

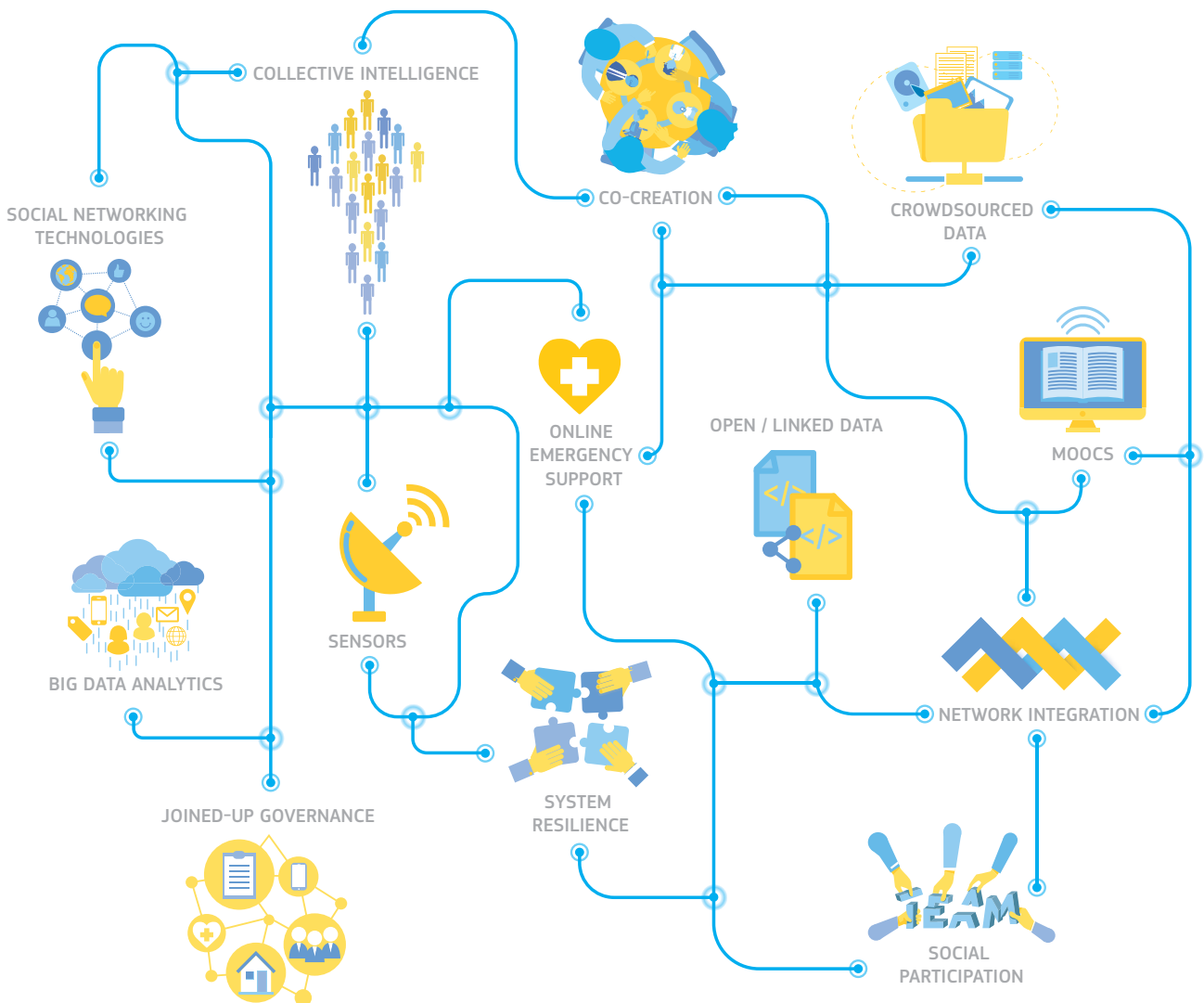


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ICT-ENABLED SOCIAL INNOVATION

EVIDENCE & PROSPECTIVE



Gianluca Misuraca, Giulio Pasi, Cesira Urzì Brancati

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Abstract

This report presents the results of the JRC-led research on 'ICT-enabled Social Innovation to support the implementation of the Social Investment Package' (IESI) conducted in partnership with the Directorate General for Employment, Social Affairs and Inclusion. The IESI research is set out to help policymakers and practitioners use ICT-enabled social innovation to modernise welfare systems, provide better and more efficient social services, and ultimately increase the wellbeing and quality of life of citizens.

The original research design, its theoretical framework and empirical findings contribute to the growing scientific interest on ICT-enabled social innovation in the field of social policy reforms, within the scope of the implementation of the social investment approach.

Based on the analysis of evidence gathered through a documented collection of initiatives across the EU, the research also advances a proposal for developing a methodological framework to assess the social and economic impact of ICT enabled social innovation. The approach proposed is expected to support policymakers and relevant stakeholders in designing, monitoring and evaluating ICT-enabled social innovation initiatives, which could be transferred, scaled-up and replicated across Europe.

Insights from the research contribute to the policy debate on the implementation of the European Pillar of Social Rights and the future of the Welfare State in the EU.

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FOREWORD

The IESI research explicitly set out to support the policymaker to better understand the potential impact of ICT-Enabled Social Innovation in promoting the implementation of social investment approaches in the EU.

The social innovation agenda is indeed strongly linked to the social investment strategy, as both imply a changing paradigm in the way policies are designed and services are delivered. In this process, ICTs act as both enablers and game changers, opening up new and innovative mechanisms for service provision, placing citizens at the centre and offering a personalised experience. This in turn increases cost effectiveness and improves well-being and quality of life, especially for those groups that are more vulnerable and at risk of being marginalised or excluded from full participation in society.

Clearly, mapping initiatives in the field of ICT-enabled social innovation promoting social investment is not an easy task as it involves exploring uncharted territories. When we started this adventure, we were guided by the inspiring vision set out by the Barroso Commission, which can be summarised with the words of the President of the European Parliament Antonio Tajani, when Commissioner for Industry and Entrepreneurship in 2010, envisaging *“A Europe where the concept of a social market economy is central to fulfill the promise of the Treaty of Lisbon. A Europe that does not consider the market as an end per se, but as a means to ensure and achieve social policy. And where social innovation can serve as one of our most valuable instruments”*.

During the enriching learning journey we have embarked upon since 2014, gathering evidence and assessing impacts of innovative experiences and emerging technologies to improve people’s lives, we addressed the complex dynamics of ICT-enabled social innovation ecosystems. In doing so, we experimented with innovative approaches for policy modelling, developing a proposal for evaluating not only the economic returns but also the social impact of such policy innovations.

By leveraging on innovative inter-sectoral governance schemes and business models, ICT-enabled social innovation represents a new investment opportunity for public and private ‘policy entrepreneurs’. Different instruments to comprehend this new phenomenon are thus required, so as to suggest new solutions to re-design traditional institutional frameworks.

Indeed, in our research we have focused on the transformative role that ICT-enabled social innovation plays on modernising social protection systems. In this perspective, we have advanced not only theoretical considerations on the interplay between social innovation and social investment, collecting robust evidence on the impact of ICTs to support social policy reforms, but we have also provided insights on how ICT-enabled social innovation can contribute to shape the future of the welfare state in the EU.

The conceptual and methodological proposals outlined in the IESI research are in fact at the core of the current debate on the future of Europe, and in particular the call for strengthening its social dimension. As stated by President Jean Claude Juncker in his State of the Union 2017, *“The EU is home to the most advanced welfare systems in the world and to a wealth of best practices and social innovations, but it needs to confront and adapt to unprecedented societal challenges”*.

Within this context, framing social innovation and social investment at the heart of the policy for building the future of Europe is crucial. This includes placing it at the centre of the political debate on the implementation of the European Pillar of Social Rights and the reform of the European Cohesion Policy. This would also require freeing up healthy venture capital to be combined with European Structural and Investment Funds, in synergy with the full use of the European Fund for Strategic Investments for social impact. Otherwise, as stressed by Commissioner Carlos Moedas in Lisbon in 2015, *“It will be hard to imagine European social innovations reaching their potential”*.

Europe must define and implement concrete solutions to collectively respond to the challenges posed by the profound transformations that will affect European societies and the world of work in the coming decade. This requires building a Europe that protects, empowers and defends. And ICT-enabled social innovation is a powerful solution to go beyond the *status quo*!

Therefore, as underlined by Commissioner Marianne Thyssen and Commissioner Carlos Moedas in view of the Lisbon Conference of November 2017, *“The time has come to Opening up to a New Era of Social Innovation: A new Social Innovation agenda for Europe should be built by integrating research and policy action taking stock of past and present research efforts and boosting social innovation as a cost-effective way to advance inclusive and wealth-creating public policies”*.

I am very pleased the IESI research project has contributed to setting the directions for shaping this new policy agenda. But much more needs to be done. We are only at the beginning of a challenging yet very exciting adventure to rebuild trust in the European project. Recalling the words of one of the founding fathers of Europe, Robert Schuman, who said in his Declaration of 9th May 1950 in Paris, *“Europe will be built through de facto solidarity and concrete generosity”*, it is now time to put this vision into action and co-design the future of Europe.

Gianluca Misuraca
IESI Project Leader

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As with all challenging adventures, the IESI research project allowed us to enrich our knowledge base and broaden our professional networks. During this exploratory journey, we engaged with many colleagues, experts and representatives of stakeholders, who contributed in different capacities to our activities, from contributing to the creation of the inventory, to conducting the mapping and analysis, developing case studies, helping to co-design the i-FRAME and reviewing intermediate pieces of the research. We call them the *'IESI Community'*, and although it is not possible to name all the members of such growing group of like-minded people across Europe and beyond, we are grateful to all participants in the various IESI Experts and Stakeholders consultation workshops held alongside the project in Brussels, Seville, and elsewhere, in Europe and in the world, as well as the active participants in the *'IESI Online Community of practice'* built alongside the project.

A big 'thank you' goes to those experts and researchers that have accompanied the JRC IESI Team in the development of the project contributing to the research in different manners. We call them the *'IESI Extended Team'*. They not only provided expertise to develop specific activities of the research, but felt full part of the team and remained our *'IESI Ambassadors'* after completing their contractual tasks. This is invaluable as it shows the way toward the establishment of a permanent network of experts and institutions active in the field of social policy innovation.

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We are of course indebted to the former JRC colleagues that have been part of the *'IESI Team'*, namely, Csaba Kucsera, Clelia Colombo, Raluca Radescu and Fabienne Abadie, as well as Patricia Farrer, for her precious proof-reading. Lola Romero-Lopez for her invaluable assistance, and our Head of Unit, Ioannis Maghiros, for his trust and wise supervision, deserve a special note as they have been accompanying us in steering our navigation in the policy-research realm of ICT-enabled social innovation since the beginning. We are also thankful to other colleagues of JRC and external experts who have contributed to the research in different capacities, from data gathering and analysis, editing, design and publication of reports, development of the IESI Web-tool and support to communication and dissemination, to guidance and advice on specific research activities and policy support actions.

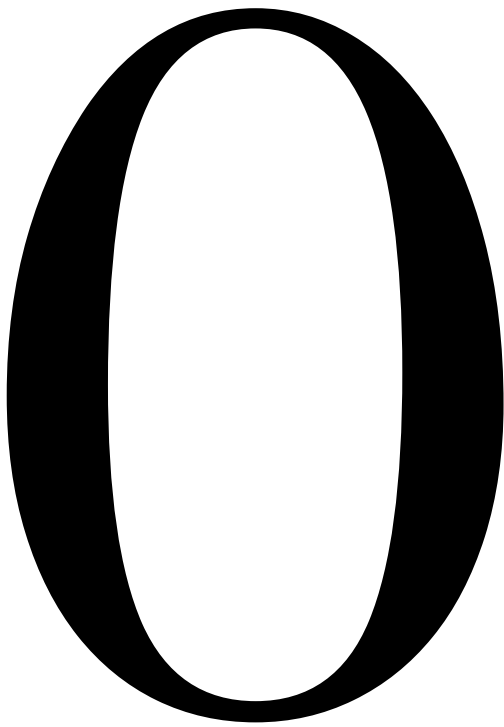
Last, but not least, we are obliged to our colleagues from DG Employment, Social Affairs and Inclusion, without whom the IESI research would have not taken place. In particular, Lieve Franssen, Egbert Holthuis and Aurelio Fernandez-Lopez who are at the origin of this research endeavour, and Manuela Geleng and Claire Grapeloux for their continuous guidance in making the research findings relevant to policy design and implementation in the challenging context of social policy reforms and modernisation of EU welfare systems.

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EXECUTIVE SUMMARY

■ Research background

The demographic transition and the profound modifications in family structures, coupled with low productivity growth, ample territorial diversity, migration flows and the changing nature of work, are epochal challenges well-known even before the 2008 financial crisis. However, the crisis, and the recession that followed it, revealed the unsuitability of traditional solutions, showing the need to rethink the European Social Model to contribute to the creation of more resilient societies. Within this context, EU Member States are urged to modernise their welfare systems, by re-engineering the deep-rooted foundations of their social policy governance models and delivery mechanisms.

To address such structural challenges, the European Commission launched the Social Investment Package (SIP) in 2013. The same reasoning pressed the European Commission to put forward a proposal for a European Pillar of Social Rights, adopted in April 2017. The rationale underpinning the SIP was to exploit the potential of social investment in order to deliver economic growth, protect people from poverty, and reduce inequalities, while simultaneously contributing developing a sustainable welfare state.

Social innovation is indeed a powerful instrument to support promoting social investment strategies. Unlike traditional top down welfare policies, in fact, social innovation is citizen centric, in that it directly involves beneficiaries while building their longer-term capacities, impinging on multi-sector partnerships and innovative business models.

In this perspective, Information and Communication Technologies (ICTs) facilitates processes of collaboration and co-creation, enabling the transformation of social services design and delivery. At the same time, successful, durable social innovation initiatives can have impact on the broader social, political and economic context that created the challenge they were set up to address in the first place.

To study the mechanisms through which social innovation in general – and ICT-enabled social innovation in particular – can bring about change, the European Commission's Joint Research Centre and DG Employment, Social Affairs and Inclusion, have launched a multi-year research project entitled '**ICT-Enabled Social Innovation to support the implementation of the Social Investment Package**' (in short **IESI**).

The key goal of IESI was to contribute to understanding how ICT-enabled social innovation can support the implementation of social policy reforms in the EU, testing new approaches in the design and the adopted formulation principles. At the same time, the research aimed to advance a proposal for developing a methodological framework to assess the social and economic returns on the investment of social policy innovations.

The IESI project spanned over three years and led to the collection of a unique database of over 600 ICT-enabled social innovation initiatives which promote social investment (the IESI Inventory). The initiatives collected cover all the Member States in the EU28, and some 'vanguard' countries outside the EU. Out of the entire dataset, 300 initiatives with proven evidence of results were included in the IESI 'Mapping sample' and analysed as part of the 'IESI Knowledge Map'.

This report summarises the results of three years of mapping, analysis, and conceptualisation, highlighting future directions for research and social policy innovation.

■ Conceptualising ICT-enabled social innovation

The starting point for the development of the conceptual framework of the IESI research was to look at ICT-enabled social innovation in the delivery of *Personal Social Services of General Interest* (PSSGI), i.e. *the services that respond to vital human needs, contribute to non-discrimination and create equal opportunities*. More specifically, the analysis centred on how this type of innovation can contribute to simplify administrative processes, improve the management, provision and coordination of interventions meeting the needs of citizens; and support access to and take-up of social services.

A comprehensive review of the literature and analysis of the state of play across the EU led to the definition of ICT-enabled social innovation as: "*A new configuration or combination of social practices providing new or better answers to social protection system challenges and needs of individuals throughout their lives, which emerges from the innovative use of Information and Communication Technologies (ICTs) to establish new relationships or strengthen collaborations among stakeholders and foster open processes of co-creation and/or re-allocation of public value*" (Misuraca et al., 2015a).

The IESI conceptual framework thus aims to capture the relationships between ICT-enabled social innovation and the benefits it can deliver from a micro (beneficiaries), meso (ecosystem) and macro (welfare systems) perspective. These relationships are operationalised in the IESI analytical framework through a categorisation along four key dimensions: ICT-enabled innovation potential, elements of social innovation, levels of governance and types of services integration. The analysis of the combination of these dimensions illustrates the extent to which ICT-enabled social innovation contributes to the creation of public value.

■ Mapping ICT-enabled social innovation

The descriptive analysis of the consolidated IESI dataset reveals that the power of technology in ICT-enabled social innovation is high, since the largest proportion of initiatives in the mapping sample have disruptive or radical ICT-enabled social innovation potential, in that they use ICTs to initiate new services or improve existing ones or create new mechanisms for service delivery which would be impossible without ICTs, resulting in product or service innovation.

ICT-enabled social innovation is mainly functional, as nearly all (93%) mapped initiatives are classified as need-driven/outcome-oriented, and two thirds are implemented through an open process of co-creation or involve collaborative innovation networks. However, the potential for transformative (disruptive or radical) ICT-enabled social innovation is high, since at least a third of the initiatives deliver a fundamental change in the relationships between stakeholders or allocate/re-allocate public value.

Integration of social services in ICT-enabled social innovation is also high both in terms of levels of governance and type of integration: more than three quarters of the initiatives in the mapping sample are organised as collaboration between government and service delivery providers in private or not-for-profit sectors, or beyond (inter-sectoral integration or pervasive integration). Similarly, 70% of the mapped initiatives are integrated at the point of delivery, that is, they include, for instance, centralised information, referral and intake of services; case/care management. More than half are integrated at the funding level, a crucial issue in the context of social impact investment.

The results of the analysis thus show how ICTs play a crucial role, not only in developing or improving new services or create new mechanisms for service delivery, but also in sustaining organisational reengineering and partnerships in the service delivery, across multiple levels of governments, as well as between government and service delivery providers in private or not-for-profit sectors.

In addition, the IESI dataset has been analysed to illustrate how ICT-enabled social innovation could help the implementation of the main objectives of the SIP: the modernisation of the social protection system, the execution of active inclusion strategies, or the investment in individuals throughout their life.

The research findings suggest that more radically innovative initiatives tend to pursue a higher number of objectives; while 17% of the initiatives which are relevant to three SIP objectives have a radical/transformational innovation potential, the same is true only for 10% of the initiatives relevant to one SIP objective. Similarly, the proportion of initiatives characterised by disruptive innovation is higher among those that pursue multiple SIP objectives simultaneously. While it is not possible to draw causal inferences by these correlations, the indication that more radical ICT-enabled social innovations attain a higher coverage of societal needs outlines possible directions for social policy reforms.

Modernising social protection systems through ICT-enabled social innovation

The findings from the in-depth analysis of case studies from fourteen EU Member States demonstrate that ICT-enabled social innovation plays a crucial role in contributing to the modernisation of social protection systems. In particular, insights from the analysis reveal that ICTs have been key success factors with regard to three main dimensions: i) integrating and personalising services; ii) supporting establishing multi-sector partnership models; iii) and enhancing performance, accountability and transparency.

First of all, ICTs facilitate the integration of services improving access to and quality of services especially for the more fragile segments of society, including disadvantaged youth and long term unemployed. It also helps improve the quality of life of the beneficiaries, strengthening the inclusiveness of social protection systems and enhancing people's opportunities to be actively included.

Moreover, ICTs support the development of a client pathway approach, which puts the beneficiary's needs at the centre. For instance, data analytics enable a better understanding of service usage patterns, system outcomes, and resources available, so that services can be delivered more efficiently and fraud or errors can be detected and countered.

At the same time, ICTs play an enabling role in establishing information exchange which fosters cooperation among different agencies and stakeholders. In this respect, the involvement of beneficiaries is fundamental in both the planning and the delivery of social services. ICTs are crucial for this process of empowerment. By bringing together stakeholders from public, private and not-for-profit sectors in formal networks, ICTs help to address specific problems through coordinated and more effective solutions.

ICTs also contribute to increasing productivity of social systems, reducing costs due to simplification of processes and easier take-up of services, for instance through the set-up of one-stop-shop/no-stop-shop models. The contribution ICTs are able to offer is especially strengthened by clear information exchange and multi-channel approaches. In such a way, ICTs help to free up resources, which can then be reallocated to specific targeted activities that allows clients with complex needs to receive better services.

Finally, the development of monitoring tools and impact assessment methodologies to demonstrate results and facilitate transferability of ICT-enabled social innovations is often a key factor for making an initiative successful. Moreover, greater accountability and transparency mean a contribution in terms of their democratic legitimacy, establishing indeed a closer and trustworthy relationship with the citizens.

By demonstrating the effects of ICT-enabled social innovation initiatives and the factors that affect their impact, the IESI research offers the required knowledge to consider scalability, replicability and transferability of practices throughout Europe. This in turn sheds light on how ICT-enabled social innovation may contribute to design better policies able to promote social investment and improve the performance and sustainability of future European welfare systems.

■ Assessing impacts of ICT-enabled social innovation

One of the key features of the IESI research is that it recognised that single ICT-enabled social innovation initiatives cannot alone explain the dynamics triggered by the complex and multi-network processes inherent in the phenomenon under investigation. Rather, they must be analysed as part of the broader ecosystem in which they are embedded. This ecosystem is conceived as a complex adaptive system whereby different phenomena are interconnected. It presents causal relationships that cannot be completely controlled or predicted in advance. In this ecosystem, people act in partnerships and networks, while integrated programmes are implemented within a system of multi-level governance.

The rationale for designing the proposal for developing a methodological framework to assess the social and economic impacts of ICT-enabled social innovation initiatives which promote social investment (i-FRAME), was exactly to overcome the limitations of traditional policy evaluation methods. The aim is to help policymakers by giving them an informed-knowledge of how social policy innovation initiatives, which promote social investment work and what impact alternative options may have. From its original conception, the i-FRAME put complexity at its core. This involves considering the unintended consequences of social policy innovation and the network effects that can be generated, though these are difficult to capture. To address the complexities of social innovation ecosystems, the i-FRAME proposes to use alternative methods to complement more conventional impact assessment techniques, in an attempt to link micro, meso and macro level effects.

The i-FRAME has been developed as a meta-framework, which comprises several methodologies and approaches. These can be applied at different levels of analysis where and when appropriate, depending on the conditions available and the specific degree of detail required. Specific operational components have been piloted during the research, or proposed for its way forward. These focus on pragmatic micro-level measurement tools, computer-based instruments for data gathering and analysis, and macro-level simulation modelling approaches rooted in complex systems theories.

The final proposal for developing the i-FRAME 2.0 includes a structured methodological approach, from a precise definition of the problem the intervention aims to solve, to the design of the intervention and the running of simulations. It outlines an improved theoretical framework which, benefiting from previous rounds of testing, widened the scope of the analysis to the broader concept of social policy innovations which promote social investment, of which ICTs are a crucial — but not exclusive — components.

The positive results of the preliminary application of the i-FRAME approach thus open the door to a more extensive and systematic implementation of the proposed methodology at policy level. It lays the foundations for developing a blueprint for conceptual modelling and the further development of the proposed operational components in line with the vision for future implementation of a fully-fledged dynamic electronic toolkit to support policymakers in modelling and simulating in real-time specific policy interventions. For this purpose, connecting to other initiatives and activities using complex systems approach to support policy-making and evaluation is crucial.

Shaping the future agenda for social innovation policy and research in the EU

Within this evolving context, at the intersection between research, practice and policy, the European Commission is actively promoting social innovation and plans to put it at the core of its future policy action to address the legacy of the crisis, from long-term unemployment to high levels of public and private debt in many parts of Europe, which remains an urgent priority, as pointed out by President Juncker in the White Paper on the future of Europe.

Findings and insights from the IESI research provide inputs to the programming period post-2020 and may contribute to the design of interventions funded under the Juncker investment plan to growth, employment and social cohesion. In this respect, ICTs and social innovation could have a crucial role to support design and implementing a broader strategy for orchestrating a renewed and sustainable multi-layered welfare system.

In this perspective, the rationale underpinning the proposal for developing the i-FRAME, and in particular the Version 2.0 with its 'K+S i-FRAME Mission-Oriented Social Innovation Policy' (MOSIP) module, is based upon the contention that 'total systemic innovation' could be seen as analogous to the Mazzucato's concept of mission oriented policy (2015a). In other words, one could envisage a 'Socially Entrepreneurial State' that would, at the same time, push and support the integrated production of services, new financial instruments and procurement rules to tackle, for instance, the goal of keeping older workers on the market with skills, job policies, and healthcare prevention policies. This would also take advantage of new and innovative financial instruments developed and or adapted in the recent years to facilitate access to funding for promoting social innovation initiatives and strengthening 'social infrastructures' across the EU.

Financial instruments are an efficient way of deploying cohesion policy resources. By targeting projects with potential economic viability, they provide support for investments by way of loans, guarantees, equity and other risk-bearing mechanisms, combined with technical support, interest rate or guarantee fee subsidies within the same operation.

The current debate on the reform of ESIF post-2020 emphasises the need to increase the leverage of private capital to enhance the impact of the structural funds and regional development. The Commission is encouraging Member States to double their European Structural and Investment Funds (ESIF) used through such financial instruments.

However, despite the potential of the social service sector for creating jobs, the idea of the concept of a 'Socially Entrepreneurial State' run against the wall of austerity and other technical barriers, which seems to be hampering the deployment of public funds to this purpose. This is part explained by the controversy on the extent to which EU regulations on State aid, internal market and public procurement apply to social services.

Against this context, the proposed concept of Mission Oriented Social Innovation Policy envisages integrated interventions that are not merely public sector intervention, but rather see the state as a sort of entrepreneurial incubator enabling societal and private actors to leverage public and private funds. This would trigger the emergence of a new paradigm that favours the transition towards a more socially sustainable growth pattern.

This approach would tackle, at the same time, social inclusion, the mechanisms of social impact investing and distributional inequality of income and wealth. In this perspective, the results of simulations that could be developed through operationalising this scenario of use may contribute to the current debate on the future of the European Social Fund (ESF) and its combination with the European Fund for Strategic Investment (EFSI).

For this purpose further research is needed. First of all, from an empirical standpoint, a systematic collection of data on relevant initiatives would require extending the IESI inventory of social policy innovation initiatives initiated by JRC through the establishment of a Social Policy Innovation Network (SPIN) acting as a permanent online observatory and knowledge platform to monitor and transfer innovative practices across the EU.

From a theoretical perspective, the conceptualisation of social policy innovation should be explored further, looking into the complementary role of skills and knowledge within the service design and delivery process. At the same time, more research is necessary to ascertain the role played by social innovation in extending the scale and/or scope of social services and their contribution to inclusive-growth.

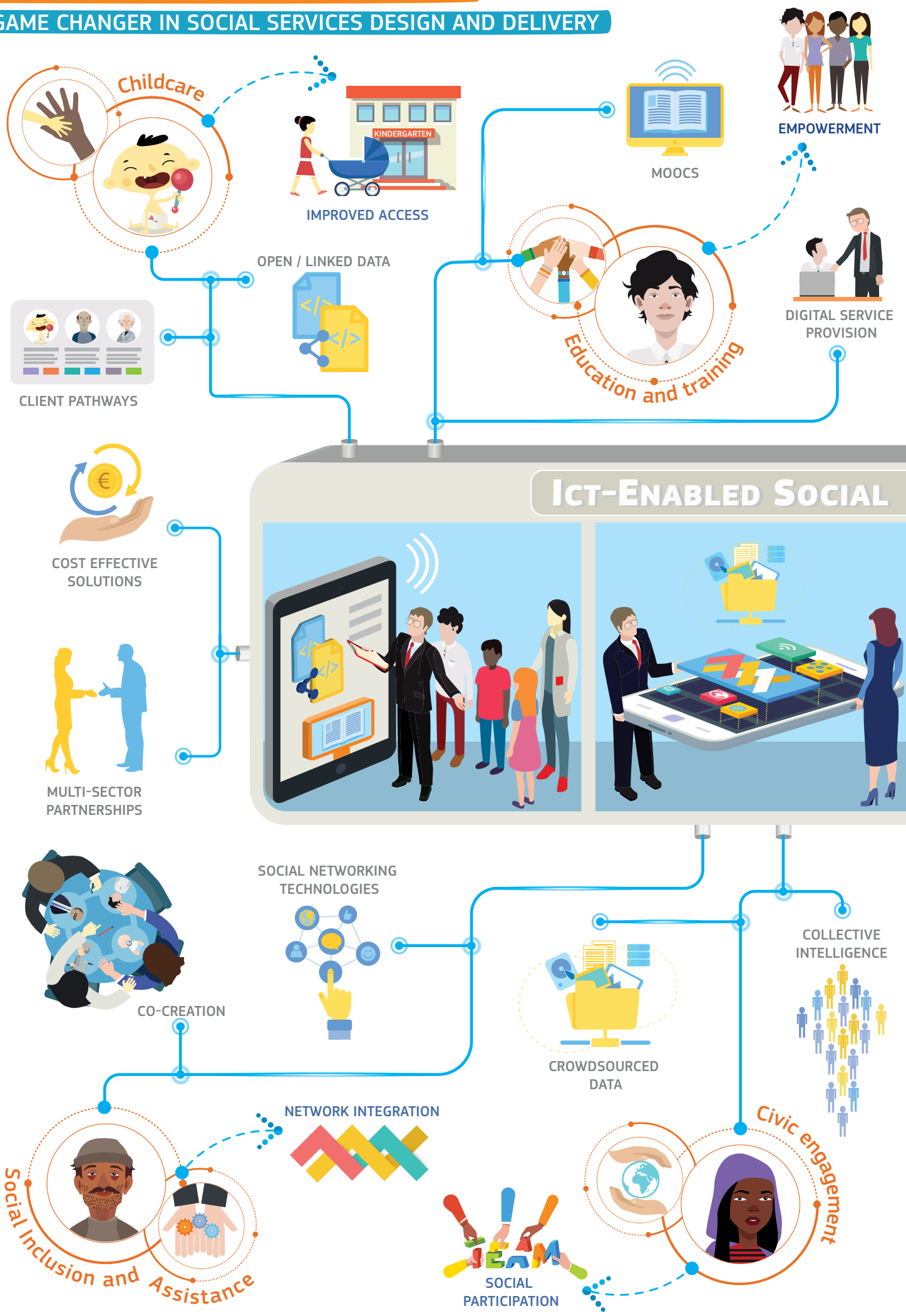
Finally, adopting large scale computational modelling and systems simulation for gathering real-time structured data through the proposed i-FRAME Web-Platform is key. This would serve as input for the 'i-FRAME social policy innovation simulator', envisaged to support the European Commission and EU Member States to monitor the implementation of a revamped 'Social Union', and thus shape a better future for Europe.

The **infographics** in the next page illustrates the role of ICT-enabled social innovation to promote social investment, and its potential impact on the redesign of European welfare systems.

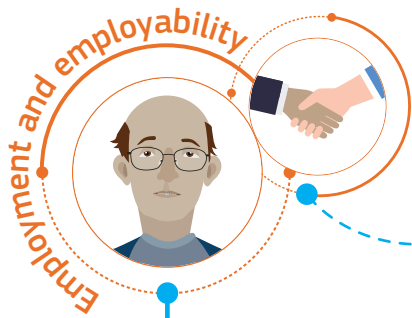
ICT-ENABLED SOCIAL INNOVATION:

A GAME CHANGER IN SOCIAL SERVICES DESIGN AND DELIVERY

SOCIAL INVESTMENT IN ACTION



INCLUSIVE LABOUR MARKETS



ONE-STOP SHOP



RESEARCH OBJECTIVES

Gathering evidence on the impact of investing in **ICT-Enabled Social Innovation** across the EU

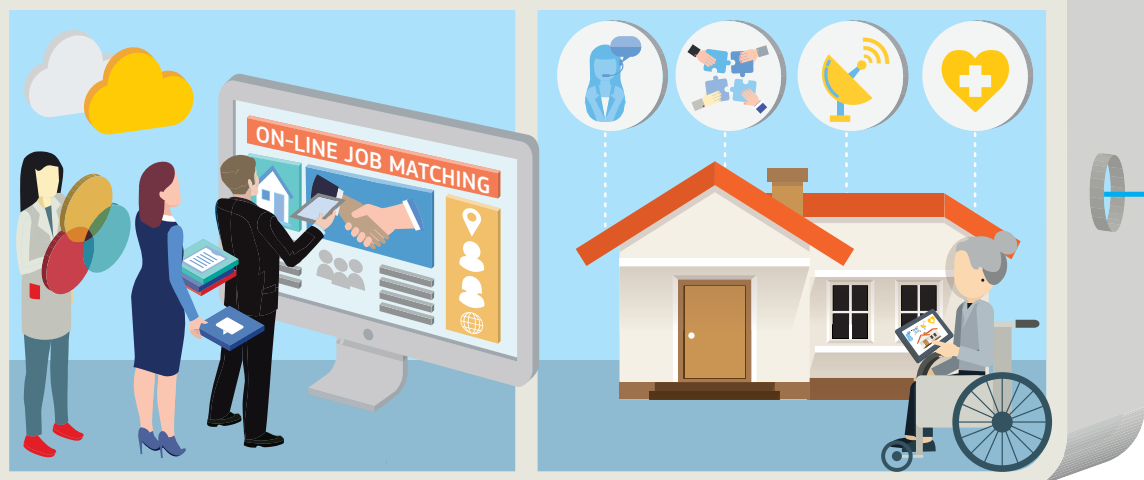
POLICY IMPLICATIONS

ICT-Enabled Social Innovation transforms the design and delivery of social services, improving people's lives and shaping the future of EU social protection systems

PROSPECTIVE DEVELOPMENTS

ICT-Enabled Social Innovation is a catalyst to attract new investments in welfare services through innovative inter-sectoral governance schemes and business models

INNOVATION ECOSYSTEM



WELL-BEING AND QUALITY OF LIFE

TELECARE



SENSORS



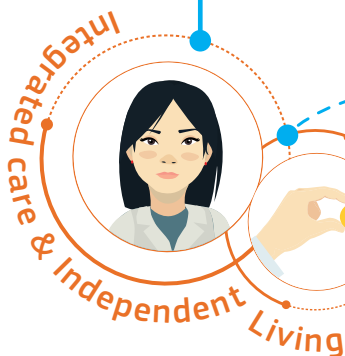
ONLINE EMERGENCY SUPPORT



SYSTEM RESILIENCE



JOINED-UP GOVERNANCE



AUTONOMY & DIGNITY



REDUCE FRAILTY



1

INTRODUCTION

1. INTRODUCTION

1.1 Policy context

The European Social Model and the welfare state are under stress. The demographic transition, low productivity growth, ample territorial diversity and the unsatisfying performance of the labour market are some of the structural challenges threatening the future of the European Union.

Signs of recovery from the 2008 financial crisis are now visible, but economic growth is still weak; according to the 2017 ILO World Employment and Social Outlook report, more than 201 million people are unemployed worldwide. At the EU level, the jobless recovery is also apparent; Eurostat estimates that 19.1 million men and women in the EU-28 were unemployed in April 2017; among them, 15.0 million unemployed people belonged to the euro area (EA-19).

Within this context, the workforce is projected to shrink because of population ageing; European working age population (15 to 64) is expected to drop from 442 million in 2035 to 405 million in 2050 and 358 million in 2100. While gains in life expectancy are undoubtedly a remarkable achievement, longer lives also mean more years spent in retirement, and funding those extra years, when the number of active workers is decreasing, may prove particularly strenuous.

Most Member States have responded to these challenges by reforming their pension systems, however, even when long-term sustainability has been achieved, issues of fairness and social justice, especially across generations, may arise. To survive and thrive, European governments need to re-engineer their welfare systems and combine long-term financial sustainability with adequate support to those in need, while promoting equal opportunities for a fairer society.

To survive and thrive, European governments need to re-engineer their welfare systems

To address these issues, the European Commission launched the Social Investment Package (SIP) in 2013 (European Commission, 2013), and subsequently put forward a proposal of the European Pillar of Social Rights, officially adopted in April 2017 (European Commission, 2017a). The rationale underpinning these policy initiatives is to simultaneously contribute to the economic growth of Europe, protect people from poverty, and act as economic stabiliser from inequalities. The SIP, in

particular, suggests a radical change in the approach to social service design and delivery where a citizen centric perspective and the transformation and modernisation of public services are the key interrelated elements of the new and more sustainable welfare state in Europe.

The social investment function of welfare systems is better accomplished by leveraging on social innovation

Welfare systems in fact have to fulfil three main functions: 1) social investment, 2) social protection and 3) stabilisation of the economy. All these three functions can be better accomplished by developing *new ideas (products, services and models) and solutions that are more effective, efficient and sustainable than current solutions*. In other words, to reengineer European welfare systems, *social innovation* is needed.

Social investment relies on social innovation to provide solutions that produce better results than existing solutions or the *status quo*. The productivity of social protection systems can be increased by social innovation through organisational reform and procedural simplification; finally, social innovation can help stabilise the economy by increasing social capital, social cohesion, and facilitating interaction between different stakeholders.

The potential of social innovation is unleashed by the growing range of available ICTs

The SIP emphasises that the potential of social innovation is further increased by the growing range of available innovative solutions based on Information and Communication Technologies (ICTs). ICT-enabled social innovation plays an important role in promoting social investment policies as ICTs help to digitalise social services processes, to reduce social services fragmentation and duplication across organisations and countries, and to contribute to making the services more proactive and closer to the point of need. In addition, ICT-enabled social innovation provides an opportunity to directly engage citizens in the whole social services process design and management.

Social investment and social innovation are related, but non overlapping concepts. Whereas social investment captures the “*congeries of ideas about the objectives, areas of intervention and instruments*” (Bonoli & Natali, 2012), social innovation, and ICT-enabled social innovation in particular, represents the enablers and drivers for social change, more equal economic development and possible shared prosperity. In fact, 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.

For many years, the European Union has been devising policies which promote — directly or indirectly — social innovation and social investment. Many research projects which address social innovation and social services reform have been funded under the FP7 or H2020 programmes. As examples, one might consider the European Platform against Poverty and Social Exclusion aimed at designing and implementing programmes to promote social innovation for the most vulnerable side of the society¹, and the Innovation

1 <http://ec.europa.eu/social/main.jsp?catId=961>

Union flagship, setting new conditions to improve access to finance for this purpose². In this respect, the Social Innovation Europe project (SIE) provided a networked ‘virtual hub’ for social entrepreneurs, the public, and the third sector, continued and further implemented by the Social Innovation Community (SIC) project³.

Other initiatives that centred on social innovation can be found in the legislative package on cohesion policy, which includes the support to scaling up and capacity building for social innovation under the European Social Fund (ESF); the innovative actions in the area of sustainable urban development funded by the European Regional Development Fund (ERDF); and the Employment and Social Innovation programme (EaSI)⁴, established to fund best practices, capacity-building and testing of innovative policies through social policy experimentation, with the objective of scaling up the most successful measures addressing social needs.

At the same time, despite the agreement around the approach proposed by the social investment paradigm, the consistency between the programmatic ambitions of the SIP and the reform practice is not easy to gauge. Scholars who have undertaken empirical research on the implementation of social investment policies in European countries have held different positions, ranging between moderate pessimism (Morel, Palier & Palme, 2011) and moderate optimism (Hemerijck, 2012).

To revamp the debate on the need to reform welfare systems, on 8 March 2016, the Commission put forward a first, preliminary outline of the European Pillar of Social Rights identifying a number of essential principles common to euro area Member States. The finalised version of the European Pillar of Social Rights was launched on 26 April 2017, and set out 20 key principles and rights to support fair and well-functioning labour markets and welfare systems.

The aim of the Pillar is to foster upward social convergence towards labour markets and social protection systems with increased resilience to economic shocks. Focusing on the effectiveness of national labour markets and welfare systems and on the capacity of the economy to absorb and adjust to shocks, the pillar is part of the work undertaken by the Commission for a deeper and fairer Economic and Monetary Union (EMU) strengthening its ‘social dimension’.

Against this background, the European Commission’s Joint Research Centre, Directorate for Growth and Innovation (JRC-DGI), in partnership with the Directorate General for Employment, Social Affairs and Inclusion, engaged in a three years’ research project on **‘ICT-enabled Social Innovation to support the Implementation of the Social Investment Package’** (hereafter **IESI**).

The consistency between the programmatic ambitions of the social investment approach and the reform practice is not easy to gauge

2 http://ec.europa.eu/research/innovation-union/index_en.cfm

3 <https://www.siceurope.eu>

4 <http://ec.europa.eu/social/main.jsp?catId=1081>

1.2 Research objectives

The IESI research project is structured according to three interrelated activities: 1. Systematic mapping; 2. Methodological framework of analysis of impacts; and 3. thematic analyses. **Figure 1** describes schematically the IESI research design.

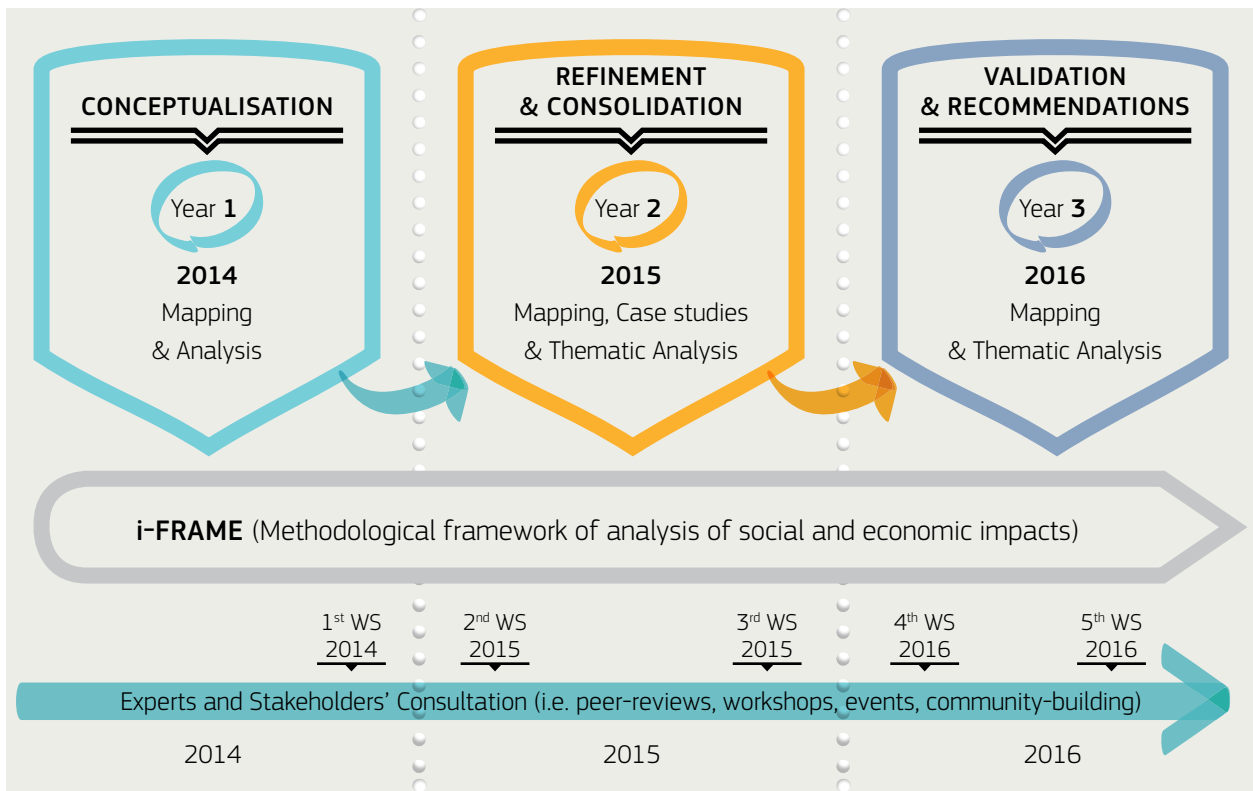
The key goal of the research is to contribute expanding the knowledge of how ICT-enabled social innovation can support the implementation of social policy reform in the EU

The key goal of IESI is to contribute expanding the knowledge of how ICT-enabled social innovation can support the implementation of social policy reforms in the EU.

More specifically the **objectives of the research** are to:

- a. Provide a deeper understanding of how EU Member States can make better use of ICT-enabled social innovation to implement actions promoting social investment;
- b. Build evidence-based knowledge by providing results of a structured analysis of ICT-enabled social innovation initiatives implemented in EU Member States;
- c. Develop a methodological framework of analysis of the impacts generated by ICT-enabled social innovation initiatives promoting social investment (i-FRAME).

FIGURE 1: IESI Research design



With regard to the **scope of the research**, the starting point for the analysis was to address innovative delivery of *Personal Social Services of General Interest* (PSSGI) i.e. the services that respond to vital human needs, contribute to non-discrimination and create equal opportunities⁵.

These have been classified according to the following categories:

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

In particular, the research looks at the contribution that PSSGI make towards achieving the following priorities, defined according to specific objectives of the SIP:

From the **service provision perspective**:

- ▶ Increase the productivity of social protection systems, through organisational reforms and procedural simplification/reengineering);
- ▶ Improve access and take up of services, including personalised support based on users' specific conditions including improving the quality of care delivery;
- ▶ Increase quality and cost-effectiveness of services and design better policies to meet the needs of final beneficiaries, including to support integrated care;
- ▶ To raise the productivity of formal and informal care delivery.

.....

5 The first Communication on Social Services of General Interest (SSGI) released in 2006 by the European Commission defines two broad types of services: (1) Statutory and complementary social security schemes covering the main risks of life; and (2) Services provided directly to the person, such as social assistance services, employment and training services, childcare, social housing or long-term care for the elderly and for people with disabilities. The sub-category (2) broadly corresponds to the concept of PSSGI.

From the **beneficiary's perspective**:

- ▶ Promote active inclusion interventions, with a specific focus on those people most distant from the labour market;
- ▶ Facilitate more inclusive labour markets, especially through supporting intermediaries (e.g. Public Employment Services, Public Social Services and other social actors);
- ▶ Support inclusion, education and training, employment and more general civic engagement, particularly of disadvantaged groups or people at risk of poverty or social exclusion;
- ▶ Promote access to and use of early childhood education and care, by improving the means available to parents that would allow them to combine raising children with work, and at the same time, support the wellbeing of children;
- ▶ Reduce the incidence and prevalence of frailty and disability, through active and healthy ageing, prevention and promotion of physical and mental health, and rehabilitation, while at the same time increasing the capacity of older people to manage self-care and independent living at home.

The results of the IESI research help policymakers and practitioners to use ICT-enabled social innovation to modernise EU welfare states

The results of the IESI research are therefore set out to help policymakers and practitioners to use ICT-enabled social innovation to modernise EU welfare states, providing better and more efficient social services and increasing the skills, wellbeing and resilience of EU citizens.

In addition, based on the analysis of a broad collection of well documented initiatives, the project advanced a proposal for developing a methodological framework to assess the social and economic impact of ICT enabled social innovation initiatives (i-FRAME). The approach proposed is expected to support policymakers and relevant stakeholders in designing, implementing and evaluating successful ICT-enabled social innovation initiatives, which could be transferred, scaled-up and replicated across Europe.

The documented research design, its proposed terminology, theoretical framework and findings contribute to the growing scientific interest and debate about ICT-enabled social innovation in the field of social services delivery and social policy redesign, within the scope of the implementation of the European Pillar of Social Rights and the debate on the future of welfare systems in the EU.

1.3 Structure of the report

The remainder of this report is organised as follows:

Chapter 2 presents the methodology adopted during the different phases of the research, describing how the IESI knowledge base — Inventory and Mapping samples — have been built and analysed, including through in-depth case studies, and presenting the approach used to develop the framework for social impact assessment (i-FRAME).

Chapter 3 illustrates the IESI conceptual and analytical framework elaborated following an in depth review of grey and academic literature; the chapter also explains in detail the operationalisation of the IESI conceptual framework, along the following dimensions: 1) typologies of ICT-enabled innovation potential; 2) elements of social innovation; 3) levels of governance of service integration; and 4) types of services integration. Finally, the chapter presents arguments from the literature to validate the conceptual framework, looking in particular at the role of co-creation and digital service innovation.

Chapter 4 introduces the IESI Knowledge Map – a collection of ICT-enabled social innovation initiatives that promote social investment through integrated approaches to the delivery of social services. The chapter also presents a descriptive quantitative analysis of the ICT-enabled social innovation initiatives, comparing Inventory and Mapping samples; it investigates some potential determinants of the longevity of a single initiative, with a specific focus on the relationship between longevity of an initiative and the Digital Economy and Society (DESI) index. Finally, the chapter illustrates how the collected initiatives are relevant to the implementation of the SIP.

Chapter 5 presents the results of in-depth case studies conducted on 14 ICT-enabled social innovation initiatives selected from the Mapping sample. The case study analysis describes the chosen initiatives in terms of geographical distribution, social services provided and recipients targeted, and categorises them according to the IESI Knowledge Map. The cross-case analysis explores the most significant social innovation elements which characterise the initiatives and the type of service integration achieved.

Chapter 6 illustrates the final proposal for developing the i-FRAME (V2.0), discussing the design of the methodological framework to assess the social and economic impacts of social policy innovations, where ICTs play a key role; it also outlines the operational components suggested to be developed for its further implementation, as well as presenting a summary of the results from testing some of the components through case studies and scenarios of use.

Chapter 7 finally concludes providing the key insights emerged from the research and advancing policy recommendations and indications for future research.

2

METHODOLOGY

2. METHODOLOGY

2.1 State of play and conceptualisation

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

This review contributed to shape the **definition of ICT-enabled social innovation** adopted in the IESI research, as follows:

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

(Misuraca et al., 2015a)

In order to further validate and extend the conceptual and analytical framework developed, in 2015 an update of the state of play was conducted, reviewing new academic literature, and gathering and analysing additional grey literature and policy documents. It also included consultations with experts and stakeholders.

In 2016, further efforts were made to review the state of the art, looking at initiatives that bridge the gap between social innovation and services innovation which usually build on a multi-agent framework. In other words, the literature review focused specifically on the fact that innovative social

services are conceived and deployed in a context of co-creation where citizens, service providers, social entrepreneurs and third sector organisations play a prominent role in the innovation process and where the actions are sustained by public stakeholder agencies. Moreover, a surge of relevant new practices and new scientific literature coincided with the IESI research project period (2014-2016), and therefore it was necessary to take them into account.

The complexity of ICT-enabled social innovation makes crucial to adopt a multi-disciplinary approach and to engage in a continuous dialogue with the community of stakeholders

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

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

2.2 Building the IESI knowledge base

The research has systematically collected evidence-based knowledge on relevant initiatives in the areas related to Personal Social Services of General Interest (PSSGI).

The **unit of analysis**⁶ investigated in the IESI Project is identified as follows:

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.

(Misuraca et al., 2015a)

6 The unit of analysis is referred in the report with the term 'initiative'.

These initiatives were selected according to the following criteria:

- 1. Policy relevance:** the initiatives must address the policy objectives of the Europe 2020 Strategy and the Social Investment Package (SIP);
- 2. ICT-enabled innovation:** they must target the simplification and/or modernisation of social policies, social benefit systems and/or administrative procedures and service delivery mechanisms through ICT-enabled innovations;
- 3. Evidence of policy outcomes:** they should present some evidence of outcomes generated, in order to facilitate the identification of the drivers and key enabling conditions for success, and to outline policy opportunities and recommendations for possible transferability or replicability.

Initiatives meeting the first two criteria were eligible for the **Inventory**, a basic pool of initiatives. In order to be eligible for the **Mapping** database and be documented and examined in more depth, initiatives must also meet the third criterion.

After the first phase of the research which gathered in 2014 a first sample of 140 initiatives, 70 of which were analysed as part of the IESI mapping, the second phase, in 2015, aimed to refine and validate the theoretical framework and the IESI Knowledge Map through the analysis of a bigger database.

During this phase the data gathering aimed to enrich the coverage of the PSSGI areas and balance the geographical coverage of the sample, by surveying all 28 EU Member States, and a few exemplary initiatives from countries that are considered in the vanguard in the field under analysis. Particular care was taken to gather initiatives at the local and regional levels. To this end, 280 new initiatives were collected for the IESI inventory in 2015, bringing the total to 420 initiatives, out of which 210 were mapped and analysed in detail.

This was achieved by upgrading the research methodology toolbox, by searching specific databases and involving relevant networks of stakeholders and organisations. For this purpose, the template for data gathering was reviewed thoroughly and the **IESI Web-tool** was developed to facilitate data collection and analysis, and management of the database of ICT-enabled social innovation initiatives⁷.

The tool is composed of a publicly-accessible website⁸ which hosts an online questionnaire, a restricted area with additional modules for the data gathering template, and a

The IESI Webtool, used as a review and feedback system for data quality control, is composed of a publicly accessible website with an online questionnaire, and a restricted area with additional modules for data gathering

7 The development of the IESI Web-tool was managed and financed in-house by JRC, and it is hosted on a JRC server, including the database of ICT-enabled social innovation initiatives built.

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

review-and-feedback system which facilitates data quality control and management of the workflow between the JRC and external research collaborators. Access as observers can also be granted upon request by interested researchers, practitioners and policymakers.

In the Inventory there are more than 600 initiatives

The third phase of the IESI Mapping conducted in 2016 allowed the IESI research team to consolidate the analysis by collecting an additional set of initiatives. These brought the total number of initiatives in the inventory to over 600, of which 300 were mapped for more in depth analysis.

During this third phase of data collection, two main objectives were pursued: (i) to complete the typologies of initiatives already studied and (ii) to reach a more balanced EU-wide coverage. In order to attain the first objective, particular attention was devoted to ICT-enabled social innovation initiatives which address long-term unemployment, especially in terms of youth unemployment, skill formation and up-skilling of the unemployed. In addition, a specific focus was given to initiatives in the area of rehabilitation for active and healthy ageing and long-term care. Furthermore, emerging social issues linked to economic migration from outside the EU and the refugee crisis became new topics of investigation. For these pressing social issues, novel ways to provide personal services to mitigate the crises have been looked at.

To select the initiatives to be mapped, factors related to the strength of evidence of impact have been considered

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

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

The consolidated IESI database was then analysed to provide descriptive statistics. Analysis of the Inventory gives an overview of the samples' distributions (e.g. countries of operation, typology, years in operation, and geographical reach – international, national, regional or local). However, the 300 initiatives that met the eligibility criterion about evidence-based results (outputs and/or outcomes) and were selected for inclusion in the IESI Knowledge Map have been studied in much more depth. These initiatives are described according to the dimensions of the IESI theoretical framework in **Chapter 4**.

The IESI Mapping sample contains 300 initiatives that have been studied in more detail

Moreover, further exploration of the potential determinants of an initiative's longevity (measured by the number of years during which it is/has been operating) has been carried out, with a specific focus on the role of the main stakeholders involved (public, private or the third sector) and the Digital Economy and Society Index (DESI). The underlying idea was that, while availability of funding is likely to be the main element which determines the birth of an initiative, other factors may be at play when it comes to its survival in the long run; assuming that higher longevity is a measure of the success of an initiative, by understanding its drivers, the factors that contribute to it can be better promoted.

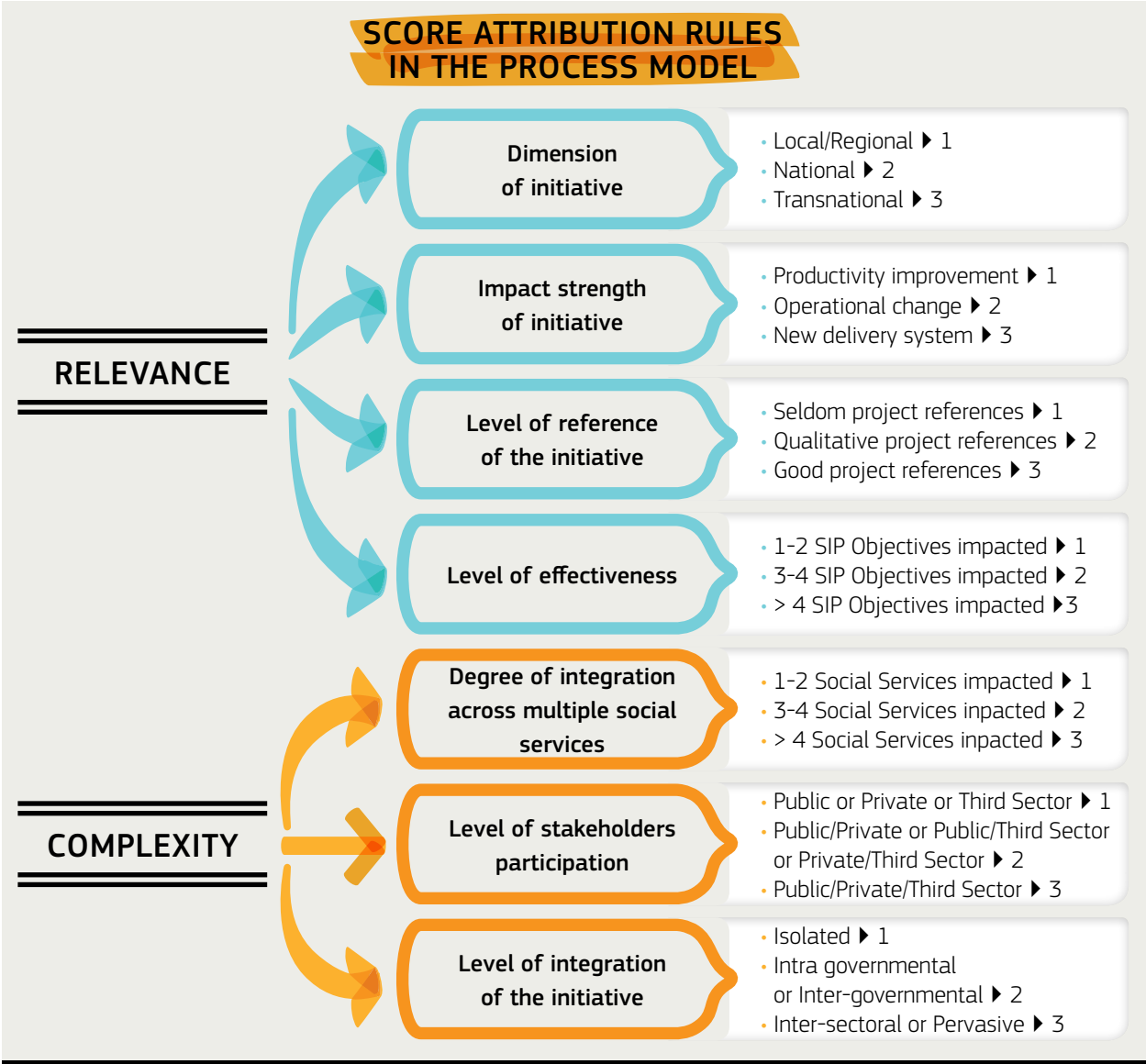
In addition, an exploratory analysis of the consolidated IESI database was conducted using **Social Network Analysis** (SNA) methodology. The aim of this analysis was to test the potential of this particular approach for extracting knowledge on the dynamics and network effects that characterise ICT-enabled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

As well as providing quantitative analyses on the IESI datasets, an in-depth **case study analysis** of a selected number of relevant initiatives was carried out, in order to provide original insights. To identify the case studies, 50 promising initiatives from the IESI mapping sample were selected (Step 1). The criteria used for the selection included: geographical coverage, representativeness of the different welfare systems, coverage of all the relevant thematic areas, representativeness of the different typologies of stakeholders (public, private and third sector), and maturity or sustainability of the initiative.

An in-depth case study analysis of a selected number of initiatives provided original insights

Taking the data collected on the 50 initiatives as input, a ranking model based on a multi-criteria methodology shown in **Figure 2** was used. Each initiative was in fact analysed according to the two criteria of 'relevance' and 'complexity' in order to capture its potential systemic impact. This allowed to give a numerical score to different sub-parameters for each of the 50 initiatives identified (Step 2).

FIGURE 2: Multi-criteria methodology



As shown in **Figure 3**, the key dimensions of impact of the IESI Knowledge Map (Misuraca et al., 2015a) were then used to further assess the initiatives identified. While the ICT-enabled innovation potential was used as a clustering factor — choosing initiatives belonging to both the *ICT as an enabler* cluster (incremental and sustained innovation) and *ICT as a game changer* cluster (disruptive and radical innovation) — the level of governance of service integration was used as a ranking factor (choosing initiatives with the highest level of governance).

Based on the scores obtained in Step 1 and having applied the selection criteria in Step 2, a final ranking of cases was obtained. A final check was then performed to ensure that the different EU

welfare systems and all PSSGI services were represented fairly, and then a sub-set of 14 most promising cases was selected for further in-depth analysis.

The analysis of the selected case studies followed three main methodological steps: (i) desk research, (ii) interviews, and (iii) case development and analysis. The desk research aimed to obtain specific and reliable data about the context and the impact of each of the initiatives under analysis, and to identify and select relevant key informants. Each interview was based on the gaps identified by the desk research and tailored to the type of stakeholder to be addressed, in order to improve the quality of the data already gathered.

The subsequent cross-case analysis built on two relevant aspects. On the one hand, attention was paid to descriptive elements such as the type of initiatives, area of social services covered, location, scale of implementation, operational funding, target users, stakeholders involved and partnerships developed around the initiatives. On the other hand, a significant effort was dedicated to identifying the factors that generate impact, and the coverage of different dimensions of the IESI analytical frameworks, as illustrated in **Figure 4**.

FIGURE 3: Key dimensions of impact of the IESI Knowledge Map

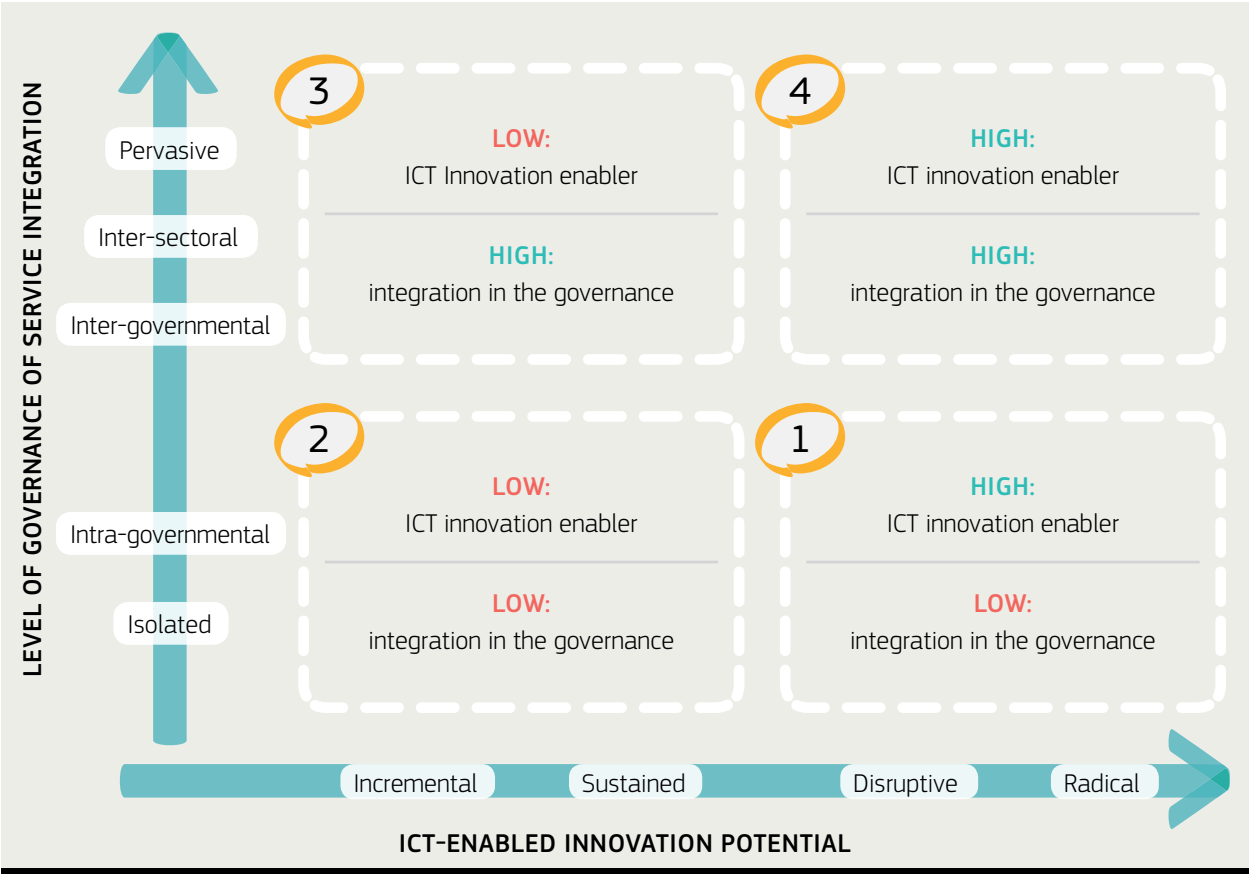
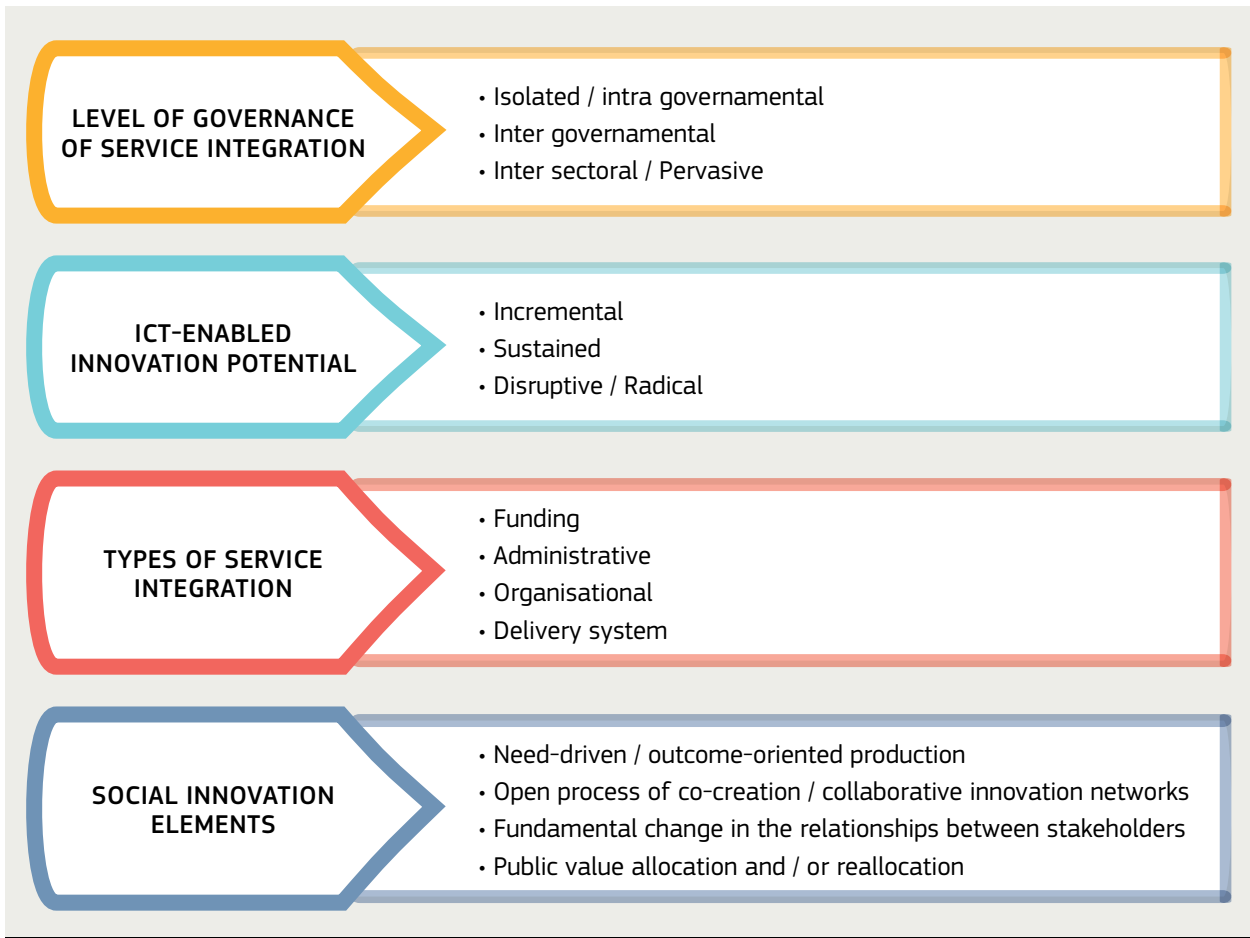


FIGURE 4: IESI Analytical framework – dimensions of analysis

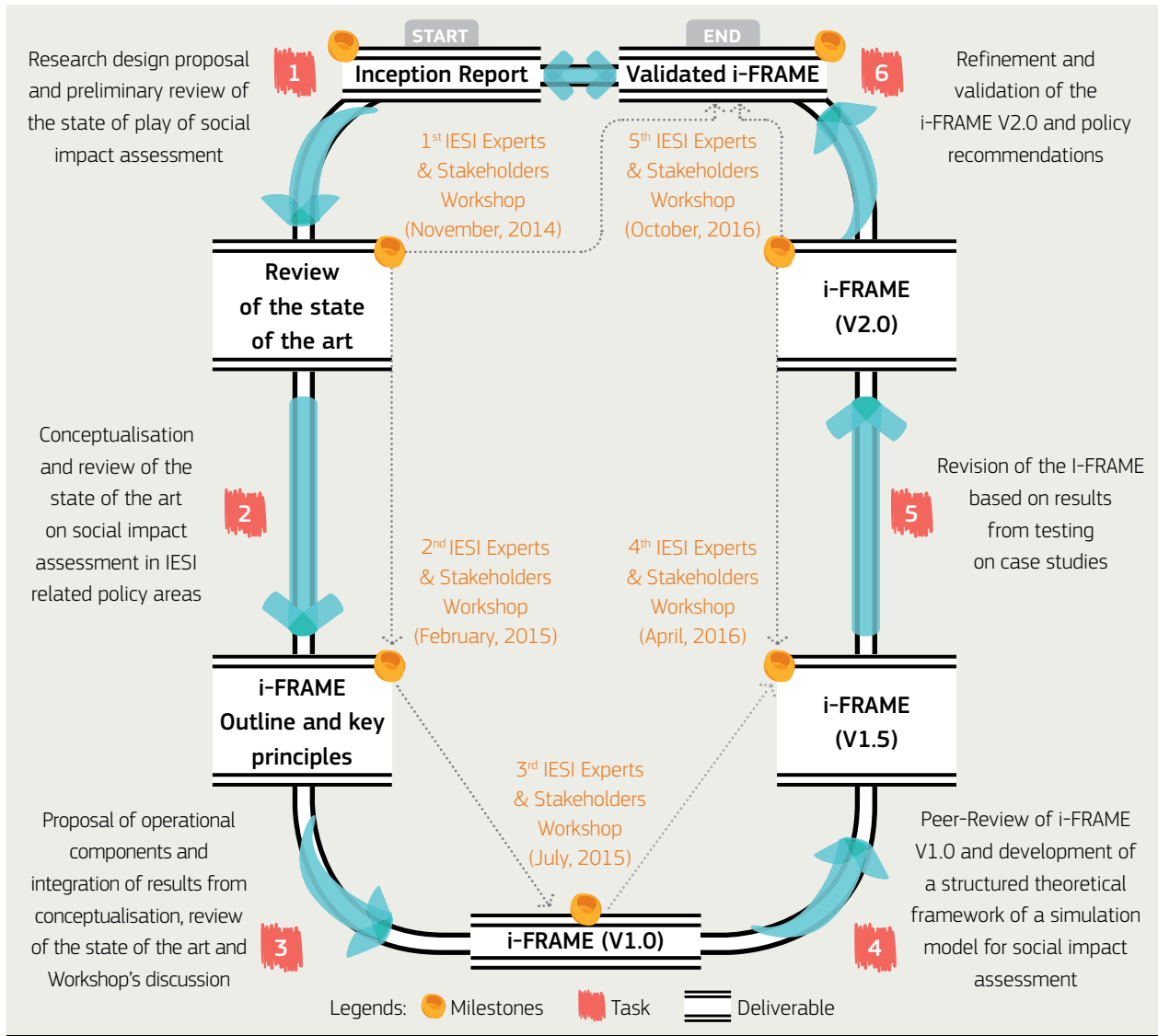


2.3 Developing the i-FRAME

An essential part of the IESI project is the development of a proposal of methodological framework to assess the impacts generated by ICT-enabled social innovation initiatives which promote social investment in the EU – in short **i-FRAME**.

To assess the potential of ICTs to innovate social services, it is crucial to take into account the overall ecosystem of ICT-enabled social innovation, i.e. the complex relationships between the actors of social innovation, other players (individuals and organisation) and the environmental conditions (norms, markets, laws) that do or could potentially influence their ability to create and sustain the intended impact. By embracing this complexity inherent in the ICT-enabled social innovation ecosystem, the i-FRAME can overcome the limitations of traditional policy evaluation methods.

FIGURE 5: Methodological approach for developing and validating the i-FRAME



This meta-framework aims to capture the direct effects and indirect consequences of 'initiatives' (i.e. policy, programme, project, activity, etc.) and to understand how these affect beneficiaries, organisations and possible intermediaries, as well as the social innovation ecosystem, and more in general the welfare system in which such initiatives are embedded (see **Chapter 6** for details).

The methodological approach followed for developing the i-FRAME (**Figure 5**) is composed of a number of sequential activities unfolding during the entire period of implementation of the IESI project and running in parallel to the other components of the

i-FRAME is a meta-framework that aims at capturing direct effects and indirect consequences of an initiative

research, receiving inputs from them as well as providing specific contributions to their development and implementation.

The methodological approach is based upon desk research, conceptual work and consultation with experts

The methodological approach adopted is iterative and based upon (1) desk research to conduct the review of the state of the art on social impact assessment with a specific focus on the policy areas under investigation; (2) conceptual work to outline and structure the proposal of i-FRAME meta-framework and related operational components and (3) consultation with experts drawn from different research, practice and policy communities, including representatives of key relevant stakeholders and policymakers at local, regional, national and international level.

The first proposal of the **i-FRAME (V1.0)** advanced in June 2015 was the combined result of a review of the state of the art, preliminary conceptualisation work, as well as discussions with experts and stakeholders during several scientific and policy events. This was further developed according to a structured theoretical framework of a simulation model for social impact assessment with the support of a team of external experts during the period July 2015 – January 2016, resulting in the **i-FRAME (V1.5)**. This version had a specific aim to review and test diverse dynamic simulation modelling approaches and suggest a possible way forward for further development of the i-FRAME.

The consolidated version of the i-FRAME is a comprehensive proposal for developing a common methodological framework

The **consolidated version of the i-FRAME (V2.0)** provides a comprehensive proposal for developing a common methodological framework; the i-FRAME is structured through a series of operational components that are defined according to various typologies of initiatives and stakeholders involved. It should be underlined that, while the logic model underpinning the i-FRAME is necessarily generic in order to address the broad spectrum of social policy initiatives, the operational components of the i-FRAME are structured in order to address the specificities of different policy areas, taking as a key discriminant the potential impact of innovations in the respective policy areas and related services.


The review of the state of the art carried out between 2014 and 2015, had two specific objectives: on the one side, it aimed at comparing different methodological approaches that could be applied to the modelling and simulation of complex systems, and in particular in the field of ICT enabled social innovation promoting social investment; on the other side, it aimed at identifying examples of applications of simulation modelling to assess the impacts of ICT-enabled social innovation initiatives, and to investigate their key characteristics, so to understand how to use them to shape the i-FRAME.

A supplementary systematic literature review has been conducted in 2016 to further revise the theoretical orientations underpinning the i-FRAME 2.0 and to improve the design and set of operational components advanced. The aim of this analysis was twofold: on one side to further confirm and validate choices made in the design of the i-FRAME; on the other side, to expand the scope of the review in light of the need to consider the broader concept of Social Policy Innovation promoting social investment, and to extend the scope of the i-FRAME beyond the exploratory phase of the IESI research so to investigate the possibility to apply it to other policy fields.

In order to test and validate the theoretical and methodological approach underpinning the i-FRAME three complementary activities were carried out over the course of the research: first of all, the i-FRAME methodology has been applied qualitatively to a number of case studies. The case studies constitute an interesting testing environment to validate the possibility of using the i-FRAME methodology to dynamically simulate the impacts of such innovations in the context of social policy reforms in the EU.

Secondly, a quantitative validation of the degree of applicability of the methodology has been experimented using ‘scenarios of use’ related to the implementation of ICT-enabled social innovation in different programmes and contexts of social services delivery. The aim of this activity is to show in practical terms how the proposed approach to dynamic simulation can be applied to illustrate the impacts ICT-enabled social innovation initiatives could have in various social service delivery processes.

Finally, consultation with experts and representatives of stakeholders allowed the IESI research team to gather insights from researchers, practitioners and policymakers in order to better define the characteristics of the proposed approach, outlining possible directions for future research.



3

CONCEPTUALISING
ICT-ENABLED
SOCIAL INNOVATION

3. CONCEPTUALISING ICT-ENABLED SOCIAL INNOVATION

3.1 Landscaping ICT-enabled social innovation

The concept of social innovation has been gaining traction in policy and academic debates since its revival in the European policy agenda with the Innovation Union Flagship Initiative (European Commission, 2010). Since the early 2000s, the number of publications and policy reports has been growing even faster. Their main aim was to define the concept of social innovation and work out the relationship between social innovation and other types of innovations in order to identify policy implications⁹.

Yet, social innovation is recognised as a quite fuzzy concept (Bekkers et al., 2013) or a ‘quasi-concept’ (European Commission, 2013). In this regard, 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.

The definition widely used within European institutions considers social innovation as: *new ideas, products, services and models developed and implemented to meet social needs and create new social relationships or collaborations*. In other words, social innovations are both good for society and enhance society’s capacity to act (Murray et al., 2010). This definition focuses on the object, the aim and the process of social innovation, highlighting its social nature in 1) implementing new ideas, services, production and organisational models to meet social needs, 2) creating new social relationships as the objective of these factors and 3) responding to social demand.

The relationship between social innovation and other types of innovation, such as technological or organisational innovation, has spurred a lively debate. For instance, Butzin et al. (2014) argue that it might be seen as a new paradigm of innovation reflecting the

Social innovation means “new ideas, products, services and models developed and implemented to meet social needs and create new social relationships or collaborations”

9 Most of these studies have emerged and are still emerging as a consequence of the direct financial effort of the European Commission in furthering the understanding of social innovation.

Social innovation is an independent research field with its own rules and eventually its epistemic community

transition from an industrial to a knowledge and service-based society, and therefore social innovation should be considered an independent research field with its own rules and eventually its epistemic community. Haxeltine et al. (2010) argue for a theory of transformative social innovation, able to explain how social innovation brings about new forms of social interaction that empower people to undertake strategies and actions, which may lead to transformative, systemic change; Hochgerner (2013) identifies social innovation at its point of origin (businesses, civil society, government and *social milieus*) and with its effects: participation, procedural rules and project behaviours, so as to distinguish it from technological and business innovation. He also argues for a notion of innovation which is paradigmatic since all innovations are socially relevant.

In the agenda set out by the Social Investment Package (SIP), social innovation has been called upon to provide a social net for unemployment, poverty and social exclusion and improve the resilience of the welfare system in a longer term perspective. In the SIP agenda, social innovation is therefore defined mainly by its goals and impacts, and specifically concerns social services and the organisational setting for the ideation, development and delivery of personal social services of general interest. Within the same context, ICTs have been identified as the enabler of this renewed innovation effort.

However, the review of the state of the art conducted in the first phase of the IESI research identified a 'patchy picture' of the implementation of initiatives in the field under investigation (Misuraca et al., 2015a). Most of the reviewed scientific literature centres on 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.

Social innovation in social services is a process to deliver services differently, or as an answer to current and future societal challenges

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

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

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

To ensure that ICT-enabled innovations have a positive effect on social services, technologies have to be embedded in the service delivery model

The review of practice revealed a predominance of initiatives addressing health and social care or welfare systems in general, 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 older people. In this sense, ICTs are playing a crucial role in developing effective social innovation to modernise European social protection systems. Advocates argue that the use of technology for active and healthy ageing and long-term care permits a more person-centred approach (e.g. 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 about the value of using a wide range of ICTs for older adults and their carers, for example in telecare, telemedicine and telehealth, is becoming widespread.

Other social services areas and target groups 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.

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 (Stewart & Misuraca, 2013). Active inclusion of disadvantaged groups of people is another policy area supported by ICT-enabled innovation in service delivery. The social exclusion issues addressed are related mainly to unemployed, young people, children, mental health, offenders, families, immigrant groups and older people.

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, already in 2011 a review of 550 social innovation ventures in Europe (SELUSI, 2011) showed 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 ICTs can indeed provide new opportunities but also new forms of exclusion. For example, Warburten et al. (2013) underline 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-oriented organisations.

There are many obstacles in implementing ICT-enabled innovations to support social policy reforms

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 capitalise on new approaches to communication despite it 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. 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 illustrated by JRC (Torrecillas et al., 2013) in a survey of eInclusion intermediaries across the EU.

Looking more specifically at the effective deployment of ICT-enabled innovation in support of social policy reforms, the results of the review suggest that, in general terms, it is still at an early stage of investigation and evidence of results is not available in most scientific literature. 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, the main focus of this reform is on promoting efficiency and cost savings through service integration and cross-sector collaboration.

Nevertheless, some consolidated relevant socio-technical trends that can support the provision of social services in an innovative, integrated, and personalised manner can be identified. First, the diffusion of pervasive, always on Internet connection increased the amount of services and content consumed and produced by users, taking advantage of social, cloud, ubiquitous computing. Second, the combination of web-based and open source software has lowered entry barriers in providing web-based services, opening up immense potential for creativity and experimentation, supported by massive data availability and insights. Third, the democratisation of software and the ‘data deluge’ have become crucial to enable innovation in policy design and service delivery. This is further reinforced by — fourth — the rising expectations of citizens, no longer willing to accept government services as they are, but keen to have the opportunity to comment, rate, co-decide, and co-create public services (Misuraca, 2012).

Moreover, evidence shows that ICTs can deliver support to excluded groups in a way that enhances access to information and services, enables self-help and reduces dependency, and ICT skills or digital competence positively affect a number of individual factors relevant to people empowerment (Misuraca et al., 2014).

The potential of social innovation is increased by the growing range of innovative ICT-based solutions, actually acting as a positive driver for the implementation of social policy reforms. In particular ICTs can play a game-changing role to promote the development of platforms to support the establishment of innovative partnerships where social challenges can be addressed by impact investing strategies.

ICTs can in fact serve as a catalyst to facilitate the operationalisation of the innovation-driven rationale to social investments, through experimentation. The SIP already anticipated one main road to experimentation through the European Social Fund (ESF) – eventually complemented by other European Structural Investment Funds (ESIF). In these provisions, the Commission urged Member States to test new approaches such as ICT-enabled innovations to social policy and eventually scale-up the most effective innovation through the funds available. Facilitating the experimentation, development and emergence of new products, services and structures may have, in the longer term, a beneficial effect on welfare systems.

The update of the review of the state of play conducted in 2015 and 2016, further defined the main trends associated with the introduction of ICT-enabled innovation in social services to address the profound challenges Europe is facing, as follows:

- ▶ **Emergence of new needs and the search for new solutions to old needs.** On the demand side, it is mainly socio-demographic change that triggers a growing array of needs for social services. Socio-cultural change has also an effect on raising demand for such services: pluralisation and individualisation trends, changes in gender roles and relations, increasing mobility requirements by changing labour markets and structural change in families. The supply side factors are mainly associated with technical innovations or with the diversification and specialisation of social services provided by a variety of different actors.
- ▶ **Need to tackle affordability of the welfare state** in relation to social change in modern service economies. Based on the tension between the requirements of increasing social services on the one hand and growing demands for cost saving on the other hand, a restructuring of the architecture and the logic of welfare distribution is in progress in almost all fields of state intervention. This process (also called commodification or economisation) refers not only to institutional and legal frameworks, but is also reflected by an increasing business orientation of public sector organisations. This drives the introduction of economic instruments to control social service providers on the background of limited available resources. This approach is then accompanied by the paradigm of activation, which comes together with a redefinition of the welfare state's self-image, with the 'enabling state' encouraging interaction between all relevant stakeholders.
- ▶ **Rising attention on effectiveness.** The increasing business orientation of organisations involved in welfare policies and the emphasis on personal rights and outcomes contributed to the move towards citizenship/inclusion approach. Service management by professionals

ICTs can serve as a catalyst to facilitate the operationalisation of the innovation-driven rationale to social investments, through experimentation

is increasingly being complemented by users, who can play an important role both in the control and management of service delivery. Users' empowerment is often accompanied by the spread of local and community management approaches, which in many EU countries are replacing traditional centralised service provision practices. At the same time, staff delivering social services is moving towards multiple roles integration, or at least combination, across organisational and professional boundaries.

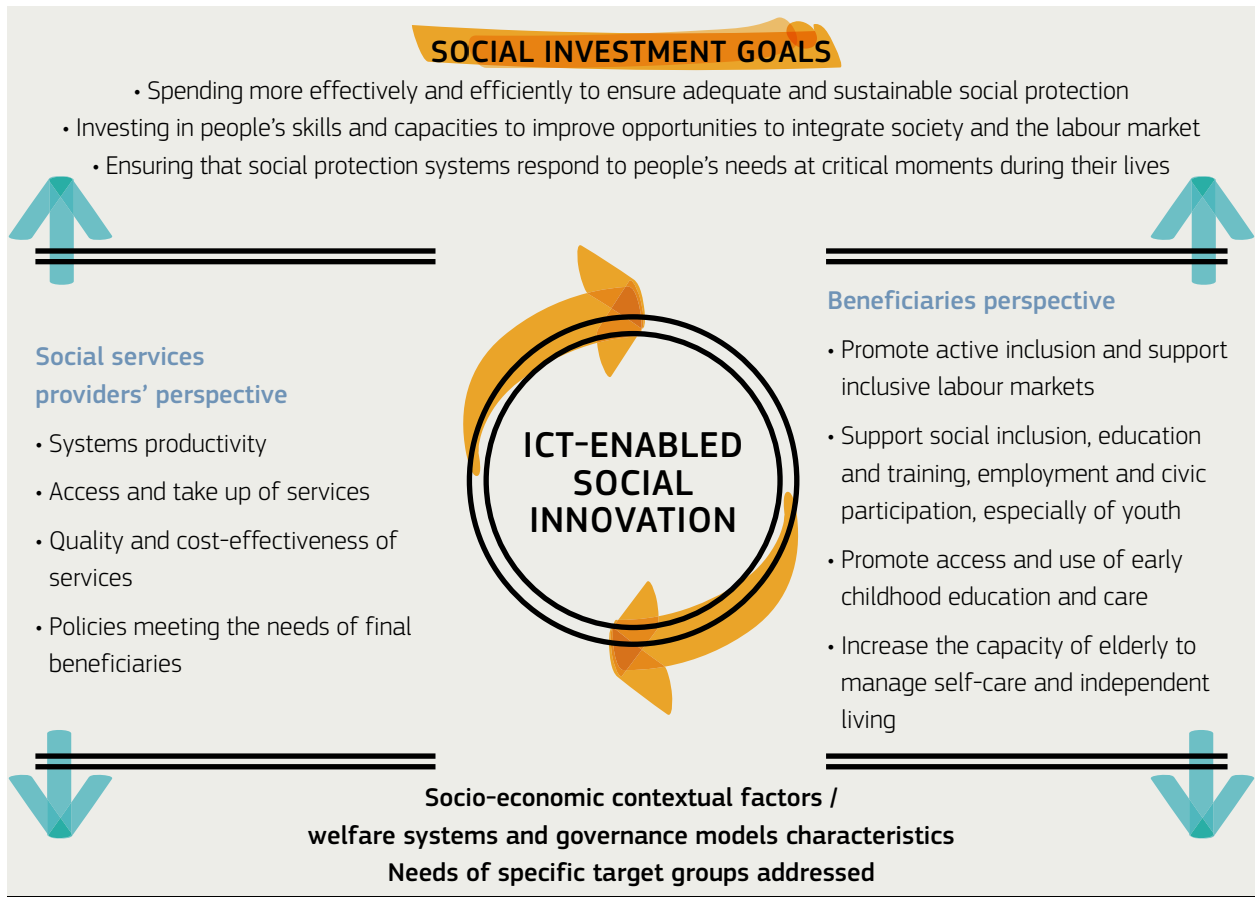
- ▶ **Greater involvement of non-public stakeholders** has been accompanied by a shift in service locations, for example from specialist facilities towards peoples' own homes, or using existing community resources. In turn, this is complemented by changes in resource provision from the traditional centralised single funding model towards multiple sourcing including personal budgets and civil and enterprise funding, in addition to public funding.
- ▶ **Drivers for innovation in transitional economies.** Post-communist countries faced the process of democratisation and the challenge of transforming a wholly centralised system. Decentralisation concerned all public spheres, including the sphere of welfare, healthcare and education. These services were extended to private and non-governmental sectors as well. Besides the organisational issues and enabling other actors to get involved, the shift required complex changes in approaches both of the providers and recipients of services.
- ▶ **The transformative role of ICTs.** When combined with participative and collaborative innovation, ICTs are no longer a neutral general purpose technology but provide a medium that changes the social context of interaction. In this sense ICTs in their open collaborative and participative components can be fundamental game changers for social innovation as they lower the costs of coordination and help the move from institution to collaboration by providing an important contribution to social services transformation in a more sustainable and effective way.

3.2 Operationalising the IESI conceptual framework

Building on the results of the comprehensive review of the state of the art conducted as part of the IESI research, a proposal for a conceptual and analytical framework has been advanced. This served to guide the investigation and analyse the initiatives gathered through the mapping during the course of the project, setting the basis for establishing an observatory of social policy innovation across the EU.

Figure 6 summarises the conceptual approach adopted whereby ICT-enabled social innovation is at the centre of social services provision and ICTs act as enablers to achieve the objectives of the SIP. Clearly however, ICT-enabled social innovation is also shaped by other exogenous factors like the socio-economic context, welfare systems and governance model characteristics, and the needs of specific target groups.

FIGURE 6: IESI Conceptual framework



Source: own elaboration.

To operationalise the IESI conceptual framework, the collected initiatives have been classified along the following dimensions: 1) typologies of ICT-enabled innovation potential; 2) elements of social innovation; 3) levels of governance of service integration; and 4) types of services integration. By studying where initiatives sit along each dimension, as well as their intersection with others, one can understand the extent to which they are able to respond to complex social issues and challenges.

Each of the four dimensions can also be interpreted through the lens of different conceptions emerged from the literature, such as functionalist vs. transformationalist social innovation approach (Bouchard, 2006) or weak vs. strong social innovation (Laville, 2011):

- ▶ **Functionalist approach/weak social innovation:** social innovation is an answer to social problems. Social innovation creates social services that meet demands to which neither the State nor the market has responded;
- ▶ **Transformationalist approach/strong social innovation:** social innovation is 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.

3.2.1 Typologies of ICT-enabled innovation potential

ICTs can support socio-economic inclusion for actors in many contexts, enabling social innovation processes

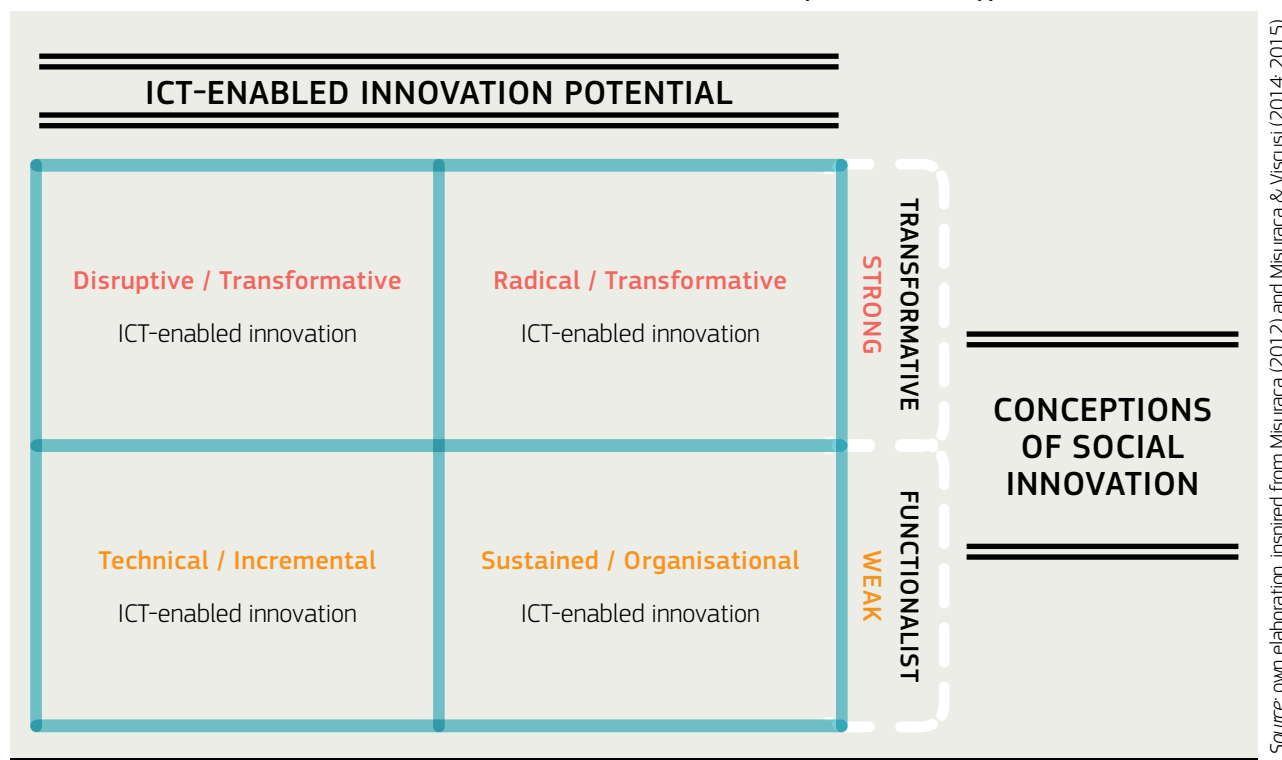
Previous research work carried out by JRC shows that ICTs can support socio-economic inclusion for actors in many contexts, enabling social innovation processes (Misuraca et al., 2014). Thus, ICTs are seen as a contributing factor to social innovation. However, their impact must be seen in terms of the contribution made by other enablers (INNOSEV, 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 service 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, a taxonomy first developed in Misuraca (2012) and further elaborated in Misuraca and Viscusi (2014 and 2015) has been adopted:

- a. **Technical/incremental innovation:** use of ICTs to facilitate automation of repetitive tasks and thereby improve efficiency (e.g. automated applications for jobs). This implies process change, such as the improvement of the quality and efficiency of internal and external business processes;
- b. **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 organisational forms, the introduction of new management methods and techniques, and new working methods, as well as 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;
- c. **Disruptive/transformational innovation:** use of ICTs to initiate or improve new services or create new mechanisms for service delivery which would be impossible otherwise (e.g. use of ICTs for learning purposes beyond office/school hours), resulting in product or service innovation;
- d. **Radical/transformational innovation:** substantial use of ICTs that takes place outside recognised institutional settings and aims to radically modify the existing mechanisms of services provision (e.g. self-organised community to deliver services through social networks). This may lead to conceptual innovation reframing the nature of specific problems and their solutions.

Figure 7 presents the four types of ICT-enabled innovation potential and their interrelation with the social innovation concepts that have been defined and that guided the analysis of the mapped initiatives (see Chapter 4 for details).

FIGURE 7: ICT-enabled innovation potential and types of social innovation



3.2.2 Elements of social innovation

The second dimension of the IESI conceptual framework — elements of social innovation — builds upon and extends the work of Bekkers et al. (2013), and focuses on the relationships between stakeholders by dividing social innovation into the following four categories:

- a. **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);
- b. **Open process of co-creation / collaborative innovation networks:** end-users and other relevant stakeholders participate in the development, implementation and adoption of these innovations (Bason, 2010; Lee, 2012; Gloor, 2005; Bommert, 2010; Sørensen & Torfing, 2011). 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;

- c. Fundamental change in the relationships between stakeholders:** the ways in which stakeholders relate to each other and interact and collaborate with each other are radically changed. Social innovation tries to act as a ‘game changer’, breaking through ‘path dependencies’ (European Commission, 2011). 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; Sørensen & Torfing, 2011; Bates, 2012);
- d. Public value allocation and/or re-allocation:** in achieving these values it is important to look beyond the presumed or achieved consequences of the innovation in terms of effectiveness or efficiency. The public values pursued by social innovation also try to ensure that the innovation is appropriate, for instance because it adds to the value of democratic citizenship, or really addresses — in terms of responsiveness — the needs of citizens (Cels et al., 2012; Mulgan, 2006).

Table 1 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). 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).

3.2.3 Levels of governance of service integration

The third dimension of the framework of analysis concerns the need to address the move towards a greater integration of social services provision in an effort to increase the coordination of operations within the social services system in order to improve efficiency and produce better outcomes for the beneficiaries. Integration has evolved significantly over the last decade as governments search for ways to address beneficiaries’ needs and manage increased caseloads with reduced resources.

Although integrated approaches to social services provision is not a new concept, the last decades might be represented in terms of 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.

However, little information is available on where the social services integration agenda is heading, or on the role of ICT-enabled social innovation. Moreover, where several different classifications of integration can be found (Fischer & Elnitzky, 2014; KPMG-Mowat, 2013; Raeymaeckers & Dierckx, 2012; Kodner, 2009) no clear and precise definition of the concept of ‘services integration’ has been proposed in the literature. The definition of **services integration** adopted for the purpose of this research thus refers to the way different ICT-enabled social innovations contribute to enhancing social service delivery through integrated approaches and coordination at governance or functional level, as:

Little information is available on where the social services integration agenda is heading

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

(Misuraca et al., 2015a)

Therefore, the following levels of governance of service integration (adapted and extended from KPMG-Mowat, 2013) have been considered:

- ▶ **Isolated.** No integration of services at administrative or strategic level with government operations;
- ▶ **Intra-governmental integration.** Single level of government, e.g. integrated case management, designing service delivery according to the needs of individuals rather than service providers; front-line 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, e.g. data-base integration, coordinated case management, and joint procurement;
- ▶ **Inter-sectoral integration.** Collaboration between government and service delivery providers in private or non-for-profit sectors, e.g. joint investment strategies, co-location of staff and formal networks of service delivery organisations;
- ▶ **Pervasive.** Service integration beyond the traditional boundaries of administrative/operational integration, embedded in a new *modus-operandi* where service providers and beneficiaries co-produce services innovating delivery mechanisms and reallocating resources/roles to maximise public value creation.

3.2.4 Types of service integration

The integration of services enhances effectiveness, improves strategic planning and system integrity, and reduces demand for crisis services

From an organisational perspective, the integration of services enhances effectiveness in terms of improved outcomes, efficiency and reduced costs (Fischer & 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.

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

- ▶ **Funding:** e.g. pooling of funds or pre-paid capitation at various levels;
- ▶ **Administrative:** e.g. consolidation/decentralisation of responsibilities/functions; inter-sectoral planning; needs assessment/allocation chain; joint purchasing or commissioning;
- ▶ **Organisational:** e.g. co-location of services; discharge and transfer agreements; inter-agency planning and/or budgeting; service affiliation or contracting; jointly managed programmes or services; strategic alliances or care networks; common ownership or mergers;
- ▶ **Service delivery:** centralised information, referral and intake; case/care management; multidisciplinary/interdisciplinary teamwork; joint training; around-the-clock coverage.

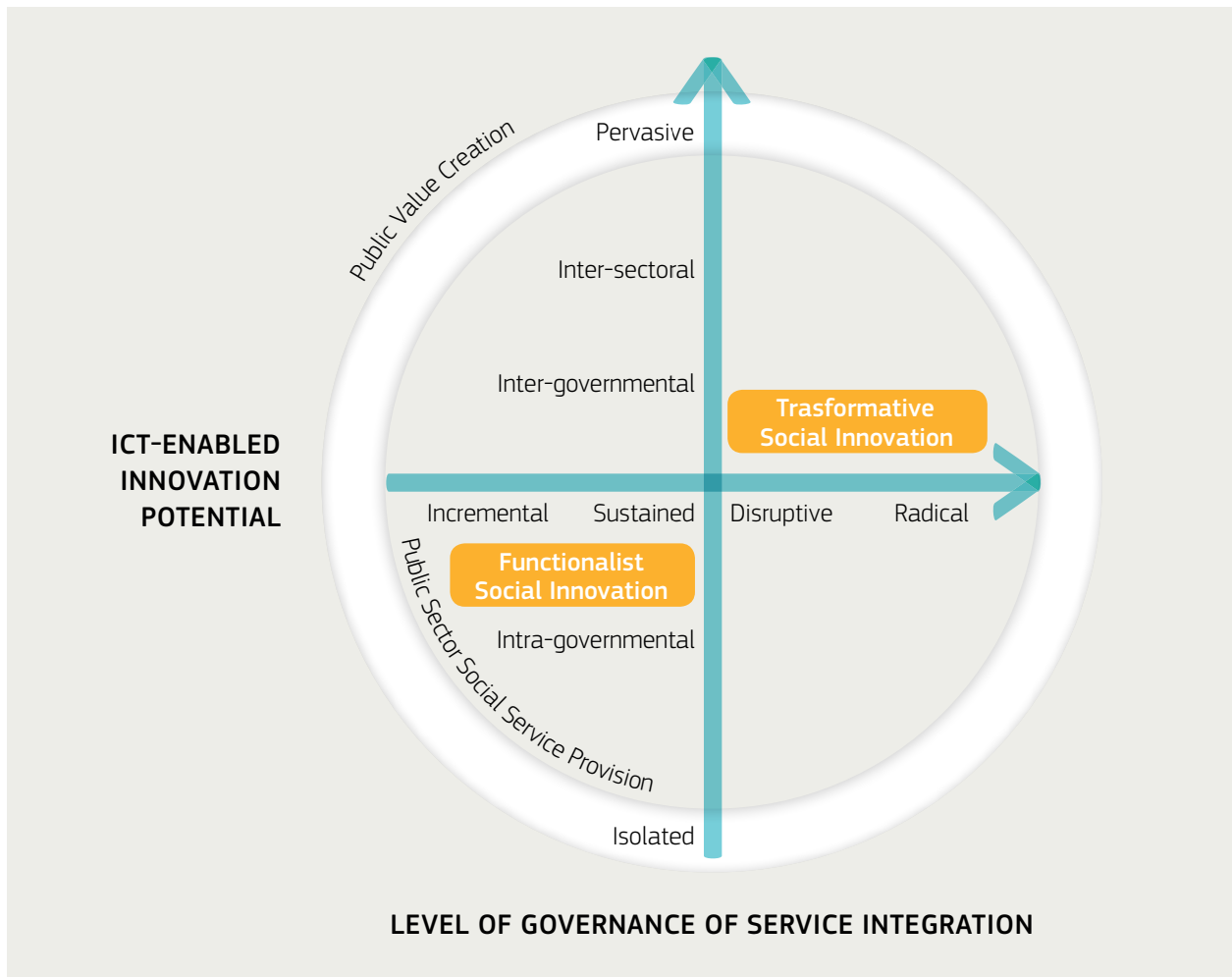
Figure 8 presents the proposed analytical framework of the research. The framework is designed according to a Cartesian coordinates system, based on two orthogonal axes. It serves to map the initiatives collected as part of the data gathering exercise, positioning them in the graph according to the two 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, are not represented in the graphic in order to enhance its readability. They are, however, in-depth qualitatively assessed and investigated in the analysis of the IESI Knowledge Map (**Chapter 4**) and in the case study analysis (**Chapter 5**).

Taking the four categories into consideration, the initiatives fall into two main areas in which they can have impact:

- ▶ **Public sector social services provision:** public sector organisations are involved at different levels as main service providers through traditional public service delivery mechanisms. Services in this sphere can also be contracted out through concessions, outsourcing, or other public-private partnerships systems. Organisations from the private or third sector, and citizens, are involved but they normally play a subsidiary role as service providers or as partners in the design or implementation of the services. In some cases, however, although the public sector keeps an important role, the design and provision of innovative social services may be initiated by private or third sector organisations and is then embedded in the public service delivery system.

- Public value creation.** This refers broadly to the value created by government through services, law regulations and other actions. Public value provides a broader measure of outcomes, the means used to deliver them, and trust and legitimacy. It addresses issues such as equity, ethos and accountability, which can be considered as generating value for the stakeholders involved in the innovation processes. Generating public value for citizens depends on the quality of service delivery which is measured in terms of service availability; satisfaction levels; importance; fairness of provision; and cost (Kelly, Mulgan, Muers, 2002). All these elements should be thus taken into consideration when analysing ICT-enabled social innovation. Social innovations enabled by ICTs may increase the public value from public service delivery compared to traditional service delivery mechanisms. Innovative ICT-enabled solutions can also facilitate a re-allocation of public value in favour of disadvantaged groups or people at risk, increasing social welfare and well-being.

FIGURE 8: IESI Analytical framework



Source: own elaboration.

3.3 Validating the IESI framework: the role of co-creation and digital service innovation

To validate the IESI conceptual and analytical framework, in addition to apply it to analyse the data collected during the mapping exercise, a further update of the review of the state of the art already performed in the previous waves of the IESI project was conducted in 2016. To this end, the review adopted in the last phase of the research explored the stand point of digital service innovation, focusing on the role of co-creation. The aim of this effort was to complement the theoretical framework developed in Misuraca et al. (2015a) with insights from the digital service innovation literature and novel contributions to the digital social innovation literature.

Co-creation and its implication in terms of 'ownership' are both crucial parts of the conceptual framework used to investigate ICT-enabled social innovation initiatives

This is a very important area where, after a few years of investigation there is still a significant gap in research. Consequently, the theoretical foundations of ICT-enabled social innovation are still largely unexplored in academic literature. To this end it seemed important to investigate the concept of co-creation and the implications of 'ownership' of social innovation initiatives, which are both crucial parts of the conceptual framework advanced by the IESI research.

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

ICTs have a creative role in the service innovation process rather than a simple assistive role

Depending on the degree of personalisation/formalisation of the service, this may engender the formation of a new innovation ecosystem. These ecosystems, as argued by Lusch and Vargo (2014), originate from the integration of resources and the exchange mechanisms that are institutionalised for the creation of value, benefitting the parties involved. It is in these cases that ICTs assume a central role in the creation and functioning of the ecosystem. ICTs, combined with

knowledge and skills, constitute the main set of resources within which innovation emerges and at the same time the ICT architecture/infrastructure constitutes the means through which new or improved services are delivered (i.e. Service-Dominant, or S-D, logic).

The work of Haikio and Koivumaki (2016) can be also useful to support the conceptualisation advanced in the IESI research, whereby it involves the process of value creation in digital service innovation, and in particular, the role of ICTs in the formation of value and the co-creation of services when the focus is shifted on the design and delivery of the service and the end user/beneficiary. In this respect, the role of ICTs can be interpreted in two ways: 1) as operand, i.e. the static elements such as ICT components that enable the service innovation process, and 2) operant, the intangible ICT resources which are more dynamic and triggering. The first kind may be, for instance, the user interface layer (or the case management system) that enables the innovation process integrating resources and providing opportunities for value generation whilst ICTs of the second kind may be those linked to the actual delivery of services or the evaluation of the service performance.

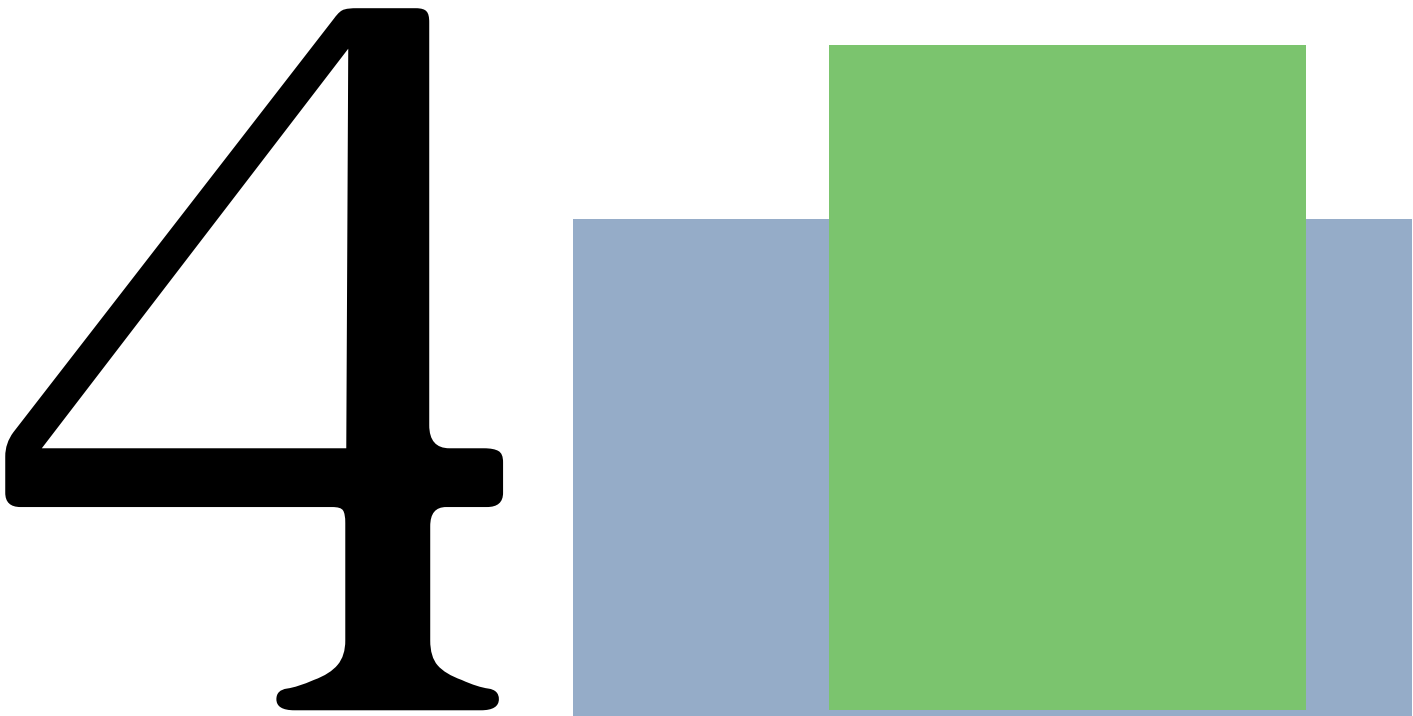
The adopted definition of ICT-enabled social innovation is grounded on both social innovation and service innovation research

Against these recent developments in digital service innovation, the definition of ICT-enabled social innovation adopted in the IESI research (see **Chapter 2**) is grounded both in the foundation work on social innovation and on the aspects brought forward by service innovation research considering ICTs as part of the resources necessary to service innovation according to the Service-Dominant logic. As a matter of fact, the role that ICTs assume in the framework advanced by Haikio and Koivumaki (2016) defined as *operand* supports what in IESI is defined as *enabler*, while the *operant* dimension is what here has been defined as *game-changer* (Misuraca et al., 2015a).

The take out of this update to the literature review is that in the latest two years reviewed (2015 and 2016) studies on the role of ICTs in social innovation and the design and deployment of new public services have increasingly adopted a Service-Dominant logic prevalent in the digital services innovation literature. In this stream, ICTs become integral part of the service design, i.e. ICTs may constitute the infrastructure upon which services (and social services in particular) are built and the enabling factor that initiates the service innovation dynamics. In other words, in this framework, ICTs are at the same level as the skills and knowledge concerning the various phase of creation, development and delivery of new social services.

ICTs become integral part of the service design, it may constitute the infrastructure upon which social services are built, and the operant factor that initiates the service innovation dynamics

The following chapter presents the main findings of the consolidated analysis of the three-year IESI mapping. It thus sets to be a crucial advancement in the theoretical development of the field under investigation by informing with empirical findings the conceptual framework advanced and providing evidence of impacts achieved by policy relevant initiatives across the EU, in order to outline implications for policy and research.

A large black number '4' is positioned on the left. To its right, there are two rectangular bars: a blue one and a taller green one. The green bar is partially overlapping the blue one.

4

MAPPING
ICT-ENABLED SOCIAL
INNOVATION

4. MAPPING ICT-ENABLED SOCIAL INNOVATION

This chapter describes the IESI Knowledge Map – a collection of ICT-enabled social innovation initiatives that promote social investment through integrated approaches to the delivery of social services. These initiatives cover all the Member States in the EU28 and also some countries that are not part of the EU but are considered in the vanguard of the field under scrutiny.

The initiatives have been analysed along the 4 dimensions of the IESI conceptual framework: 1) the ICT-enabled innovation potential; 2) the elements of social innovation; 3) the levels of governance of service integration; and 4) the types of services integration (see **Chapter 3** for details). The IESI Knowledge Map is built by combining some elements of the IESI conceptual framework, namely, ICT-enabled innovation potential and levels of governance of service integration, with information of the sector of the main stakeholder (i.e. public, private or third sector).

The analysis allows an explanation of how ICT-enabled social innovation initiatives could help the implementation of the main objectives of the Social Investment Package (SIP) such as the modernisation of the social protection system, the execution of active inclusion strategies, or the investment on individuals throughout their life.

In line with the aim of the research, also some of the potential determinants of an initiative's longevity have been explored, with a specific focus on the role of the main stakeholder (public, private or the third sector) and the Digital Economy and Society Index (DESI)¹⁰ of the country in which the initiative is based.

Finally, a more in depth descriptive analysis of the IESI conceptual framework is provided by focusing on three thematic areas: 1) Civic engagement for social change; 2) Employment and Employability; and 3) Active and healthy ageing and long-term care.

The IESI Knowledge Map is a collection of initiatives of ICT-enabled social innovation across the EU

A more in depth analysis is provided by focusing on civic engagement, employment and employability, and active and healthy ageing

10 <https://ec.europa.eu/digital-single-market/en/desi>

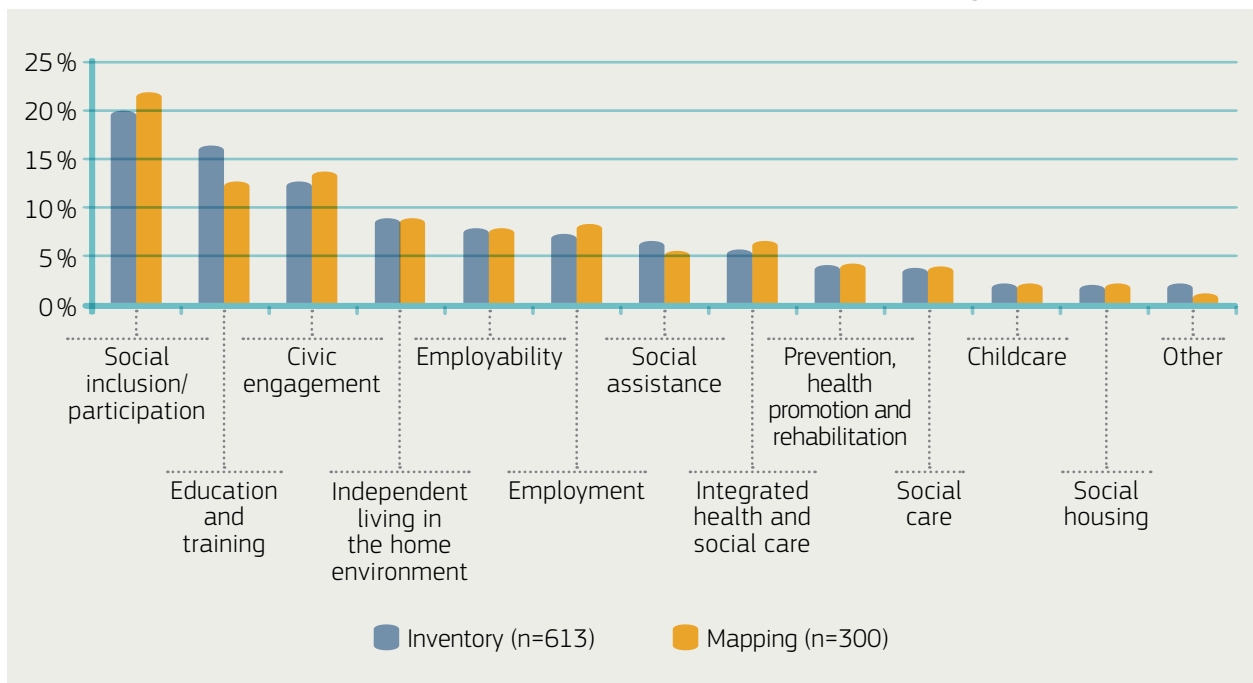
4.1 ICT-enabled social innovation in practice: an overview

Between 2014 and 2016, information on 613 ICT-enabled social innovation initiatives across Europe have been gathered. The systematic analysis of the consolidated database is split into two sub-sections: the first is dedicated to the Inventory including the 613 initiatives; and the second to the Mapping, including 300 initiatives. Only initiatives that showed some evidence of policy relevant results achieved the transition from the Inventory to the Mapping sample.

As already mentioned in the introduction the starting point for the analysis was the concept of Personal Social Services of General Interest (PSSGI) i.e. services that respond to vital human needs, contribute to non-discrimination and create equal opportunities. Therefore this analysis begins showing the distribution of the 613 ICT-enabled social innovation initiatives (300 for the mapping sample) collected in the three waves of mapping and analysis 2014-2015 and 2016 according to their main PSSGI area of intervention (see **Figure 9**).

The PSSGI area in which more initiatives occur is Social Inclusion and Participation (121 initiatives or 19.8 % of the Inventory, of which 65 transitioned to the mapping), followed by Education and Training (100 initiatives or 16.4 % of the Inventory, of which 38 transitioned to the mapping). The third more frequent PSSGI is Civic engagement with 77 initiatives (of which 41 in the mapping), equivalent to 12.6 % of the Inventory.

FIGURE 9: IESI Consolidated Inventory and Mapping by main PSSGI (n=613)



Approximately 18.5 % of the Inventory is taken up by initiatives involved in the fields of the Active and Healthy Ageing and long-term Care: Independent living in the home environment, Integrated health and social care, and Prevention, health promotion and rehabilitation (n=115). Employability and Employment combined comprise 93 initiatives evenly split between the two sectors (48 and 45 respectively) constituting 15.3 % of the Inventory sample. Social Assistance and Social Care include 40 and 24 initiatives (or 6.5 and 3.9 % of the sample) respectively.

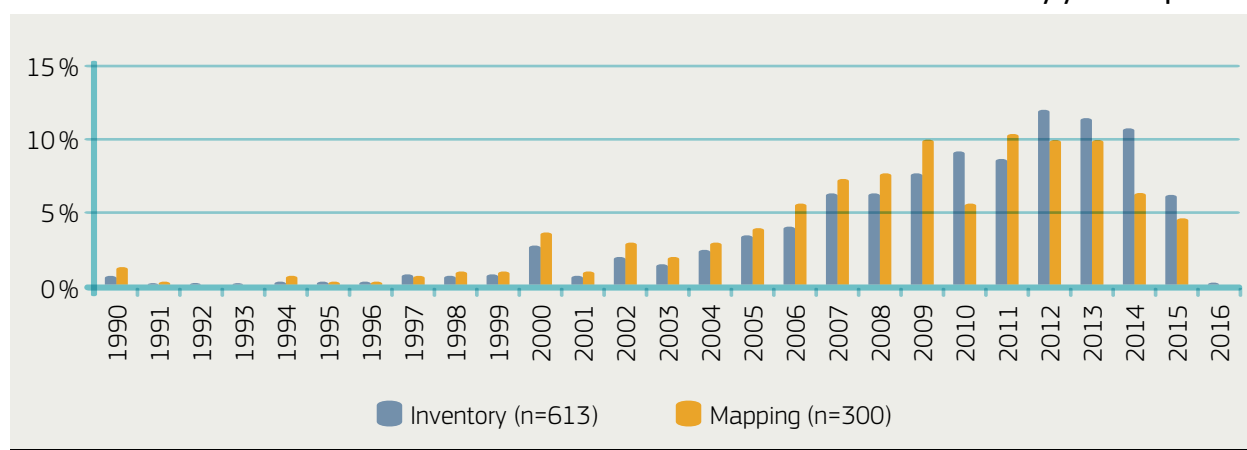
The sample also includes initiatives focusing on Childcare (14 cases or 2.3 % of the sample) and Social Housing (13 cases or 2.1 % of the sample) while 14 ICT-enabled social innovation initiatives are classified as 'Other'.

From the analysis it is also possible to notice how the distribution of initiatives by PSSGI is remarkably similar across the two samples. A simple statistical test has been carried out and no statistically significant differences in prevalence rates of most PSSGI have been discovered, except for Education and Training, which is significantly less prevalent in the mapping sample (12.7 % vs. 16.4 %)¹¹.

Regarding the age of the initiatives included in the consolidated inventory, as shown in **Figure 10**, about half of the cases are relatively young (i.e. initiatives founded in 2010 or after) and overall 91 % of the initiatives has been in operation for less than 15 years. Unsurprisingly, younger initiatives — i.e. those started after 2012 — are less likely to be part of the mapping, since it may take a while for them to be adequately evaluated.

About half of the initiatives in the Inventory are relatively young

FIGURE 10: Distribution by year of operation



Source: own elaboration.

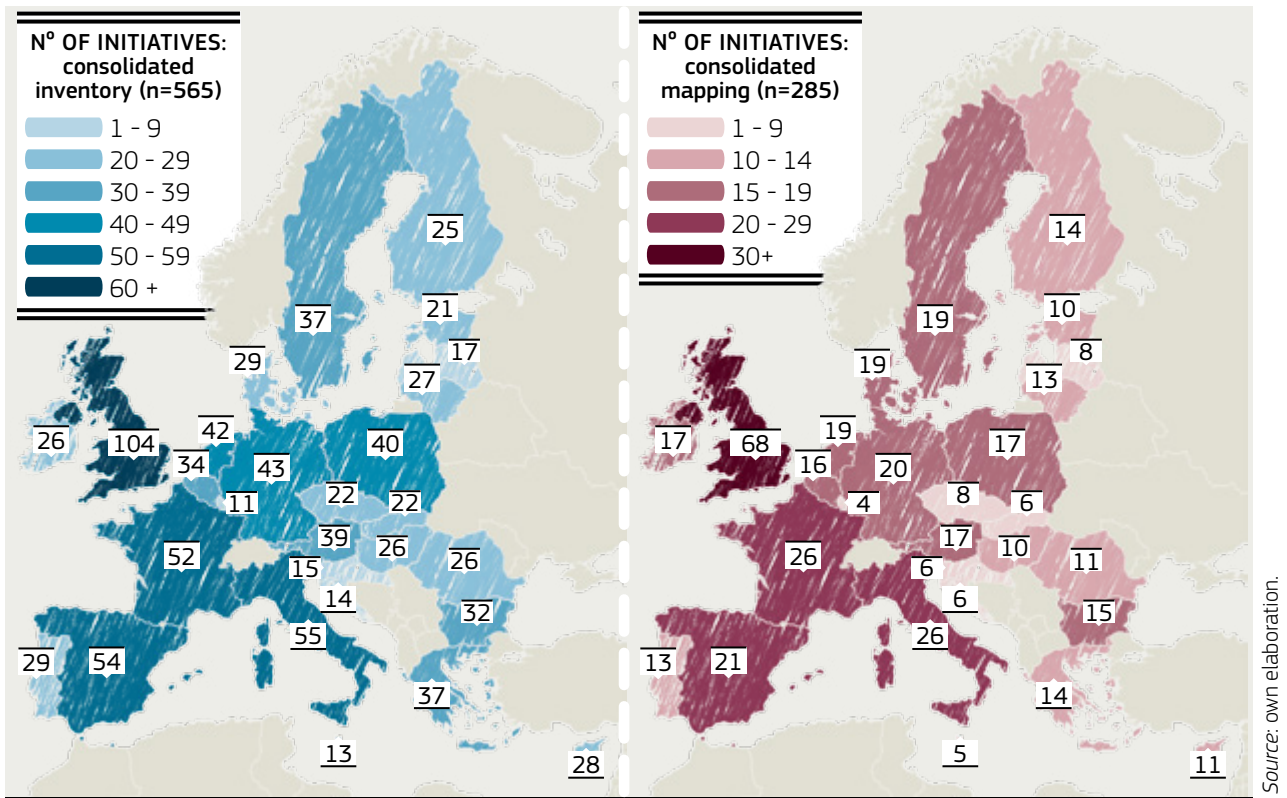
11 We first dichotomised all PSSGI (1=belongs to the PSSGI, 0=otherwise) and then performed a simple t test with equal variances to check for differences in means between the Mapping and the Inventory samples for each PSSGI.

Initiatives in the Mapping are on average longer lived than those in the Inventory

A more in depth analysis reveals that initiatives which were selected for the mapping sample are on average longer lived than those which did not make it (8.2 years vs. 6.2 years), and the difference is highly statistically significant. Furthermore, initiatives which made it to the mapping sample are more likely to be continuing their operation than those which did not make it (91.3 % of the mapped initiatives are still on going vs. 86.9 % of those not promoted)¹².

The next explored feature is the geographical distribution of the initiatives; although the focus is the EU, the sample also includes initiatives that operate partly or exclusively outside of it. **Figure 11** shows, on the left side, the distribution of initiatives according to the country of operation, illustrating only those initiatives that operate at least in one EU Member State. The Inventory sample contains 565 of them. About 12 % of the initiatives operate across borders, so the total number of observations is 920 (multi-national and cross-country initiatives are observed more than once).

FIGURE 11: IESI Consolidated Inventory & Mapping
(n=565 multiple responses/total 920 & n=285 multiple responses/total 439)



12 Results for a two-sample t-test with equal variances.

On the right side, instead, **Figure 11** shows the distribution of initiatives according to the country of operation in the mapping sample, illustrating only those initiatives that operate in at least one EU Member State. Excluding the 15 initiatives operating outside of the EU, the consolidated mapping sample contains 285 initiatives. However, considering the presence of several multi-national initiatives or initiatives operating across borders, the total number of observations across the EU is 439.

According to **Figure 11**, the country with the highest number of inventoried initiatives is the United Kingdom (104 or 18 %), followed by Italy (55), Spain (54) and France (52). Germany with 43 and Poland with 40 have also a significant share of initiatives, though lower than other countries if take into account the size of the population and territory. The Netherlands with 42, and Greece and Sweden, both with 37, instead present a high number of initiatives considered their limited geographical extension and population.

The largest share of mapped cases is again in the United Kingdom (68 cases or 24 %) followed by France and Italy (26 cases each or 9 % of the sample), then Spain and Germany with 21 and 20 initiatives mapped respectively. 19 ICT-enabled social innovation initiatives operate in Denmark, the Netherlands and Sweden. Though quite different in size, Poland, Austria and Ireland have all 17 initiatives each. Other relatively small countries, such as Belgium (16), Bulgaria (15), Greece and Finland (both with 14), Portugal and Lithuania (both with 13) follow closely. This shows a quite active landscape and the widespread adoption of ICT-enabled social innovation across Europe.

Although to a certain extent the mapping reflects the inventory, it is worth noticing that the relative lack of a 'culture of evaluation' in some countries might have affected the possibility to gather data to map initiatives. Indeed, while about two thirds of the initiatives in Denmark, UK, and Ireland which were part of the inventory made it to the mapping, only about a third of the initiatives in Czech Republic, Luxembourg or Greece made it from the inventory to the mapping.

The country with the highest number of inventoried initiatives is the United Kingdom, followed by Italy, Spain and France

The lack of a 'culture of evaluation' in some countries affected the possibility to gather data

4.2 Insights from the IESI Knowledge Map

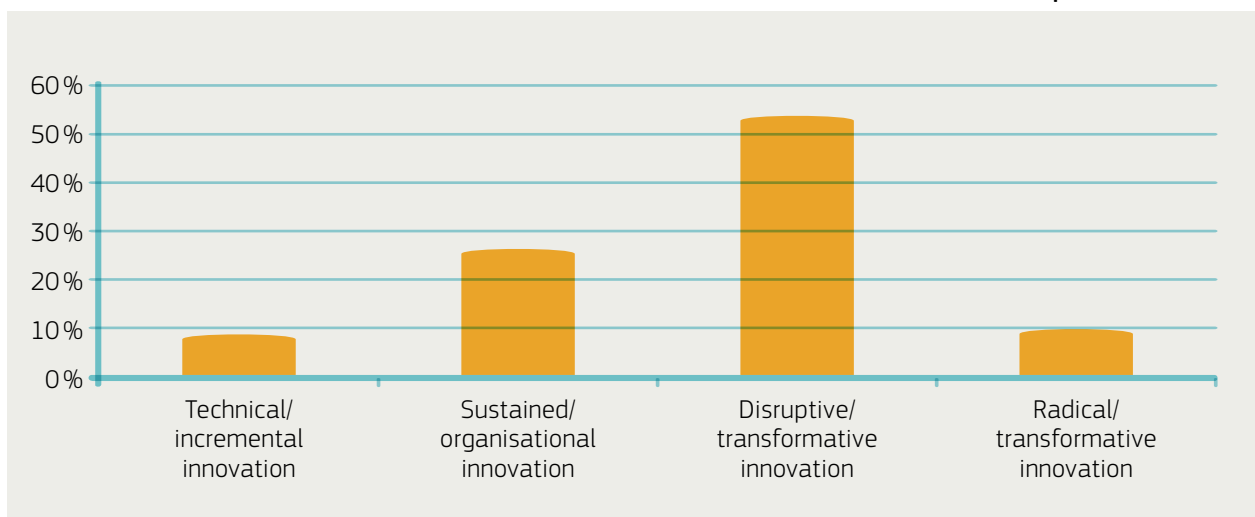
The core focus of the IESI project was to assess initiatives that showed some evidence of policy impact. These were analysed along the dimensions of the IESI conceptual framework developed as part of the IESI research (Misuraca et al., 2015a).

Each of the four dimensions of the IESI conceptual framework has been considered separately, starting with **ICT-enabled innovation potential** which can be classified as technical/incremental; sustained/organisational; disruptive; or radical (see **Chapter 3** for details).

The largest number of initiatives use ICTs to initiate new services or improve existing ones or create new mechanisms for service delivery which would be impossible without ICTs

Figure 12 shows that the largest number of initiatives (164, or 54.7 %) belongs to the category *disruptive*, i.e. they use ICTs to initiate new services or improve existing ones or create new mechanisms for service delivery which would be impossible without ICTs, resulting in product or service innovation. The second most frequent category is *sustained* with 80 initiatives (26.7 %). These initiatives use ICTs to support, facilitate or complement existing efforts and processes to improve organisational mechanisms of services provision. 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. The third category describes 30 initiatives (10 % of the sample) achieving *radical innovation*, whereby ICTs are heavily used outside of the recognised institutional setting and aim to radically modify existing mechanisms of services provision. Finally, the innovation introduced by 26 initiatives (8.3 %) can be categorised as *technical/incremental innovation*; in these initiatives, the use of ICTs aims to facilitate the automation of repetitive tasks and thereby improve efficiency.

FIGURE 12: ICT-enabled innovation potential (n=300)

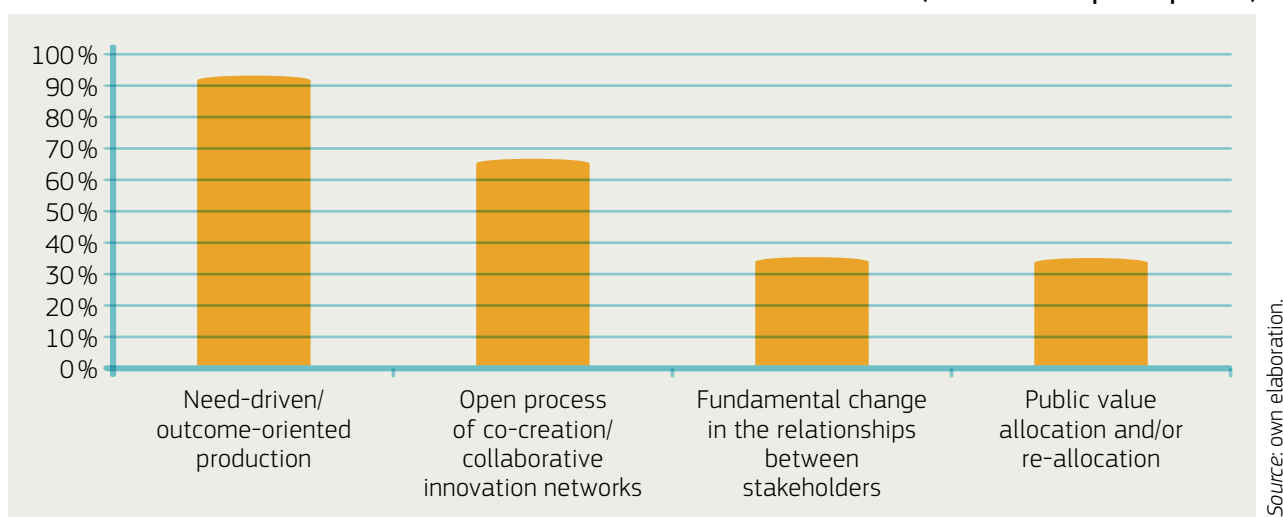


The next dimension of the IESI conceptual framework that has been investigated concerns the **elements of social innovation**, i.e. need-driven/outcome-oriented production; open process of co-creation/collaborative innovation networks; fundamental change in the relationships between stakeholders; public value allocation and/or re-allocation (see **Figure 13**).

The greatest majority, 280 initiatives, or 93 %, are need-driven/outcome-oriented social initiatives; 200 initiatives (67 %) operate through an open process of co-creation or involving collaborative innovation networks where end users and other relevant stakeholders participate in the development,

implementation and adoption of the social innovation. The remaining two types of social innovation initiatives are equally distributed in the sample: 105 cases (about 35 %) are based upon a fundamental change in the relationships between stakeholders: the ways in which stakeholders relate to each other, how they interact with each other, and how they collaborate with each other undergo radically changes. Social innovation tries to act as a game changer, breaking through path dependencies; need-driven services require establishing new collaborative relationships and new institutional arrangements. Likewise, 103 initiatives (34 %) deal with public value allocation and/or re-allocation: these social innovations which pursue public values, also try to ensure that the innovation is appropriate, for instance because it adds to the value of democratic citizenship, or addresses the needs of citizens.

FIGURE 13: Elements of social innovation (n=300 – multiple responses)



The emergence of initiatives that consider democratic citizenship and more in general active citizenship as a foundational value of European society and a pre-requisite for discussing the needed redesign of social policies in Member States is particularly relevant. Indeed, the debate on the European Pillar of Social Rights is bringing to the fore the difficulties associated with balancing the established need to preserve acquired rights with the emerging need of transforming the welfare systems in search of a fairer intergenerational divide.

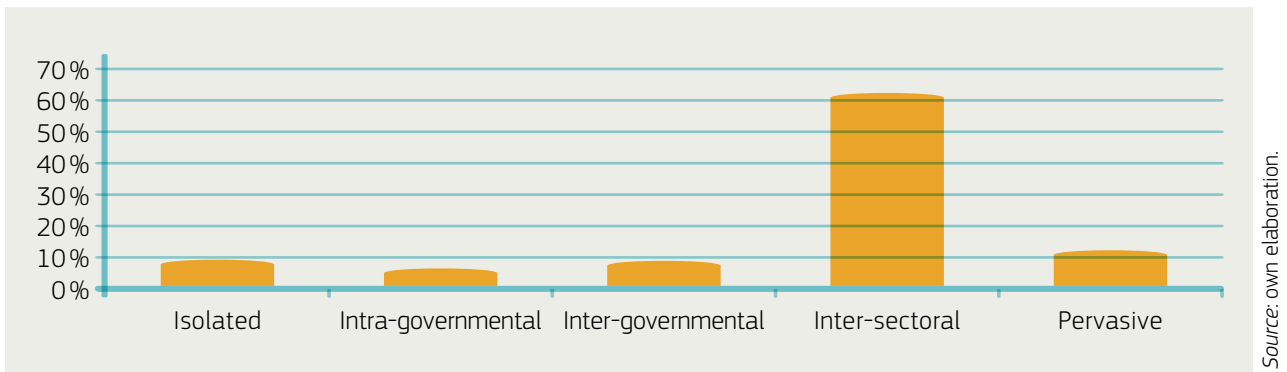
According to the other key component of the IESI conceptual framework, it is also possible to look at the distribution of mapped initiatives according to **the level of governance of service integration**, i.e. isolated; intra-governmental integration; inter-governmental integration; inter-sectoral integration; pervasive.

The emergence of initiatives that consider democratic citizenship as a foundational value of European society is particularly relevant

Most of the mapped initiatives show collaboration between government and service delivery providers in private or not-for-profit sectors

Figure 14 shows how the 300 mapped cases are mostly *inter-sectoral*. Indeed, 62 % of the initiatives are organised as collaboration between government and service delivery providers in private or non-for-profit sectors. The second most frequent category refers to 38 initiatives (13 %) in which the level of governance of service integration is *pervasive*. The governance of service integration in these initiatives goes beyond the traditional boundaries of administrative/operational integration, and is embedded in a new *modus-operandi* where service providers and beneficiaries co-produce services with innovative delivery mechanisms and reallocate resources and roles in order to maximise public value creation. Another 28 cases (9 %) present an *isolated* model of governance. These initiatives, though innovative, do not lead to integration at administrative or strategic level. In a further 27 cases (9 %) the level of governance is *inter-governmental* which means that the level of governance foresees collaboration across multiple levels of government including database integration, coordinated case management, and joint procurement. Finally, 7 % of the cases (20) are organised according to an *intra-governmental* level of governance. This means that the initiative is integrated within a single level of government and may include integrated case management; the service delivery being designed according to the needs of individuals rather than service providers; frontline integration to offer clients a ‘single window’; back-office integration to provide the necessary support structures; and co-location of practitioners, services and back-office functions.

FIGURE 14: Levels of governance of service integration (n=300)



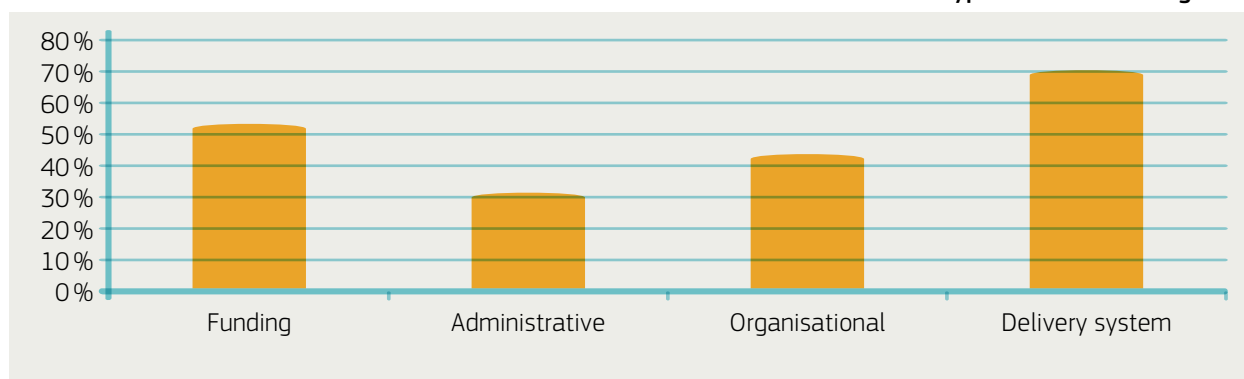
According to the final dimension of the IESI conceptual framework, type of **service integration**, initiatives can be integrated at the funding, administrative, organisational, or service delivery level.

Figure 15 shows how the majority of initiatives (211, representing 70 % of the sample) are integrated at the point of *delivery*, that is, they include centralised information, referral and intake of services; case/care management; multidisciplinary/interdisciplinary teamwork; joint training; around-the-clock coverage. 160 initiatives are integrated at the funding level. These represent 53 % of the sample and

the level of integration consists in the pooling of funds at various levels, and pre-paid capitation at various levels. *Funding* integration is indeed a crucial issue in the context of the emerging topic of social impact investment and the need to integrate innovative financial instruments in the portfolio of the EU cohesion policy for regional and territorial development. In 131 cases (or 44 %), service integration happens at the *organisational* level including 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. Only in 94 cases (31 %) the integration of services happens at the *administrative* level. In these cases integration concerns consolidation/decentralisation of responsibilities/functions; inter-sectoral planning; needs assessment/allocation chain; and joint purchasing or commissioning.

The majority of initiatives are integrated at the point of delivery, i.e. they include centralised information, referral and intake of services

FIGURE 15: Types of service integration



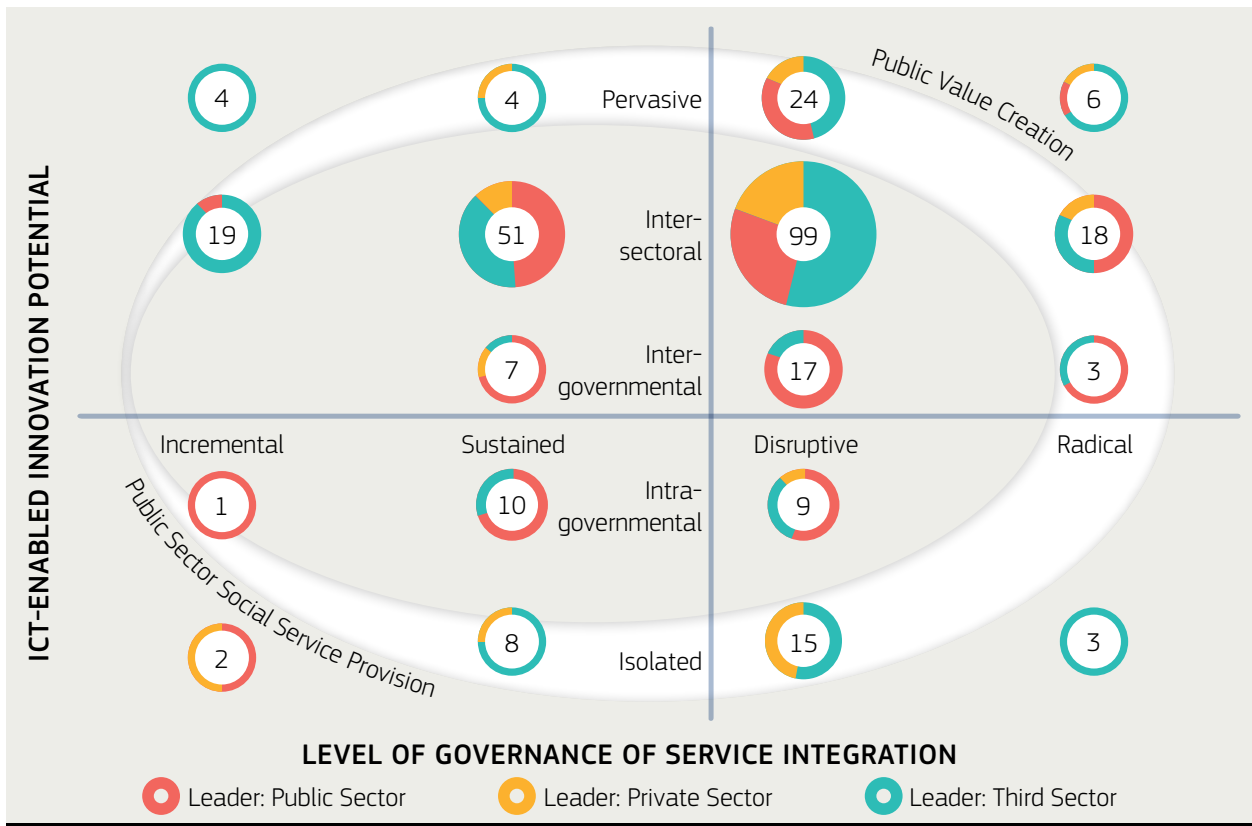
Source: own elaboration.

The analysis then looks at the interrelation between two key dimensions of the conceptual framework, i.e. ICT-enabled innovation potential and the level of governance of service integration of the initiatives. These relationships are represented graphically in the **IESI Knowledge Map (Figure 16)**. In addition, the map highlights who is the main stakeholder leading the initiative among public sector, private sector, and third sector.

Figure 16 suggests a strong association between ICTs and higher levels of integration across sectors leading to the creation of public value. At the intersection between inter-sectoral integration and disruptive innovation, the largest number of initiatives (n=99) occurs, i.e. almost one third (33 %) of the sample belong to this category. This is in line with the findings emerging from the review of the state of the art that point toward a more sophisticated service-orientation, where ICTs play a crucial role, not only in sustaining organisational reengineering and partnerships in the service delivery, but also in supporting disruptive and — to a more limited extent — radical innovation. It is in this context that the game-changing role of ICTs seems to unfold best its potential.

A strong association between ICTs and higher levels of integration across sectors leads to the creation of public value

FIGURE 16: IESI Knowledge Map – 2016 (n=300)



Source: own elaboration.

Moreover, most of the initiatives positioned in the inter-sectoral/disruptive ICT-enabled innovation potential area are led by third sector organisations, albeit followed closely by public institutions and private enterprises. This is in line with the overall picture emerging from the mapping sample which shows third sector organisations as the lead stakeholder, with 146 or 49 % of initiatives, followed by public institutions (108 or 36 %) and, finally, 46 private actors (15 % of the sample).

Inter-sectoral initiatives with disruptive ICT-enabled innovation potential are mostly led by third sector organisations

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

4.2.1 Determinants of longevity of ICT-enabled social innovation initiatives

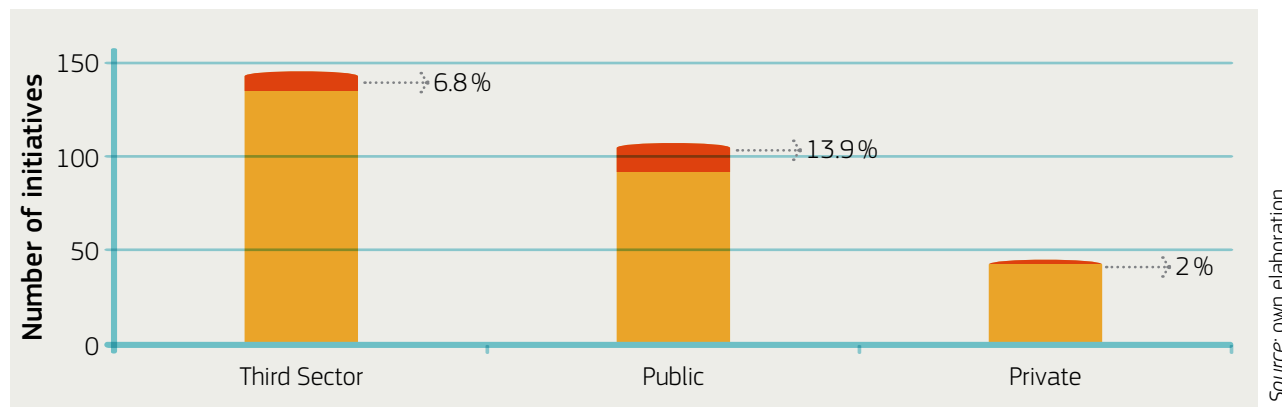
ICT-enabled social innovation initiatives in the mapping sample are on average longer lived (i.e. more likely to be still continuing their operations) than those which were not selected, indicating that they are somewhat more successful at becoming entrenched in the social fabric.

This finding suggested to look at some potential determinants of both the mortality and the longevity of an initiative (i.e. the difference between the year in which information was collected and the year in which the initiative was started for those who are still operating, and the difference between the year in which the operation finished and the year in which it began for those which are no longer operating). A preliminary analysis reveals that ICT-enabled social innovation initiatives in which the main stakeholder is public have arisen a few years before those in which the main stakeholder is from the private or from the third sector (8.5 years for publicly led initiatives as opposed to 8.0 years for the other two types).

Initiatives led by the public sector have arisen a few years before the others

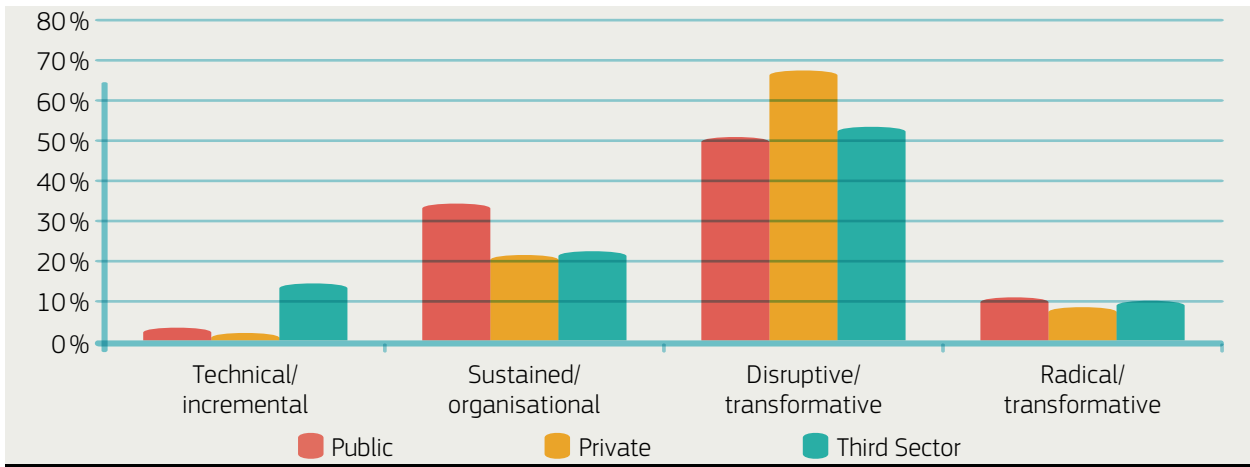
However, as shown in **Figure 17**, mortality (i.e. ceasing of operations) is also higher among initiatives in which the public sector is the main stakeholder (13.8 % no longer operating), both compared with those in which the main stakeholder is private (2 % no longer operating) or the third sector (6.8 % no longer operating).

FIGURE 17: Longevity and mortality of ICT-enabled innovations by sector of the main stakeholder (n=300)



Some tentative explanations for the higher survival of ICT-social innovation initiatives led by a public stakeholder might be offered by referring back to the IESI knowledge map. In fact, the IESI knowledge map illustrates how private and third sector initiatives are generally characterised by more disruptive/radical innovation relative to the public sector (see also **Figure 18**), and this may help explain why they are more successful in terms of survival. However, a more in depth analysis is clearly needed to understand what drives longevity or mortality rates across ICT-enabled social innovation initiatives, and why the private sector appears to be more successful at keeping the operation alive.

FIGURE 18: ICT-enabled innovation potential by sector of the main stakeholder (n=300)



Source: own elaboration.

4.2.2 Longevity of ICT-enabled social innovation initiatives and the DESI index

The digital performance of different European countries is one of the main contextual factors affecting the deployment of ICT-enabled social innovation

The digital performance of different European countries is likely to be one of the main contextual factors affecting the deployment of ICT-enabled social innovation. Misuraca et al. (2015a) mentioned how the lack of reliable, quick and affordable broadband and limited access to the Internet have a negative impact on all the activities based on the use of the Internet, from e-learning to collaboration and matching platforms, to shared case management systems.

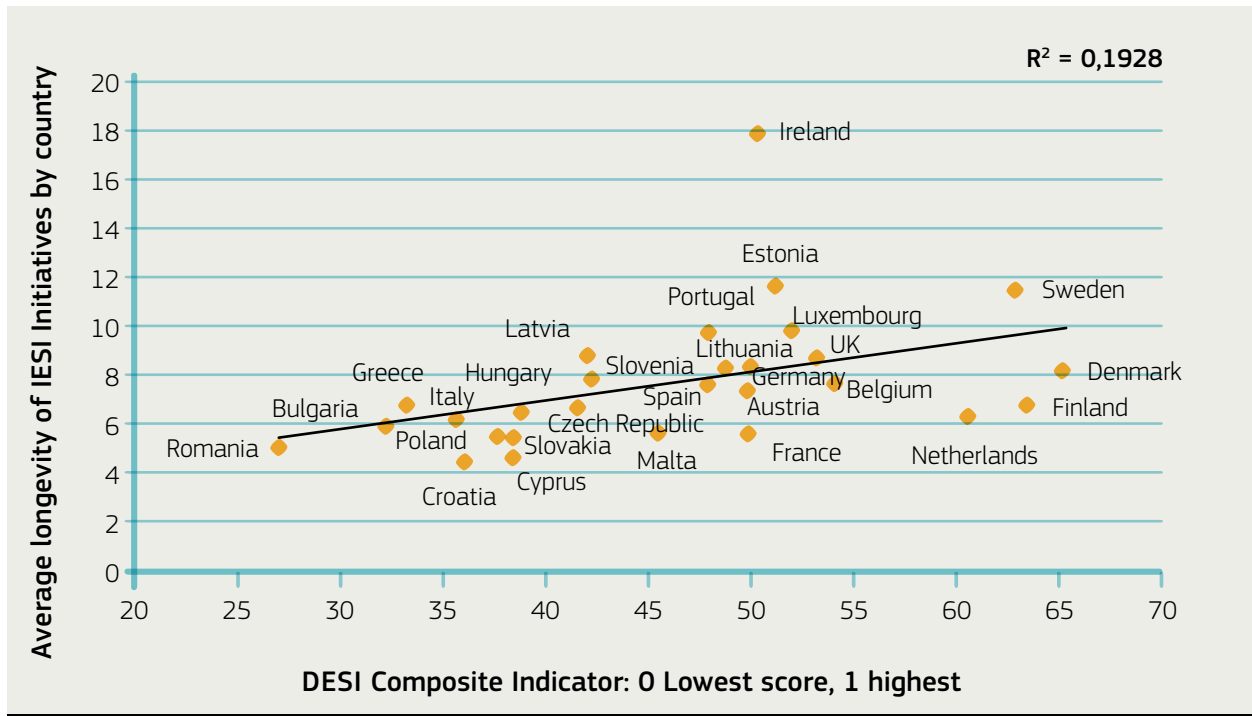
To investigate the association between digital performance of a country and its ICT-enabled social innovation potential, the relationship between the **Digital Economy and Society Index (DESI)** and the longevity of the initiatives by country has been considered.

DESI is a composite index including 5 main dimensions: i). Connectivity, which measures the deployment and quality of broadband infrastructure; ii). Human capital, which measures basic and advanced ICT skills usage and development; iii). Use of the Internet, relating to contents, communication and transactions; iv). Integration of digital technology, in terms of levels of business digitisation and eCommerce; and; v). Digital public services, measured through the availability and take-up of eGovernment and eHealth services¹³.

The scatter chart in **Figure 19** shows indeed a positive association, indicating that a higher overall digital performance at the country level may be an important factor in determining whether an ICT-enabled social innovation initiative is successful and sustainable in the long run. Clearly, it does not seem possible to draw statistically meaningful inferences, given the extremely reduced sample size and the potential lack of representativeness of the data; however, **Figure 19** provides an interesting indication of future directions to explore.

13 <https://ec.europa.eu/digital-single-market/en/desi>

FIGURE 19: Digital performance and average longevity of ICT-enabled innovation initiatives by country



Source: own elaboration.

For instance, it would be worth investigating why the longevity of initiatives in countries such as Ireland is substantially higher than what predicted by Ireland's DESI score; by longevity in countries such as the Netherlands, Finland and Denmark is significantly lower than what would be predicted by their DESI index, as shown in **Figure 19**.

4.2.3 Relevance to the Implementation of the SIP

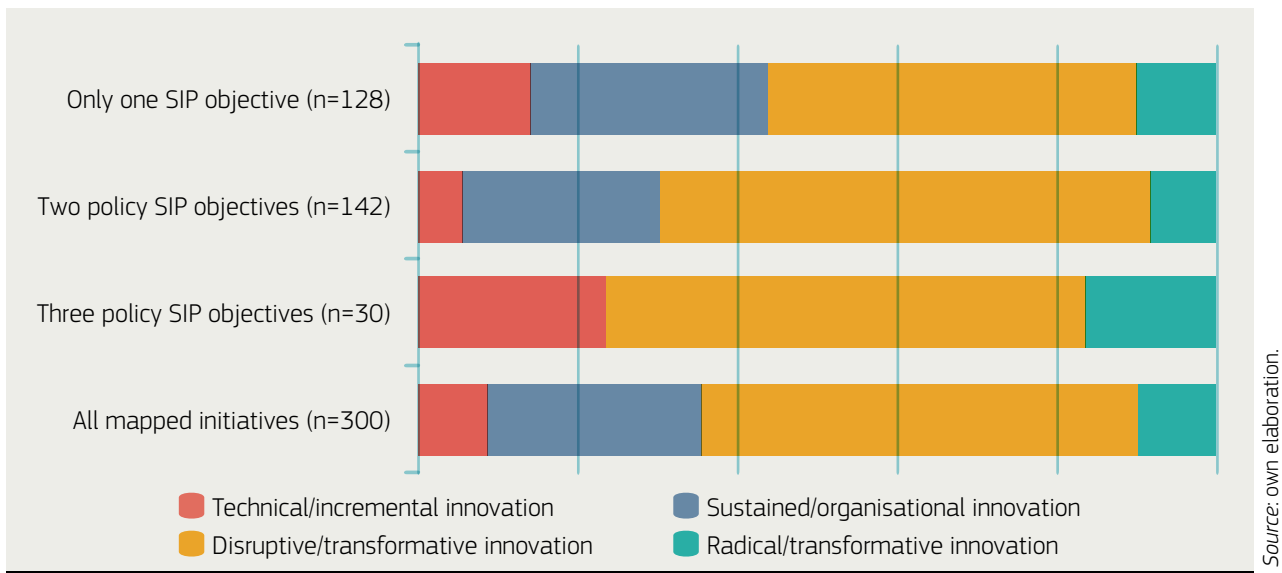
In relation to the SIP objectives, approximately 218 — or 72.7 % of the initiatives analysed in the mapping sample are related to the implementation of active inclusion strategies, such as investing in education, childcare, healthcare, training, job-search assistance and rehabilitation; 159 — or 53 % refer to investing in individuals throughout their lives, and especially investing in human capital as early as possible to prevent hardship from arising later. Finally, 125 — or 41.7 % of the mapped initiatives — respond to the SIP objective of modernising social protection systems, by spending more effectively and efficiently to ensure adequate and sustainable social protection. Since the questionnaire allows multiple responses, more than half of the initiatives are related to two (47.3 %) or three (10 %) recommendations in the SIP, hence creating higher public value. The relationship between an initiative's ICT-enabled innovation potential and its relevance to one of more SIP objectives was then investigated.

Higher digital performances at the country level positively affect whether an initiative is successful and sustainable in the long run

More radically innovative initiatives tend to pursue a higher number of SIP objectives

Results summarised in **Figure 20** show that more radically innovative initiatives tend to pursue a higher number of SIP objectives; while 17 % of the initiatives which are relevant to three SIP objectives have a radical/transformational innovation potential, the same is true only for 10 % of the initiatives relevant to one SIP objective. Similarly, the proportion of initiatives characterised by disruptive innovation is higher among those which pursue more SIP objectives. Clearly, it is not possible to draw causal inferences by these simple associations, especially because of the limited sample sizes, nevertheless the idea that more radical ICT-enabled social innovations attain a higher coverage of societal needs might be considered as a hypothesis worth of further verification.

FIGURE 20: Relevance to the Social Investment Package and ICT enabled innovation potential (n=300 – multiple responses)



4.3 Zooming in on the IESI Knowledge Map

This section presents the findings of three specific thematic analyses conducted on a set of selected topics: 1) *civic engagement for social change*; 2) *employability and employment*, especially looking at disadvantaged groups; and 3) *active and healthy ageing and long-term care*. These analyses are relevant not only for the implementation of the SIP, but also for the future development of the European Pillar of Social Rights.

For each broad topic, the analysis clarifies its relationship with the four key dimensions of the IESI conceptual framework, to try understand the extent to which ICTs act as enablers or game changers across the different topics.

4.3.1 Civic engagement for social change

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

Civic engagement is an area where social innovation has been centre stage for some time

The consolidated Mapping database includes 41 ICT-enabled social innovation initiatives which belong to the civic engagement for social change area. There are grass-root movements and also initiatives mainly based on or oriented towards volunteerism. Other initiatives empower citizen participation or generally enhance civic engagement through crowdsourcing/funding activities.

BOX 1: Examples of ICT-enabled social innovation initiatives in civic engagement for social change

ATENISTAS	i-VOTING
<p>The main aim of Atenistas is to provide a web space for the citizens of Athens to identify areas of their city that could be improved through collective actions. The platform provides four different ‘creative groups’:</p> <ul style="list-style-type: none">• Culture: this group aims to organise cultural events;• Act: this group carries artistic interventions that transform problematic areas into green public spaces useful to the locals;• Plus: implements social initiatives which target people in need and aim to establish communication with relevant authorities for their solution;• Polis: promotes Athens’ history through guided tours, <p>The website offers social networking technologies that enable the creation of social networks and focus on building communities of interest that help citizens to communicate, organise, and share with other users.</p>	<p>Since 2012, electronic voting services in Estonia have been provided by the Electronic Voting Committee responsible for conducting Internet voting. The National Electoral Committee supervises all the activities.</p> <p>Electronic voting services are available for local, National and European Parliament elections. I-Voting was first piloted in local elections in 2005 where 9,000 voters cast their votes.</p> <p>The service is straightforward: Estonian voters are allowed to vote electronically on either their computers or their mobile phones. The i-voting services are linked to voters’ digital IDs. In order to cast their votes, the voters need to download the application software, link it to their electronic identities, and then vote by selecting from the list of candidates.</p> <p>Several safeguards are in place to ensure the identification of the voter and that each voter votes only once. The source code of the software used in the i-Voting system is publicly available.</p>

BOX 1 (CONT.): Examples of ICT-enabled social innovation initiatives in civic engagement for social change

VOLUNTEERS' AGENCY

ICT platform designed as a match-making tool where non-profit organisation can post their needs in the form of 'missions' and recruit volunteers accordingly. These can be classified in terms of needed tasks (office work, events, IT), areas of intervention (children and youth, refugees, health) and time commitment. Volunteers' Agency encourages everyone in **Sweden** to become a volunteer, making them part of the community. It allows volunteers to search across the various 'live missions' posted and provides training and management for volunteers and volunteering tasks.

TAKE PART

Open crowdsourcing platform, developed in **Denmark**. It allows its users to 'create a societal challenge' and invite others to help find solutions. If a user wants to put solutions into practice, other platform users are invited to an event where the new solution is implemented. Users can 'help' each other and 'build' on each other's solutions. The aim is to make users play a creative role in co-creating solutions to other users' challenges through new forms of relationships. Take Part aims to create opportunities for everyone to get involved in their community's life.

CITIZEN REINFORCING OPEN SMART SYNERGIES (CROSS)

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

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

The initiative is run by a consortium of 10 partners, including municipalities and local government agencies, R&D performers and service providers. It is coordinated by Poste Italiane SPA and co-funded by the European Commission. The pilot initiatives have been conducted in 4 European cities: Manchester, Rome, Seville and Turin in areas of social services (care for the elderly, school dropout migrants, and timebank). The platform carries out user identity management, transaction management, reporting of relevant non-monetary indicators, service exposure and discovery, semantic framework, and community management.

This initiative is based on disruptive/transformational ICT innovation, enabling changes at inter-organisational level, by providing a new way of exchanging assets and gaining rewards.

Civic engagement for social change and the IESI conceptual framework:

- ▶ **Typologies of ICT-enabled innovation potential** – Most cases belong to the group of disruptive innovation; 5 cases have radical innovation potential.
- ▶ **Elements of social innovation** – 76 % of the civic engagement initiatives are need-driven/outcome-oriented. Almost 70 % present open co-creation/collaborative innovation networks. Around 54 % engage primarily in allocation and/or reallocation of public value in order to achieve improved effectiveness and efficiency, and 46 % have prompted a fundamental change in the relationships between stakeholders.
- ▶ **Levels of governance of service integration** – Most cases show inter-sectoral or pervasive levels of governance of service integration (both modes make up almost 70 % of the 41 cases).
- ▶ **Types of services integration** – Integration of services happens at the delivery end in 66 % of the cases, while integration in the funding, administration and organisational level happens in just over 30 % of civic engagement initiatives.

Civic engagement for social change and support to the SIP objectives:

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

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

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

BOX 2: Other examples of ICT-enabled social innovation initiatives in civic engagement for social change

LET'S DO IT, ROMANIA

This is the biggest social movement in **Romania** and proves that large scale, positive change is possible. The initiative started in a context of negativity and pessimism about the country's trash problem. However, it served as an inspiration for many other initiatives and NGO projects in Romania and the team has been invited several times to share their story and inspire others. The 'Let's Do It, Romania!' (LDIR) movement has the support of all the main actors in the country:

1. the population, who participate in the clean-up activities and in educational activities;
2. the public sector (central and local authorities), which offers its support through its territorial structure (the initiative signed protocols with 5 Ministries: Environment, Education, Tourism, Transport, Internal Affairs);
3. the private sector – multinational and national companies that support the projects financially and with their employees who take part in volunteering activities;
4. the NGO sector, which helps the organisation of projects locally and promotes the initiative in its communities;
5. The media (local and national TV, radio, press, and web) which promoted LDIR actions from the beginning and helped transform the initiative into a national movement.

The educational component is very important for LDIR which constantly organises eco-trainings for schools and companies and launches educational projects (such as 'Let's Do It, Danube!')

The initiative is need-driven/outcome-oriented, and results are intended to meet the needs of society or specific groups in society sustainably. The initiative has managed to reallocate public value to activities where the country was performing very badly in international rankings for waste management and recycling.

The initiative was developed using available technology such as social media and mobile applications to provide new services and create new mechanisms for service delivery (Disruptive/transformative). These are integrated beyond the traditional boundaries of administrative/operational integration (pervasive). Service providers and beneficiaries collaborate in an innovative manner (Let's Do It, App!) in order to maximise public value creation.

THUNDERCLAP

This initiative helps people and organisations to broadcast their actions or causes to the largest possible audience synchronising actions on social media by crowdsourcing social reach **at international level**.

The platform launches a campaign by coordinating social media promotions amongst supporters, which in turn generates social impact with a multiplier effect. The impact is reflected in the 'social reach' of each cause/idea. To date, over 7 million people have donated their social reach to ideas and causes, reaching in excess of 12 billion visualisations in 238 countries and territories.

Thunderclap is following some important causes, from mental health, cancer, climate change, missing children, human rights, laws, and volunteer actions.

For example, during the crisis in Syria, the United Nation's Relief and Works Agency (UNRWA) used Thunderclap to push the 'Let Us Through' campaign and force the hand of the Syrian forces through popular demand. Over 130 international organisations and celebrities joined the campaign and millions of people have been reached and continue to be reached by the simple #LetUsThrough and a single photo which captures the gravity of the situation in Syria. The hashtag went viral, reaching 38.5 million social media impressions (the target was set at 23 million). It received great world-wide press coverage featuring in the Times, the BBC, Al Jazeera, NBC and the New York Times. With the support of this campaign, the UNRWA was allowed a corridor into the crisis zone and over 10,000 food parcels were delivered.

Thunderclap is a need-driven initiative – positive actions and causes can get lost in the world of social media without coordination. It adopts an open process of co-creation/collaborative innovation networks. The technology used by Thunderclap is disruptive. It allows people to create and advertise causes and invites people to donate. It also allows messages to be sent through multiple social media platforms at the same time, enabling a 'long tail effect'.

4.3.2 Employment and employability

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

Employment and employability are usually referred to individualised services in support of unemployed or economically inactive people

The consolidated IESI Mapping database includes 49 initiatives whose main focus relates to employment and employability (25 and 24 initiatives respectively).

Employment and employability and the IESI conceptual framework:

- ▶ **Typologies of ICT-enabled innovation potentia** – Innovation potential across these initiatives is mainly disruptive (43 %) or sustained (37 %). Technical-incremental innovation occurs in 14 % of the cases whilst radical innovation only occurs in three cases.
- ▶ **Elements of social innovation** – All initiatives are need-driven/outcome-oriented. For 63 % of them, the innovation stems from an open process of collaboration and/or collaborative innovation networks. 26 % of the initiatives fostered a fundamental change in the relationship between stakeholders and allocation and/or reallocation of public value respectively
- ▶ **Levels of governance of service integration** – Mostly inter-sectoral integration, i.e. 65 % of the cases. Other levels of governance of service integration score around 10 % (except for pervasive integration which occurs in only 2 cases, or 4 %).
- ▶ **Types of services integration** – Most of the employability and employment services are integrated at the delivery end (69 %) whilst organisational and funding integration is evenly distributed (around 50 %). Administrative integration is carried out only in 14 of the 49 cases.

Employment and employability and support to the SIP objectives:

Practically all employability initiatives respond to the SIP objective of active inclusion and most of the employment initiatives respond to the SIP objective of providing social protection. The sub-groups are split equally with regard to the objective of investing in people. Their main policy objectives in relation to the SIP consist of improving access and take up and improving the quality of available services. These initiatives are largely concerned with unemployed people; they also facilitate an inclusive labour market and self-employment via labour market intermediaries.

Practically all employability initiatives aim at active inclusion and most of the employment initiatives aim at providing social protection

BOX 3: Examples of ICT-enabled social innovation initiatives in employment and employability

INNICYA

The Innicya initiative is managed by the Guadalinfo Network of Telecentre in Andalusia, **Spain**. It promotes the development of the knowledge and information society, especially in rural areas.

It offers professional services to improve personal skills, and nurture business opportunities. This social innovation strategy allows citizens with an idea to gain access to the community of innovators and receive guidance on how to promote/accelerate the commercialisation of their ideas.

This initiative supports design-driven projects. It aims to demonstrate that applying design thinking, co-creation methods and tools can improve performance and efficiency in user-driven innovations and innovation policies in the public sector. Innicya is therefore the Guadalinfo innovation ecosystem where the network of Internet access points, the platform software and applications are used for participatory and co-creation approaches to social innovation initiatives, supporting promoters, mentors and experts. The network introduces and capitalises on design services for the creation and nurturing of innovative ideas from the ideation phase to the project and implementation phase. The long-term objective is to promote employability, digital literacy, local innovation culture, community awareness, citizen participation, entrepreneurship and business digitisation.

DUTCH PUBLIC EMPLOYMENT SERVICES

This initiative is led by the UWV (Employee Insurance Agency), an independent body established by the Ministry of Social Affairs and Employment to implement the employee insurance scheme, and address unemployment and related benefits. The reform of the Public Employment Services (PES) in **Netherlands** aims to modernise service provision so that 90 % of the services will be delivered using digital means and interaction.

In order to achieve this ambitious target, three stages of development for modernising the PES have been implemented:

- Stage 1 (2011): basic services such as registration, booking of meetings, coaching, job matching are provided via online tools.
- Stage 2 (2012): addition of online profiling, targeting services for specific client groups, more transactions online e.g. control, reports, e-coaching and e-learning.
- Stage 3 (2013): automated digital interaction on the main platform developed for PES.

The ICT platform not only enables services for the users, but also provides improvements in the way PES employees' work is planned, by enabling data sharing at national, regional, sub-regional ('office') and individual employee level.

JOB SHUTTLE

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

ployed (to look for jobs) and employers. The initiative is also active on social media and has a YouTube specific channel.

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

BOX 3 (CONT.): Examples of ICT-enabled social innovation initiatives in employment and employability

SMART

This initiative offers freelancers, who can be categorised as precarious workers, job security by sharing economic risks and creating economy of scale through mutualisation of means and production **in several EU countries**.

It manages the administrative, bookkeeping and financial aspects of projects, takes care of debt collection, gives its members advice and guidance, and its mutual guarantee fund can advance cash flow, the pre-financing of projects and the purchase of professional material via leasing mechanisms. Smart also has partnerships that provide services such as professional training, creative hubs and co-working spaces – e.g. LaVallée in Brussels, Centre de Création des Tanneurs in Liège, La Grappe in Lille – to the beneficiaries.

ICTs are an essential element of the Smart model, as they constitute the core of the service: they provide members with contract and project management tools online.

Offline encounters and guidance from trained advisors and online tools that simplify complex administrative procedures are complementary aspects of the service offer. The online accounts are available 24/7 so that members can manage their contracts and projects independently, thereby gaining experience and becoming more productive and professional. Moreover, Smart aims for a paperless future, and continues to improve its tools by including the e-signature, for example. New applications are also being developed: a platform called 'Push', gives members the opportunity to launch a crowdfunding campaign, 'Agora' is an application in which the Smart community – the autonomous workers, clients and contractors – can connect. ICTs also are used for communication and project management purposes in a smart way, facilitating efficient communication and keeping travel expenses as for all staff and beneficiaries low as possible.

In addition, ICT-enabled social innovation initiatives in employability and employment facilitate social inclusion through education and training and employment. The target beneficiaries of these latter initiatives are mainly the unemployed (long-term and short-term) and young people, including teenagers and those aged between 20 and 30. A small, but significant, percentage of these initiatives also cater for small and micro businesses and social enterprises.

4.3.3 Active and healthy ageing and long-term care

The active and healthy ageing (AHA) policy area comprises three fields: 1) independent living in the home environment; 2) integrated health and social care; and 3) prevention, health promotion and rehabilitation.

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

The active and healthy ageing policy area comprises independent living, integrated health and social care, and prevention, health promotion and rehabilitation

In this group, there is also a great variety of initiatives which use social innovation in areas such as information and support to technology-based solutions.

Active and healthy ageing and long-term care and the IESI conceptual framework

- ▶ **Typologies of ICT-enabled innovation potential** – ICT-enabled innovation potential is disruptive for most of the cases (58 %), while can be defined as sustained/organisational for 22 %. A relatively high percentage of cases (17 %) in this group was classified as having radical innovation potential. Thus, 75 % of the initiatives can be positioned in the transformative social innovation half of the IESI conceptual framework.
- ▶ **Elements of social innovation** – All cases of AHA are need-driven/outcome-oriented, and 65 % of them foster an open process of co-creation/collaborative innovation network. A fundamental change in the relationship between stakeholders was brokered in 38 % of the initiatives while 30 % managed a public value allocation and/or reallocation.
- ▶ **Levels of governance of service integration** – 63 % of social innovation initiatives in AHA present integration at the inter-sectoral level. 13 % are pervasive whilst other levels of integration score evenly below 10 %.
- ▶ **Types of services integration** – Integration of services occurred at the delivery system level in 80 % of the cases. The other three types of service integration (funding, administrative and organisational) were present in around 60 % of the initiatives belonging to this sub-sample.

Active and healthy ageing and long-term care and support to the SIP objectives:

To a large extent, the AHA ICT-enabled social innovation initiatives respond to the SIP objective of social protection and investing in people (72 % and 68 % respectively). 35 % Respond to the objective of active inclusion. The variability between the three sub-groups is negligible. Their main policy objective is to improve quality of service provision. The main beneficiaries of AHA initiatives are older people but in many cases also people with physical and mental disabilities, and informal and formal carers. The intermediaries delivering the services are mainly formal and informal carers and social workers but in some cases, the beneficiaries may use the ICTs autonomously.

BOX 4: Examples of ICT-enabled social innovation initiatives in active and healthy ageing

SEEING ASSISTANTS

Seeing Assistant aims to help blind and visually-impaired people in **Poland** to live more independently, increasing their autonomy and providing them with the opportunities and conditions for enhanced participation and inclusion in society.

The Seeing Assistant Project was carried out from 2011-2013. It costed 846 thousand zł (about €190,000) in total, 343 thousand zł of which (circa €77,500) were granted by the Polish Agency for Enterprise Development, under the EU Innovative Economy Operational Programme.

With the help of beneficiaries and in collaboration with the Polish Association of the Blind and the Institute for Regional Development Foundation, Transition Technologies s.a. developed a set of mobile applications which help blind and visually-impaired people perform their daily activities at home and outside, more easily and accurately. The applications respond to voice commands, provide advanced location and navigation services, and enable colour and light source recognition. They also have an electronic magnifying glass and a barcode scanner for automatic recognition of products/object.

The most recent development is the Seeing Assistant 'See Sea' application that helps blind people navigate through seas and other water-ways and reservoirs and goes beyond typical daily activities improving their quality of life.

INTEGRATED PSYCHO-SOCIAL REHABILITATION SERVICES

The City of Aarhus, in **Denmark**, recognised that people recovering from mental health problems need to be connected with the world around them. Evidence showed that people recover better through this connection. The initiative is based on the recovery approach. The goal is for the individual with psychiatric difficulties to have a fulfilling life and to be in control of as many aspects of his or her life as possible. By linking online portals at different levels of government, individual action plans are being made available on the local e-government portal. In addition, the initiative enabled mobile device apps to help in areas such as monitoring treatment and sharing information with other service users who form peer support groups.

The City of Aarhus made agreements with several organisations running similar projects. It created a network of contacts for the exchange of best practices and results. Members of the network could cooperate in finding solutions and methodologies to promote social inclusion and to raise awareness in citizens and public stakeholders on the issue of psycho-social diseases.

The city of Aarhus works closely with London (on the development of a screening tool, measuring the level of recovery orientation in recovery organisation), Boston University (on recovery orientation); and the Netherlands (on care methodologies). It also works with other local organisations such as 'GalloJob' that provides jobs for people undergoing psychiatric treatment, and 'Tossekassen' that produces TV programmes about mental illnesses. Finally, the Mental Health Day/Sindets Dag event is organised in collaboration between the City of Aarhus and the care organisations.

BOX 4 (CONT.): Examples of ICT-enabled social innovation initiatives in active and healthy ageing

INTEGRATED CARE GESUNDES KINZIGTAL

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

The service is provided in partnership with the local network of General Practitioners (GP), a care management company specialised in medical sociology and health economics (OptiMedis AG) and two statutory health insurers: AOK Baden-Württemberg and SVLFG. People insured with these health insurers are entitled to the service (30 % of those who are insured have subscribed so far).

The service addresses all pathologies, but there is a strong focus on preventative care, life style changes and disease prevention.

IVGK revolves around 3 pillars:

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

HOME AUTOMATION AND ADVANCED TELECARE

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

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

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

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

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

BOX 4: Examples of ICT-enabled social innovation initiatives in active and healthy ageing

NEUROFORMA


The objective of Neuroforma in **Poland**, is to help patients recovering from a neurological disease to improve their motor and cognitive functions after hospitalisation as part of their rehabilitation process. It also aims to provide therapists with a tool to make their work more effective and to motivate patients to undertake regular exercise.

Beneficiaries can run the Neuroforma programme on their home computer with a webcam. The programme suggests exercises and records and assesses users' movements. It also provides incentives, guidance and support to people with impaired motor-skills to boost their physical and mental fitness. Users receive immediate feedback on their activities and also a summary of progress after the exercise. The automation and recording of users' performance relieves the pressure on formal and informal carers. The service is particularly recommended as preventative support for people at risk, independent living and rehabilitation.

Neuroforma collaborates with scientists by using the results of research and trials with patients from clinical groups.

This allows new elements of the Neuroforma programme to be developed to improve patients' satisfaction.

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

A large, black, stylized number '5' is positioned on the left. To its right, a pink rectangular bar sits atop a blue rectangular base. The blue base extends further to the left, under the '5', and continues down to form a background for the text below.

5

MODERNISING SOCIAL
PROTECTION SYSTEMS
THROUGH ICT-ENABLED
SOCIAL INNOVATION

5. MODERNISING SOCIAL PROTECTION SYSTEMS THROUGH ICT-ENABLED SOCIAL INNOVATION

This chapter presents the results of the analysis of case studies of ICT-enabled social innovation initiatives conducted in 14 Member States across the EU. It explores the relationships between different typologies of ICT-enabled social innovation initiatives promoting social investment and the welfare system in which they are embedded. It also assesses the potential impact of ICT-enabled social innovation on the modernisation of social protection systems in EU Member States.

Thanks to the cross analysis of the case studies, this chapter seeks to identify the main drivers and barriers for the modernisation of social protection systems, and the specific impacts generated by ICT-enabled social innovation initiatives promoting social investment. In addition, this chapter indicates the potential implications for policies at local, national, and EU level.

5.1 Results of case studies at a glance

The selection of case studies started with identifying 50 promising initiatives out of the 300 in the mapping sample, so as to have as much representativeness as possible in terms of geographical coverage, type of the welfare model, thematic areas (derived from a revisited typology of PSSGI)¹⁴, typologies of stakeholders (public, private and third sector), and maturity or sustainability of the initiative. Then a two-step approach based both on a multi-criteria analysis and the dimensions of the IESI conceptual framework has been adopted, in order to define a set of 14 successful or promising cases for further study (see **Table 2**).

14 After a revision of the typology of PSSGI (see **Chapter 1**) three main thematic areas have been identified for case study analysis: a) social security and employment; b) social inclusion and participation; and c) active and healthy ageing and long-term care. For more details see Misuraca et al. 2017b.

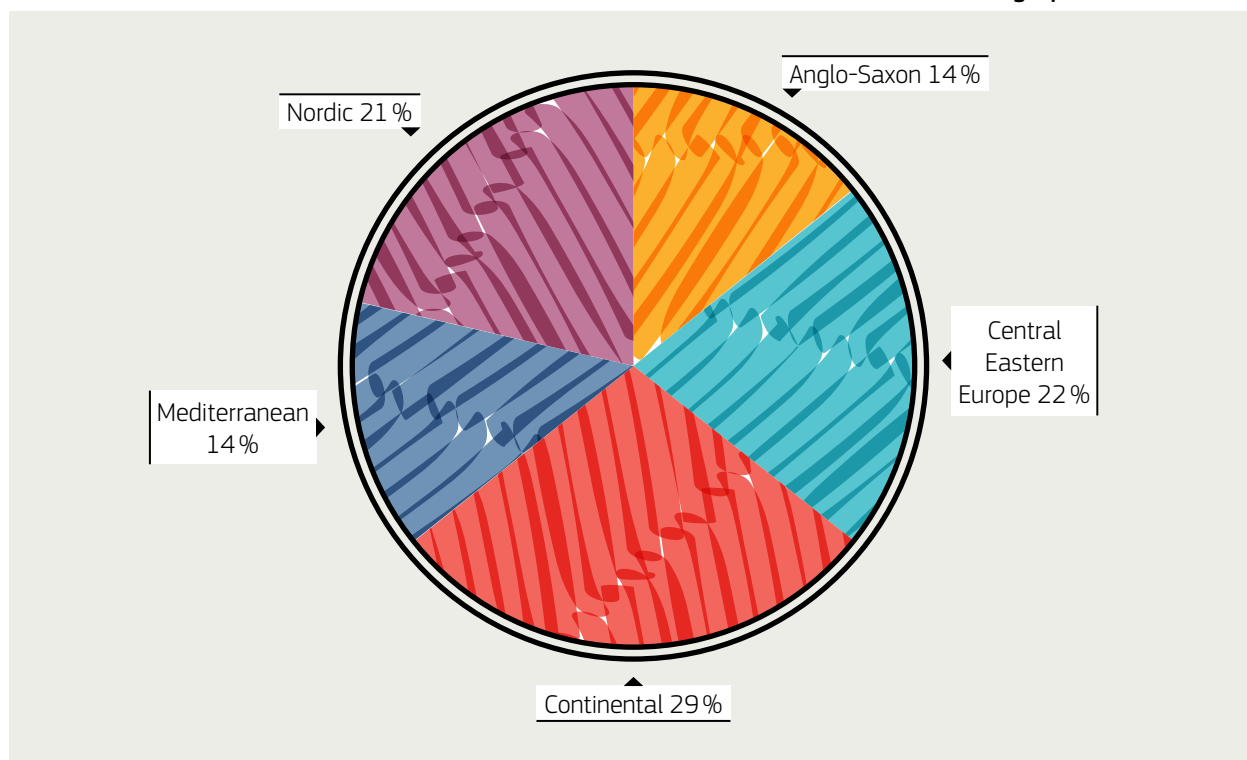
TABLE 2: Selected Case Studies

Initiative	Acronym	Country	Thematic area	Welfare model
A Book for a Roof	ABFAR	Croatia	Social Inclusion and Participation	Central Eastern Europe
Assisting Carers using Telematics Interventions to meet Older people's Needs	ACTION	Sweden	Active and healthy ageing and long-term care	Nordic
Badalona Assistance Services	BSA	Spain	Active and healthy ageing and long-term care	Mediterranean
Crossroads Bank for Social Security	CBSS	Belgium	Social security and employment	Continental
Online Point of Single Contact	EESTI	Estonia	Social Inclusion and Participation	Central Eastern European
South Karelia District of Social and Health Services	EKSOTE	Finland	Active and healthy ageing and long-term care	Nordic
Digitalisation of social security services	INPS	Italy	Social security and employment	Mediterranean
Little bird	LITTBIRD	Germany	Social Inclusion and Participation	Continental
Pathway Accommodation & Support System	PASS	Ireland	Social Inclusion and Participation	Anglo-Saxon
Reform of employee insurance implementation institution	PES	Netherlands	Social security and employment	Continental
Pôle Emploi – 100 % Web	POLEMP	France	Social security and employment	Continental
Strategy for Digital Welfare	SDW	Denmark	Social security and employment	Nordic
National Telecare Development Programme	TDP	United Kingdom	Active and healthy ageing and long-term care	Anglo-Saxon
Express Train to Employment	EXPTRAIN	Poland	Social security and employment	Central Eastern Europe

Source: own elaboration.

As shown in **Figure 21**, which illustrates the geographical distribution of the selected initiatives, the five welfare systems are covered fairly equally. Each case represents a different country and half of EU Member States has therefore been covered in the analysis.

FIGURE 21: Geographical distribution



Some of the selected initiatives have had a significant impact on the modernisation of processes and procedures for the management and delivery of services at national level. These have a specific focus on the simplification of citizen access to social services and the sustainability of social protection systems, for example: the digitalisation of social security services in Italy (INPS), Estonia's single point of contact (EESTI), the Crossroads bank for Social Security (CBSS) in Belgium and the strategy for digital welfare (SDW) in Denmark. Some of the selected initiatives focus solely on employment and employability, for example: the reform of employee insurance implementation institution (PES) in the Netherlands, Pôle Emploi – 100 % Web (POLEMP) in France, and Express Train to Employment (EXPTRAIN) in Poland. These initiatives provide e-services for jobseekers and employers at national level. Other cases focus mainly on education and training, but also seek to improve social inclusion and the employability of beneficiaries, for example: A Book for a Roof in Croatia (ABFAR).

Some initiatives have had a significant impact on the modernisation of processes and procedures for the management and delivery of services at national level

All the selected initiatives present a high degree of transferability. In fact, the service models implemented in some of the initiatives have already been transferred to other policy areas and/or other geographical areas, or are based on experiences in other contexts, for example: Little Bird (LITTBIRD) in Germany and the already mentioned case of EXPTRAIN.

Moreover, the initiatives analysed represent all the PSSGI areas. As shown in **Table 3**, because of the nature of the services offered and their level of integration, most of the initiatives involve more than one type of social service.

TABLE 3: Social services addressed

Initiative's acronym	Country	N. of PSSGI involved	Primary focus area	Additional focus areas
ABFAR	Croatia	5	Education and training	Social Inclusion / participation Civic engagement Social Assistance Employment
ACTION	Sweden	5	Active Healthy Ageing	Independent living Integrated health – and social care Social Assistance Education and training
BSA	Spain	3	Prevention, health promotion and rehabilitation	Integrated health – and social care Social Care
CBSS	Belgium	4	Social Care	Social Assistance Employment Civic engagement
EESTI	Estonia	9	Civic Engagement	Social Care; Social assistance Childcare Education and training; Social Housing Employment; Social inclusion / participation Independent living
EKSOTE	Finland	2	Integrated health – and social care	Social Care
INPS	Italy	4	Social Assistance	Social Care Social Inclusion / participation Civic engagement
LITTBIR	Germany	1	Childcare	None
PASS	Ireland	2	Social Housing	Social Assistance
PES	Netherlands	3	Employment	Employability Social Assistance

Initiative's acronym	Country	N. of PSSGI involved	Primary focus area	Additional focus areas
POLEMP	France	2	Employability	Employability Employment
SDW	Denmark	5	Social Assistance	Social Care Education and training Integrated health – and social care Prevention, health promotion and rehabilitation
TDP	United Kingdom	3	Independent living	Integrated health – and social care Social Care
EXPTRAIN	Poland	2	Employability	Employment

Source: own elaboration.

The selected cases provide good coverage of the different types of actors generally involved in ICT-enabled social innovation initiatives from the public, private and third sector. The latter especially play a prominent role in some of the selected cases, both as initiative promoters and as active partners, for example: the Irish case Pathway Accomodation & Support System (PASS) and the already mentioned ABFAR.

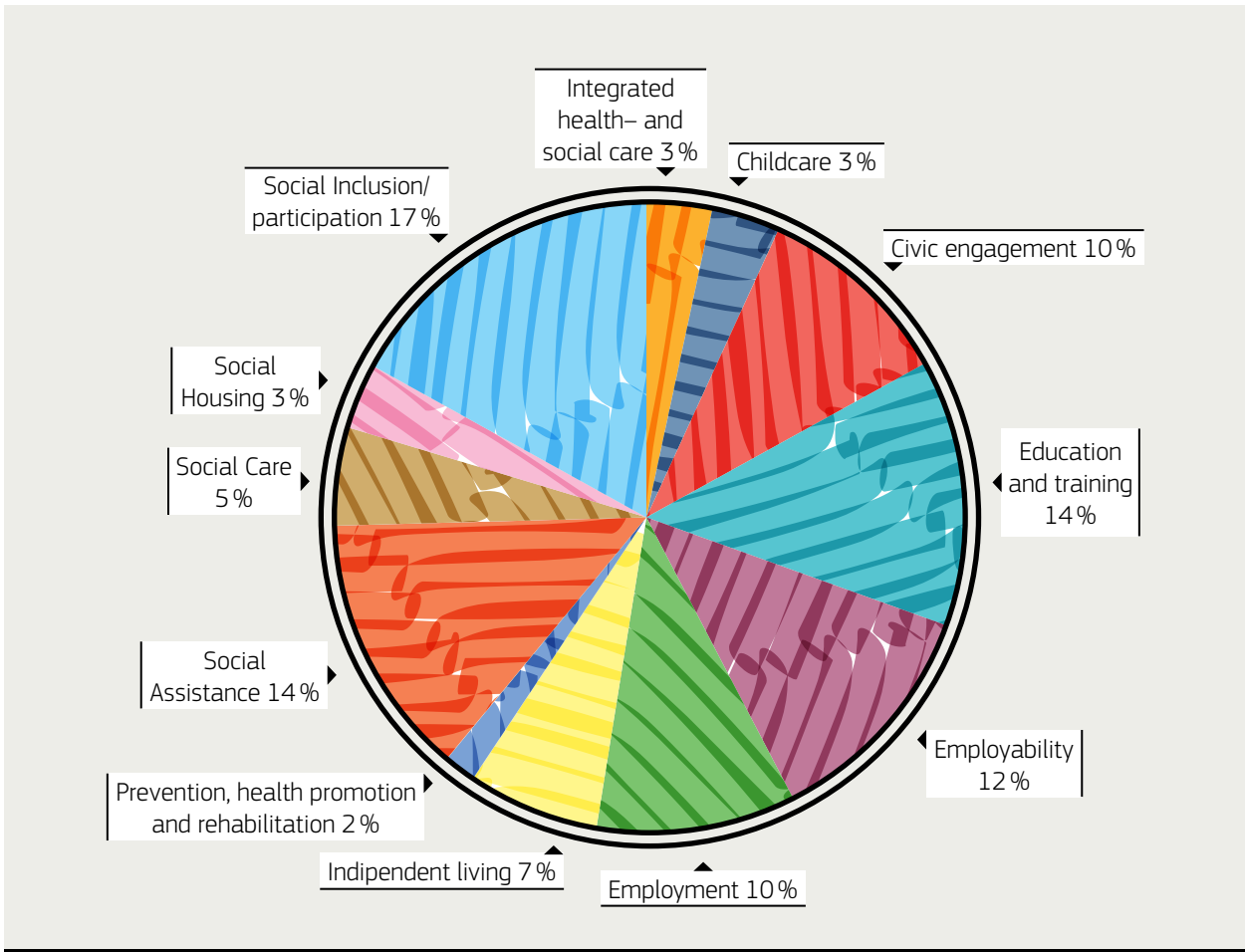
This is in line with the objectives of the IESI research. It aims to explore initiatives which have potential systemic effects on social protection systems, and therefore considers the ICT-enabled social innovation ecosystem (Misuraca et al., 2015a and 2015b) in which each initiative is embedded rather than individual practices focusing on a single area.

Figure 22 shows the distribution of the selected cases across all the PSSGI covered by the 14 selected cases. It shows that the initiatives deal mostly with the following social services areas: social inclusion/participation (17% of all initiatives), social assistance (14%) education and training (14%), employability (12%) and active and healthy ageing (with all sub-areas combined 10%).

As explained in **Chapter 2**, the initiatives were assessed and selected against two dimensions of the IESI conceptual framework, namely the level of governance of service integration (choosing initiatives with the highest level of governance) and the ICT-enabled innovation potential (ensuring that both ICTs as enablers and ICTs as game changers were represented). **Figure 23** below illustrates the distribution of the selected initiatives in the IESI Knowledge Map.

The selected initiatives have thus high scores for at least one of the two following dimensions: ICT-enabled innovation potential or level of governance of service integration. The in-depth analysis therefore focused on the other two dimensions of the IESI Conceptual framework, namely the most significant social innovation elements which characterise the initiatives and the type of service integration achieved or targeted.

FIGURE 22: Distribution of cases across all PSSGIs

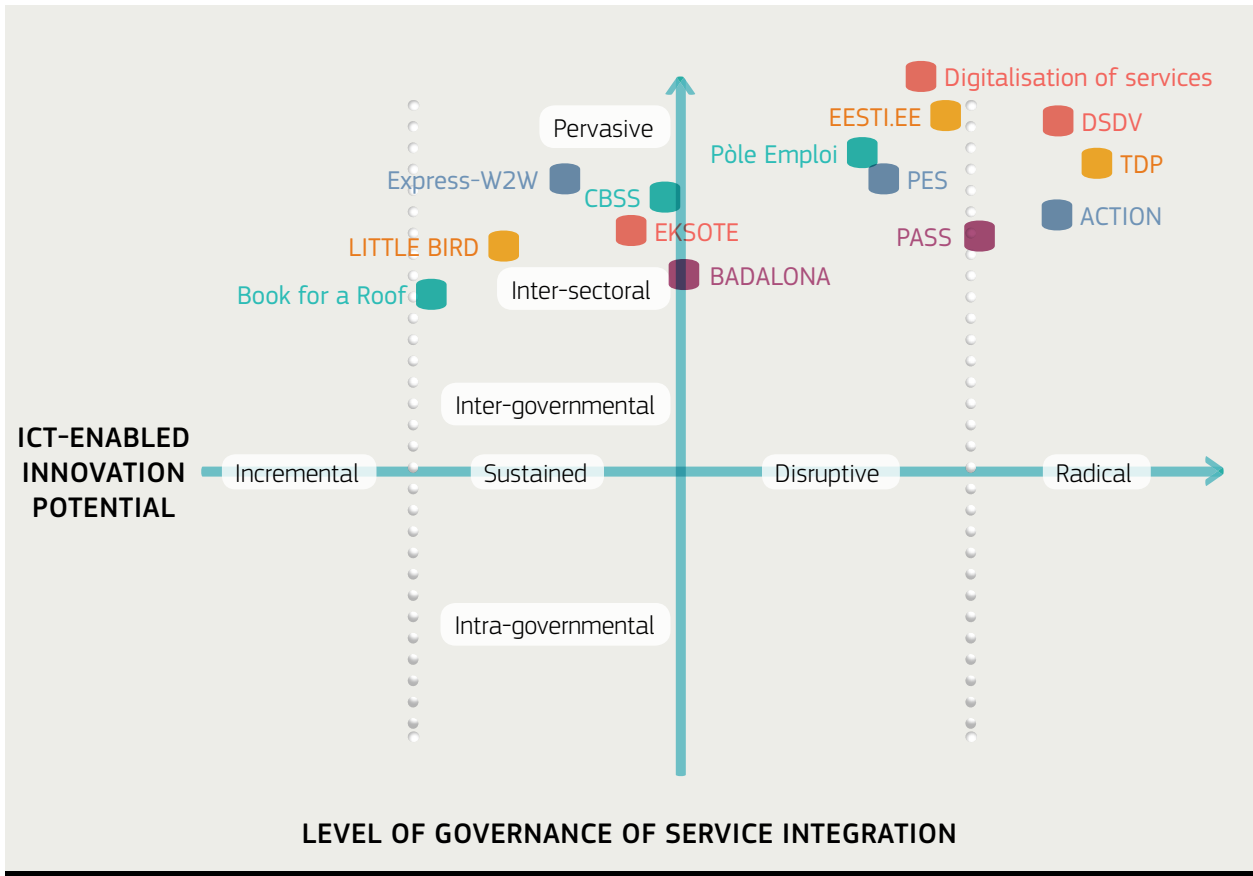


Initiatives are rooted in or giving rise to wider ranging structural changes at governance level

The analysis shows that some initiatives — which were conceived in order to meet new emerging needs in the context of more complex societal challenges — are either rooted in or give rise to wider ranging structural changes at organisational and management level. This type of structural change allows the creation and allocation of new public value for citizens. These initiatives normally target a wide variety of beneficiaries and relevant needs.

For example, the implementation of the INPS (IT) initiative well represents a process whose main initial objective was to move toward a need-driven outcome-oriented service production. This required a complete redesign of the entire service production process and the active contribution of all the stakeholders involved, such as other public administrations, private intermediaries (such as Unions, Tax Assistance Centres, Labour market consultants), and public and private job centres, which resulted in a fundamental change in the relationship between stakeholders.

FIGURE 23: Distribution of the initiatives in the IESI Knowledge Map



Source: Iown elaboration.

It also transformed completely the traditional way of managing, running and controlling social security services, using a new model based on a client pathway approach. This initiative is highly innovative, since it improves access to services in a one-stop shop approach, allows the traceability of accounts and enhances the accountability and transparency of the overall system.

PASS (IE) is another good example of structural change and complete innovation in the design of services for homeless people. The overall need was to ensure better coordination between the different institutions and private operators in the delivery of services to homeless people. The initiative has become an overall client management system for service users which also provides statistical information on homeless people's profiles and their use of the services.

The initiative has become a powerful strategic instrument in the fight against homelessness. PASS allows the providers to identify emerging issues faced by the homeless, it facilitates cooperation among different agencies in order to provide a continuum of care and integrated assistance, and allows better planning of future services.

In this case, the development of user pathways in and out of the homeless service system, which focus on individual needs rather than on a specific group, has also been central to the success of the initiative. The system produces statistical information on the homeless population, which is being used by public and private stakeholders to plan and manage programmes and strategies. The support provided to the homeless is therefore more effective and answers their needs better. This approach is more typical of the Anglo-Saxon welfare model, in which private sector actors are more involved in delivery systems.

SDW (DK) is a digital strategy which aims to foster more cohesive welfare through greater cooperation and knowledge sharing among administrations and stakeholders, by making use of ICTs. It also seeks to create better opportunities to improve citizens' everyday lives in many areas such as healthcare, social care, labour market and education through technologies.

Furthermore the digital transformation of welfare services gives managers and employees in the public sector a more active role, for instance in motivating and assisting citizens to use technological solutions and get the most out of them. It makes the public sector more dynamic and innovative, and capable of delivering services of high quality. As in other Nordic welfare social protection systems, social innovation in SDW is more about complementing and improving existing public sector-led initiatives, where the public sector plays a pivotal role in their success, than creating new services.

Finally, TDP (UK) and BSA (ES) allocate public value to citizens by integrating the health and the social care sectors. This facilitates the alignment of service funding and incentives, the promotion of inter-professional teams across the continuum of care, as and strong, focused and diverse governance representing all stakeholders. These initiatives also foster a culture of cohesion, which, while familiar in the Anglo-Saxon welfare model, is more innovative in the Mediterranean welfare model. Nevertheless, several cases analysed in this section (e.g. INPS, PASS, SDW, BSA and TDP) are the result of the general public spending review process in place at national level which encourages an overall rethinking of the approach to client in order to remain sustainable over time.

Some initiatives focus on the social service itself, aiming to improve the match between demand and supply

Unlike the above initiatives, other initiatives focus on the social service itself. Here, the aim is to improve the match between demand and offer with regard to a specific need. These initiatives are therefore mostly need-driven and devoted to enhancing the outcomes of the social protection system. They consist of adapting the service offer and its delivery to evolving needs. It is quite a common priority of social protection systems in the Nordic and Continental European welfare models and it appears in initiatives with a clearly defined target service and a specific class of beneficiaries.

PES (NL) focuses on building an accessible virtual market place in order to bridge the gap between job seekers with difficulties to enter the labour market and employers. This virtual market place makes more information available in order to allow profiling

of capabilities, and competences, and also supplies information on possible vacancies. In addition, it provides accompanying services, such as legal and profiling support. All this enhances the transparency of the labour market; it allows the unemployed to participate in the workforce, and the available vacancies to be filled.

EKSOTE (FI) and ACTION (SE) target older people and in the area of active and healthy ageing and long-term care. They seek to reduce the incidence of chronic conditions and encourage people to care for themselves and live independently at home. They also support formal and informal carers. The focus is on improving the quality of care services through a more integrated and coordinated provision of services, a simplification of the administration, better targeting of benefits and it also directs considerable educational efforts to beneficiaries and caregivers who use the new services. These initiatives enhance the cost-effectiveness of social and health services and allow the quality of services which better meet the needs of senior citizens and their relatives.

ABFAR (HR) also targets a clearly defined type of beneficiary, homeless people. It provides a well-defined social service offer – i.e. ICT-training that improves homeless peoples' chances of finding a job. It fosters social integration, and promotes the use of ICTs as inclusion tools as an inclusion tool, two innovative components for homelessness services. This initiative seems to have an impact – albeit on a small-scale – on the complexity of needs that causes homelessness with a simple but effective recipe. It invests in soft skills and human relationships, instead of giving financial or material support; it helps homeless people build a positive self-image – a challenge for one of the most complex socially-excluded population groups. The philosophy behind the initiative is that motivation and partnership can overcome the malfunctioning or inadequacy of traditional support systems. This problem is particularly widespread in the Central-Eastern European welfare states, where social care and assistance are mainly based on passive allocation of benefits. This approach sometimes prevents vulnerable people from reacting adequately in order to be socially included again.

Another group of initiatives focuses on open processes of co-creation and collaborative innovation networks. Their aim is to contribute to establishing new types of relationships between community and institutions and to capitalise on partnerships between the public and private sectors. The use of information from different sources for planning purposes is a common aspect of the initiatives belonging to this group.

EESTI (EE), for example, offers a portal which provides services from various public institutions through one single entry-point, simplifying the administrative burden and connecting entrepreneurs and citizens with institutions and private-sector entities, such as banks, telecom providers, and energy companies. In this case, the availability of information is crucial for the design of online procedures that enhance access to services and participation in service delivery models.

Another group of initiatives focuses on open processes of co-creation and collaborative innovation networks establishing new types of relationships and capitalising on inter-sectoral partnerships

Like other initiatives in the Continental welfare model, LITTBIR (DE) and POLEMP (FR) illustrate an extensive statutory social security system based on solidarity. LITTBIR contributes to the goals of family-friendly policies that increase maternity and paternity rights, and offer a better work-life balance and easier access to childcare. The approach helps to match the childcare supply and demand by offering information and an online search tool for parents looking for childcare and facilitating the administration of childcare facilities for providers.

In POLEMP (FR) the transformative use of ICTs is apparent in the interactions between jobseekers and counsellors. ICTs are used to improve beneficiaries' digital skills, which in turn increases their employment opportunities and helps fight digital exclusion and social isolation. The POLEMP initiative contributes to addressing policy goals related to active inclusion strategies by promoting greater engagement of employers and job seekers, improving the quality of services provided, and enhancing transparency in processes and digital access to services.

CBSS (BE) sought to address the problems arising from the lack of coordination and integration of the information flows across different social security actors. For example, an information burden is imposed on citizens and companies if they are required to provide the same information several times. It started as a coordinated information management programme and led to the creation of a permanent and interoperable social security network, which includes all social security institutions operating in Belgium. It therefore acts as a public services integrator of the social protection system.

EXPTRAIN (PL) is another example of disruptive innovation which relies on the cooperation among public institutions and private employment agencies. The initiative has enabled the co-design of a new set of employment services, with shared funding and shared governance. The involvement of private operators in the delivery process is a rather innovative approach for the Central-Eastern European welfare model, where the private sector has not traditionally played a pivotal role in the past.

5.2 Implications from the cross-case analysis

5.2.1 ICTs potential to promote social investment

Results from the cross-case analysis show a strong potential of ICTs in achieving service integration, at different levels. This allows the redesign of services; a new balance in the relationships between private and public sector involved in the service delivery process; an increase in the transparency of processes and procedures that consume resources allocated to social services; better identification of individuals' needs and better allocation of budgets.

ICTs play a crucial role in promoting social innovation and social investment

From the cross-case analysis, it is also possible to appreciate how ICTs play a crucial role in promoting social innovation and social investment. They enhance possible solutions to cope with global trends which increase the complexity in the delivery of social services.

These trends are summarised as follows.

a. Supply and demand conundrum

The crisis has left a lot of people in economic distress, and, at the same time, public budgets have been eroded. Public administrations must reinvent their role within the community as follows:

- ▶ **Internally:** leveraging on the possibilities of achieving operational efficiency (e.g. reengineering of production processes, shifting resources from back office to front office, leveraging existing assets, redefining services portfolios following activity-based management principles).
- ▶ **Externally:** identifying synergies at inter-institutional level (with other public agencies at local, national, and European level), investing in cooperating with other service providers at inter-sectoral level (e.g. intermediaries, third sector organisations, academic researchers, etc.), designing public interventions in a client-centred way (client pathway), independently of where the administrative responsibility for the service lies.

With regard to both trends, ICTs help to free up resources which can then be reallocated to more productive processes and activities. They also play an enabling role in establishing information exchange which fosters cooperation among different agencies. Rethinking service management and service delivery models to harness new technologies and approaches, and integrating service providers to gain efficiency, help to close the gap between supply and demand, and between skills/capabilities and the broadening range of needs.

ICTs help to free up resources which can then be reallocated

b. Empowerment of the individual

Global education and increasing awareness of civil rights and consequent responsibility within communities empower citizens. ICTs are helping to give individuals a more central role in the decision making process. They allow individuals to actively participate, through mechanisms such as co-design and co-development of social service models. Individuals play a crucial role in social innovation in both the planning and the delivery phase. They can co-create delivery models, and assess the quality and outcomes of the social services.

ICTs can contribute to reshaping the provider-recipients paradigm in the social services management and delivery model, creating new social and economic values that can counterbalance the decrease in resources. The availability of clear, traceable and controlled information empowers individuals, increases their awareness and their ability to participate in the decision-making process. Beneficiaries are better able to manage their own care, through the use of innovative platforms and web and mobile devices, and they are, in fact, becoming increasingly accustomed to these technologies.

ICTs reshape the provider-recipients paradigm in the social services management and delivery model, creating new social and economic values

c. Economic inter-connectedness

International trade and capital flows call for a new way to identify and measure value. In particular, social benefits delivery across different Countries or regional systems, can produce overlaps and hamper efficiency and effectiveness when not managed comprehensively. The approach taken must consider all levels of delivery (local, national, European) and needs to conceptualise the user in a global and inter-connected socio-economic system.

ICTs make it possible to take a client pathway approach, which puts the beneficiary's needs at the centre. They improve strategic planning and systems integrity by sharing information between different agencies. Data analytics enable a better understanding of service usage patterns, system outcomes, and resources available, so they can be targeted more efficiently and fraud or errors can be detected and countered.

The new social value created must be analysed and understood through a common approach so that it can be distributed fairly among the stakeholders involved.

d. Demographic and urbanisation trends

The ageing population in Europe poses new challenges for healthcare, welfare and pension systems. At the same time, young people will have to be integrated into the labour market and socially included. Migration flows add to the challenges to an inclusive society. Moreover, it is expected that, by 2030, two thirds of the world's population will live in cities, creating more opportunities for social and economic development for sustainable living, but also increasing the pressure on infrastructures and social resources.

ICTs have helped promote social innovation and social investment also through service integration

The cases analysed show that ICTs have helped promote social innovation and social investment. They have also enabled the implementation of new approaches to service management and delivery. In particular, ICTs have been key success factors with regard to three main dimensions.

First, ICTs are key for *integrating services*. There is increasing awareness of the need to integrate human resources and social services in order to produce more effective solutions to many of the societal challenges. For example, the INPS initiative integrated various systems and service models to provide a single point of customer service, through the implementation of a multi-channel approach, managed exclusively digitally. This innovation in the service delivery model reduces administrative costs and increases efficiency, by eliminating duplication in processes such as client authentication and verification, through automation. PES is another good example of how an administration can provide users with more effective services by eliminating barriers to access and offering a more holistic and client-centric approach. This brings together different services to address critical employment-related needs, and builds a real-time labour market place, enhancing the match between labour demand and supply.

EKSOTE focuses on a new integrated approach, the aim of which is to centralise the allocation of resources on the basis of the population's needs and to facilitate the access to services and the transparency of the information management system, particularly for older people and long-term care patients. Its holistic approach helped in the coordination of welfare and social service public providers.

Second, ICTs play an important role in *supporting multi-sector partnerships*, for instance public-private partnerships (PPPs) schemes. The analysis shows that PPPs can lead to cost efficiencies and help to cope with the need to reduce intervention by the public sector. The result is a better focus on core service components, and greater flexibility and agility within the service environment. In the PASS experience, a need-driven approach was implemented, which provided new public value re-allocation, giving systematic information to agencies and operators working with homeless. It led to greater efficiency while maintaining high quality service delivery. The ACTION initiative shows how a technology-based home care service, developed by a multi-sector partnership, can leverage on the use of ICTs and help older people to live independently by empowering them (through training and expert support) and their family carers. It has been successful in getting older people and their family carers to actively participate in the initiative. LITTBIR (DE) is an example of a public-private partnership, which has reallocated the place of care to the family environment. It has generated benefits for both children and parents by establishing an interactive process which maps the entire range of administrative functions involved in the allocation of childcare services. In addition, the government and the private entities involved have obtained significant cost savings on services provision.

ICTs play an important role in supporting multi-sector partnership models

Third, ICTs act by *enhancing accountability*: the effectiveness of protection system services can be enhanced by strengthening financial and accounting systems in order to better detect fraud and address inefficiencies. For example, CBSS fully integrated the workflows of around 3,000 social security national institutions, making the whole process available online. This provided single and fast access to all social services and benefits for customers, creating a common infrastructure and systems for all the involved organisations. This increased agility and data transparency.

ICTs enhance accountability and transparency

e. Case management

Services tailored to and assessed against the changing needs of clients and care givers increases the cost-effectiveness of service management and delivery process. This approach safeguards the overall sustainability of the service in the mid to longterm. EXPTRAIN and POLEMP focuses on profiling capabilities and the expectations of the unemployed. They customise their support services to match job demands and offers, with surprising results in terms of labour inclusion and reduction in the unemployment rate. ABFAR shows that the individualised management of care initiatives has found new ways of dealing with homelessness. It uses cultural interventions, and focuses on enhancing people's skills and the use of the internet, as an inclusive environment. This approach has increased the motivation of homeless people to be included in society.

5.2.2 ICTs contribution to establishing more effective and accessible services

The cases analysed demonstrate the capacity of ICTs to raise productivity in the care sector, achieve cost savings, increase the overall quality of the services from the point of view of the recipients, and build a single-point of access to multiple services.

ICTs have been used as enablers of public sector innovation, to promote the modernisation of social protection systems

ICTs have been used as enablers of public sector innovation. They can promote pluralistic models of public service provision delivered by business, the non-profit sector and government actors working together, increasing the proximity of services providers to citizens. Government is no longer considered to be the only provider, but is instead engaged in controlling and financing services through the separation of the political decision-making processes from the management side. Services can be delivered by partnerships made up of a range of public and private actors; as a result, there is a need for more articulated forms of cooperation and coordination than inter-agency systems.

From the cross-case analysis, it results that ICTs contribute to the modernisation of innovate service design and implementation in several ways.

ICTs have led to the creation of new jobs and improved the inclusion of marginalised categories of the population

More productive care services and cost saving. The cases analysed provide evidence that ICT-enabled social innovation takes the traditional concept of innovation — i.e. innovation improves productivity and in turn leads to economic growth (in terms of GDP) — one step further. They expand this paradigm to a more complex development model, which becomes crucial especially when considering all the negative externalities (e.g. unemployment, environmental risks, social exclusion, etc.) that characterise the current development models. In this framework, ICTs have led to the creation of new jobs and improved the inclusion of marginalised categories of the population in a virtuous and sustainable socio-economic cycle. They have enabled social investments and social innovation to realise their full potential, producing a considerable mid to long-term impact on society as a whole.

For instance, EXPTRAIN was implemented by the Polish public sector (Polish Government of Malopolska Region) as part of their employment services. The programme, inspired by the UK Welfare-to-Work (W2W) programme, aimed to design and test outsourcing employment (back-to-work) services with an individualised, and thus more effective, approach to engaging the unemployed. This profiling approach has increased the efficiency of public spending, as payments are only made when specific outcomes are achieved (payment by results). Specific attention is paid to the long-term unemployed, for whom the mechanism allocates more resources in recognition of the greater difficulties faced when trying to re-enter the job market. Different activities are carried out to upgrade the candidates' profiles in order to make them more attractive for employers. The mechanisms used to monitor and control the success of the activities, upon which payments to actors are based, is enabled by ICTs.

SDW has also developed an integrated electronic work flow between companies and actors in the social sector. It aims to make available all the information needed by the social security offices to calculate all social security contributions. This significant ICT-driven change resulted in a radical transformation: paper data exchange was eliminated and replaced by direct electronic data flows. The burden on the administration was reduced and so was the opportunity for fraud. Coordination between services increased, benefiting both citizens and the public/private institutions.

Another example is provided by the TDP experience, which showed the large potential benefits related to the cost effectiveness of the care service delivery process. Based on the lessons learned through the TDP experience, a new Technology-Enabled Care Programme costing £30m was launched across Scotland in 2014.

Enhancing the quality of care. In EKSOTE, ICTs made an important contribution to the process of integration of the public and private organisations involved in social care services for the older population, in a functional, cost effective and user-oriented approach. The initiative took a multi-disciplinary, rehabilitation and prevention approach to the care of older people at home, giving them physical, psychological and sociocultural assistance. The approach ensures that citizens have equal access to social and health care services, across the boundaries of municipalities. ICTs made this initiative possible by integrating information across private and public organisations, along with the care service delivery process. As a result, the criteria used to measure and assess needs has been standardised so that all customers are treated equally in the assessment process. This has allowed the centralisation of service needs assessment for the whole area by means of an agile business process development approach. This more efficient and standardised process has given clients in the whole area better services and fairer access to them.

ICTs contribute to the process of integration of all organisations involved in social care services for the older population, in a functional, cost effective and user-oriented way

Another good example of enhanced quality of care is ACTION. This initiative included remote provision of dedicated information and education programmes which strengthen ability of older people and their relatives to care for themselves and cope with the issues that typically arise for frail, elderly people. Family carers received on-demand support through ICTs from local service centres staffed with qualified professionals. ICTs also supported networking and mutual exchange between service users and facilitated the sharing of information, education and support to older people and their family carers. As a direct result, the family carers felt more competent and secure in their caring role and older people gained access to some of the opportunities offered by today's information society. In addition, the service enhanced the social inclusion of frail older people and their carers, traditionally excluded from the benefits of ICTs, and helped them gain more overall control over their own lives, enriching the caring relationship. Finally, professional carers experienced improved job satisfaction and municipalities benefited from a more effective use of available resources. This was due to the multi-channel approach used to deliver services, which increased quality and led to a more efficient use of staff's time.

In the BSA initiative, the integration between health and social care departments was facilitated by the use of ICTs, through new approaches to service delivery (based on telemonitoring and tele-assistance). This shift from hospital-based or residential assistance to forms of support at home resulted in considerable cost reductions. It increased the quality of life, of both recipients and care givers, and gave rise to a more cost-effective model.

Another initiative, LITTBIR, addressed families' needs to find a childcare service by optimising the search facility on an ICT platform and providing organisational support to childcare facilities. By seeking to optimise the use of resources for both the demand and supply side, this ICT-based interactive process succeeded in mapping the entire range of administrative functions used for the allocation of childcare services. The initiative offers a technical solution that allows more integrated and cost-effective management of childcare services, both public and private. This has contributed greatly to reducing externalities such as the child care burden for families. It has allowed them to increase their productivity and achieve a better balance between family life, work life and child care.

ICTs introduce organisational models in which service users are provided with a single entry point into social protection systems, simplifying organisation, enhancing service delivery and boosting the uptake of services

The set-up of one-stop-shop models. Many of the cases analysed introduce organisational models in which service users are provided with a single entry point into social protection systems. This simplifies organisation, enhances service delivery and boosts the uptake of services. Several models of one-stop-shop can be identified: from fully integrated and physically co-located services to virtual information portals or frontlines of complex single agencies to umbrella structures covering several agencies.

In some cases, a single agency was created to implement a one-stop shop offering a wide portfolio of services to its customers, for example INPS. This organisation aims to optimise resources for the entire portfolio of services (including social benefits and pensions) through digital channels (amongst others, the contact centre). The initiative produced positive outcomes for the Italian population as whole, thanks to a reduction in the payment of undue benefits and the increased transparency and accountability of the overall system, which allows requests and services to be tracked. The digitalisation of services through INPS allowed the integration of initiatives with other public operators in the welfare sector, and with private intermediaries which avoided overlaps and helped to optimise the use of public resources, for the benefit of the citizens. INPS decreased the workload and made savings of around 1,000 Full Time Equivalent, thereby reducing the public administration's spending.

In other cases, more complex structures have been introduced, for instance when the one-stop-shop operates on top of partner organisations. Here the aim is to maximise the convenience

also for clients of all other partners by integrating services, e.g. through intra-governmental partnerships. This is the case of EESTI and CBSS. In EESTI, ICTs have been used to build Estonia's information gateway. This comprehensive one-stop-shop mechanism for the provision of online procedures and information has also fostered technical collaboration between different authorities. ICTs played a key role in the promotion of an extensive digitalisation of public procedures and had a profound impact on Estonia's administrative and service model. It also changed the way business was promoted and supported. As a result, users gained greater access and the system achieved greater efficiency. Transaction costs and duplication were reduced for citizens, providers and government alike. The CBSS case shows how the introduction of a one-stop shop to implement electronic service delivery can lead to a structural reform process. In this particular case, ICTs transformed the delivery of social security services, by initiating a business reengineering process within and across all the 3,000 organisations involved in the Belgian social security system. At the same time, back-office functions were automatised significantly, reducing the duplication of information which was due to the sheer number of social security actors. The new ICT-based system significantly increased the re-use of information and made it possible to send responses to beneficiaries and civil servants automatically. This led to a considerable simplification of procedures and introduced a new, more integrated and personalised way of communicating with citizens and companies, which is better aligned with the needs of the final users.

In a more specific field — that of unemployment — two other one-stop-shop approaches provide good evidence on how ICTs can contribute to the modernisation of social protection systems: POLEMP and PES. POLEMP fully digitalised the support services offered to jobseekers in order to bring them closer to the labour market. The impact achieved in terms of facilitating access and take-up of employment services, and meeting job-seekers' expectations and needs has been remarkable. ICTs played a crucial role in this initiative since helped developing a platform capable of providing a centralised and secure database of unemployment information which became an aggregator of labour market policies and initiatives. The POLEMP website is now the leading job search site in France in terms of number of users. Its success is the reason for the subsequent launch of an ambitious policy around big data for policy support.

In the PES case, ICTs have also played a vital role, especially in targeting and identifying final beneficiaries more effectively; they have increased the value of employment-related interventions and trust in government. ICTs support social inclusion, employment and more general civil engagement activities which target disadvantaged groups: e.g. the disabled, young people, and people at risk of poverty and social exclusion. The one-stop shop developed in PES encourages more individuals to actively participate in the labour market and interact with the government online by giving them the opportunity to use multiple delivery channels and at times more convenient for them.

5.2.3 Key drivers of success

The cross-case analysis identified many innovation elements as key factors, which could in principle determine the achievement of relevant results and therefore the overall success of an initiative. These are the following:

Active involvement of beneficiaries and end users is key for the continuous improvement of the services delivered

Active involvement of beneficiaries and end users

Active involvement of beneficiaries and end users is crucial not only during the design and implementation phases of the initiative but also in the continuous improvement of the services delivered. A good example is EESTI which built an open process of co-creation and a collaborative innovation network between public agencies and beneficiaries in an extensive reshaping of the relationships between community and institutions.

Other examples are TDP, which committed its national health system stakeholders to rigorous collaboration generating a fundamental change in their relationships; CBSS, which allowed both cross-sectoral integration between public and private institutions and actors, and vertical integration among national, regional, and local administrations; LITTBIR, which involved parents, families and providers in the co-design, development and fine tuning of the solution it offered. EXPTRAIN also used ICTs to redesign employment policies and services provision with the cooperation of private service providers, transforming the information they provided and their interaction with job seekers.

Involvement of stakeholders representing different social needs and roles is crucial for the initiatives' success

Partnership and commitment at different levels are key

Another element of success across the initiatives analysed has been the involvement of stakeholders representing different social needs and roles. Their contribution of knowledge, information, experience and resources of different kinds and from different sources has allowed the definition of innovative solutions.

A very good example of commitment between stakeholders at different levels is the INPS initiative which built a new model of service delivery based on the synergies of different operators.

ACTION benefitted from the close cooperation between service recipients, developers and the municipality, both at the time of the initial implementation of the service, and for the later expansion of the ICT-based intervention. PES created a 'real time labour marketplace', which benefitted from the partnership between job seekers, private providers and labour agencies at different levels. EKSOTE used the organisational integration of the providers to build a common access point for users. Finally, BSA was made possible by cross-sectoral cooperation between social and health care sectors providers, and between providers, recipients and caregivers.

Developing a policy framework to support service sustainability

Political commitment and/or a policy and regulatory context conducive to the development and use of ICTs in social services are important enabling factors. In most of the cases analysed, policy programmes provided medium to long-term funding for the implementation of the initiatives. This encouraged the creation of lasting partnerships, accelerated the decision-making process and facilitated the scaling up of the outcomes achieved. TDP, for example, was able to provide evidence about the significant potential benefits of a more cost-effective care service delivery process, thanks to the Government's commitment and financing, in conjunction with the National Health care system in Scotland. EXPTRAIN is another example of how political commitment coupled with a European policy which provides funding opportunities, allowed the launch of a pilot and helped to mainstream the service tested. Thanks to the commitment of the Central Government which is considering the potential inclusion of Welfare-to-Work as a model in the Polish Labour Act, the service may be transferred to national level. In SDW, the Danish Government, the local government and the regions accelerated the digital transformation of some core services in the healthcare sector and identified a number of projects and initiatives for wider implementation. This was facilitated by the national policy framework in place. Finally, ABFAR was supported politically and financially by the Electronic Information for Library – Public Library Innovation Programme and subsequent contributions from various public institutions like the Zagreb City Libraries and the City Council.

Political commitment and regulatory context conducive to the development and use of ICTs in social services are important enabling factors

Simplification and automation facilitate access to services

The cases analysed contribute to the evidence base which shows that the digital transformation of services has led to a reduction of the administrative burden, as it offers more channels to deliver services, increases the transparency of management flows, and identifies needs and rights more clearly. This transformation also offers users greater autonomy in their use of the services. It also reduces the time and resources they need to engage with services and generally improves their perceptions of service quality. In the case of INPS, this process resulted in a general improvement of the image of public institutions among citizens, cost savings and a more diversified service offer, by shifting resources to front-desk activities. The adoption of innovative technological solutions has been well received in the cases analysed, partly because it offers complementary services to support less technologically advanced users and thus reduces the risk of digital exclusion. This is the case of POLEMP, EKSOTE, SDW and ACTION where the simplification and automation processes were implemented together and intensive training was given to beneficiaries, families and caregivers. Finally, PASS shows how a transformative innovation, which focused initially on the simplification of procedures and automation processes, radically modified the existing mechanisms of services provision. First, the delivery of services to citizens was improved by ensuring that resources were used effectively, by reducing duplication and fostering the cooperation of different agencies to provide a continuum of care. In turn, this promoted social responsibility, pro-active participation and engagement in local communities.

ICTs led to a reduction of administrative burdens, increase of management flows transparency, and more effective identification of needs and rights

Electronic exchange of information enables service integration

The case studies show that a critical success factor for social innovation is the integration of services at both management and delivery level. The centralised provision of secure information about beneficiary needs, rights, and benefits received, has been crucial to the integration between different providers. This integration has allowed the restructuring of procedures in a client-pathway approach and the provision of a single entry point for users. Shared information systems facilitate the interactions between actors at various levels of governance (i.e. collaboration across multiple levels of government), which in turn facilitate the cross-disciplinary management of different social areas.

A critical success factor for social innovation is the integration of services at both management and delivery level

Information systems integration was generally achieved through the implementation of progressive database integration, coordinated case management and exchange of data through multiple channels. In PASS, the information exchange between operators was enabled by a system that provided a more sophisticated and up-to-date way of collecting key information about homeless services and service take-up. In TDP, the sharing of information allowed providers to mainstream telecare services, and to integrate health and social care organisation in the services delivery.

Mechanisms for monitoring and evaluating results contribute to the success of the initiatives

Mechanisms for monitoring and evaluating results are crucial

The analysis shows that the presence of mechanisms for monitoring and evaluating results has been an important element for the success of the initiatives analysed. These mechanisms permit the early identification of any concern about the use of the services. Monitoring tools can check the direction taken during the implementation phase. They can also help to address emerging issues so that corrective measures can be taken to re-calibrate the intervention to answer needs adequately.

In some of the cases analysed, internal and external evaluations were carried out. The evidence provided highlighted the value of collecting data on impacts and outcomes of the initiatives. An interesting example in this respect is EXPTRAIN which developed a comprehensive monitoring methodology. It connected payments made to labour agencies by the public authorities to outcomes. This model also implemented more effective and convincing dissemination activities which enhanced awareness of the benefits of the initiative. Furthermore, in the BSA case, an ICT tool was used by all professionals and social workers, to monitor in real time whether activities programmed for each beneficiary actually took place. This tool was also useful for the payment system, as external providers could use it to issue their bills to the BSA organisation. Other relevant examples are CBSS, PES and PASS. CBSS developed tools to provide statistics and other relevant information on the performance of the Social Security system in a more integrated, centralised way. PES launched a methodology to cluster and measure specific labour market data in order to carry out benchmarking and 'What If' analyses. PASS developed tools to provide statistics to projects about individual clients and the work of the project as a whole, helping the future service development plan.

5.3 Contribution to the modernisation of social protection systems

5.3.1 Enhancing service integration

All the initiatives analysed have significant levels of integration of services, procedures, and sources of funding. Most of them have achieved a high degree of integration both at the delivery system level and from an organisational perspective. For example the large scale initiatives such as INPS, PES, PASS, SDW, BSA and TDP, have had an impact on the service management system, from the identification of the various needs, through production, to the channels of distribution. In some cases, there has been an impact on the promotion and funding of the services.

All the initiatives analysed have significant levels of integration

Even in those case studies where there seems to be less or no horizontal integration, it is possible to appreciate other forms or types of service integration. This is particularly true in EESTI, LITTBIR and ABFAR, where the impact has been on a specific aspect of service management e.g. administrative, funding, organisational or delivery system.

Funding or administrative integration seems to be common in Continental countries but less common in Central-Eastern welfare systems. In contrast, in the Mediterranean, Anglo-Saxon and Nordic groups of initiatives, integration seems to happen mostly at the organisational and delivery system levels.

Most of the initiatives have achieved inter-sectoral integration, by improving coordination of the different operators, both private and public, and a clearer definition of their respective roles in the production and delivery of services, especially through innovative public-private partnerships.

ICTs enable intermediary operators, social workers and formal carers play a central role, through greater involvement of citizens

Though the role played by the private sector in Mediterranean and Continental welfare systems has often been contested or considered quite marginal, most cases of inter-sectoral integration among these groups of countries has been found. For instance, private operators participate strongly and actively in the new service delivery models of INPS, BSA, POLEMP and CBSS.

Similarly, among the Nordic and Anglo-Saxon countries initiatives (e.g. TDP and PASS), private organisations (both for profit and not-for-profit) are strongly involved. In these cases however, they play a much more active role in service design.

The initiatives analysed also show that the use of ICTs can enable intermediary operators, social workers and formal carers to play a central and/or leading role, thus contributing to greater involvement of citizens in social services management.

5.3.2 Supporting social policy reforms

The case studies and the cross-case analysis provide useful insights into the factors that have been critical to an initiative's success, and into the role ICTs play in social innovation. They also show how these factors affect the pursuit and achievement of social protections systems reforms based on the Social Investment Package (SIP) objectives.

By building collaborative networks, many initiatives reshaped the governance model to produce and deliver services, with a more effective and centralised approach

a. Modernising social protection systems: spending more effectively and efficiently to ensure adequate and sustainable social protection

By building a collaborative innovation networks between public agencies or departments, many initiatives reshaped the governance model to produce and deliver services, with a more effective and centralised approach (e.g. EESTI). In particular, the exploitation of ICTs resulted in the generation of new public value which improved the sustainability of the social protection system, the traceability of information flows and the fight against frauds (e.g. INPS). The contribution ICTs give to the modernisation of social protection system is often and mainly related to their ability to reduce to a minimum the administrative burden for citizens, companies and civil servants (e.g. CBSS).

b. Implementing active inclusion strategies: investing in people's skills and capacities to improve people's opportunities to participate in society and the labour market

The combination of employment information management and ICT-training allows the re-designing of the production process of services, the improvement of integration opportunities within society, and the inclusiveness of fragile people, especially into the labour market (e.g. ABFAR, EXPTRAIN, ACTION). The integration of services facilitated by the use of ICTs aims to empower people, especially homeless people, older people and the more fragile, improving their skills and ability to remain independent at home or to find job opportunities. It also helped improve the quality of life of the beneficiaries, their relatives and their care givers. Moreover, the equal access to health and social care services to all citizens in the region of operation, across the boundaries of municipalities, directly contributes to strengthening the inclusiveness of social protection systems and therefore to enhancing people's opportunities to integrate in society (e.g. EKSOTE, TDP).

By recognising the importance of psycho-social support, many initiatives boosted beneficiaries' motivation, responding to their needs at a critical moment in their lives

c. Investing in individuals throughout their life: ensuring that social protection systems respond to people's needs at critical moments during their lives

By recognising the importance of skills and active inclusion strategies through psycho-social support, many initiatives succeeded in boosting beneficiaries' motivation, which responded to their needs at a critical moment in their lives (e.g. ABFAR, EXPTRAIN, ACTION). The contribution offered by ICTs often consists of changing the paradigm for the delivery service model, which might shift towards

a beneficiary-centric approach, reducing the risk of unfit and undue benefits and formulating innovative responses to people's changing needs (e.g. INPS, BSA, CBSS). The ability to adapt to people's needs is achieved by ICTs through personalisation of services, especially important in the field of employment support services, where it contributes to improving job demand and supply matching, by aggregating job offers from partner sites, private platforms, associations, employers or business organisations (e.g. POLEMP, PES).

5.3.3 Facilitating transferability of practices across the EU

The capacity of ICTs to promote social innovation and social investments can be measured in terms of the actual sustainability of an ICT-innovation and to what extent it can be scaled up in different contexts within the same framework or in entirely new environments. At the same time, the contribution of ICTs to organisational change and to reshaping service design and delivery processes has a long-term impact, in light of the need to structurally reform social protection systems.

The case studies show that the knowledge, policies and solutions developed in good practices can be promoted for wider development, implementation and transferability at a local, national or European level. Thus, they can promote the modernisation of social protection systems through funding, policy leadership and by fostering stronger cooperation among stakeholders. Transferability refers to the potential maximisation of lessons learned from the experiences gained in a local setting or in a pilot by implementing these experiences (or parts of them) in a wider context, be it geographical or organisational.

All the cases analysed were selected for their potential sustainability and ease of wider replication. Nevertheless, even though a case seemed to have good potential scalability, transferability always depends on a number of contextual variables, which may affect the actual chances of success in replicating the experience (e.g. funding, political context, regulations, etc.).

Some of the cases analysed acknowledged this limitation and provided evidence of why the potential for scaling up remained unexploited. This seems to be the case of ABFAR, where the need for resources and financial contributions from other library networks or municipalities, also at a European level, was recognised as a barrier for scaling up.

The lack of an effective policy at local, regional, national and EU level which could push the adoption of ICT-based solutions in healthcare, and finally the lack of funding for large trials which could demonstrate the effectiveness of the services seemed to be the main barriers to wider implementation of ACTION – even though the service presented a high level of standardisation and could be easily implemented in a wider context, and other EU Member States.



The knowledge and solutions developed in good practices need to be promoted for wider implementation and transferability at EU level

A barrier to the wider implementation of the PASS initiative was its technology. PASS relies on a new cloud technology-based computing system which is not fully available outside Dublin. Thus, further development and a specific data strategy would be needed for the initiative to be replicated at national level, or for it to be exported to other EU Member States. Finally, PES also experienced difficulties as some of its target users were not sufficiently digitally skilled or were illiterate, and thus excluded from accessing services online (estimated to be 10% of citizens). In this case, the rigidity of the model and the lack of a multi-channel approach which would allow direct contact or telephone assistance seemed to hinder the transferability of the initiative.

On the other hand, some of the cases analysed have already been transferred or will be scaled up. Two main groups of successfully transferred practices can be identified:

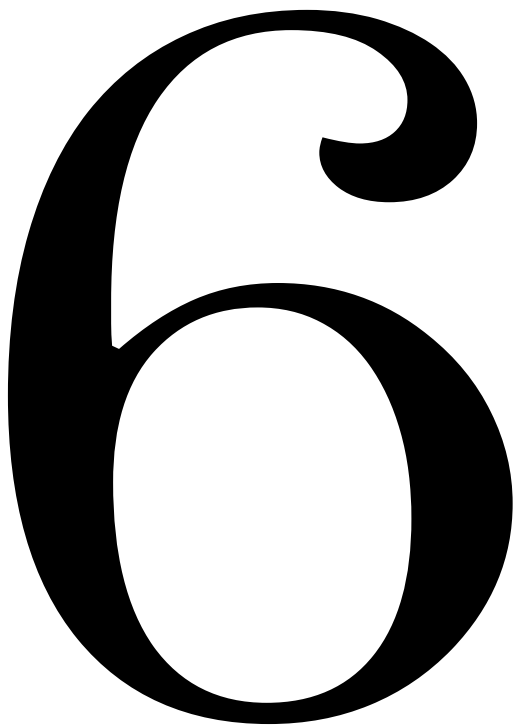
Some initiatives have already been subject to scaling up and transferring activities, mainly through the development of further functionalities or model replication

- ▶ **Scaling up and transferring activities.** This is the case of SDW and BSA. SDW scaled up to national level successful projects which had been tested at local level. Out of 25 projects, 7 projects will be implemented nationally by 2017. Scaling up BSA proved to have considerable potential, since it allowed external professionals to work within the integrated care system and private investments to flow in. The process of integration of health and social care has been consolidated in Catalonia and there were plans to scale up this initiative. The case of EESTI is somewhat different. Here there were no plans to develop further functionalities, however, the benefits reaped will be used to include services from other fields. EXPTRAIN transferred the British W2W experience to the Region of Malopolska, where the model is replicated with success. The Polish Government is planning to expand the project to other regions and has devised a new systematic intervention to re-engineer the social welfare support to the long-term unemployed at a national level, based on the outcomes of EXPTRAIN.

Other initiatives have been scaled up or transferred mainly relying on the structural transferability unleashed by their technological components

- ▶ **Technology and structural transferability.** This was the case of POLEMP that was scaled up by the agreement signed in December 2014, for 2015-2018, with the Government and the National Professional Union for Employment in Industry and Trade (UNEDIC). The scale up of the initiative was oriented to enhance the opportunities offered by the portal in the direction of establishing itself as the coordinator of French intermediation initiatives and as an aggregator of other market players. The CBSS experience also provides important lessons for governments that are striving to improve services for the users and especially for companies, by adapting internal and external processes with the help of modern technologies. The CBSS system's architecture could evolve into a Pan-European service and/or be transferred to other European contexts, thanks to its compliance with international technological standards. LITTBIR was considered good practice by 25 German municipalities, which are planning to

implement it. Local administrations showed great interest in the initiative, because it helps make significant cost savings. In addition, all the modules of the solution are closely integrated, which makes it highly adaptable to local requirements. Its open software means that this project can be easily scaled up in other communities, cities and countries. Another relevant example of technology transferability is the case of INPS: due to the decisive role that its ICT assets can play within the Italian public sector, INPS is becoming a hub for Italian institutions not only in employment services but in the overall social protection system. INPS has invested significantly in ICT infrastructure in the last decade, in order to implement the digitalisation of services and it is now in a position to lead the public inter-operability and information exchange process. This result has been achieved through the instrumental role played by the legal framework envisaged for the implementation of the Public Connectivity System, which is one of the main pillars of the European Digital Agenda. This aspect seems to be extremely relevant, since it clearly shows the importance of further aligning local, national and European policy to contribute shaping the future of European welfare systems together.

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6



ASSESSING IMPACTS
OF ICT-ENABLED
SOCIAL INNOVATION

6. ASSESSING IMPACTS OF ICT-ENABLED SOCIAL INNOVATION

This chapter presents the final proposal for developing a methodological framework to assess the impacts generated by ICT-enabled social innovation initiatives promoting social investment (in the EU in short i-FRAME)¹⁵.

In fact, the last decades have been 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. Social innovation — and more specifically ICT-enabled social innovation — can make an important contribution to social policy reform by providing new/better/different ways of providing social services. However, evidence on impacts of these innovations is often limited or produced too late, thus becoming insufficient to support policy-making in a structured manner.

The i-FRAME was conceived specifically to assess the contribution generated by ICT-enabled social innovation initiatives which promote social investment through integrated approaches to social services delivery. It also aims to act as a guide to gather insights into replicability and transferability of initiatives across EU Member States.

For this purpose, the i-FRAME has been developed to address a twofold objective:

1. To provide a structured approach to analyse the initiatives collected through mapping ICT-enabled social innovations in the EU.
2. To serve as a comprehensive framework for analysing the economic and social returns on investments on social policy innovations, where ICTs play an important role¹⁶.

The i-FRAME was conceived to assess the contribution generated by ICT-enabled social innovation

15 The acronym i-FRAME has been suggested to stand for Impact Framework for Real and Meaningful Evaluation at the 2nd IESI Experts & Stakeholders Consultation Workshop, Brussels, 24-25 February 2015.

16 Findings from systematic reviews of literature, coupled with results from the mapping and the case studies (see infra 6.3), demonstrating the importance of several contextual factors (e.g. workforce development, regulatory frameworks, funding and contracting mechanisms), suggested to expand the scope of the analysis, in order to consider the broader concept of Social Policy Innovation promoting social investment, of which ICTs is an important component.

The conceptual framework and methodological approach underpinning the i-FRAME were outlined by the JRC in 2015 and described in the proposal for **i-FRAME (V1.0)**. This was then further elaborated and tested with support from external experts.

The testing and validation phase allowed the JRC to develop a proposal for a methodological approach to building the operational components of the **i-FRAME (V1.5)** according to a structured theoretical framework of a simulation model for social impact assessment.

The final proposal for the **i-FRAME (V2.0)** outlines an improved theoretical and methodological approach, which, benefiting from previous rounds of testing and validation, widened the scope of the analysis to the broader concept of social policy innovations which promote social investment, of which ICTs are a crucial (but not exclusive) component.

This final proposal for i-FRAME was developed by applying the reviewed methodological approach and operational components on a number of case studies and scenarios of use. In addition, experts drawn from different research disciplines, practitioners and representatives of relevant stakeholders and policymakers were consulted.

Can social innovation initiatives achieve a systemic effect and ensure that social policy and/or service delivery and implementation have a sustainable impact?

As mentioned in the introduction (see **Chapter 1**), the starting point for the development of the i-FRAME was to look at ICT-enabled social innovation in the delivery of Personal Social Services of General Interest (PSSGI). More specifically, the analysis centred on how this type of innovation can contribute to simplify administrations, improve the management, provision and coordination of services; help design high-quality and cost-effective services meeting the needs of citizens; and support access to and take-up of social services.

In practice, the underlying question the i-FRAME aims to answer is: *can social innovation initiatives achieve a systemic effect and ensure that social policy and/or service delivery and implementation have a sustainable impact?*

To this end, an iterative series of extensive and exhaustive reviews of sources has been carried out throughout the stages of the research in order to conceptualise the overall proposal for the i-FRAME. These reviews aimed to provide a comprehensive picture of the various domains to which social investment policies might apply. They also appraised the methodologies that could be used to evaluate the impacts of these interventions, taking into account the specificities of different approaches to social policy innovation. This set the basis for the development of an open, interactive, and pluralistic platform for evidence-informed social policy innovation.

In particular, the review of the literature underlined the limits of traditional impact assessment approaches to assess social innovation.

In summary, it highlighted the following challenges related to social impact assessment:

- ▶ It is widely recognised that social impact assessment is still under-researched and evaluation approaches undertaken are methodologically weak.
- ▶ Though social impact assessment is still largely perceived as ‘nice to have’, it is generally not included in the design of interventions.
- ▶ There is a lack of accepted and tested methods, tools and indicators to assess the social and economic impact of ICT-enabled social innovation initiatives in general and of those promoting integrated approaches to social services in particular.

The findings from the review indicated a clear need to define a methodological approach and develop a meta-framework capable of assessing the social and economic returns of initiatives promoting social investments. In other words, the review confirmed the rationale for developing the i-FRAME.

There is a clear need to define a new methodological approach and develop a meta-framework

Assessing the impact of social policy innovation is not an easy task, for several reasons:

- ▶ The complexity of the context in which the ICT-enabled social innovation initiatives are conceived. The assessment of their impacts requires a deep knowledge of the dynamics of the causal relationships among relevant variables and their negative and positive interactions that usually are not linear.
- ▶ The cost of setting up a robust counterfactual approach measuring the causal relationships of all the relevant variables.
- ▶ The need to achieve a wide consensus among the relevant stakeholders on the results achieved with the impact evaluation process in place.

The i-FRAME is meant to overcome the limitations of traditional policy evaluation methods and help policymakers by giving them an informed-knowledge of how social policy innovation initiatives which promote social investment work.

6.1 i-FRAME 1.0: piecing the puzzle together

Social policy innovation is conceived as an ecosystem — a complex adaptive system in which different phenomena are interconnected — and like other complex systems it presents causal relationships which cannot be completely controlled or predicted in advance. In this ecosystem people act in partnerships and networks, while integrated programmes are implemented within a system of multi-level governance. Single initiatives cannot alone explain the innovation dynamics triggered by the complex and multi-network processes inherent in the phenomena under investigation, therefore they have to be analysed as part of their social innovation ecosystem.

Social policy innovation presents causal relationships which cannot be completely controlled or predicted

From its original conception, the i-FRAME puts complexity at its core. This involves considering the unintended consequences of social policy innovation and the network effects that can be generated, though these are difficult to capture.

The initial proposal was centred on the ecosystem of ICT-enabled social innovation

The initial proposal for i-FRAME 1.0 was centred on the ecosystem of ICT-enabled social innovation which promotes social investment. As shown in **Figure 24**, this ecosystem includes an outer ring with macro-meso level contextual variables, such as institutional settings, organisational capabilities, community needs and demands etc., and an inner ring with meso-micro variables, concerning the key components of the Social services deployment/implementation and/or functioning. All macro elements are linked to each other and, in combination with specific dimensions of each ICT-enabled social innovation initiative, shape the attributes of the social services provided, its level of deployment/diffusion, and the outcomes it produces.

For instance, institutional settings influence the governance of the ICT-enabled social services directly through funding and regulations of social services, but also indirectly by way of available funding and policy at the macro-meso-micro level. The community needs and challenges trigger the adopters of ICT-enabled social innovations and shape their motivations and attitudes, and also influence organisational capabilities and how they are reflected in the definition of the aims, scope and breadth of the social services.

The dimensions characterising the ecosystem of ICT-enabled social innovation promoting social investment are the elements to consider for defining data and variables that serve structuring and 'feed' the operational components of the i-FRAME.

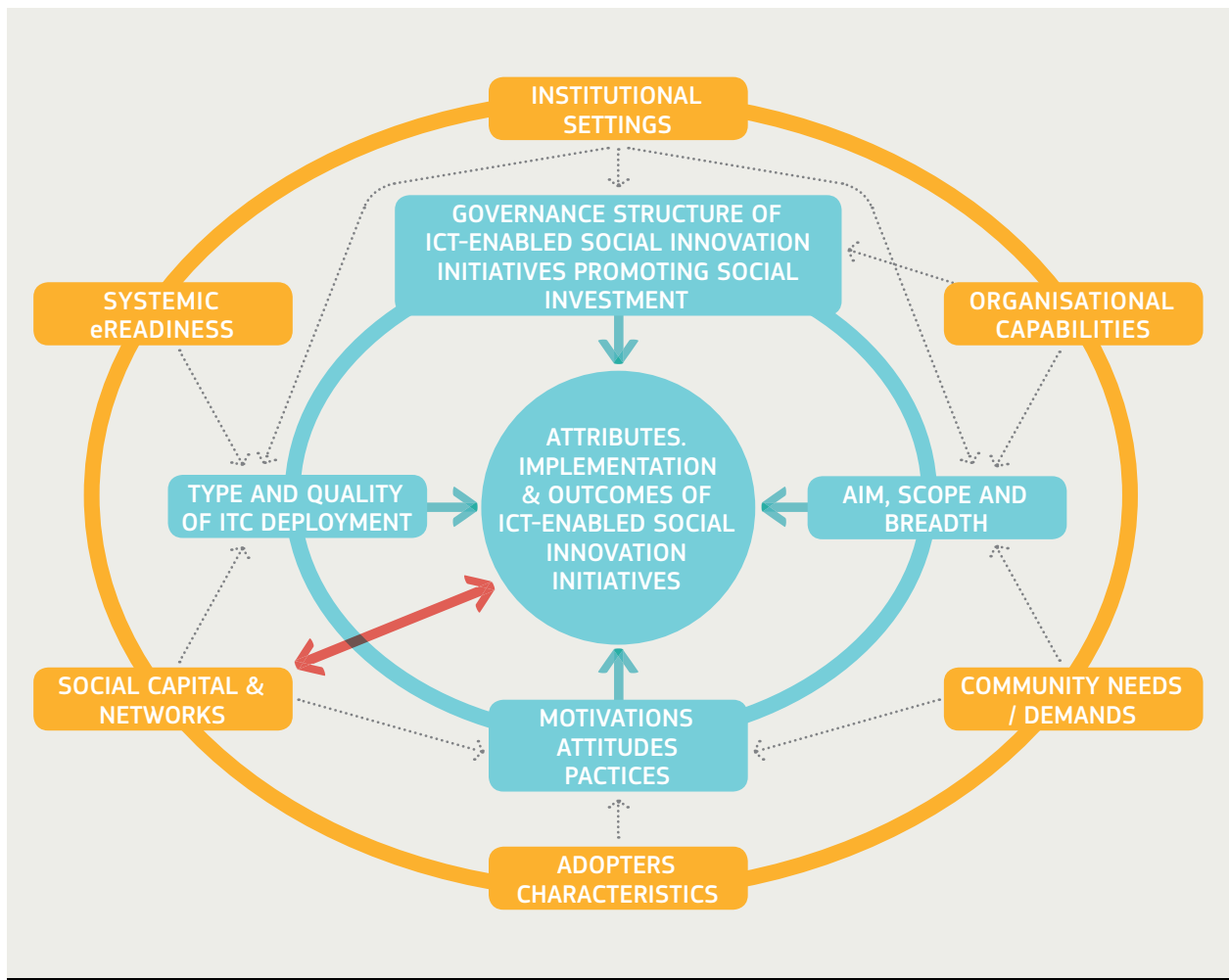
Other elements, not explicitly mentioned in the depiction of the ecosystem in **Figure 24**, may also affect the success and the long-term sustainability of a social innovation initiative. One of the crucial dimensions of this ecosystem is linked to innovation process dynamics and the level of maturity of the social innovations. Knowing a social innovation's stage of maturity is important for tailoring better support measures and adequate funding structures, especially for social innovations in which ICTs play a game-changing role.

Social services integration can be considered as an answer to wicked problems, and ICT-enabled social innovation as a 'change' factor associated with it

Another important aspect to take account for when building the i-FRAME is the current trend to improve efficiency and produce better outcomes in social services by increasing integration and coordination of approaches.

Integrated approaches to services delivery can generally improve efficiency of social systems, addressing what are known as 'wicked problems', such as the ones impairing the provision of social services in a context of economic and social turmoil. These problems are related to many causes and effects, which overlap and intertwine; they require multifaceted solutions and multi-service provision. Social services integration can be considered as an answer to wicked problems, and ICT-enabled social innovation as a 'change' factor associated with it.

FIGURE 24: Ecosystem of ICT-enabled social innovation promoting social investment: generic stylised modelling environment and its dynamics



Source: Misuraca et al., 2015b.

To account for social service integration within a complex social innovation ecosystem, the i-FRAME was designed following a multi-level and multi-dimensional approach. This approach includes an operational and a system perspective of social service provisions, described below:

- ▶ **operational perspective (or micro-meso perspective)**, as service innovation and integration of services enhance organisational performance and the effectiveness of services in terms of improved outcomes, efficiency and reduced costs; and
- ▶ **system perspective (or meso-macro perspective)**, as a service does not have an autonomous existence in the same way that a physical thing with technical specifications does. It is a social construction, which fits into different time horizons and must consider the multiple and dynamic relationship between users and service providers.

The i-FRAME was developed as a meta-framework including several methodologies and approaches which can be applied at different levels of analysis

The i-FRAME was thus developed as a meta-framework, which comprises several methodologies and approaches. These can be applied at different levels of analysis where and when appropriate, depending on the conditions available and the specific degree of detail required. In this regard, a distinction has to be made between the meta-framework and the specific operational components that have been proposed, developed and/or piloted during the research. This distinction helps understanding the methodological approach used in the development of the i-FRAME and the way forward.

The meta-framework encompasses both perspectives (system and operational), whereas the operational components focus on pragmatic micro-level measurement tools, computer-based instruments for data gathering and analysis, and macro-level simulation modelling approaches rooted in complex systems theories. In both cases, a modular approach for development, testing, and validation was adopted.

Building on the key dimensions of the IESI conceptual framework (see **Chapter 3**), a preliminary proposal of operational components for assessing outcomes and impacts of ICT-enabled social innovation initiatives has been developed. The proposal was based on a logic model, which is a representation of how a policy, a programme or an initiative functions theoretically under specific basic conditions to achieve the desired target objectives. It centred mainly on a micro-level of analysis, but with implications also for the meso level.

In simple terms, the conditions of an intervention, a programme or a policy are understood as the factors from which the initiative, programme or policy starts. These are normally:

- ▶ the **general conditions**, such as economic, political or social circumstances (i.e. the context in which an intervention takes place);
- ▶ the **target group** specifications (i.e. attitudes, knowledge, needs and compliance of the target group members must be taken into account);
- ▶ the financial, human and material **resources** (input); and
- ▶ the characteristics of the **programme sponsor**, such as its legal form or financing structure. This includes the definitions of the parties responsible for the implementation of the programme with regard to when targets are to be achieved with which target group through which activities, etc.

During the process, the measures intended to achieve the target are implemented. The directly provided contributions of the intervention, programme or policy are referred to as outputs (which are directly measurable results). The outcomes represent the desired conditions for the members of the target groups after completion of the activities. The outputs are to produce the desired outcomes and contribute to the achievement of specific (i.e. directly linked to the initiative, programme or policy) or broader global impacts (i.e. affecting socio-economic conditions of the context of reference) in a way that is logically, theoretically or empirically substantiated.

However, it is clear that while the logical derivation of impacts from policies, programmes or initiatives can be assumed and at best estimated through a logic model based on theory of change, the effective cause-effect relationships cannot be fully corroborated through such approach.

Additional elements of complexity concern the dynamic, temporal dimension of the impacts to evaluate, as policy interventions targeting PSSGIs should be conceived from a life-course perspective (i.e. they should represent a continuum of measures which accompany people through the key stages of their lives: childhood, working-age, parenthood, and old age) (Hemerijck et al., 2017). Social investment throughout the life-course can create positive knock-on effects and thus escalate improvements of individual life chances over time, by strengthening people's current and future capacities, for instance in terms of employment prospects or labour market incomes. Similarly, to achieve multiple positive effects, measures related to the various policy areas should be contemporaneous (i.e. occurring at the same time) and mutually reinforcing. A well thought out strategy of complementary and interdependent policy provisions, such as high-quality childcare, parental leave arrangements, training, and education, alongside universal minimum income protection, will generate higher total returns in terms of economics growth, employment opportunities and poverty mitigation, that the sum of the returns of each policy intervention taken in isolation. In other words, the development of institutional complementarities is a necessary condition for the implementation of successful social investment strategies.

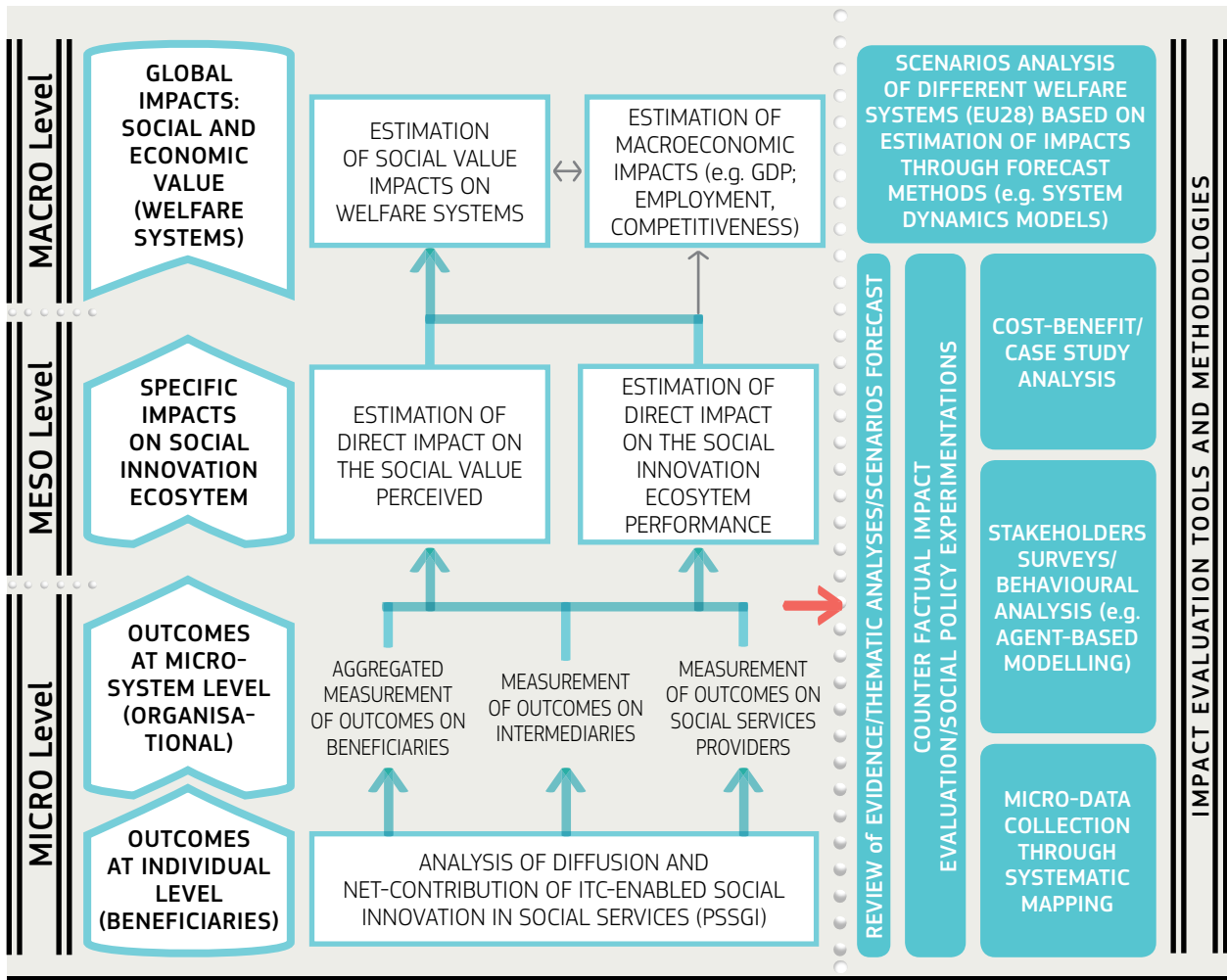
The understanding of the functioning of social policy innovation ecosystems, and the relationships between different elements characterising and influencing it, requires that they are deconstructed and interpreted using a number of complementary methodologies and tools, including in particular approaches based on complexity theories and system thinking.

The **i-FRAME 1.0**, outlined in **Figure 25**, presents all the elements to include in the meta-framework. It defines the type of variables of interest at the micro-meso-macro level, as well as the necessary measures/steps/tools and methodologies to analyse the diffusion and contribution of ICT-enabled social innovation in social services.

Variables at the micro-level include outcomes at individual level (beneficiaries) and outcomes at the micro-system level (organisational); measures at the micro-level include aggregate measures of outcomes on beneficiaries, intermediaries and social service providers. The meso-level is represented by specific impacts on social innovation ecosystems; these impacts cannot be measured directly but have to be estimated either on social value perceived or on the performance of the ecosystem. The macro-level represents global impact, social and economic values (characterising welfare systems); at the macro-level, the diffusion and contribution of ICT-enabled social innovation in social services is estimated through social value impacts on welfare systems or macroeconomic impacts (changes in GDP, employment, competitiveness, etc).

The meta-framework should include variables at the micro-meso-macro level, as well as the necessary analytical measures/steps/tools

FIGURE 25: i-FRAME 1.0 Outline



Source: Misuraca et al., 2015b.

The right hand side of **Figure 25** summarises some potential impact evaluation tools and methodologies, such as micro-data collection through mapping, stakeholder surveys, behavioural analysis, counterfactual impact evaluation, social policy experimentation, thematic analyses, cost benefit analysis and case studies, and scenario analysis coupled with forecasting methods.

i-FRAME aims to capture the direct effects and indirect consequences of ICT-enabled social innovation

This early formulation of the i-FRAME aimed to capture the direct effects and indirect consequences of ‘initiatives’ (i.e. policy/programme/project/activity) and to understand how these affect beneficiaries, organisations and possible intermediaries, as well as the social innovation eco-system, and the welfare system in which such initiatives are embedded. This means that socio-economic effects on individuals, organisations and the context of reference should be studied and related to the social service delivery models and welfare systems in which they operate.

The specific role of ICTs and the social nature of the initiatives under investigation should also be factored in the analysis, possibly through quantified (and if possible monetised) indicators and variables. For this reason proxy-indicators may be used when data are not available or value perception of stakeholders and beneficiaries may be considered.

6.2 i-FRAME 1.5: embedding complexity in the modelling process

While the proposal of i-FRAME 1.0 outlined in **Figure 25** remains necessarily at a high level of abstraction, the definition of the operational components that may be used for the purpose of assessing impacts of social policy innovation initiatives promoting social investment at micro-meso and macro level of analysis has been explored during the design of the **i-FRAME 1.5**.

As other complex systems, social policy innovation is defined by many causal relationships, feedback loops and non-linearities, along with their temporal dimension. Social innovation initiatives, and in particular those ICT-enabled, can act directly on the individual at the micro level, by changing his/her psychophysical and health conditions, which in turn can influence his/her behaviour and actions. At the same time, it can modify the (meso/macro) context in which the person lives, by changing opportunities and releasing constraints that, in-turn, can influence his/her actions and behaviour as well. Moreover, as it has been already emphasised, all these interactions can occur throughout the life course.

To address the complexities of such social policy innovation ecosystems, alternative methods to complement more traditional evaluation techniques should be used. These methods can help stakeholders to cope with innovation-related uncertainties and contribute to a better understanding of the various factors which influence the evolutionary process related to social policies and their innovation. They also help to define favourable conditions by considering alternative development paths and outcomes.

The most appropriate methods to model and simulate this complexity are represented by dynamic simulation models, such as System Dynamics (SD) and Agent Based Modelling and Simulation (ABMS). However, findings from the review of the state of the art showed that the application of dynamic simulation modelling, especially to social policies and ICT-enabled innovation initiatives, has been limited. The research also demonstrated that social policy actors have little experience and capacity in implementing scientific methodological approaches to assess the impacts of policy interventions based on complex systems techniques.

Simulation modelling instead can provide evidence to highlight the ideas, doubts, and intentions of the policy and decision makers involved in possible structural, operational and organisational changes. Modelling and simulation can give a numerical indication

Traditional evaluation techniques should be complemented by alternative methods to address complex ecosystems

Simulation modelling can provide evidence to highlight ideas, doubts, and intentions of the policymaker

of the resources needed, the time required to achieve an objective, the duration of an initiative, and so on. This gives a detailed qualitative idea first. Then quantitative values can be obtained when the numerical simulation is applied to the analysis and an assessment of all the possible performance indicators is made.

As a result of the development and testing phase of the **i-FRAME 1.5**, it emerged that modelling and simulation approaches to complex systems could be adopted as operational tools to assess potential impacts of ICT-enabled social innovation initiatives in an attempt to link micro, meso and macro level effects. In particular, System Dynamics (SD) and Agent-Based Modelling and Simulation (ABMS) should be combined to produce the so called 'Dynamic Simulation – Hybrid Model' (DS-HM). DS-HM emerged as a potentially powerful methodology which could address all the specificities and complexity of evaluating the impact of ICT-enabled social innovation initiatives promoting social investment in PSSGI delivery. The ABMS component of the DS-HM can easily model the dynamic characteristics of each individual in the target population and allows the researcher to simulate individuals' behaviour during their life courses. The SD component can represent the complexity and the dynamic of the context in which an individual operates. It can show how this context evolves over time due to interaction among different layers of the system. These interactions are represented by causal relationships and feedback loops that can interact with the behaviour of the individuals.

i-FRAME identifies the actions to shape a dynamic simulation model of the impacts of ICT-enabled social innovation

The proposed **i-FRAME 1.5** methodology was designed as a structured approach which identifies the actions that should be followed to shape a dynamic simulation model of the impacts of ICT-enabled social innovation initiatives which promote social investment.

The practical steps for implementing the i-FRAME methodology (version 1.5) are summarised by the **i-FRAME Decalogue** presented in **Box 5**.

This approach should be considered circular and reiterative rather than sequential. Moreover it requires the involvement of domain experts, stakeholders and policymakers in order to develop mutual learning and guarantee appropriate and credible results.

The characteristics and features of complex systems in fact are not fixed nor static, and can be grouped into two categories: those that are evident at the elemental (micro) level of the system, and those that are observed at the macro-level: complex systems in fact normally have a large number of elements, a certain number of relations (interdependence), as well as a set of shared rules by which they operate. All those features lead to a larger set of properties at the micro-level of the system. On the other hand at macro-level there are two sets of characteristics: the observable phenomena, which are related to the emergent capability of complex systems allowing them to produce patterns at the macro level that cannot be induced from simply analysing the parts in isolation; and the properties, such as the resilience, robustness, non-linearity, flexibility, and fitness of the system (Couture, 1997).

BOX 5: The i-FRAME Decalogue

- 1. Start from a definition of a case/problem/need**, and reconstruct the logic model representing how the case/problem/need is addressed by the ICT-enabled social innovation initiative (for a definition of logic model see for instance Epstein & Yuthas, 2014).
- 2. Define the levers for output, outcome and impact assessment** in accordance with the logic model identified at point 1, and identify the indicators for impact, outcome and output assessment in accordance with levers.
- 3. Identify the impacted and impacting domains of the case/problem/need and how they are addressed by the ICT-enabled social innovation initiative.** To this end the proposed approach is to develop Causal Loop Diagrams (CLD) that help in understanding which are the main cause-effects relationships of the problem under examination (references to CLD can be found in Sterman, 2000 and in Forrester, 1994).
- 4. Check for similar existing dynamic simulation models** (cases available in literature and i-FRAME collected sub-models)¹⁷ in order to identify possible domain related sub-models already developed, if any.
- 5. Look for and check the Attributes and Methods for each domain related sub-model** of the existing dynamic simulation model, and adapt them according to the case/problem/need addressed by the ICT-enabled social innovation initiative.
- 6. Improve the dynamic simulation model adding the domain related sub-model not already included in the existing dynamic simulation model selected from the existing ones**, and complete the logical representation of the case/problem/need addressed by the ICT-enabled social innovation initiative. To this end, develop a methodological pathway in dynamic model development that combine qualitative (Causal Loop Diagram) and quantitative (stocks and flows and agent based models) methods.
- 7. Adapt and improve each single domain-related quantitative sub-model** (Stocks & Flows Diagram and/or state charts with analytical description of the state transitions) also through Group Model Building Approach (Vennix, 1999; Zeigler et al., 2000; Vanden belt, 2004), **and combine the sub-models in the final dynamic simulation model representing the case/problem/need addressed by the ICT-enabled social innovation initiative.** To this end, use aggregate approaches (i.e. hybrid models) that can build consensus around difficult policy problems and facilitate presentation of results, as well as to leave more rooms in policymakers' and stakeholders' capacity to concentrate on feedbacks and develop an endogenous perspective of the policy actions.
- 8. Define the conditions** (initial data/information...) **for each scenario to be studied.**
- 9. Analyse the scenario through different experiments** (by changing the internal levers of the model).
- 10. Compare the scenarios and define/design the policy recommendations.**

External reviews of the approach proposed have identified that in the light of the achieved results, it seems that the whole i-FRAME initiative has the potential to significantly improve the quality of modelling for social policy innovation initiatives and beyond, adding real value to national and local initiatives and thus, indirectly improve the lives of EU citizens. In fact, although this framework was intended for the context of evaluating ICT-enabled social innovations, its importance is much wider, for such a framework is needed to facilitate and improve the use of computer modelling for policy purposes throughout the EU.

17 The proposal for i-FRAME 1.5 includes the establishment of a library of models that can be adapted and reused. This could not only save time and money to policymakers and their advisors, but also encourage comparability of evaluation between policies by facilitating the emergence of reference models. However, in order for models to be effectively reusable, high standards of development and documentation are needed.

The i-FRAME was tested by applying it on a number of case studies such as the Irish Pathways Accommodation and Support System

To further develop the approach proposed and to demonstrate its validity, the methodology underpinning the **i-FRAME 1.5** was tested by applying it on a number of case studies and scenarios of use. In particular, a quantitative application of the proposed simulation modelling approach was conducted using a real-life case: the Irish Pathways Accommodation and Support System (PASS).

PASS is a shared client support and bed management system for homeless services; it improves the planning, delivery, monitoring, and coordination of services across various agencies from the public and third sectors and forms part of the priority actions in the National Homeless Strategy in Ireland.

The Dublin Region Homeless Executive (DRHE) — responsible for the planning, coordination and administration of funding for quality services homeless people in the Dublin area — built a local database using PASS to track the pathways of service users into, through and out of the homeless service system over time.

PASS has been implemented in the Dublin region since 2011, and has become the single shared system in operation across statutory and voluntary homeless services. The system can provide real time information in terms of homeless presence and bed occupancy across the Dublin region. The database is able to flag up when someone has been in homeless emergency accommodation for longer than six months. This is in line with the Government's strategy to end long-term homelessness and limit stays in emergency accommodation by facilitating move-on to permanent solutions. The data collected are linked to profiles, assessment of housing and support needs of homeless people, such as: ongoing support planning, engagement with accommodation, outreach and day services, and reasons for departure.

All funded services addressing homelessness are required to use PASS under Service Level Agreements. Every record is unique and tracks a homeless person's progress, and assesses his/her income, employment, training, education and health needs. Service delivery can be improved through the shared information system that allows the agencies and other stakeholders involved in service provision to track and share tasks and provide a care continuum and integrated service delivery. The statistics provided can be used to plan future service developments and monitor the quality of the services delivered. They also provide insights into the challenges of homelessness, by profiling the characteristics of homeless people using the services, and contributing to a reconfiguration of service provision to fulfil long-term strategic policy objectives.

This case implies numerous situations which interact with one another. To test the i-FRAME methodology, a simplified logic model was first conceived to define the problem, identifying inputs, outputs, outcomes and impacts. The following step was to identify the impacted and impacting domains of the service in favour to the homeless people in the Dublin region; a causal loop diagram was used to describe the transition from the initial 'emergency accommodation' to a more stable accommodation

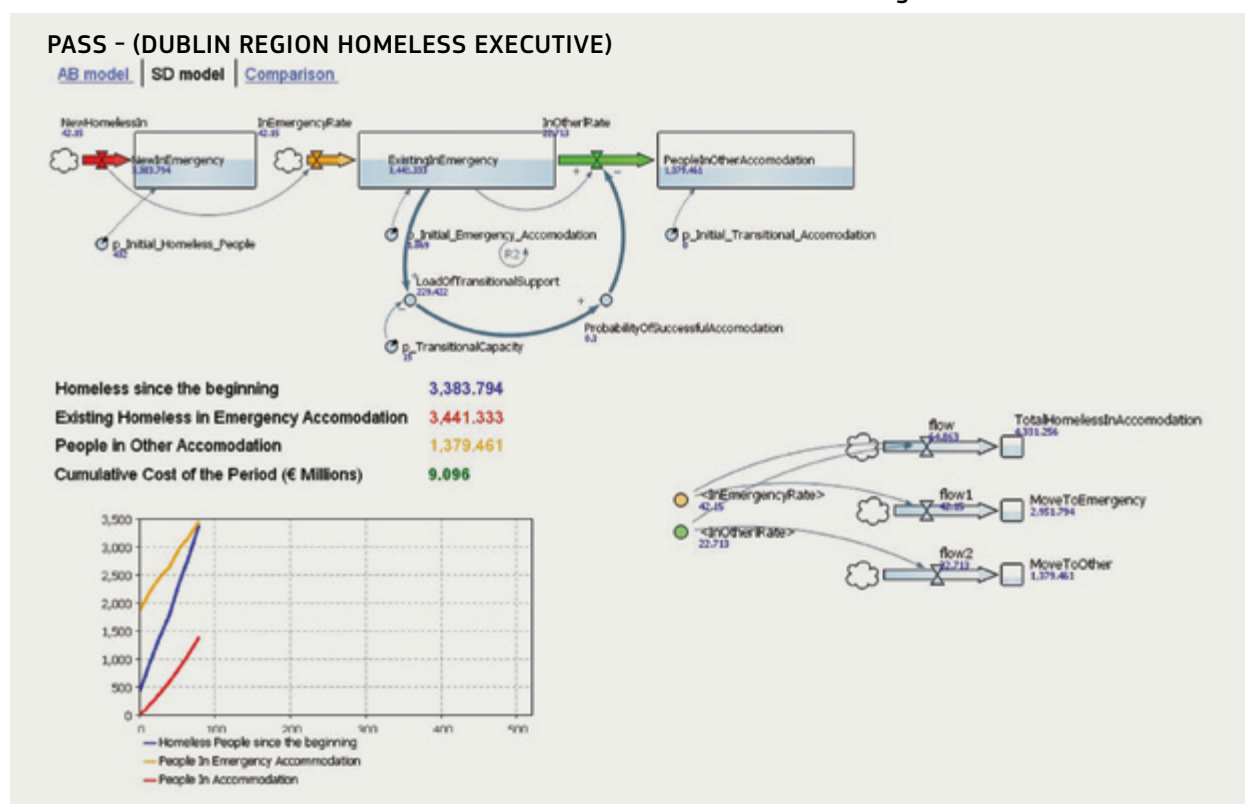
(tenancies). Finally, the dynamic relationship described by the causal loop diagram, was represented through simulation modelling using real data provided by The Homeless Agency Partnership. The simulation modelling illustrated the main effects of the PASS system on a homeless person's transition from initial 'emergency accommodation' to more stable accommodation. The model developed is coherent and reproduces over time data officially published by the DRHE.

Figure 26 provides a screenshot of the output of the simulation modelling which helps showing in visual manner the impact of the intervention using PASS for the planning and execution of the services. The real-time tracking of homeless people and the availability of beds made it possible to increase bed occupancy to 99%, thanks to the sharing of information between all agencies, other stakeholders, and volunteer organisations. This ensured efficient use of available resources and reduces duplication of efforts.

The results of this illustrative example confirmed that PASS helps to optimise the use of financial and human resources so that an essential required service to any household experiencing homelessness can be delivered, while at the same time overall costs of homelessness for society are reduced.

The simulation shows significant improvements for the beneficiaries in terms of independent living and integration into society

FIGURE 26: Screenshot of results from testing i-FRAME 1.5 on the PASS case



Source: Misuraca et al., 2017d.

This initiative seemed to be highly preferable compared to earlier approaches which aimed to get people ‘housing ready’. The simulation of impacts in fact shows a significant improvement in the number of individuals who moved into independent living and integrated into society with full-time employment, and better health condition.

6.3 i-FRAME 2.0: evidence informed social policy innovation

As anticipated before, the IESI research progressed from its exploratory phase and expanded the scope of the analysis to consider the broader concept of Social Policy Innovation promoting social investment, of which ICTs are important components. This emerged not only as a consequence of the findings from previous reviews and consultation with experts and representatives of stakeholders, but also in view of the need to enlarge the aim of the i-FRAME to investigate the possibility to extend it to other policy fields.

Within this context, **Social Policy Innovation** “refers to social investment approaches that provide social and economic returns. It is linked to the process of modernising social protection systems and redesigning social service delivery through innovative systemic reforms, where ICTs generally play a key role” (Misuraca et al., 2017c).

Social Policy Innovation is linked to the process of modernising social protection systems and redesigning social service delivery, where ICTs generally play a key role

The main focus of the analysis in fact is on social policy and services innovation that can also be defined, building on the definition of ICT-Enabled social Innovation proposed by JRC as part of the IESI research (Misuraca et al., 2017e) as “*the design, production, and provision of PSSGI addressing individuals’ needs throughout their lives, through the reconfiguration or recombination of practices across the value chain (upstream, midstream, and downstream)*”. From such definition a typology has been derived using the three dimensions (see **Table 4**):

- a. Upstream: extent to which the underlying policy is reconfigured.** For instance, conceptual innovation and new sources of evidence may define new needs and/or new target users and redesign services; changes in policy orientation and policy-makers’ objectives may introduce new financial instruments and even redefine the regulatory framework. This dimension can take two values (low or high) depending on whether changes are only at the conceptual and design level or whether they go all the way to introduce new objectives, funding, and rules;
- b. Midstream: service production reconfiguration.** This concerns the extent to which service production entail integration and coordination of actors across traditional functional units in the public sector, and also across other non-public sector providers: the aim of integration being to put the final users/beneficiaries (including service intermediaries) at the centre and treat their needs holistically. This can be simply sectoral (i.e. within on functional unit) or cross-sectoral (across functional units and across public and non-public sector actors);

- C. Downstream: service offering reconfiguration.** This pertains to the extent to which new services are added and new users reached (with different channels, especially digital) or existing services are simply rationalised and improved.

TABLE 4: Typology of social policy and service innovation

		(A) UPSTREAM: Social Policy Reconfiguration			
		Low		High	
(B) MIDSTREAM: Service reconfiguration	Production	Sectoral	Cross-sectoral	Sectoral	Cross-sectoral
	High	Sectoral Expansionary innovation	Cross-sectoral Expansionary innovation	Total sectoral innovation	Total systemic innovation
(C) DOWNSTREAM: Services offering reconfiguration	Low	Sectoral Incremental innovation	Cross-sectoral Incremental innovation	Sectoral developmental innovation	Cross-sectoral developmental innovation

Source: Misuraca et al., 2017e.

In this perspective, as amply demonstrated by the findings of the literature reviews and anticipated before, it was necessary to deconstruct and interpret social policy innovation ecosystems using complexity thinking and tools in order to understand them. In some cases, this exercise could be conducted by using more formalised techniques such as simulation modelling that include, among others, ABMS, SD, DS-HM, and Social Network Analysis (SNA), all of which can be informed by behavioural insights. When this is not possible, ecosystems could be reconstructed through in-depth qualitative case studies, which in turn fed into, and support, the micro- and macro-level operational tools.

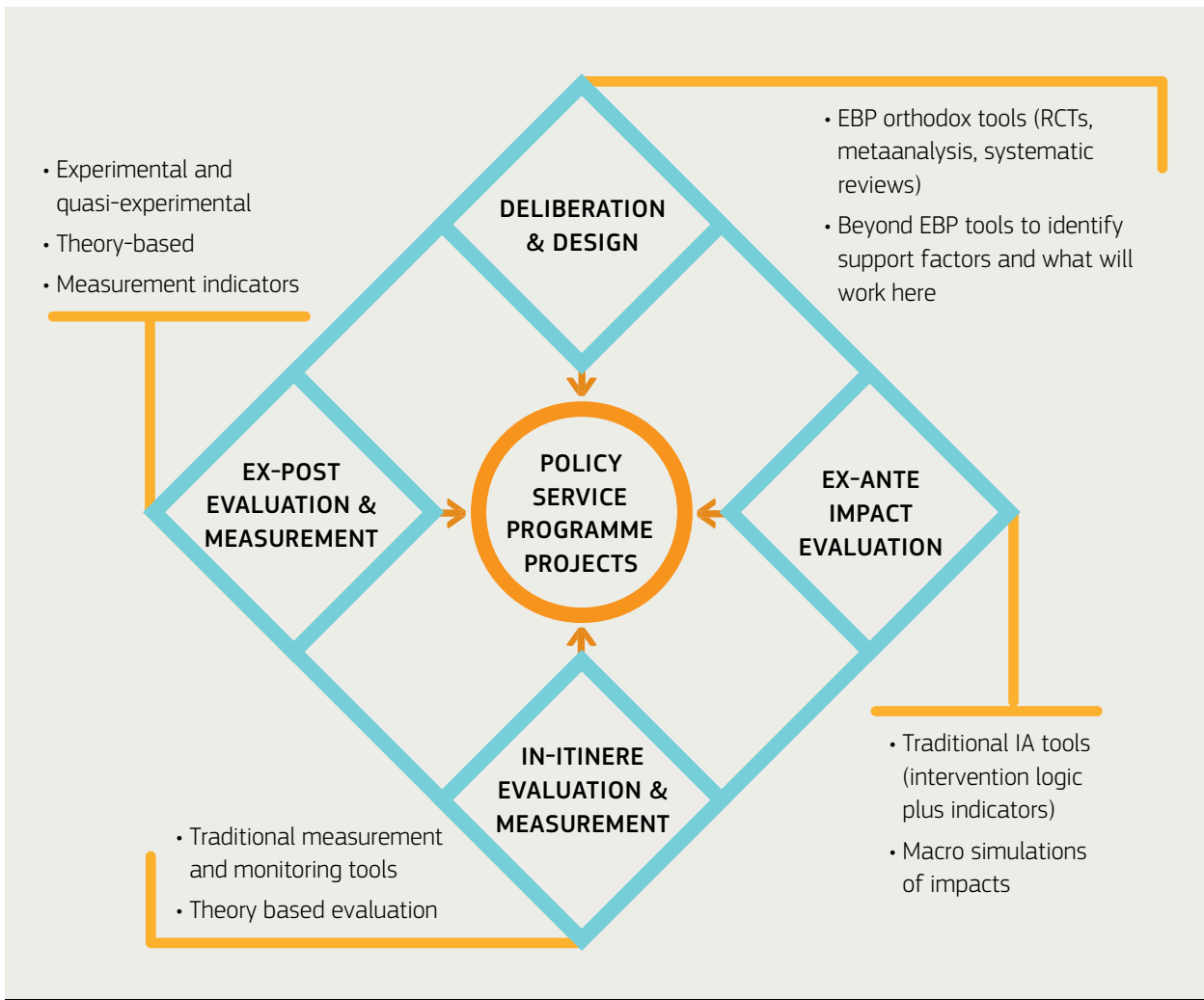
The proposal for **i-FRAME 2.0** keeps both quantitative and qualitative dimensions together, by developing and piloting the various operational components in diverse stages of development and application domains, as well as different timeframes. It represents an upgrading of the version 1.5 along the following lines:

- It improved the theoretical and methodological approach proposed in the previous version, by providing a comprehensive framework to evaluate social policy innovation initiatives *ex-ante*, *in-itinere* and *ex-post*, at the micro-meso and macro level.

- ▶ It developed the prototype of some operational components of the improved methodological approach, and piloted them through the application to case studies and scenarios of use.
- ▶ It elaborated a proposal for developing a computer-based simulation model for social impact assessment whose relational structure encompasses all the possible levels of analysis (micro-meso-macro) by using the same structural environment.

With regard to the structure of the theoretical and methodological framework, the **Deliberation & Design** step has been added. This aims to shape the design of interventions and eventually inform the three phases of evaluation in a loop that will produce gradual but constant improvements across the cycle in what we have depicted as the Diamond for Evidence-Informed Social Policy Innovation (EISPI) (see **Figure 27**).

FIGURE 27: Diamond for Evidence-Informed Social Policy Innovation

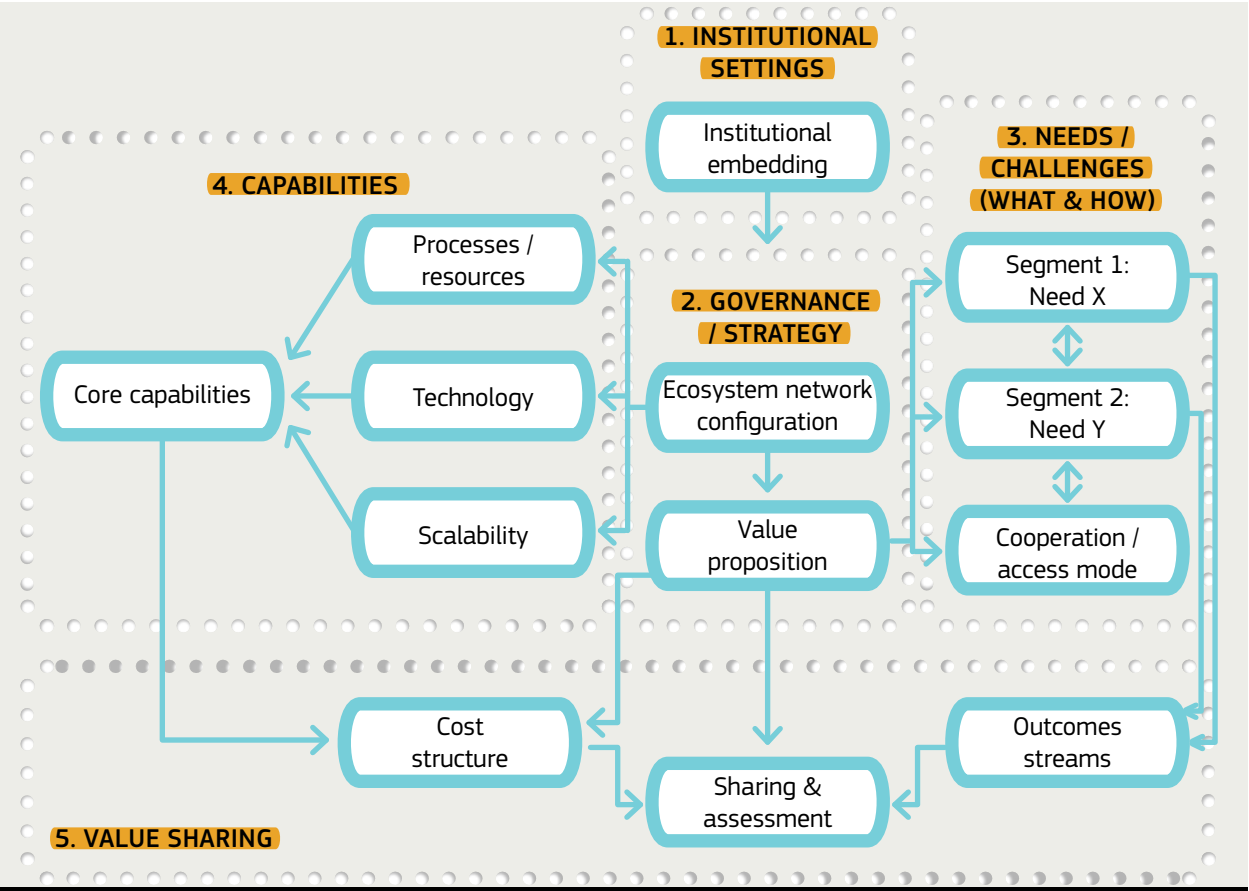


In addition to broadening the scope from strictly defined ICT-enabled social innovation to social policy innovation promoting social investment, the revised proposal for **i-FRAME 2.0** emphasises the need to consider the characteristics of the contextual ecosystem in the design and in the evaluation of any relevant policy, service, programme, or initiative.

In doing so it builds however on the key pillars advanced in the **i-FRAME 1.0**. First of all the view of the (digital) social policy innovation ecosystem. In fact, although the initial focus has been on ICT-enabled social innovation, it is still fully relevant for the broader definition of Social Policy Innovation, which still consider ICTs as horizontal necessary conditions, especially in light of the current and emerging trends in terms of digital transformation of our societies and of the labour markets, with consequences and implications with respect to the future of work and of welfare systems.

In this perspective, and in line with the previous versions of the i-FRAME 1.0 and 1.5, addressing the complexity of introducing social innovations in practice remains a crucial aspect of the i-FRAME rationale and implementation in its version 2.0. This complexity can be represented in a stylised manner as in the **Figure 28**.

FIGURE 28: Integrated social policy and service innovation in practice



The final version of the proposal for a methodological framework to assess social policy innovations promoting social investment — **i-FRAME 2.0** — is thus presented as a generic meta-framework applicable at different levels: policy, service, programme and projects. Its main aims are to contribute:

- ▶ developing a dynamic knowledge base on social policy innovation;
- ▶ designing a fully-fledged i-FRAME simulator of social policy impact;
- ▶ monitoring the implementation of the EU Pillar of Social Rights and Member States' policies for modernising social protection systems.

The operational components presented below are centred on both traditional tools for Evidence-Based Policy (EBP), such as Randomised Controlled Trials (RCTs), systematic reviews, (including meta-analyses), and new tools which account for contextual factors and guarantee external validity (generalisation) of programmes.

6.3.1 Operational components of the i-FRAME 2.0

6.3.1.1 Deliberation and design: from it worked there to it will work here

The tools for the deliberation phase of the **i-FRAME 2.0** are inspired by theory-based evaluation. This means that policy interventions are not considered as monoliths, neither are the beneficiaries and all stakeholders simply passive recipient and takers of the treatments; their views are crucial to perform the evaluation; the views of policymakers, stakeholders, experts, and participants are collected through interviews or sifting through relevant documents (e.g. programme documents, multi-annual plans, research agendas, project documents) and treated as theories of change and action. They are used as hypotheses to be tested empirically. Furthermore, differing from counterfactualism, context is not controlled for statistically but it is rather viewed as key to understanding the interplay between intervention and effects. Again, contextual variables are measured both from the perspective of involved players and through available external sources of evidence (i.e. statistics, review of relevant literature).

In other words, in theory based evaluation hypotheses and theories can be derived from RCTs, meta-analysis, systematic reviews, and other forms of mixed methods evaluation, and then tested with respect to the settings where a policy is being considered, after gathering all the relevant evidence using mixed methods, and triangulating different sources of evidence.

The **Deliberation & design** phase needs to ensure external validity, in practice that what 'worked there will also work here'. To this end, a series of support or contextual factors that enabled the success of a given policy need to be identified.

Recognising the support factors and the corresponding causal principles at work in one setting is not an easy task and there are no clear-cut recipes, but a number of possible tools that can help the process of policy design and evaluation exist. In particular the following four tools that are reported with some exemplifications are proposed:

- I. **Problem tree:** a tool to analyse an existing situation by identifying the major problems and their main causal relationships. The output is a graphical arrangement of problems differentiated according to causes and effects, joined by a core, or focal, problem. This technique helps understand the context and interrelationship of problems, and the potential impacts when targeting projects and programs toward specific issues.
- II. **Ex-ante failure scenario with simplified causal model:** this is a collaborative approach involving a group of policymakers, stakeholders, and experts to engage in a collective construction of an *ex-ante* failure scenario. The group imagine the policy would fail and from this reasoning they extract a list of factors that are necessary for the policy to work. They must envision that the policy has been put in in place as planned but things have gone wrong.
- III. **Step-by-Step and backward theory-based evaluation thinking:** this approach, also called process tracing has the main objective to confirm the existence of a causal connection between the start and the end of a process or policy by checking with available evidence one-by-one, a series of smaller causal steps in between.
- IV. **Quick exit tree:** this method is based upon tools aimed at eliminating/selecting policy options by answering with evidence binary Yes/No questions. The approach provides clear cut answers and may save efforts if the NO comes up at the very beginning of the policy design phase.

Recognising the support factors and the corresponding causal principles at work in one setting is not an easy task and there are no clear-cut recipes, but a number of tools that can help the process of policy design and evaluation exist

6.3.1.2 *Ex-ante, in-itinere, and ex-post* evaluation and measurement indicators

The core of the operational components of the **i-FRAME 2.0** for impact assessment centres on a number of tools according to the three evaluation phases:

- ▶ *Ex-ante*: traditional Impact Evaluation methods and tools (e.g. Intervention Logic, measurement indicators etc.); as well as the proposal of an experimental application and extension of a simulation approach using Macroeconomic Agent-Based-Modelling (MABM);
- ▶ *In-Itinere*: traditional measurement and monitoring tools and methodologies for theory based evaluation;
- ▶ *Ex-post*: Experimental and Quasi experimental techniques; structured system of measurement indicators; and theory based impact evaluation.

A typical instrument used by the European Commission *Ex-Ante* Impact Assessment Toolkit is the Intervention Logic. As outlined in the glossary of the common monitoring and evaluation framework (CMEF) of 2007-2013, an intervention logic “represents a methodological instrument which establishes the logical link between programme objectives and the envisaged operational actions”.

To provide an example of Intervention Logic, **Figure 29** shows a problem tree developed to justify the Job Integration Agreements (JIAs) – instruments aimed at implementing the European Council recommendations on long-term unemployed integration measures (European Council, 2016). JIAs are meant to link together providers, beneficiaries, and employers to produce a seamless, integrated, and personalised stream of services for the Long Term Unemployed (LTUs), envisioning employment policies (through Job contracts) as the pivotal locus of social services integration¹⁸.

The i-FRAME proposes two types of innovation on the Intervention Logic toolkit: the development of a computer-based measurement system and a structured repository of experiences, or ‘knowledge base’

Clearly this tool entails a deterministic approach to the unfolding of an intervention and to the way it will cause the desired effects. Nevertheless, it is a very useful and practical instrument that shall be made available to support policy design and evaluation. However, as it is often unfortunately the case, especially in the field of social policy innovation, if not backed by the kind of deliberation tools described earlier, this tool may only serve as the conceptual framework to define monitoring indicators.

The **i-FRAME 2.0** thus proposes two types of innovation on the Intervention Logic toolkit. On the one side, the development of a computer-based measurement system with a pre-defined set of indicators for monitoring and evaluation; the system has to be flexible enough for customisation to specific interventions and different contexts, and backed by a simple toolkit. Guidelines for *ex-ante* and *in-itinere* impact assessment shall support, once again, the structuring and formalisation of the policy/programme/project design and evaluation. Based on a structured repository of experiences, a knowledge base with evidence of results can be built to support better informed decisions. The evidence-base gathered could be used to define variable and scenarios of use for modelling and simulation of impacts.

Measurement indicators must include: *inputs*, i.e. the financial, human, and material resources used for the development intervention; *outputs*, i.e. the products, capital goods and services which result from a development intervention; and *outcomes*, i.e. the likely or achieved short-term and medium-term effects of an intervention’s outputs (OECD, 2011).

.....
 18 The objectives of the EU Council recommendations are: (1) increase coverage with higher registration and active support for long-term unemployed, (2) ensure continuity and coordination between relevant services, and (3) increase the effectiveness of interventions aimed at both the long-term unemployed and employers.

FIGURE 29: Example of Intervention Logic

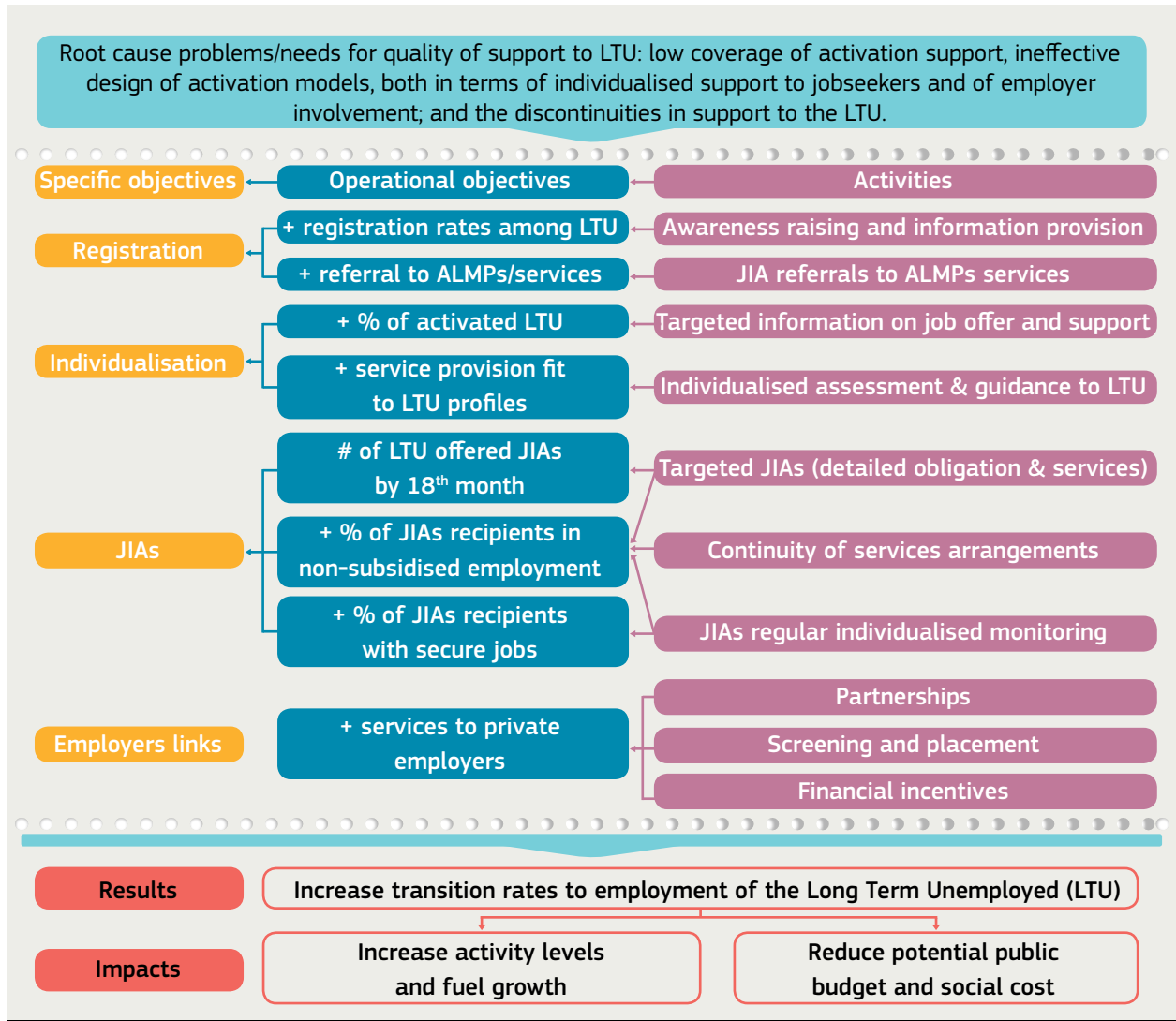
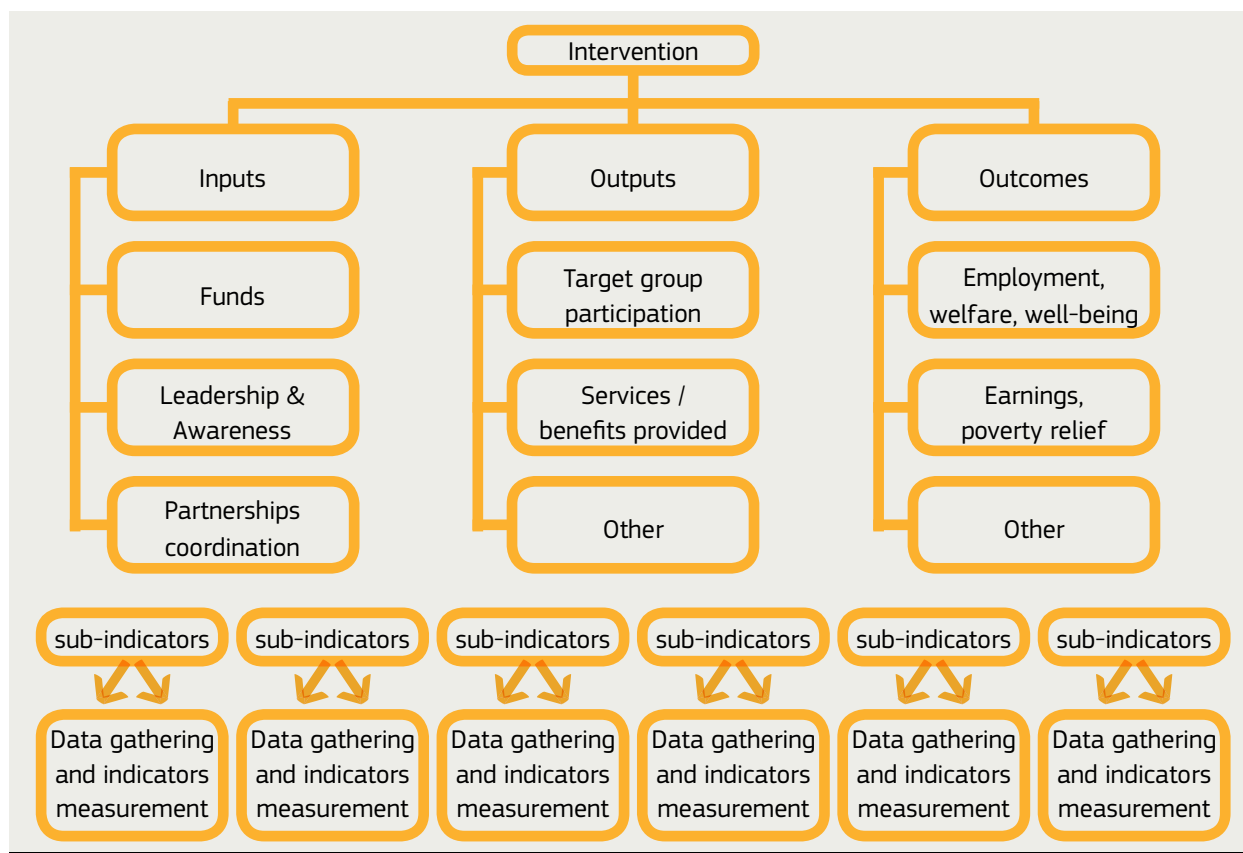


Figure 30 presents a generic example of a system of measurement indicators which could be adapted to the various areas of analysis and structured as a formal electronic toolkit. The operationalised and differentiated version of these measurement tools should be produced as part of the further development of the dynamic **Knowledge Base on Social Policy Innovation** to be integrated into the **i-FRAME 2.0** platform proposed (see after).

FIGURE 30: Generic example of a system of measurement indicators



Source: Own elaboration.

To illustrate the type and sources of information that should be considered to implement the approach proposed for micro-level measurement, in **Table 5**, the set of indicators to monitor the JIAs recommended by the Council is presented for exemplificative purpose.

TABLE 5: LTU intervention monitoring indicators (exemplificative only)

Objective	Indicator	Definition	Unit of measurement	Sources of data
Increase registration rate among LTU	Share of LTUs who are registered	Share of LTUs who self-report in LFS that they are registered	% change over baseline	Labour Force Survey (LFS)
Increase Referral to ALMP services	Number of referrals to ALMPs / services included in JIAs	Average number of referrals to ALMPs, employment / social services in JIAs	Averages absolute values	Reporting by implementing organisations
Increase share of activated LTU	Activation rates of LTU	Number of LTUs participating in employment services and ALMPs / total number of LTU	% change over baseline	Employment Committee (EMCO) Joint Indicators Framework

Objective	Indicator	Definition	Unit of measurement	Sources of data
More personalised service provision	Share of LTUs reassessed before completing 18 months of unemployment	Number of LTUs reassessed / Total number of unemployed for 12- 18 months	% change over baseline	Labour Market Policy (LMP) database
Increase share of registered LTU who have been offered a JIA in last 18 months	Share of LTUs with JIAs	Number of registered LTUs who sign JIAs / total number of registered LTUs	% change over baseline	Reporting by implementing organisations
Increase share of JIA recipients who make the transition to non subsidised employment	Successful transitions to non subsidised employment	Number of JIA recipients in non-subsidised employment / total number of JIA recipients (6 and 12 months after concluding JIAs)	% change over baseline	Possibly from PES benchmarking
Increase share of JIA recipients who make the transition to permanent full-time contracts	Successful transitions to permanent / full-time contracts following JIAs	Number of JIA recipients in permanent (and/or) full-time employment / total number of JIA recipients who make the transition to employment (6 and 12 months of concluding JIAs)	% change over baseline	Possibly from PES benchmarking
Increase services to private employers	Share of ALMPs targeting private employers	Ratio of expenditure on ALMPs / ratio expenditure on public works ALMP measure	% change over baseline	Labour Market Policy (LMP) database
	Share of JIAs accompanied by employer support	JIAs linked to an employer service / total JIAs	% change over baseline	Reporting by implementing organisations

Source: adapted from European Commission (2015b).

6.3.1.3 Prototyping a computer-based simulation model for i-FRAME 2.0

The **i-FRAME 2.0** is to be considered an open and epistemologically pluralistic framework with several operational components that can be used and adapted to the different needs of policy-makers and practitioners at different levels. It employs formalised quantitative empirical approaches, theory-based evaluation, modelling simulations, and qualitative methods. This ensemble of tools can be used both in interactive workshops within policy lab sessions and in more traditional capacity-building exercises.

To this end, the proposed **i-FRAME 2.0** envisages the development of a web interface to help guide policy actors through the process of specifying an evaluation model. An interface that fully covers this process is clearly difficult to achieve due to the large variety of needs, contexts, techniques and availability of data. However, an interface that aids this process, providing prompts and guidelines, is highly desirable.

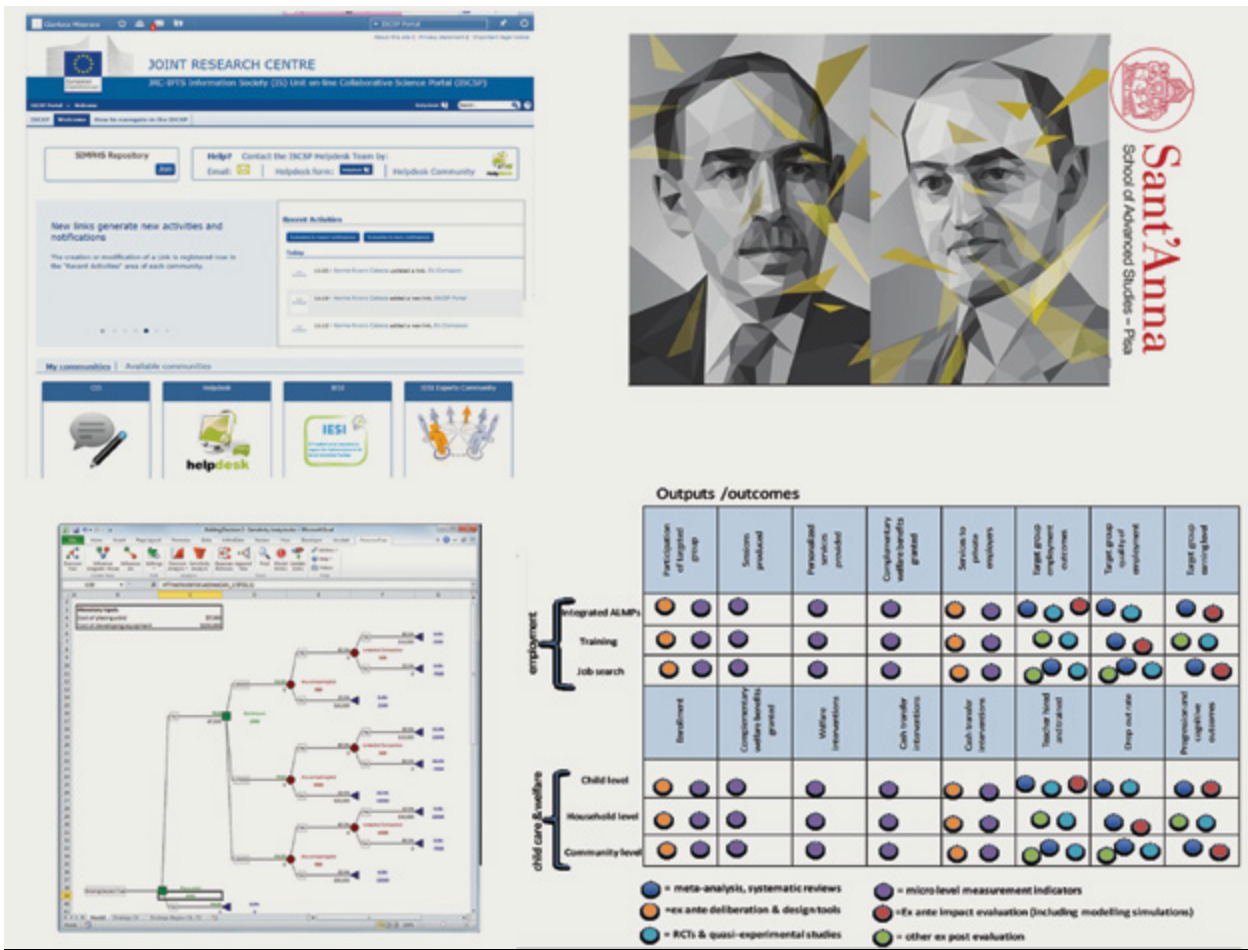
i-FRAME envisages the development of a web interface to guide policy actors

A number of operational tools are being developed as part of an Interactive and dynamic warehouse for Evidence-Informed Social Policy Innovation

For this purpose, a number of operational tools are being developed as prototypes and to further integrated into the **i-FRAME 2.0 Computer-based simulation model**, as part of an Interactive and dynamic warehouse for Evidence-Informed Social Policy Innovation (EISPI). The prototypes will include a computer-based problem tree, and an electronic toolkit for impact measurement, to also support other methodologies and techniques, such as *ex-ante* failure scenarios with a simplified causal model; step-by-step and backward theory-based evaluation thinking; or the quick exit tree mentioned as part of the Deliberation and Design phase.

In addition, an Interactive Support Tool to funnel users to the i-FRAME Simulator (limited in scope for the time being to the Macro-Agent Based Model K+S – see after) is being developed as part of the i-FRAME Platform prototype (see **Figure 31**).

FIGURE 31: Proposed architecture of the i-FRAME2.0 Simulator Web-Platform



Source: Misuraca et al., 2017e.

The ‘i-FRAME Simulator Web-Platform’ could be used as a support tool for policy modelling which would engage policymakers, representatives of stakeholders, domain experts and modellers, in more or less formalised and structured group-model building or policy lab/policy design sessions. These sessions could be either ‘real-time’ or ‘on demand’, by setting up specific virtual policy lab sessions and/or workshops to be attended in person that could also serve as capacity building, considering various simulation modelling approaches to address specific problems or policy issues.

The ‘i-FRAME Simulator Web-Platform’ could be used as a support tool for policy modelling

The revised i-FRAME 2.0 methodology is presented in **Box 6** here below. With regard to the impact evaluation phase (step 6) it is clear that several possible tools could be used to run simulations and/or measure/evaluate (*ex-ante*, *in-itinere*, *ex-post*) the impacts of policy interventions. Besides what proposed in the **i-FRAME 2.0** methodology, simulations could be conducted using either the methods proposed in the Version 1.5 (namely, a hybridisation of system dynamics and Agent-Based Modelling Simulations) or a further development of the planned experiment conducted using the K+S simulation model (see §6.3.2).

BOX 6: i-FRAME 2.0 Six-Steps approach for Evidence Informed Social Policy Innovation

The revised i-FRAME methodology (version 2.0) includes the following steps:

- (1) *Problem and ecosystem functioning.* Define the problem an intervention aims to address within the functioning of a given ecosystem; i.e., problem tree;
- (2) *Interactive causal discussion.* Engage stakeholders and experts into a discussion on possible causal logic; i.e., theory-based thinking, quick exit trees;
- (3) *What worked elsewhere.* Engage stakeholders and experts into a discussion of the suitability for the given intervention of what worked elsewhere; i.e., interactive evidence informed social policy innovation warehouse;
- (4) *Decide and design the intervention.* Obviously, the final deliberation and design of an intervention will have to be done following formal and prescribed rule, peculiar to the context of any given country. Yet, in a policy lab context this step could be done as an exercise and should strategically embed the suitable measurement and evaluation methods/tools in the very design of the intervention;
- (5) *Identify key variables.* This to a large extent corresponds to steps 2 and 3 of version 1.5 (see **Box 5**), namely definition of the input, output, outcomes, and impacts to be measured and evaluated; it can be implemented using ‘traditional’ tools such as intervention logic model, Causal Loop Diagrams (CLDs), and other support techniques, including Group-Model Building, Focus Groups; Interviews; Experts Insights; and other ‘Policy Lab’ techniques.
- (6) *Run simulations and/or measure/evaluate (ex-ante, in-itinere, ex-post).* Depending on the previous steps and on the nature of the intervention simulations, measurements, or evaluations could be run using insights from the Evidence Warehouse (EISPI) and possibly using (or re-using to the extent possible) already developed simulation and models according to hypothetical scenarios of use or tested against real-life case studies.

6.3.2 Experimenting with macro agent-based modelling

As an illustration of the proposed simulation modelling component of the **i-FRAME 2.0**, it is presented the approach being piloted to adapt and extend the family of Keynes plus Schumpeter Macroeconomic Agent-Based Models (K+S) for Active Labour Market Policies (ALMP).

The K+S Macroeconomic Agent-Based Model (MABM) has been developed at the Scuola Superiore Sant'Anna (Dosi et al., 2010; Dosi et al., 2014; Fagiolo & Dosi, 2003; Fagiolo & Roventini, 2016). The simulations conducted using the K+S model as part of **i-FRAME 2.0** must be understood as pilot explorations. They represent one of the possible policy domains and modelling approaches that could have been chosen.

Labour market policies and services are one area among the many that are included in the concept of PSSGI. The special focus on the labour market was the choice of the research team, justified on two grounds. First, it is uncontroversial that unemployment and long-term unemployment are among the most pressing social problems at the moment and are social policy priorities for both the EU and the Member States. Second, it is in this domain that the systematic review found the most solid empirical evidence, which is being used in developing the ad hoc module of the K+S model for the i-FRAME 2.0.

A Macro Economic Agent-Based Model was also a choice made from the growing family of modelling tools. Needless to say, a price for the macro perspective is paid in terms of the granularity of the transmission mechanisms of the various possible policy innovations. On the other hand, this perspective provides some scenarios of potential macro impacts that could encourage policy-makers to act and researchers to develop more granular micro-simulation.

The K+S family of models builds on evolutionary roots (Nelson & Winter, 1982), but it is also in tune with genuine Keynesian insights (see e.g. Stiglitz, 1994a). It tries to explore the feedback between factors influencing aggregate demand and those driving technological change. In doing so, it begins to offer a unified framework, which accounts for long-term dynamics and short- and medium-term frequency fluctuations at the same time. The model is 'structural' in the sense that it explicitly builds on a representation of what agents do, how they adjust, how they interact, and how they respond to policy changes. Policy institutions need to understand what instruments can be used to mitigate, and potentially reverse these long-term trends. They also need to accurately assess the short- and long-term effects of different types of structural reforms on the labour markets.

As part of the piloting and testing of **i-FRAME 2.0**, the K+S model has been used to study the relation between the institutional conditions of the labour market and the effects of labour market structural reforms under two alternative scenarios: 'Fordist' and 'Competitive' (see Dosi et al., 2016a, 2016b).

In particular, the experiment explored the effects of structural reforms which aimed to:

- I. increase numerical flexibility;
- II. lower the pass through of productivity growth upon wage growth;
- III. reduce unemployment benefits and minimum wages.

To study these policies, different types of firing schemes, which go from temporary to permanent type of contracts have been tested. The analysis detected that structural reforms do indeed affect aggregate macroeconomic performance, in terms of productivity and GDP growth rate and variance, unemployment, personal and functional income inequality.

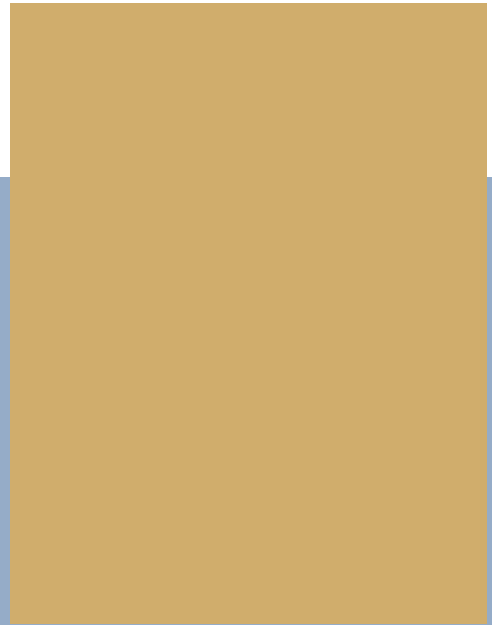
Simulation results show that structural reforms which aim to increase the flexibility of the labour market seems worsening the performance of the economy. More specifically, they increase GDP volatility, unemployment rate, and inequality (see **Figure 32** for illustrative purposes only).

FIGURE 32: Labour market structural reforms: impact on unemployment and vacancy rates



Source: Sant'Anna School of Advances Studies, 2017.

7



CONCLUSIONS

7. CONCLUSIONS

7.1 Empirical evidence and key insights from the IESI research

The IESI research fills an important gap in the area of ICT-enabled social innovation, as it addresses the lack of systematic monitoring and assessment of interventions, which make it difficult to gather evidence on the success of initiatives and to reach an in-depth and comprehensive understanding of the phenomenon.

By demonstrating the effects of ICT-enabled social innovation initiatives and the factors that affect their impact, the IESI research offers the required knowledge to consider scalability, replicability and transferability of practices throughout Europe. This in turn sheds light on how ICT-enabled social innovation contributes to design better policies able to promote social investment and improve the performance and sustainability of future European welfare systems.

In particular, the classification of the ICT-enabled social innovation initiatives according to the dimensions of the conceptual framework of the research, and represented by the IESI Knowledge Map, shows that the majority of initiatives are need-driven and outcome-oriented and that the innovation process is open and builds on collaborative innovation networks. This suggests that ICT-enabled social innovation initiatives respond to social needs sustainably by engaging the stakeholders directly. Stakeholders are able to participate in the co-creation and co-production process, bringing specific solutions together with their knowledge and competences on how to achieve them. Likewise, most social innovations pursue public value, by ensuring that the solutions devised are suitable to address the multi-faceted needs of different groups of citizens.

The analysis of the consolidated mapping provides indications of the strong potential that ICTs have to enable integration across sectors and support public value creation. Most of the initiatives use ICTs to create new services or improve existing ones; a significant number of initiatives relies on ICTs to support, facilitate or complement existing efforts

The IESI research offers the required knowledge to consider scalability, replicability and transferability of practices throughout Europe

ICTs have strong potential to enable integration across sectors and support public value creation

to improve organisational mechanisms of services provision. The introduction of this kind of innovation implies change at organisational, managerial, or governance/institutional level. The innovation potential of these initiatives is mainly disruptive, and ICTs become increasingly embedded in the conception and innovation process of the services to the point that, in most cases, without technological integration, the provision of services would not be possible. In the case of initiatives that exhibit radical innovation potential, the direct involvement of beneficiaries and intermediaries is particularly strong, indicating that co-creation and co-production of services with the actual user is a key for success.

The analysis of the IESI knowledge map shows a great variety of initiatives in terms of sectors of engagement, i.e. the ways in which they approach their respective remits. They do however have a preferred mode of operation, which is clustered around inter-sectoral integration. True to their social nature, the initiatives progress towards service integration by involving stakeholders especially in service delivery.

A more detailed analysis of the IESI dataset reveals how the great majority of cases are about services — 76% — while systems and policies make up only 15% and 4% of the initiatives respectively. The predominance of services may mean there is a gap between the implementation/action-oriented focus of third sector organisations, in particular social enterprises, and private ventures which altogether represent the largest part of the database, and the policy-oriented approach of public institutions. This may reflect some sort of distance between the ‘welfare society’ and the ‘welfare state’.

ICT-enabled social innovation acts as a very effective bridge between citizens’ needs and social service provision

ICT-enabled social innovation can fill this void by acting as a very effective bridge between citizens’ needs and social service provision when an appropriate enabling environment exists. In fact, from the analysis carried out, it emerges that ICTs are being used primarily for social and active participation, networking and engagement in the local community. They constitute a medium and a hub for developing new social practices where innovative solutions can be experimented, tested and widely deployed.

In relation to the role of ICT-enabled social innovation to promote the policy objectives of the Social Investment Package (SIP), 73% of the initiatives analysed in the mapping deal with active inclusion, investing in people’s skills and capacities; 53% with investing in people throughout their lives; and 42% with social protection modernisation. Most of the initiatives (around 75%) pursue improved service quality and uptake and just over half of them aim at increased cost effectiveness of service provision. A third of the initiatives achieves the goal of improving the sustainability of social protection systems. However, many more initiatives contribute indirectly to this goal by, for example, improving access to services and quality of service delivery.

The analysis of the IESI knowledge base is further elaborated through some in depth case studies and cross-case analysis. These provide insights into the factors that have been critical to an initiative’s success, and into the relationship between ICTs and social innovation.

Overall ICTs play an important role in the modernisation of social protection systems, enhancing the quality of social services and equal opportunity/fair access. ICTs are especially effective in contributing simultaneously to several dimensions of social policy reforms. ICTs can in fact (i) support the process of social services delivery re-engineering by offering opportunities for open collaboration and participation; (ii) help to fully digitalise processes and improve payment mechanisms, which saves on operational costs and enhances benefits to both users and service providers; (iii) increase the effectiveness of interventions, reducing services fragmentation and duplication across organisations and countries; (iv) make social services more proactive and closer to the point of need by identifying and targeting beneficiaries effectively; and (v) find a way of increasing accountability, while transforming and extending service delivery to the underserved.

ICTs play an important role in the modernisation of social protection systems

As demonstrated by the empirical evidence gathered, the modernisation of social protection systems is mainly achieved by ICT-enabled social innovation initiatives through spending more effectively and efficiently, thus ensuring adequate and sustainable social protection. This is often realised by building collaborative innovation networks between government departments, allowing initiatives to reshape the public model to produce and deliver services, with a more effective and centralised approach, as shown for instance by the One stop shop approach in Estonia (EESTI.EE).

The exploitation of ICTs results also in the generation of new public value, which improves the sustainability of the social protection system, the traceability of information flows and the fight against frauds. This is illustrated for example by the case of Digitalisation of Services at the Italian National Institute of Social Security (INPS), or the Belgian Crossroads Bank for Social Security (CBSS). Both cases demonstrate the high impact of ICTs on the reform of social protection systems, due in particular to their capacity to reduce the administrative burden for citizens, companies and civil servants.

ICT-enabled social innovation provides a strong support to implementing active inclusion strategies, contributing to investing in people's skills and capacities, and improving people's opportunities to participate in society and the labour market. In fact, the combination of employment information management and ICT training allows the redesigning of the production process of services, the improvement of integration opportunities within society, and the inclusiveness of fragile people, especially into the labour market.

The integration of services facilitated by the use of ICTs aims to empower people, especially the more fragile segments of society, including disadvantaged youth and long term unemployed, improving their skills and ability to find job opportunities. It also helps improve the quality of life of the beneficiaries such as older people in need of care, their relatives and their care-givers. This is illustrated by the findings of the cases conducted in Croatia (A Book for a Roof, ABFAR), Poland (Express Train to Employment, EXPTRAIN) and Sweden (Assisting Carers using Telematics Interventions to meet Older people's Needs, ACTION).

The integration of services facilitated by the use of ICTs empowers people and improves their quality of life

Moreover, equal access to health and social care services for all citizens, across the boundaries of municipalities and sectors, directly contributes to strengthening the inclusiveness of social protection systems and therefore to enhancing people's opportunities to live independently and with dignity, as well shown by the initiatives conducted in South Karelia District of Social and Health Services (EKSOTE), in Finland, and the Telecare Development Programme (TDP) in Scotland, UK.

ICTs change the paradigm for service delivery, towards a user-centric approach

The contribution offered by ICTs often consists in changing the paradigm for the delivery service model, which might shift towards a beneficiary-centric approach, reducing the risk of unfit and undue benefits and formulating innovative responses to people's changing needs. By recognising the importance of active inclusion strategies through psycho-social support and encouraging an overall rethinking of the client-pathway many ICT-enabled social innovation initiatives succeeded in boosting beneficiaries' motivation, by responding to their needs at a critical moment in their lives. In addition to improving the quality of service and user satisfaction, this also resulted in greater cost-effectiveness and long-term sustainability of protection systems. This is demonstrated by the cases of Integrated Social and Health Care Assistance Services (BSA) in Badalona, Spain, the Pathway Accommodation and Support System (PASS) in Ireland, or in a comprehensive manner the Digital Welfare Strategy (SDW) in Denmark.

The ability to adapt to people's needs is enabled by ICTs through personalisation of services

The ability to adapt to people's needs is enabled by ICTs through personalisation of services, especially important in the field of employment support services, where it contributes to improve the matching of employment supply and demand, by aggregating job offers from partner sites, private platforms, associations, employers or business organisations. This is shown for example by the findings of the cases conducted in France (Pôle Emploi – 100% Web, POLEMP), and The Netherlands (Public Employment Service Reform, PES).

The combination of the results from the analysis of the mapping with insights from the in-depth case studies and cross-case analysis demonstrates that ICT-enabled social innovation initiatives contribute to promoting the implementation of the social investment approach. In this sense, a number of key findings emerge as follows:

- ▶ The multiple objectives and variety of services provided by ICT-enabled social innovation initiatives, even those operating on a smaller scale, indicate that combining technological and social innovation with service integration facilitate economies of scale and/or scope.
- ▶ The dynamism of ICT-enabled social innovation initiatives, illustrated by the fact that a significant number of initiatives are not only active in more than one field but extend their remit to further target groups, geographical areas or even different sectors, is often fostered by their organisational models, which are continuously evolving in their exploration of new areas of intervention.
- ▶ The degree of innovativeness of ICT-enabled social innovation initiatives is linked to the fact that, on the one hand, initiatives led by large organisations undergo great scrutiny from their conception,

through to their inception and development, while, on the other hand, smaller initiatives have great flexibility because of their organisational structure and limited capital investment.

- ▶ Initiatives that have been truly co-created and co-produced with the beneficiaries demonstrate high ICT-enabled social innovation potential and often present an optimal level of technology appropriateness. This is true even in cases where the application technologies are fairly advanced and developed for the purpose of a specific initiative.
- ▶ Although there are many possible combinations of ownership/partnership schemes and approaches, successful governance model arrangements are found mainly at the inter-sectoral level. This, coupled with the fact that almost all initiatives are need-driven and outcome-oriented, let emerge that the phenomenon of ICT-enabled social innovation is leaning towards open processes of co-creation, consolidating the establishment of collaborative innovation networks. Hence, the innovation model followed is mainly based on the principles of open/democratised innovation and a user-centric perspective where the service provided not only aims to satisfy the needs of the beneficiaries but also to proactively involve the beneficiaries in their design and delivery.

The variety of services and their degree of innovativeness, the diverse role of ICTs in the design and delivery of services (including considerations of technology appropriateness) and the complexity of governance in the integration of social services of general interest are all relevant aspects that should be carefully considered in order to understand better the potential impact of these interventions.

This means that ICTs do make an important contribution especially when combined with further elements that have been identified as key drivers of successful ICT-enabled social innovation initiatives through the case studies and the cross-case analysis.

First of all, the involvement of beneficiaries in all phases of an initiative (including design, implementation and follow-up) might be enabled by the use of ICTs and in turn it contributes to exploiting one of the main potential attributes of ICTs, i.e. to support the development of new relational mechanisms. By bringing together stakeholders from public, private and not-for-profit sectors in formal networks, ICTs help to address complex social problems through coordinated interventions, including resource sharing and joint social investment strategies. In other words, the potential of ICTs, through partnership creation and network integration, is that they allow service providers to offer seamless assistance and care to their clients.

ICTs help to address complex social problems coordinated interventions

As a consequence, the building of partnerships and stakeholder commitment at different levels (e.g. to implement or even jointly finance an initiative) is crucial to take full advantage of the contribution offered by ICTs, especially when the public sector needs to implement a policy targeted to different types of beneficiaries. In particular, political commitment and a certain ability to shape broad policy frameworks are both conducive to the use and development of ICTs in social services.

ICTs facilitate information exchange and multi-channel approaches creating client pathways and focus on outcomes

It is worth noticing that the contribution ICTs are able to offer is especially strengthened by clear information exchange and multi-channel approaches. Such approaches are, in fact, a key enabler of integration. ICTs facilitate the sharing of information and enable the integration of services, thus enhancing the impact of social services delivery. The contribution of ICTs to integration processes, and therefore to the improvements of social service delivery, might assume different shapes. For instance, ICTs create client pathways and focus on outcomes; they enable a more targeted and personalised approach that allows clients with complex needs to receive coordinated services. In this respect the consolidation of the one-stop-shop/no-stop-shop approach is a further contribution ICTs give to the simplification and an easier take-up of services. Through such a way to re-design the access to services, users are provided with a single entry point into social protection systems, making ICTs an important medium for the institution-citizen relationship.

Finally, the development of monitoring tools and impact assessment methodologies to demonstrate results and facilitate transferability of ICT-enabled social innovations is a further key factor for making an initiative successful. ICTs not only provide support to gather evidence of demonstrable improvements to outcomes delivered, but they also allow greater coordination between different levels of government, which is essential to improving system integrity, and reducing duplication and gaps in service provision. This might have positive consequences also with regard to the accountability of social service providers. When the latter is the public sector, greater accountability and transparency mean, in turn, an increase of their democratic legitimacy, establishing a closer and trustworthy alliance with the citizens.

In line with this potential for renewing trust between policymakers and their constituency, the results of the IESI research confirm the emergence of a shift from *rhetoric to investments* and more effective policy decisions. To this extent it is crucial to underline the need — for both policymakers and investors — to update their toolbox with methodological and theoretically informed social impact assessment techniques.

A novel methodological approach capable of assessing the social and economic returns of investments is needed

The final proposal for developing a methodological framework to assess social policy innovations promoting social investment — i-FRAME 2.0, is an attempt to face such a challenge, laying the foundations for both sophisticated system-oriented formalised modelling simulations and for theory-based approaches.

In this respect, the findings of the reviews conducted during the research, pointed to the need to define a novel methodological approach and develop a meta-framework capable of assessing the social and economic returns of initiatives promoting social investments. This is particularly necessary to deconstruct and interpret social policy innovation ecosystems, by adopting complexity thinking and tools in order to better understand and assess social innovation initiatives where ICTs play an important role.

The proposal for developing the i-FRAME 2.0 is presented with several operational components that can be used and adapted to the different needs of policymakers and practitioners at different levels. It proposes to employ formalised quantitative empirical approaches, theory-based evaluation, modelling simulations, and qualitative methods. This ensemble of tools can be used both in interactive workshops within policy lab sessions and in more traditional capacity-building exercises. The approach proposed, in fact, builds on the need to move from reductionist and positivist evidence-based policy to a more paradigmatically and methodologically pluralistic ‘Evidence-Informed Social Policy Innovation’. This could set the basis for developing a comprehensive simulation modelling platform that could be further extended to other policy issues, in line with the need of embracing system thinking into policy-making to tackle ‘wicked’ problems and address current and future societal challenges.

7.2 Policy implications and future research directions

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

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

While there seems to be clarity on ‘where to go’, evidence gathered through the IESI research shows that what seems to be missing is rather ‘how’ to get there. Social protection and social investment policies have not been able to neutralise rising market inequality. The recent financial crisis has only accelerated this rise. The gap between rich and poor today is wider in most EU countries than it has been for 30 years (Piketty, 2014). Since the 1980s, productivity growth has not translated into a commensurate increase in incomes for the bottom 90% of earners. Europe

Modernising EU welfare systems and investing in people’s capacities throughout their lives is fundamental to reignite long-term growth in Europe

needs to change gear to be able to reverse this trend, as income inequality strongly and negatively affects not only social cohesion, but also economic growth (Cingano, 2014; Ostry et al., 2014).

Tackling inequality has now become a priority in policymakers' agendas across the world. Findings from the IESI research confirm what part of the economic literature has been pointing out since the 2008 crisis: there is a need for a general rethink of the relationship between the State and the market (Stiglitz, 2009; Mazzucato, 2015a).

Better coordination of economic and social policies among and across Member States is needed

In this regard, it is becoming widely recognised that fiscal consolidation cannot be Europe's main way towards inclusive growth. Increased social investment, as well as better coordination and integration of economic and social policies among and across Member States are needed. ICT-enabled social innovation is an opportunity to promote social investment through integrated approaches to social services delivery. ICTs, in fact, often play a 'game-changing role' especially in the development of platforms to support innovative partnerships where social challenges can be addressed by social impact investing strategies.

This approach would support two policy imperatives for setting the foundations of the renewed European project, contributing to strengthen the social dimension of the EU:

- ▶ *The modernisation of social protection systems in EU Member States*, which is a crucial aspect of the EU agenda towards achieving the targets set out in the Europe 2020 strategy. Here, the SIP emphasised that *"there is an added value in focusing on innovative social policies and embedding innovation in evidence-based policy-making"*. This is based on two hypotheses: i) that social investment relies on social innovation to create efficiency gains in social policies and effectiveness in addressing societal challenges, facilitating investment in human capital throughout people's lives, and ii) that the potential of social innovation is increased by the growing range of innovative ICT-based solutions.
- ▶ *The operationalisation of an innovation-driven rationale to social investments, through experimentation*. The SIP has already anticipated one main path to experimentation through promoting the inclusion of innovative financial instruments into the European Social Fund (ESF), which might be complemented by other European Structural Investment Funds (ESIF). In these provisions, the Commission urged Member States to test new approaches to social policy and eventually scale-up the most effective ones. In this regard the programme for Employment and Social Innovation (EaSI) has been designed as a specific EU financing instrument that promotes high quality sustainable employment, guarantees adequate and decent social protection, combats social exclusion and poverty and improves working conditions. Building on the previous experience of the PROGRESS, the originality of EaSI is the possibility to set up Social Policy Experimentations to test a policy intervention on a small population, being thus a fertile ground for gathering data and robust evidence of impact of innovative solutions, before deciding whether these should be scaled up.

In this perspective, the rise of new business models, composed of firms, private or not for profit, which work in the field of social services and explore or even co-create innovative financial instruments, clearly highlights the need to consider how the European Fund for Strategic Investment (EFSI), could be used when 'there is a market failure, or there is no market at all'. In fact, based on evidence gathered from the IESI mapping, the 'social economy' is characterised by micro-social-enterprises or not-for-profit organisations that have no access to traditional financial mechanisms or cannot guarantee investments beyond what is required for their day-to-day operations. This also means the necessity to acknowledge the limitations of current systems providing access to finance, and the need to design interventions that combine complementary instruments to reach out to target groups in need while respecting competition rules and leveraging on private capital through innovative Public Private Partnerships (PPPs).

The intrinsic characteristics of ICT-enabled social innovation (its multisector partnerships and the open collaborative process underlying its functioning) may make it a powerful instrument for this purpose. It can serve as a catalyst to attract private investment into welfare services through the establishment of new inter-sectoral governance models. It can also be a means of using available public resources more efficiently through the involvement of various stakeholders in innovative service delivery mechanisms, and of renewing social policy design and implementation.

ICT-enabled social innovation can serve as a catalyst to attract new investment into welfare services

This issue further confirms the need to support the trend toward 'opening up' access to finance for micro-social enterprises and third sector organisations. This is indeed a crucial aspect of emerging social impact investment and the need to integrate innovative financial instruments into the portfolio of EU cohesion policy for regional and territorial development. In other words, as emerged also from in-depth analysis of case studies, new and additional resources are required to combine ICTs development and implementation with the re-engineering of organisational structures, so that they can cope with the innovations.

This also points to the potential impact that could be achieved using European Structural and Investment Funds (ESIF) to further finance ICT-based developments in the social sector. In fact, national and regional authorities are in charge of drafting their Partnership Agreements with the European Commission which form the basis for delivering co-financed interventions at local level. These institutions can therefore play a proactive role in both the allocation of resources and in the design of financial strategies needed to meet the co-financing requirements. These resources can be used to finance initiatives that, for instance, help transfer practices from one country to another, building also on the experience gained through several EU funded schemes such as for instance INTERREG or the Transnational Platform for cooperation funded by the ESF.

Evidence shows that a higher impact could be achieved using ESIF to finance ICT-based developments in the social sector

Within this policy framework, the IESI research project has gathered unique evidence on the role of ICT-enabled social innovation initiatives and assessed their impact in terms of scaling them up, replicating and transferring them across EU Member States. This exercise is therefore a powerful tool to support the re-orientation of social policy reforms towards innovative approaches offering a clear direction on how to address complex social systems dynamics and providing innovative solutions to old and new problems.

For instance, the research has indicated the emergence of many initiatives that consider democratic citizenship, and more generally active citizenship, to be a foundational value of European society. Active citizenship is seen as a pre-requisite for discussing the needed redesign of social policies in Member States. It must be taken into account, especially when the debate on the European Pillar of Social Rights is bringing to the fore the difficulties in re-orienting institutional path-dependency, deconstructing and managing the complexity of social systems.

Europe in fact is confronted with the challenging issue of calibrating the past and the future, or in other words, ‘juggling’ already acquired rights and supporting innovation in the welfare systems that would provide a more just ‘intergenerational divide’.

In this perspective, although this would require further analysis that was clearly beyond the scope of the IESI research, the research results suggest that ICT-enabled social innovation is to play a crucial role in the modernisation of the EU social protection systems and thus shaping the future EU welfare systems.

The future of welfare is characterised by a growing role of multi-sector partnerships

Due to the ICTs potential for integration within social service provision, the future of welfare is a welfare characterised by a growing role of collaboration and partnerships between different sectors. Moreover, the spread of partnerships and inter-sectoral integration processes has also been recognised as part of a strategy in support of social policy innovation initiatives, and it is clear that they could offer the policymaker new organisational mechanisms in which data intelligence and business models effectively contribute to social change.

Such a policy implication is based on the argument that not only are ICTs enabling factors for the modernisation of social protection systems, but they can also safeguard the sustainability of welfare systems themselves. As some of the cases analysed strongly demonstrate, ICTs contribute to solve the structural imbalance between emerging and growing social needs (which require that services be implemented more effectively) and the decreasing or limited financial resources available to do so. In particular, results from the analysis show that ICT-enabled social innovation can help social services to:

- ▶ **Cope with demographic trends:** an increasing number of individuals are affected by different health and social conditions and require multiple services. Technological advances have made it possible to link information across programme areas and to identify individuals with complex needs and hence target them better;

- ▶ **Live up to beneficiaries' expectations:** people are becoming more and more used to having access to information and services through web and mobile devices. New digital technologies are transforming the way individuals can interface with service providers across a range of industries, including the social services and more generally the welfare area;
- ▶ **Contribute to the reduction of unemployment:** one important element to consider is the labour market participation of all members of the working-age population. A new wave of welfare-to-work schemes based on ICTs have been adopted by governments trying to reduce demand and supply-side barriers that prevent individuals from finding sustained employment, thus improving the matching of labour supply and demand;
- ▶ **Handle budget constraints:** high levels of sovereign debt have led to widespread public sector austerity measures in many developed economies. These pressures mean that service integration and optimisation are becoming increasingly attractive options for governments looking for higher cost effectiveness in service delivery. Allocating higher percentages of resources and incentives to ICT innovation is therefore crucial;
- ▶ **Improve the evidence base:** solid evidence is needed for resources to be allocated to the most effective and efficient initiatives. ICT-based monitoring tools that include predictive analytics functionalities permit to leverage the evidence collected and better allocate resources on the basis of the specific needs of different target groups;
- ▶ **Raise awareness:** ICTs facilitate the systematic collection of data on policy interventions and their results. These data can then be shared in order to inform policymakers and support the decision making process to develop or adapt future policy design and implementation.

Obviously, but worth to be recalled, technology is a necessary but not sufficient condition for social innovation and social investment to deliver on their promises. ICTs are in fact crucial but not enough to achieve the expected benefits. For ICT-enabled social innovation initiatives to fully realise their potential, at least three other enabling factors must come into play.

First, **workforce development:** the empowerment of workers (e.g. in care) and job seekers requires investment in their skills and competences. They must also be given new and flexible ways of participating in the labour market. Employers and public institutions must invest in multidisciplinary and/or cross-organisation working groups. They must also envisage staff co-location and develop joint training arrangements that foster knowledge transfer at all levels, and fill any skills gaps that may arise. This also requires the creation of new roles and a review of existing jobs in order to adapt them to the changing environment and the evolving needs of the workforce.

Second, **regulatory frameworks:** regulations on data sharing procedures need to be eased, integrated case management by government agencies and private and third sector providers should be promoted, and the development of innovative initiatives

Technology is not sufficient and needs to be accompanied by adequate workforce development, regulatory frameworks, funding and contracting mechanisms

should be facilitated. Adequate regulatory frameworks are thus essential for the integration of such practices into actual processes and for scaling them up.

Third, **funding and contracting**: payment-by-results mechanisms for funding schemes seem to be efficient in promoting coordinated interventions to address common and shared social problems in an outcome-oriented approach. Other schemes, such as ‘personal budget’ (sums of money allocated by a local authority to service users to be spent on services to meet their needs), produce effective incentives because they enable users and case managers to freely purchase the desired mix of services from authorised providers. Thus, they foster the creation of a competitive social services marketplace in which services are closer to the needs of the users. Contracting and tendering reforms are required to encourage integration and collaboration among different service providers at ‘horizontal and vertical’ level.

In this respect, it is important to address the question of whether social policy innovation strategies, especially those enabled by ICTs, can be embedded in the policy design and if so, how and under what conditions. In other words, it is important to deal with the fundamental issue of whether coordinating social policy innovation initiatives at EU level, and harmonising ICT-enabled social innovations in particular, could be considered the key driver — though not the panacea — for addressing welfare state reforms.

The analysis conducted during the IESI research explored and assessed how the emerging phenomenon under investigation has evolved. It also contributed to inform policy developments as to the role of ICT-enabled social innovation initiatives in promoting social investment through integrated approaches to social services delivery.

However, the experience of the IESI mapping showed a lack of evidence and the limitations and difficulties inherent in the process of gathering data, especially with regard to results and impact. It also pointed to the importance of the local level to better understand the dynamics across sectors, and the factors enabling innovation and social change.

These results give clear indications on the **direction of future research**.

More systematic collection and publication of data on relevant initiatives are needed. This would require extending the inventory of social policy innovation initiatives initiated by JRC through the establishment of a Social Policy Innovation Network (SPIN) acting as a permanent online observatory and knowledge platform to monitor and transfer innovative practices across the EU. This platform shall target further initiatives at the regional and local level, especially at city level or neighbourhoods within cities, and focus on social services delivery mechanisms and welfare governance models.

From a theoretical perspective, it may be beneficial to further the investigation into the role of ICTs as a primary component, together with skills and knowledge, of the service design and delivery process. The IESI research is one of the few attempts in this direction and it has improved the understanding and conceptualisation of ICTs as enablers of social service innovation.

However, more research is necessary to ascertain the role of ICT-enabled social innovation in extending the scale and/or scope of social services. For instance, it may be interesting to look into how innovative social services are designed and delivered in order to determine whether scalability is part of the service design (i.e. a social service may be designed to satisfy more than one social need) or the delivery reach (i.e. complementary social services may extend their reach because they are delivered through efficient ICT networks).

In this sense an important contribution can be made by those methodological frameworks for impact assessment that go beyond the mere micro-level on which most of the initiatives are analysed. This is the rationale of the i-FRAME, which has been conceived specifically to assess the impacts generated by social policy innovations, which promote social investment, aiming to act as a guide to gather insights into replicability and transferability of initiatives across EU Member States. For this purpose, the i-FRAME has been developed to address a twofold objective: i) to provide a structured approach to analyse the initiatives collected through mapping social policy innovations in the EU; and, ii) to serve as a comprehensive framework for analysing the economic and social returns on investments on social policy innovations.

Future research should build on methodological frameworks for impact assessment that go beyond the mere micro-level

The evidence gathered so far will thus be used to ground the next activities of JRC research in the field of social policy innovation. On the one hand it will help improving the methodological framework to assess the social and economic impacts of initiatives in the field and, on the other hand, it will contribute to the scientific and policy debate on the monitoring of the European Pillar of Social Rights, and how this could support shaping the future of the welfare systems in the EU.

7.3 Towards mission oriented social innovation policy

Social innovation is not a new concept, but recently it has been gaining traction in policy and academic debates as a possible way to address dire societal challenges. In addition, the debate on social innovation has benefitted from an increasingly favourable environment for development and experimentation, especially in combination with technological and organisational innovation. Since its revival in the European policy agenda with the Innovation Union Flagship Initiative in 2010, the number of publications and policy reports has been growing. Their main aim was to define the concept of social innovation and work out the relationship between social innovation and other types of innovations in order to contribute to defining research directions and identify policy implications.

Within this evolving context, at the intersection between research, practice and policy, the European Commission is actively promoting social innovation and plans to put it at the core of its future policy action. It will address the legacy of the crisis, from long-term unemployment to high levels of public and private debt in many parts of Europe, which remains an urgent priority as pointed out by President Juncker in his White Paper on the Future of Europe.

The European Commission is actively promoting social innovation putting it at the core of its future policy action

Following the reflection paper on the social dimension of Europe, published alongside the package on the European Pillar of Social Rights, which highlights the profound transformations European societies and the world of work will undergo in the coming decade, Europe must define and implement concrete solutions to collectively respond to these challenges, by building a Europe that protects, empowers and defends.

As underlined by Commissioner Moedas and Commissioner Thyssen in their call for 'Opening up to a New Era of Social Innovation': *"The time has come to develop the new narrative further. A new Social Innovation agenda for Europe should be built by integrating research and policy action, taking stock of past and present research efforts and boosting social innovation as a cost-effective way to advance inclusive and wealth-creating public policies"*.

In this respect, the IESI research provides results from a comprehensive review of the state of the art and analysis of evidence resulting from the mapping of initiatives across the EU. New and emerging trends in the domain have been identified and discussed along a three-year empirical journey in the field of ICT-enabled social innovation, with a specific attention to the current debate on the Future of Social Innovation, culminating with the Lisbon Conference in November 2017.

Findings and insights provide inputs to the programming period post-2020 and contribute to the Juncker investment plan to growth, employment and social cohesion

The ambition is that findings and insights from the IESI research can provide inputs to the programming period post-2020 and contribute to the Juncker investment plan to growth, employment and social cohesion, within the effort on the modernisation of EU social protection systems. The intrinsic characteristics of ICT-enabled social innovation may make it a powerful instrument to pave the way for using available public resources more efficiently through the involvement of various stakeholders in innovative service delivery mechanisms, and for renewing social policy design and implementation. At the same time, ICTs need to be used as part of a broader strategy designed and led by the public sector, which becomes an even more important actor, and will also take on the task of coordinating these multi-layered welfare systems.

From a conceptual standpoint, social innovation can be conceived as a complex system, which means that it is defined by many causal relationships, feedback loops and non-linearities, along with their temporal dimension. ICT-enabled social innovation can act directly on the individual at the micro level, by changing his/her psychophysical and health conditions, which in turn can influence his/her behaviour and actions. At the same time, it can modify the context in which the person lives, by changing opportunities and releasing constraints that, in-turn, can influence his/her actions and behaviour as well. Moreover, all these interactions occur throughout the life course.

To address the complexities of such 'social innovation ecosystems', alternative methods to complement more traditional evaluation techniques have been proposed. These methods can help stakeholders to cope with innovation-related uncertainties and contribute to a better understanding of the

various factors influencing the evolutionary process related to social policies and their innovation. They also help to define favourable conditions by considering alternative development paths and outcomes.

In particular, considering that social policy innovation initiatives, especially those in which ICTs play an important role, represent an important means of modernising welfare systems, as part of the IESI research, the JRC, in collaboration with external experts, has outlined the foundational principles for developing a simulation modelling module of the i-FRAME 2.0, on Mission-Oriented Social Innovation Policy, borrowing in part from the concept of Mission Oriented Innovation *à la Mazzucato* (see Mazzucato, 2013).

In the current phase of the research, this has been limited to conceptual and theoretical developments for future simulations of the impact of Mission Oriented Social Innovation Policy. This proof of concept should entail a specific development of the K+S model (see **Chapter 6**) beyond the scope of the current research. However, a first stylised and abstract development of the K+S model in order to eventually embed and simulate the Entrepreneurial State concept developed by Mazzucato in the domain of R&D and technology is proposed for future development of the i-FRAME.

The rationale underpinning the K+S i-FRAME Mission-Oriented Social Innovation Policy module (MOSIP) is based upon the contention that total systemic innovation (see **Table 4, Chapter 6**) could be seen as analogous to the Mazzucato's concept of mission oriented policy (2015a). Thus, Mission Oriented (Social) Innovation Policy *à la Mazzucato* fits the typology of total systemic innovation.

To further elaborate on such a proposal, it seems reasonable to recall the following excerpt from Mazzucato: *“Rather than focusing on particular sectors – as in traditional industrial policy – mission-oriented policy focuses on problem-specific societal challenges, which many different sectors interact to solve. The focus on problems, and new types of collaborations between public and private actors to solve them, creates the potential for greater spillovers than a sectoral approach [...]. The new framework seeks to better envision, justify, measure and assess public investments, working within an eco-system of public, private and third sector actors across the innovation chain. It focuses on the role of the state as shaping and creating markets, not only fixing them – and enables the development of economic policy to be informed by a broader theoretical underpinning”.*

Today, the way in which the role of the State is conceived is crucial for future recovery and growth. This is because in most parts of the world we are witnessing a massive withdrawal of the State, one that has been justified in terms of debt reduction and – perhaps more systematically – in terms of rendering the economy more dynamic, competitive and innovative (Mazzucato, 2015b). Business is accepted as the innovative force, while the State is cast as inertial – necessary for the basics, but too large and heavy to be the dynamic engine. Mazzucato (2015a) has largely dismantled this view and showed that major, revolutionary technological changes had

substantially benefited from an active role of the government (i) in directing and funding (on its own) the process of R&D and, on the other side, (ii) in taking the risk that private business alone had not be willing to sustain. There is little reason today to think that the role of the government would be less important in solving contemporary major societal challenges and sustain value creation directly from the public sector.

A Socially Entrepreneurial State to tackle societal challenges could be envisaged

So, one could envisage a Socially Entrepreneurial State that would, at the same time, push and support the integrated production of services, new financial instruments and procurement rules to tackle, for instance, the goal of keeping older workers on the market with skills, job policies, and healthcare prevention policies. Moreover, a number of new and innovative financial instruments have been developed and or adapted in the recent years to facilitate access to funding for promoting social innovation initiatives and strengthening 'social infrastructures' across the EU.

Financial instruments are presented by the European Commission as resource-efficient way of deploying cohesion policy resources. Targeting projects with potential economic viability, financial instruments provide support for investments by way of loans, guarantees, equity and other risk-bearing mechanisms, possibly combined with technical support, interest rate subsidies or guarantee fee subsidies within the same operation.

The debate on the reform of ESIF post-2020 emphasises the need to leverage on private capital to enhance the impact of cohesion policy

In the 2014-2020 programming period, the Commission is encouraging Member States to double their European Structural and Investment Funds (ESIF) used through such financial instruments. The current debate on the reform of ESIF post-2020 emphasises the need to increase the leverage of private capital to enhance the impact of the structural funds and regional development.

Among such financial instruments there are, for instance: 1) risk-sharing loans, based on the sharing of risks between public and private resources; 2) capped guarantee instruments, where public money acts as guarantee against default inside a bank's loan portfolio. Both instruments aim to provide SMEs with better access to finance; and 3) renovation loans, for energy efficiency and renewable energy projects in the residential building sector.

The European Commission adopted recently two new off-the-shelf, i.e. ready-to-use financial instruments for European Structural and Investment Funds (ESIF), to ease access to funding for young businesses and urban development project promoters. These instruments are: 1) A co-investment facility to provide funding to start-ups and SMEs, enabling them to develop their business models and attract additional funding through a collective investment scheme managed by one main financial intermediary; and 2) Urban development funds to support sustainable urban projects, in public transport, energy efficiency or the regeneration of urban areas. Projects must be financially viable

and part of an Integrated Sustainable Urban Development strategy. The support will take the form of a loan fund managed by a financial intermediary, with ESIF resources and a contribution of at least 30% from private capital. Total investment combining public and private resources can amount to — respectively — up to €15 and €20 million per project.

These instruments are designed to increase the take-up by Member States of ‘revolving loan facilities’, rather than traditional grants, and to combine public and private resources. They are particularly interesting as they are suitable for illustrating a possible re-thinking of the investment orientations in the field of social policy.

In fact, although the European Commission has stressed the potential of the social service sector for creating jobs, the idea of the Socially Entrepreneurial State run against the wall of austerity and traditional mainstream funding rules, which seems hampering the deployment of public funds to this purpose. This is part explained by the controversy on the extent to which EU regulations on State aid, internal market and public procurement apply to social services. Whereas new financial instruments to support social policies have been introduced, this debate has dominated the political scene for at least the last decade. Several public authorities and civil society organisations representing service users and providers have claimed that the EU rules create unnecessary difficulties. The European Commission has explained that EU rules already take into account the specific characteristics of social services and that, if the public authorities apply them correctly, these rules can help them organise and finance high-quality cost-effective social services in a transparent manner. Member States have an ample choice of modes of organisations of the services in line with their traditions and cultural backgrounds.

Against this context, the proposed Mission Oriented Social Innovation Policy approach envisages integrated interventions that are not merely public sector intervention, rather see the state as a sort of entrepreneurial incubator enabling societal and private actors to leverage public and private funds. This is based on the idea that such interventions would trigger the emergence of a new paradigm that would favour the transition towards a more socially and environmentally sustainable growth pattern. To this end, it shall also focus on the role of green jobs in the context of employment dynamics (along the path suggested in Mazzucato, 2015b). In practice, social enterprises leveraging on financial resources for urban renewal could engage either in helping people restructuring their house with energy efficient solutions or building smart and energy efficient homes and public infrastructures.

This type of policy would thus aim at the same time at:

1. creating new ‘green jobs’ in social enterprises;
2. providing support to disadvantaged social groups; and
3. contributing to community building or re-building and urban renewal.

Mission-Oriented Social Innovation Policy aims to tackle social inclusion, the mechanisms of social impact investing and distributional inequality

By doing so, the proposed Mission-Oriented Social Innovation Policy simulation modelling 'scenario of use' aims to tackle at the same time social inclusion, the mechanisms of social impact investing and distributional inequality concerning both income and wealth.

A further development of the proposed i-FRAME simulation modelling environment in this direction would require the development of a housing market and a real-estate sector, possibly endowed with a spatially explicit structure, as a new module of the K+S model. Further, such a step will require a more detailed modelling of the financial sector, including additional actors other than standard commercial banks and, as a consequence, different financial instruments than bonds and loans, which would mimic those described earlier and already available as part of the portfolio of financial instruments that can be used to implement the European Structural and Investment Funds (ESIF) in the current and next programming period.

The results of simulations that could be developed through operationalising this scenario of use may contribute to the current debate on the future of the European Social Fund (ESF) and its combination with the European Fund for Strategic Investment (EFSI).

In conclusion, and in order to fully appreciate the main results achieved during the designing and building of the i-FRAME — one of the main prospective components of the IESI research — it is important to recall the two main goals underlying its development: i) to help policymakers and practitioners better understand the dimensions and characteristics of 'Social Policy Innovation Ecosystems' and assess the conditions in which their interventions take place; and ii) to develop operational tools for the design and evaluation (*ex-ante*, *in-itinere*, and *ex-post*) of Social Policy Innovations.

The i-FRAME promises to address foundational issues to support the evaluation of Social Policy Innovation promoting social investment

The proposed i-FRAME made important progress towards addressing some foundational issues in the area of supporting the evaluation of Social Policy Innovation promoting social investment. However much more needs to be done. In a future perspective, it has the potential for making a significant contribution especially in setting standards for the use of models for the evaluation of impacts of social policy initiatives. A body such JRC could avoid the danger of piecemeal approaches, designing and implementing in a comprehensive manner a process of assessing and revising approaches and tools, able to boost the whole field (as with IEEE, W3C or ISO standards).

The i-FRAME 2.0 proposal lays the foundations for developing a blueprint for conceptual modelling and the further development of the proposed operational components, paving the way to building the i-FRAME 3.0 in line with the vision for future implementation of a computer-based simulation platform.


For this purpose, the further refinement and operationalisation of the i-FRAME shall revisit some of the principles set out in its foundations, building on the rich knowledge repository for social innovation initiatives that have been developed by JRC so far. A number of proof-of-concept use cases shall be chosen together with social innovation policymakers, analysts and evaluators and data from the knowledge repository could be used for calibrating simulation experiments for diverse scenarios of use. Results of experiments and test validation shall be then discussed together with policymakers to assess their utility.

Connecting to other initiatives and activities using complex systems approach to support policy-making and evaluation is crucial. To achieve these objectives and carry out this challenging, but very much needed and timely work, an ambitious research shall be envisaged, both to reinforce JRC internal capacities and make available appropriate resources. This shall be embedded into a specific high-level science for policy agenda. Policymakers and representatives of stakeholders shall be closely involved on an ongoing basis, while researchers from relevant scientific communities, and practitioners should be called on directly to address concrete and specific complex policy challenges.

The positive results of the preliminary application of the i-FRAME approach open the door to a more extensive and systematic implementation of the proposed methodology at policy level. This could involve building a knowledge repository of simulation models based on a portfolio of cases analysed as part of i-FRAME development and further enriched with new examples and scenarios of use across the EU. At the same time, it would require the development of a fully-fledged dynamic electronic toolkit to support policymakers in modelling and simulating in real-time policies and programme interventions included in the i-FRAME knowledge repository.

Large scale computational modelling and systems simulation tools would set the ground for what could be already prospectively called Data-powered i-FRAME 4.0, which would include real-time structured data inputting from initiatives gathered through the i-FRAME Web-Platform to the i-FRAME social policy innovation simulator.

In the longer term, this data-powered i-FRAME 4.0 could help the European Commission and EU Member States to monitor the implementation of a revamped 'Social Union', and thus shape a better future for Europe.



The proposed i-FRAME opens the door to a more extensive and systematic implementation of the methodology at policy level

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