sufficiency' of the Emilia-Romagna Region. It is co-ordinated by CUP 2000, a regional semi-state company that specialises in eHealth and which manages the largest call centre in Italy. The electronic personal client record – that contains basic health record and contact information – is located at the call centre, which functions as an intermediary between the clients and care institutions/professionals. In addition, the call centre operators also call the clients weekly for a routine check on their perceived health status and give advice when appropriate. The e-Care network co-ordinates activities carried out by the province of Bologna, the relevant municipalities, universities, local health units, and (public and private) pharmacy associations.⁸² Overall, all stakeholders (older people, social care workers, GPs) are satisfied with the service, as it enhances the perceived safety of older people, seems to facilitate better medical adherence and health-awareness, and GPs reported that misuse of their services decreased. Reduced hospitalisation rates were also associated with the service.

5.3.2.2 Pervasive ICT-enabled sustained innovation: PACE

PACE – Program of All-inclusive Care for the Elderly – is a service in the United States that provides community-based integrated health- and social care services to older people, who are at least 55 years old, eligible for nursing home admission, according to the state's assessment criteria, through Medicaid. The aim is to provide support to independent living at home with a comprehensive set of integrated services in various locations, among them: adult day health centre (e.g. physician/medical supervision, nursing care, physical therapy, occupational therapy, various social services, etc.); primary care physician; home health and home care services (e.g. nursing,

⁸¹ This was a very complex pilot programme, but overall both caring staff and care recipients were highly satisfied with the system. Some indications of organisational efficiency gains were also reported. The integration aspect of the project received a positive evaluation by the caring staff of the integrated services, as they rated the enhanced co-working and communication possibilities highly (like management and planning of the care process, increased efficiency, better targeted interventions).

⁸² The relevant municipalities ensure the inclusion of clients; however, citizens themselves can ask to be included. Local health units and pharmacy associations support the service delivery, and universities take part in the evaluation. Between 2007 and 2010 the number of citizens benefiting from the service rose from 800 to 3,327. In 2010, the percentage of users with higher fragility conditions grew from 8% to 44%. The overall penetration of the service in the target population is 19%. This increased appropriateness of initiative is the result of the continuous redefinition of the service.

occupational therapy, chore services, personal care, meal preparation, etc.); in-patient services (emergency room visits, hospitalizations, in-patient specialist, etc.); and assistive device provision (PACE website, 2014). The planning, coordination and delivery of these services are facilitated by an ICT component - the data system for collecting and sharing information on all aspects of a patient's health status, an electronic health record – in achieving a sustained type of social innovation. The initiative dates back to the 1970s and now has 88 programmes across 29 American states. The funding of the initiative comes, in most of the cases, from sponsors (healthcare organisations) but there is also an enrolment fee paid by the user. The integrated service is provided by a multidisciplinary team consisting of a primary care physician, a nurse, a social worker, a physical therapist, an occupational therapist, a recreational therapist, a dietician and a PACE centre supervisor.

5.3.2.3 ICT-enabled sustained innovation in intra-governmental integration: Torbay Care Trust

The **Torbay Care Trust** aims to organise health and social care services in a new, collaborative way for people living with multiple long-term conditions – predominantly older people – in order to provide better and more efficient care in the Torbay Borough of Devon, United Kingdom, where the proportion of 65+ people is much higher than other parts of the UK. Inspired by the positive results of an integrated care pilot in 2004 a new legal entity, the Torbay Care Trust was created in 2005. It is part of the National Health Service (NHS) and provides integrated care with multidisciplinary approach and organises the work of several stakeholders in the care sector: community nurses, occupational therapists, physiotherapists, and social workers. The care is organised by a care manager, and there is an electronic health and social record accessible to all interested parties. In this case, the ICT-enabled innovation plays two roles: health management tools to ensure single entries to the system; and case management for data sharing and seamless transfer of the client from one type of care to another. The record system allows all the actors involved to have access to the clients' updated health and social care histories. With the actual organisational and professional integration of functions, the single care assessment and point-of-entry were accomplished.

The initiative applies a sustained model of ICT-enabled innovation, leading to better provision of health and care service delivery. It is enabled by intra-governmental level of governance of services at the funding, administrative, organisational, and delivery types of integration. Overall, the Torbay service seemed to reduce the number of emergency hospital and long-term institutional admissions and beds used in these institutions/wards by clients aged 65+, 75+, and 85+. Overall, the take-up of social services and other care packages were increased, and at the same time, service waiting lists were reduced (Goodwin et al., 2014).

5.3.2.4 ICT-enabled radical innovation in inter-sectoral integration: Telegerontology

Telegerontology includes an interactive on-line system for the visualisation of contents through a device, with capacity to register activities and biomedical parameters, cognitive stimulation, remote home automation control and tele-alarm. This Spanish initiative implemented in the Galicia Region since 2005 aims to provide telecare-supporting tools in order to facilitate ageing at home, avoid early institutionalisation, improve the quality of life of older people at home, reduce the burden of informal carers and to improve their skills, knowledge and competencies.

Telegerontology is under constant development in a project with the same name, and the research and development activities are led by the Gerontology Research Group of the Faculty of Health Sciences, Department of Medicine of the University of La Coruña. The main sources for running the initiative come from the regional Government of Galicia and the City of La Coruña, while the research and development was funded by the Spanish Government and the European Commission.

The initiative provides home support to older people/ people with functional or cognitive loss

through the help of ICTs. The service is provided through a device, a conventional telephone line, the TV set and a 'home bridge' of self- development. It is comprised of: 1). "Telecognitio", a cognitive capacity measurement and enhancement solution; 2) "A-Compañía", an online training course for informal carers; 3) videoconference, which enables communication with health care and rehabilitation professionals as well as informal carers; 4) a Health-control unit, that collects certain biomedical parameters; and moreover the device is applicable for 5) browsing on the internet.

Currently there are approximately 300 users in the region, mostly through community / institutional settings: day care centres of the municipality of La Coruña (where it is publicly available for those visiting); but also in some private and public nursing homes. Some devices have been installed in private homes, and there are efforts to market it further to individual homes and beyond the Galicia Region.

The ICT-enabled social innovation presents an inter-sectoral level of governance of service integration between stakeholders from the public, private and third sector. It contributes to a radical change to service delivery because it creates a new model of telehealthcare for the older people.

5.3.2.5 Pervasive ICT-enabled radical innovation: Te Whiringa Ora

Te Whiringa Ora – Care Connections - Enabling people to actively manage their long-term health condition – is a regional integrated care service model in New Zealand that was implemented in 2011. A need-driven approach that aimed 1) to provide a better overall / responsive care for people living with multiple chronic conditions and who are heavy / frequent healthcare users; and 2) to alleviate the financial and caseload pressure on the caring ecosystem by delivering more appropriate and efficient care services.

In the level of governance of service integration dimension, the formal and informal carers and the care recipients are all integrated into this new service model. It recognises their important role in achieving higher quality and more efficient care by empowering the clients and activating / better organising the resources of their existing "web of care" – i.e. the network of formal and informal carers around each care recipients. This model therefore contributes to a better public value allocation potential as an additional element of social innovation through these collaborative networks.

The telemonitoring system and the electronic health and social care record are very important facilitators of empowerment of the client and they represent the technological innovation potential of the service. The daily measurements of certain vital data are uploaded to a platform, and their results and trends, along with the care records, are accessible to both the client and the care professionals, creating a common ground in care planning and follow-up.

The service seems to be successful in accomplishing its aims, as measured health status post-intervention is improved, along with the better care coordination and self-management capacity of the clients. Additionally, institutional bed-day use decreased among COPD patients.

6. Conclusions

6.1. Conceptualisation and review of the state of the art

This research sets out **to explore the contribution ICT-enabled social innovation could make to the implementation of the Social investment package (SIP)**. In particular, this component of the research aimed to **map examples of ICT-enabled social innovation initiatives promoting social investment through integrated approaches to social services provision**, with a special focus on active and healthy ageing and long-term care. These initiatives were selected according to three criteria: policy relevance; ICT-enabled innovation; and evidence of outcomes. They were then analysed in order **to better understand the role of ICT-enabled innovation in support of social policy reforms and show the concrete implementation experiences** of a diversity of stakeholders in various settings and social services areas.

The **research is exploratory** since the 'universe' of initiatives under investigation is as yet unknown and the research domain is in the early stages of definition. In addition, related policy and practice experience is in its infancy in most countries around the world. The concept, or better 'quasi concept' (see §3.1) of social innovation itself is fuzzy and from a theoretical perspective, it has been acknowledged that it cannot be assigned to a particular paradigm within any single social science.

For this reason, the objective of the first phase of this three-years research project was **to structure the field of analysis and conduct a review of the state of the art in the domain, in order to develop a conceptual and analytical framework for mapping initiatives of ICT-enabled social innovation promoting social investment through integrated approaches to social services provision and with a special focus also on active and healthy ageing and long-term care**. This framework was used to analyse 70 examples that were selected from an inventory of 140 initiatives gathered through desk research and consultations with experts.

In terms of conceptualisation, another issue which is central to our research is the fact that **there is no agreed definition of the frequently-used term 'social services' and the typology of services associated with it is not commonly shared**⁸³. These difficulties of classification are also evident when we look the different social policy schema and governance models concerned with social services. This is particularly true when these policies and models are applied to countries as diverse and numerous as those in the EU, where a variety of organisations, types of providers, regulatory frameworks and contract-based relationships exist. The relative role and mix of providers and also the types and levels of integration within and among sectors depend very much on the historical, cultural, and socio-economic context in which they are implemented and may differ according to the various services provided.

In this regard, **one of the preliminary results of the research was the characterisation of the phenomenon of ICT-enabled social innovation and its underlying elements**. This allowed us to propose an operational approach for the analysis of policy-relevant initiatives that will serve to further guide the gathering of initiatives in the following phases of the research. In these phases, the mapping and analysis of initiatives will be updated and widened in order to expand the Knowledge Bank of the Social Investment Package that is being developed by the European Commission's DG Employment, Social Affairs and Inclusion.

⁸³ As introduced in §1.1 and §3.1, this research addresses the **Personal Social services of General Interest (PSSGI)**. This means that the following 10 types of social services are considered as typologies of initiatives to be investigated: 1. Childcare; 2. Education and training; 3. Social assistance; 4. Social care; 5. Housing; 6. Employability; 7. Employment; 8. Social inclusion/participation; 9. Civic engagement; and 10. Active and healthy ageing and long-term care.

From a theoretical and methodological perspective, it must be remembered that most mainstream innovation theories focus mainly on the supply side and pay little attention to the extent to which users may or may not absorb the innovation. In addition, there has been very little investigation of the possibility that the main push and pressure for innovation may come from the demand side.

However, in the case of social services, needs, demands, and targeted challenges are crucial. Thus, **this research approaches both the supply and the demand side as they are inherent characteristics of the social innovation construct, both in theory and in practice.** Advancing further, **we propose an original definition of ICT-enabled social innovation as the underlying notion of our conceptual framework.** It combines the dimensions of ICT-enabled innovation potential with the key elements of social innovation defined in the literature. Moreover, to further operationalise our research we developed a framework of analysis which incorporates the levels of governance and types of service integration as key dimensions to assess the mapped initiatives.

In this respect, a key trend in European social services is the move towards a greater **integration of social services provision.** Efforts are being made to increase the coordination of operations within social services systems with a view to improving efficiency and producing better outcomes for the beneficiaries. Integration has evolved significantly over the last decade as governments search for ways to better address beneficiaries' needs and, at the same time, manage increased caseloads with reduced resources. Although the concept of integrated approaches to social services provision is not new, our analysis confirms that we are in an exciting period of innovation characterised by schemes founded upon 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.

Nevertheless, no clear and precise definition of the concept of 'services integration' has been proposed in the literature, and several different classifications of integration exist. In this research we therefore consider **'services integration' as the increased coordination of operations across traditional functional units in the public sector, and also across other non-public providers, in an attempt to put users at the centre and treat their needs holistically.**

However, it should be made clear that the conceptual and analytical framework proposed is not intended to provide a 'value judgment' but rather an interpretative framework to better understand how initiatives characterising the ICT-enabled social innovation phenomenon are emerging and what their main features are. This means that when looking at the potential of ICT-enabled innovation (from incremental to radical), we should not consider necessarily initiatives positioned on the right of the graph model (i.e. disruptive and radical) as better than initiatives placed on the left (incremental and sustained). Similarly, the vertical axis in the graph model aims to provide an illustration of the levels of service integration governance characterising each initiative mapped. Again, this does not mean that an initiative placed in the higher part of the graph (i.e. Inter-governmental/inter-sectoral/pervasive) is necessarily preferable to an initiative characterised by an intra-governmental level of service integration, or even one that is isolated as it is in the early stages.

The expected potential of ICT-enabled social innovation initiatives needs to be analysed in a comprehensive manner. First, the qualitative dimensions that are not represented in the graph model (i.e. elements of social innovation and types of service integration) must be considered. These are often not represented because initiatives present several of them. However, it can be assumed that the more elements of social innovation and types of service integration are embedded in an initiative, the more this initiative can be labelled as an ICT-enabled social innovation. Second, and more importantly, the assessment of the effectiveness of ICT-enabled social innovation initiatives requires a more sophisticated framework of analysis. Though this framework would build as a starting point on the proposed conceptual framework, it will require a more detailed approach based on a system of impact dimensions and indicators that will be

developed as part of the next phase of the research. As a matter of fact, the degree of ICT-enabled innovation and the levels of governance of service integration are not linearly related to the types of outcomes and impacts generated.

For instance, many 'sustained intra-governmental initiatives' may have a very important return in terms of social and economic outcomes whereas 'radical' ICT-enabled innovations characterised by a pervasive level of governance of service integration may not necessarily lead to a large social and economic impact⁸⁴.

In this regard, while a number of studies have drawn conclusions from past integration initiatives, few attempts have been made to capture what is currently happening globally and in particular in the EU. Little is known about where the social services integration agenda is heading, and the role ICT-enabled social innovation plays in this scene. However, our analysis of the literature and practice shows that, **from an operational/organisational perspective, the integration of services enhances effectiveness in terms of improved outcomes, and efficiency in terms of reduced costs.** It increases capacity and value for money, improves strategic planning and system integrity, and reduces demand for emergency services. **From the beneficiary's perspective, it provides simplified access, holistic and customised support, faster response times, and improved outcomes and user experience.**

In this context, **ICTs play an important role in the social service reform process and help to increase the quality and productivity of services with personalised approaches and new solutions to policy challenges.** However, in order to have positive effects on social innovation in social services, ICTs have to be embedded in the delivery model right from the initial design phase.

This research also provides an **analysis of the state of the art which reveals a patchy picture of the current developments in the field.**

First of all, **references found in the existing scientific literature are predominantly related to commonly-recognised major challenges to social service delivery**, such as long-term care and secondly to social services targeted at groups with high political priority in most European countries. These include mainly a) unemployed adults and young people; b) children and c) adults with one or more challenging circumstances such as: homelessness; disability; mental health problems; offending; illiteracy/language barriers; and cultural barriers to integration; and finally d) older people living with functional limitations.

Moreover, despite the fact that social services reforms have been gaining momentum all over the world, and in the EU in particular, **the analysis of the grey literature and practice collected suggests that the main focus of the reforms is on promoting efficiency and cost savings through service integration and cross-sector collaboration.** There is, however, a clear policy agenda attached to this which links service innovation to improved outcomes for beneficiaries.

Furthermore, the literature reviewed indicates that the use of ICTs in social services provision and in active and healthy ageing and long-term care can indeed provide new opportunities but also new forms of exclusion. Several authors highlight the obstacles to implementation of ICT-enabled innovations in social policy reforms and identify factors in the social services environment that tend to reduce what these innovations can do for social work-oriented organisations. It is also under-deployed, remaining challenges related to needs for business models, impact assessment, and digital competences, among others, in both area of social services and active and healthy ageing and long-term care.

In particular, our analysis suggests that **the majority of applications of ICT-enabled innovation in our study address mainly one policy or problem area or target group, within an individual social service.** However, it seems that the 'one-stop-shop' model of

⁸⁴ This component of the research is investigated as part of Work Package 2 of the project.

integrated service delivery is a clear emerging trend, although it seems it has not yet reached its full potential with regard to the 'game-changing' role that ICT-enabled social innovation can play. There are still only very few initiatives that address service delivery as a way of providing solutions for the whole-person or the whole-problem and lead to integrated or co-ordinated outcomes which fully use the capacities of ICTs (such as data analytics and predictive modelling just to mention an emerging trend) in combination with a changed paradigm in the way users and intermediaries can contribute effectively to innovative design and delivery of social policies in different areas and contexts.

Nevertheless, a complementary review of practice has shown that **a number of 'pioneer' examples exist where ICT-enabled innovations are actually leading the way to transforming how individuals interface with social service providers across a range of countries and types of services.** ICT developments are in fact pulling the demand for user-friendly online options for accessing public services in general. Thus social service providers are responding to these preference changes and usage patterns by developing a range of new digital platforms, including websites, online accounts and mobile applications for smartphones and tablets. Beneficiaries are better able to manage their own care through these platforms and this frees up resources which can be used to support individuals and families with complex needs.

In addition, a number of governments around the world are embracing ICT-enabled innovations to support the design and implementation of integrated approaches to social services. Electronic user records, the use of data analytics and interoperable technologies are being developed that enable the identification of at-risk beneficiaries and a better understanding of service usage. This facilitates coordinated case management and more targeted use of resources. Although the use of ICT-enabled innovations are not yet well established in many EU countries, **several of these initiatives are starting to produce results and are setting the basis for effective social policy reforms, addressing reorganisation and integration of social services provision.** It is mostly the case in the area of active and healthy ageing where some ICT-enabled social innovation for independent living are already mainstreamed services in their region, and in operation and implementation due to public sector strategies.

6.2. Key findings of the empirical analysis

The analysis of empirical data gathered from primary and secondary sources in this phase of the research has provided inspiring results. One of the key outcomes is what we have called the **'Knowledge map of ICT-enabled social innovation promoting social investment through integrated approaches to social services provision.** It presents the findings of the first year of the mapping exercise from a quantitative and qualitative perspective, and highlights the nature of the potential of ICT-enabled innovation, elements of social innovation and the governance levels and types of service integration.

Though the results of the analysis are preliminary and cannot be generalised, **they provide examples of what types of ICT-enabled social innovations are currently being implemented in some EU countries and beyond.** We refer below to the main findings which emerged from the quantitative and qualitative analysis of the 70 initiatives gathered for the first 'mapping' exercise of this research in the area of integrated approaches to social services provision. The sample of initiatives analysed include 50 examples of **Personal Social services of General Interest (PSSGI)** grouped under the areas of: **Education and training; Employability and employment; Social assistance; Social care and childcare; and Social inclusion;** and 20 initiatives in the area of active and healthy ageing and long-term care for older people. The key findings are presented in the following sections 6.2.1 and 6.2.2, respectively.

6.2.1 Key findings of the empirical analysis in the areas of Education and training; Employability and employment; Social assistance; Social care and childcare; and Social inclusion

With respect to policy relevance, the **quantitative analysis** revealed that **the 50 initiatives address, albeit unevenly, the three main recommendations of the Social Investment Package**. Thus, the vast majority of the initiatives (72%) are related to 'Implementing active inclusion strategies', that is, investing in people's skills and capacities to improve their opportunities to integrate into society and the labour market. These are followed by initiatives which 'Invest in individuals throughout their lives' (46%), and ensure that social protection systems respond to people's needs at critical moments during their lives. Finally, a third of the initiatives in this sample (34%) deals with 'Modernising social protection systems' (i.e. spending more effectively and efficiently to ensure adequate and sustainable social protection).

Regarding the **policy priorities of the SIP** identified as relevant for the IESI research, our analysis presents the following findings, in line with the SIP recommendation strands:

- From a **beneficiary's perspective**: most of the initiatives address policy objectives related to promoting youth social inclusion (67%), participation in society (57%), education and training (49%) and employability of young people (40%). Moreover, about 57% of the initiatives have policy objectives related to active inclusion of people most distant from the labour market (31%), and support inclusive labour markets, self-employment and job market intermediaries (27%).
- From a **service provision perspective**: the initiatives address mostly policy objectives related to better targeting benefits and services (78%), improving access and take-up of services (76%) and promoting cost-effective social services meeting the needs of citizens (53%).
- Moreover, as would be expected, **the analysis reveals a certain match between the policy objectives and the effects of the initiatives on the end beneficiaries** (i.e. outcomes at micro-level) **and the results in terms of service-delivery by the organisation providing them** (i.e. outcomes at meso-level). Therefore, the initiatives achieve more outcomes than the policy priorities identified above as the most addressed.⁸⁵

Furthermore, it is important to mention that **most of the initiatives analysed** in this component of the research address integrated approaches to social services provision, **an elevated level of integration of services**. Thus, beyond initiatives with no integration (14%) or lower integration, such as **intra-governmental** (10%) and **inter-governmental** (16%), 46% of the initiatives are characterised by an **inter-sectoral integration**, resulting from the collaboration between government and service delivery providers in private or not-for-profit sectors. Furthermore, even if less widespread, 14% of initiatives achieve **pervasive integration**, which entails a new *modus-operandi*. Here, service providers and beneficiaries co-produce services innovating delivery mechanisms and reallocating resources and roles in order to maximise public value creation. Moreover, most of the initiatives are characterised by several types of integration, mainly service delivery (87%) and organisational (80%), in line with the high levels of integration achieved.

With respect to the **elements of social innovation** the initiatives contain, the analysis shows that most of the initiatives have a **functionalist conception of social innovation**, which is 'Need driven/outcome oriented' (present in the 100% of the initiatives). Many have an 'Open process of co-creation/collaborative innovation' (present in 28% of them). However, the results also show a considerable number of the initiatives in the sample take a **transformationalist social innovation approach**, characterised by the presence of: 'Fundamental change in the relationships between stakeholders' (48%) and 'Public value allocation and/or re-allocation' (34%).

⁸⁵ The outcomes and impacts of the initiatives will be further analysed in the following phases of the research.

It is worth noting that **ICTs can support these elements** by facilitating more user-centred services, enabling user involvement in the innovation process and service design and provision. They can also go beyond, by facilitating new roles for stakeholders or new power-relations, enabling network effects and increasing the outreach of the innovation process. In fact, looking at the dimension of **ICT-enabled innovation potential**, most of the initiatives (51%) use ICTs for an organisational/sustained innovation. However, it is also worth noting the use of ICTs for a transformative innovation, either disruptive (43% of initiatives), or radical (16%). Therefore, we can say, albeit tentatively at this stage, that our analysis reveals signs that **ICT-enabled social innovation initiatives are characterised to a great extent by organisational/sustained innovation, which supports in many cases social policy reform at intra/inter-governmental level**. However, a growing number of initiatives is also taking the path towards transformative (mainly disruptive and to a lesser extent radical) ICT-enabled innovation.

The results of the **qualitative analysis** carried out also shed some light on the different approaches followed to the social services areas addressed. Here, we must underline the fact that, for the purposes of analysis, the initiative typologies, identified as representative of the Personal Social services of General Interest (PSSGI) (see §1.1 and §3.1), have been grouped into five main categories, namely: 1. education and training; 2. employability and employment; 3. social assistance; 4. social care and childcare; and 5. social inclusion.⁸⁶

In particular, in the area of **Education and Training**, it emerges that ICTs enable a wide range of initiatives targeted at strengthening the capacities of disadvantaged groups. They do this by matching these groups' learning needs and enhancing their capability for gaining and maintaining employment according to different strategies. At the same time, they contribute to the preparation of a more skilled workforce for the labour market. These results in a fairly heterogeneous landscape where the public offer is complemented by solutions developed in the private and third sector or in partnership with them. Public sector-driven initiatives mainly focus on intra-governmental integration to establish cross-agency collaboration frameworks targeted at vulnerable segments of the population. Their use of ICTs is instrumental to collaboration, thus promoting sustained organisational innovation that does not disrupt current models of training provision. Inter-sectoral partnerships are an even more far-reaching attempt to coordinate agencies in order to devise strategies to combat youth unemployment and social exclusion by leveraging on capacity building.

They also focus on multi-level organisational change and mainly use ICT to sustain their joint efforts to deliver effective interventions. However, a number of initiatives, primarily led by the third and private sectors, show that ICT-enabled innovation has the potential to disrupt existing models by providing novel educational approaches based on active participation by learners in the definition of their learning pathways. These approaches focus on helping learners develop key competences for lifelong learning in a fast evolving socio-technical landscape. Among these examples, there are initiatives which have arisen outside the sphere of public sector social service provision to fill existing gaps in meeting the needs of beneficiaries. These examples vary enormously in scale and approach, depending on the population they target. They can range from a few hundred in local initiatives such as FreqOUT!, to millions of users in massive online open courses like those provided on a global scale by ALISON, thus becoming 'pervasive' in their scope.

The results for services addressing **Employability and employment**, despite the limited number of examples studied (i.e. seven), are quite positive –especially in the city of Hamburg and in the UK, where integrated one-stop shop services have been running for several years now. It can be argued, as a preliminary consideration to be further confirmed, that the models proposed are robust enough and may represent useful approaches for the public sector to address specific needs of young people and disadvantaged people. Furthermore, this group of initiatives includes two leading examples of ICT-enabled social innovation that arose outside of the public sector realm.

⁸⁶ See footnote to Figure 9 in § 5.2.1 for details.

Samasource (in the USA) and Slivers of Time (in the UK) were established by social enterprises in collaboration with private sector organisations. Both initiatives demonstrate a fundamental change in the relationships between stakeholders and satisfy the needs of different users through the establishment of collaborative innovation networks, producing outcomes and re-allocating public value. These initiatives are also characterised by the fact that they allow individuals in need to contribute actively to economic development, or increase social cohesion in their local environment, by taking a 'sharing' approach which focuses on pro-poor development (Samasource) or social inclusion (Slivers of Time). The social innovations underlying these examples are strongly supported by ICTs that act as a 'game changer'. It would not be possible without them to perform the activities or provide the services, especially as they have a global outreach, particularly in the case of Samasource. For this purpose they require, of course, deep service integration, both from an organisational and a service delivery perspective.

In contrast, the analysis of the initiatives in the **Social assistance** service area seems to show that ICTs do not have innovation potential *per se*. In this field, the technology base is similar to all initiatives included in our sample. However, the analysis suggests that the degree to which ICTs contribute to the transformation of service provision depends on how they are embedded in the service model. For example, an online interactive eligibility form can be used to support cost effectiveness in request processing by the service provider. At the same time it can also be used to empower citizen in their dialogue with social workers, to collect data on how beneficiaries' requests are matched by the current service offer and to identify unmet needs to feed into the revision of social assistance schemes. Thus, ICTs highly increase the potential for social policy innovation.

In the **social care and child care** area, examples can be found of service models based on the transformation of relationships among stakeholders, entailing greater participation by the beneficiaries or their extended community. Overall, the diversity of the ICT-enabled social innovations in these areas reflects the complexities of the needs in the care sector, and emphasises their specificity. In a world of increasing human needs and pressing budget cuts and reforms in the welfare services, six out of the nine initiatives analysed, offer examples of how care provided outside the traditional framework of public service delivery can complement existing mainstream social service provision directly delivered by public sector organisations. This is done by involving the community of care, the private sector and even by empowering the users to help themselves, with the objective of providing better outcomes and serving more efficiently.

Finally, in the **Social inclusion** area, the initiatives analysed are mainly targeted at addressing the very specific needs of particular communities or groups of users. They all entail an element of need-driven social innovation and their strategies aim to empower the intended beneficiaries with material and immaterial tools to overcome conditions that put them at risk of social exclusion (e.g. socio-economic background, history of migration or exploitation, intellectual disability etc.) by fostering their current and future capacities. However, they are all very different in other respects. From an integration perspective, these initiatives range across the knowledge map from isolated to pervasive. They may have different levels of governance of service integration, often originating from civil society and the third sector, although they frequently work in strict collaboration with public services, especially at local and municipal level, thus implementing the social policies developed in different domains. Furthermore, they make quite diverse use of ICTs, leading to different ICT-enabled innovation potential. In addition, they approach beneficiaries in ways that are closely coupled with the service model underlying them. However, the common aim of the social inclusion initiatives mapped is to facilitate and foster their beneficiaries' self-development, peer support and community building in order to contribute to their empowerment, autonomy and self-efficacy and to promote their active participation in society. Thus, these initiatives support the objectives and are aligned with the implementing rationale of the EU Social Investment Package.

6.2.2 Key findings of the empirical analysis in the area of active and healthy ageing and long-term care for older people

The sub-sample of 20 ICT-enabled social innovation initiatives promoting social investment in the area defined as active and healthy ageing and long-term care for older people is composed by 12 examples related to the theme of independent living and 8 to integrated care. They aimed to support the following policy priorities identified as relevant for the IESI project, as follows:

- From the beneficiaries' perspective 19 initiatives aimed to **reduce the prevalence of frailty and functional limitation** and enable **independent living via supported individual capacities** by an ICT-based service. The other major area addressed by the initiatives – in 13 instances – is the **support of formal and informal carers**.
- In the service provision perspective, the initiatives' contribution to a main aim of the SIP – the modernisation of the social protection systems – is prevalent: the enhancement of long-term care provision was the primary ambition, as almost all of the initiatives (18) aimed to raise the **productivity of formal and / or informal care**; closely followed by the intention of **enhancing the quality of care** (16). The third most frequent aim was to support the **integrated care delivery** that 13 initiatives tried to achieve.

With regard to the **levels of governance of service integration**, a key element of the IESI conceptual framework, the majority of the initiatives under analysis are characterised by **inter-sectoral integration**, and in 12 cases a stakeholder from the private sector was a member of the partnership, closely followed by public bodies that participate in 11 inter-sectoral partnerships. The **pervasive** level of integration was embodied instead by 3 initiatives, two of those in integrated care (Te Whiringa Ora and PACE), and one in independent living (ACTION). 3 initiatives have been identified as **isolated**.

When it comes to the dimension of **types of service integration** – a potentially crucial facilitator of the effectiveness of services and to decrease barriers to accessing by the user – the most frequent option is the collaboration among partners in the **system delivery** (14). However, a bit more than half of the initiatives mapped (11) presents integrated **funding** for the service provision and / or **organisational** integration as well. Also a key finding of the analysis is that the use of ICTs indeed has **innovative potential** to rearrange the services, both in the way they are provided and actually in what they can offer. Half of the initiatives mapped show a 'game-changing' potential to **radically transform** the services by enabling their provision: 8 out of 12 independent living initiatives and 2 of the 8 integrated initiatives show such potential. The rest of the cases (6) could be instead best described as **functionalist – sustained** innovations, being characterised by ICT tools to facilitate service planning and delivery.

Finally, all the initiatives share a common element in their **social innovation** portfolio: they are all **driven by a well-defined need**: supporting the long-term care of older people, albeit the specificities of the different needs and the solutions' approach varied considerably. The other 3 elements of innovation – according to the conceptual framework developed for this analysis – distributed evenly in the whole sample: in 7 initiatives the ICT-component facilitated or enabled the formation of **a new collaborative networks** that could significantly renew/better the outcomes of long-term care development, planning or delivery by the joint efforts that different stakeholders put in in a more orchestrated, co-productive way. Similarly, the **fundamentally changed nature** of the relationships among the stakeholders emerged in 7 initiatives that can be described as an innovation that led to new type of relations that transcended the somewhat restricting conventions. A social innovation could culminate in a creation of a new or **re-allocated public value**, and 8 of the mapped initiatives seem achieving this, 6 from independent living and 2 from integrated care.

Analysing the qualitative data provided different insight into the two themes. In the **independent living** area the overarching social need that defined or contributed to their development was the increasing number of older people who are living with a chronic condition, cognitive or physical

capacity loss, and often alone. The idea is that ICT-enabled services may support them more efficiently to live independently at home, to stay put and maintain at least the quality of life and safety. The initiatives mapped for this area in general have the potential of inducing a transformative, disruptive or radical change in the long-term care service set-up.

The ICT-enabled initiatives applied different approaches. Some of them wanted to enhance capacities that are lost or are vanishing, like cognitive capacity (BrainAge, PaPeRo). Other initiatives provide monitoring services that can detect certain vital data to improve the responsiveness and appropriateness of treatments and medications; and, crucially, enable carers to intervene in case of medical emergency (TELBIL) or in case of other types of emergencies let those be caused by environmental hazards or behavioural incidents, like a fall (Advanced Telecare, West Lothian). Some initiatives aimed to empower not only the care recipient older people, but their informal/family carers as well, whose essential role in long-term care for independent living has been acknowledged (ACTION).

Some initiatives put special emphasis on assessing the potential of ICT-enabled long term care services to assist older people. Governments launched regional, but centrally financed pilots at scale, involving private and third sector stakeholders to prove the efficiency of the use of ICT-enabled “tele” services in a home environment, and applied thorough assessments to gain sound evidence (i.e. Taiwan telecare, WSD). A Scottish initiative (WSD) is an example of a policy aimed to explore the potential of a nationwide adoption of telecare and telehealth services with an all-embracing approach to stakeholders’ involvement. Finally, ACTION seemed to be placed the highest in all areas of our analytical framework, and even matched all four elements of social innovation, including public value creation. Despite this, however, the service is struggling to scale-up, because the national funds – that the municipalities can use to subsidize such a service – dried up.

In the **Integrated care** domain of this mapping exercise the initiatives aimed to contribute to the more appropriate, better quality, more cost-efficient, more seamless case transfer and more accessible long-term care of older people living with chronic conditions by integrating health- and social care services; and providing it by a multi-disciplinary team. Crucially, the integration efforts of the 8 services analysed were all facilitated by ICT-enabled case management services, electronic health- and social care records applying a service user approach. Several of them went beyond it and used other information-sharing platforms between the stakeholders, and even offered some complementary “tele”-services for the older care recipients. The dominant innovation potential in this sample however could have best classified as weak-sustained, and this was in line with their facilitating status: that is what case managing tools can achieve, an important element, but they don't possess a transformational potential. There were also initiatives in the sample that could be a source of a transformative-radical change in the long term care service provision: Telegerontology and Te Whiringa Ora, although only the latter seemed to have a reasonable potential to scale further up or transfer its model elsewhere.

Albeit the ICT-enabled innovation potential is relatively weak in the sample, the type of service integration is rather high, as apart from one initiative (Torbay) they all at least inter-sectoral, where public bodies contribute to at least the funding of the initiatives. Two additional initiatives (Te Whiringa Ora, PACE) are considered pervasive, as their care provision breaks the traditional institutional boundaries, innovatively co-producing the caring services in their model.

Besides the social and health needs that called for the long term care service-integrations additional elements of social innovation were also identified, like the open processes of collaborative networks, for instance between the care professional stakeholders (Torbay), while others integrated and relied heavily on informal carers as well (Te Whiringa Ora). Te Whiringa Ora, provided regionally in New Zealand, is also important because of its public value creation potential, the other initiative with such a virtue is PACE, a third sector community-based service in the United States. Better organisation among the care professionals (PRISMA) and the empowerment of the care recipients and their informal carers (Te Whiringa Ora) also led to a fundamental change in the stakeholders' relation.

6.3. Limitations and future research

This report provides an overview of the results of the first year of an exploratory research project which addresses ICT-enabled social innovation, which is a 'moving target' as it is by default in a state of perpetual flux. Moreover, many of initiatives under investigation are experimental or exploratory, often practice-driven and in the early stages of implementation, thus complicating further the study of outcomes and impacts generated. It is therefore clear that there are **several limitations to this phase of the research**.

First of all, **limitations with respect to the sample of initiatives analysed should be acknowledged. The examples mapped in this phase of the research are not representative of the wealth of ICT-enabled social innovation initiatives in the social services area across Europe.** The sample does not contain initiatives from all EU Member States, and its limited size prevents statistical significance. Though the initial set of initiatives will be expanded throughout the lifecycle of this research project, it must be recognised that the universe of initiatives that could be part of the map is still unknown (and unknowable). Thus, issues of overrepresentation and inherent bias will always be present and must be considered in the process of data interpretation and analysis. The next mapping exercises will therefore 'structure the sample', in an attempt to 'reconstruct' a possible universe of initiatives from which a more balanced sample may be extracted and analysed in depth. **The initiatives that will be gathered over the next two years of research should be selected to integrate the knowledge map and define a sample of initiatives illustrative of different welfare systems in the EU in order to provide a more accurate overview of the EU landscape.**

Secondly, **the conceptual and analytical framework proposed requires further validation by applying it to a larger set of initiatives and its contextualisation in different welfare systems and social services delivery models.** This limitation of the current phase of the research will be addressed in the next phase by enriching the 'knowledge map' with an additional set of initiatives and by linking them to an analysis and characterisation of diverse systems of social services provision and related governance models. Also, the current phase of the research has not considered in depth the variety of policy and organisational models, regulatory frameworks, service delivery mechanisms and administrative and cultural traditions in different EU countries. This gap will be addressed by a specific component of **the next phase by looking at how social services are structured in different EU Member States.** This will allow us to better understand the impacts generated and the relationships with socio-economic contextual factors according to different types of social services and target users. It will also allow us to **identify drivers and barriers for implementation of different types of ICT-enabled social innovation**, and explore the possible transferability of initiatives within and across various welfare systems and governance models. In this phase, examples of initiatives will be identified and analysed to further complement the knowledge map, and also prepare the ground for the thematic analysis to be conducted through in-depth case studies.

In this connection, findings from the review of the state of the art seem to be controversial when it comes to spread and level of deployment. **While evidence of ICT-enabled innovation in support of social services appears to be widespread across the EU and beyond, the evidence of the level of deployment is not clear.** A substantial segment of policy interventions are pan-European, and lead to a significant number of cross-national initiatives, funded through EU programmes. **Some noteworthy initiatives have been launched at the EU level**, mainly promoted through EU research funding programmes, which have been complemented by initiatives developed through the use of Structural Funds, especially the European Social Fund (ESF). At the same time, **a trend towards local-level innovation in social service organisation and delivery has emerged.** Rather than national policy-driven initiatives supported by the central government, many experiments are being developed at grass-roots level.

Therefore, **additional analysis in the 'second round' of the mapping exercise is required to gain a more accurate picture of the degree of geographical deployment of ICT-enabled social innovation in support of social service provision and social policy reforms**, and to provide insight into the levels and types of deployment. A special emphasis will be placed on gathering initiatives at local and municipal level. Efforts will also be made to better understand the role of social entrepreneurship and private-funded 'social investment' initiatives.

The current 'knowledge map' has several gaps, mainly as regards country coverage. Although 43 of the 50 initiatives mapped are from the EU, they all originate and are implemented in only 12 Member States, except for one multi-country EU-funded initiative. These are complemented by initiatives in Australia, Canada, Turkey and USA, and two examples of initiatives with a global outreach. This limitation is due in part to the fact that some countries may be lagging behind in terms of implementation of ICT-enabled social innovation. It may also be due to limitations in the research, with regard to languages in the review and data gathering process. To overcome these challenges and fill the existing gaps, a special focus will be given to search initiatives in countries that are currently not covered in the next mapping phase of the research, in order to complete the knowledge map progressively. Similarly, **the current knowledge map includes an uneven selection of areas of social services.** Though the initiatives studied are drawn from all categories of the Personal Social services of General Interest (grouped in this research to include 16 from education and training; 7 from employability and employment; 8 from social assistance; 9 from social care and childcare; 10 from social inclusion, and 20 from active and healthy ageing and long-term care), some areas such as initiatives supporting more general social participation and civic engagement are addressed only to a limited extent in the current mapping. These areas will be addressed in more depth in the following phase of the research as well as the so far untapped theme of prevention, health-promotion, rehabilitation within the active and healthy ageing and long-term care policy area. Moreover, this second phase will attempt to ensure a more comprehensive overview of initiatives from different levels of government and stakeholders. Further research may also **widen the concept of ICT-enabled social innovation, beyond social services integration.** Thus, since service integration is just one aspect of ICT-enabled social innovation, it may be interesting to include in the analysis other aspects of the concept, especially in the case of disruptive and radical innovation. So, future analysis may consider the impact of 'Open Government Data' and 'Big Data' on the future of welfare services, and include in the analysis cases with impact across boundaries.

Finally, as the SIP put special emphasis on improving the measurement of social and economic outcomes and providing supporting tools for policy-makers to improve their capacity to assess the social and economic return on policies, the **following phase of the research will develop a framework to analyse the impacts of ICT-enabled social innovation, based on social return on investment and social impact approaches.** This framework will measure the impacts of ICT-enabled social innovation that are related to a broader concept of public value, and that seek to reduce inequality and improve wellbeing by incorporating social and economic costs and benefits. It will be advanced further in the context of social investment which will be assessed as an investment which explicitly expects a social as well as a financial return, and which is related to the need to ensure that policy reforms are not only evidence-based but also results oriented. For this purpose, **the next phases of the research will aim to understand better how ICT-enabled social innovation can support social policy reforms which aim to modernise the EU Member States' social protection systems and services.** This will require building solid - evidence-based- knowledge on the role played by ICT-enabled social innovation in promoting 'social investment'. It is important that the 'knowledge map' developed as part of this first phase of the research moves from a 'static picture' to a more trend-oriented or 'dynamic' picture that can serve to operationalise the social investment case. In this respect, the social and economic return of ICT-enabled social innovation initiatives will be analysed with a view to assessing how social investment in citizens' capabilities can strengthen the long-term resilience of the economy, especially in a context where Europe faces severe economic challenges.

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List of abbreviations

COM	Communication
DG EMPL	European Commission's Directorate General for Employment, Social Affairs and Inclusion
DSI	Digital Social Innovation project
EC	European Commission
ESF	European Social Fund
E&T	Education and training
E&T&L	Education, Training and Learning
EPSIS	European Public Sector Innovation Scoreboard
ETB	Employment and training brokerage organisations
EU	European Union
IA	Impact Assessment
IE	Impact Evaluation
ICT	Information and communications technologies
IESI	ICT-enabled Social Innovation in support to the Implementation of the Social Investment Package
IPTS	Institute for Prospective Technological Studies
JRC	Joint Research Centre
LIPSE	Learning Innovation in Public Sector Environments FP7 project
MS	Member States
NEET	(young person who is) Not in Education, Employment, or Training
NGO	Non-governmental organization
NIS	National Innovation Systems
OECD	The Organisation for Economic Co-operation and Development
PSSGI	Personal Social services of General Interest
R&D	Research and Development
SGI	Services of General Interest
SIP	Social Investment Package
SROI	Social Return on Investment
SSGI	Social services of General Interest
UK	United Kingdom
USA	United States of America
WP	Work Package

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Title: ICT-enabled Social Innovation in support of the Implementation of the Social Investment Package (IESI). Mapping and analysis of ICT-enabled Social Innovation initiatives promoting social investment through integrated approaches to the provision of social services

Authors: Gianluca Misuraca, Clelia Colombo, Csaba Kucsera, Stephanie Carretero, Margherita Bacigalupo and Raluca Radescu

Luxembourg: Publications Office of the European Union
2015 – 136 pp. – 21.0 x 29.7 cm

EUR – Scientific and Technical Research series – ISSN 1831-9424 (online)
ISBN 978-92-79-51781-5 (PDF)
doi:10.2791/30502

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doi:10.2791/30502

ISBN 978-92-79-51781-5

