POLICY POSITION

SUSTAINABLE ECONOMIES AND THE FACILITATION OF TRANSFER OF KNOWLEDGE

CESES
Confederation of European Senior Expert Services

Summary

Sustainable Economies and the facilitation of transfer of knowledge

The digital revolution, characterised by the proliferation of AI and digital tools, has transformed every sector of the economy. These technologies are pivotal for creating sustainable economies as they enhance operational efficiency, reduce waste, and open new avenues for economic growth. However, the effective integration and utilisation of these technologies require a collaborative effort to transfer knowledge between generations. In this policy paper, the following topics are discussed:

Noting the issues of:

- Limited digital skills and engagement among seniors, hindering knowledge transfer.
- Lack of structured programs to facilitate intergenerational cooperation.
- Insufficient use of senior expertise in sectors like AI and big data.
- Missed opportunities for economic growth due to underutilisation of senior volunteers.
- Gaps in cross-generational learning within key industries.

Our recommendations are to:

- Develop digital training programs tailored to senior citizens.
- Increase senior involvement in emerging sectors such as AI and innovation.
- Encourage collaboration between senior experts and younger professionals in key industries, creating structured initiatives for intergenerational knowledge sharing.
- Promote active participation of seniors in workforce development and education programs.

Policy Paper 3

Sustainable Economies and the facilitation of transfer of knowledge

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Introduction

In the modern landscape of technological advancements and shifting economic paradigms, the pursuit of sustainable economies has emerged as a crucial goal for global development. Sustainability, in this context, refers not only to environmental stewardship but also to the enduring economic and social health of societies. A critical yet often underappreciated component of achieving this goal is the facilitation of knowledge transfer between generations. This transfer is vital for harnessing the full spectrum of human achievement, from the seasoned insights of older adults to the innovative capabilities of younger individuals.

The digital revolution, characterised by the proliferation of AI and digital tools, has transformed every sector of the economy. These technologies are pivotal for creating sustainable economies as they enhance operational efficiency, reduce waste, and open new avenues for economic growth. However, the effective integration and utilisation of these technologies require a collaborative effort between generations.

CESES is fully committed to including and elevating senior citizens, especially with a view to promoting intergenerational collaboration. With decades of professional experience, seniors possess a wealth of knowledge that is invaluable for guiding the ethical and practical application of emerging technologies. Their involvement can help ensure that technological advancements are aligned with long-term sustainability goals. Seniors can provide historical perspectives and contextual knowledge that are crucial for making informed decisions. This guidance can enhance the strategic implementation of technologies like AI, ensuring they are used to foster sustainable practices.

Conversely, younger generations, who are often more adept at adapting to and innovating new technologies, bring about a fresh perspective and technical proficiency. Their skills are essential for driving the digital transformation required for sustainable economies. By working alongside senior experts, young professionals can develop a deeper understanding of industry-specific challenges and learn how to apply their technological skills to real-world problems. This synergy not only facilitates the transfer of knowledge but also promotes intergenerational solidarity and social cohesion.

In summary, the transition to sustainable economies necessitates a concerted effort to facilitate knowledge transfer between generations. By leveraging the complementary strengths of senior and younger generations, societies can foster innovation, enhance economic resilience, and promote social cohesion. The integration of digital technologies, supported by EU initiatives, provides a robust framework for achieving these goals, ensuring that the pursuit of sustainability is both inclusive and comprehensive.

1. Digitalisation

Digitalisation transforms traditional industries by integrating digital technologies into everyday business processes. This transformation promotes sustainability by enhancing efficiency, reducing waste, and enabling new business models. For senior citizens, digitalisation would be a great platform for them to share their extensive knowledge and experience through online mentoring and training programmes, bridging the generational gap and fostering lifelong learning. There is however a lack in active experts that can share their knowledge, as well as a lack of digital skills in the older generation. Engaging senior citizens is a complicated matter that requires a clear objective on how to get them involved. This could be combatted through capacity building activities, allowing them to gain fluency in digitalisation and the use of online tools and, in turn, have an easier time communicating with the younger generation. Another solution is to involve more active people for mentoring programmes, creating a mediator of sorts between generations.

1.1. Big Data and Data Collection

Big data and data collection play key roles in creating sustainable economies. They provide insights into consumer behaviour, the use of resources, and environmental impacts, enabling more informed decision-making. By involving senior citizens in data-driven projects, they can offer historical perspectives and contextual knowledge that enrich data interpretation and application. Younger generations, conversely, can bring fresh analytical skills and technological proficiency, creating a mutually beneficial exchange.

More intergenerational focus groups driven by public administrations could help bridge the gap between generations, facilitating the exchange of knowledge and fostering collaboration on pressing societal issues. Such initiatives could allow senior citizens to share valuable life lessons, cultural insights, and even moral values with younger participants, who in return can introduce modern tools and data-handling skills to enhance collective understanding and decision-making. This approach not only enriches the data collected but also helps create socially inclusive frameworks that benefit all age groups.

However, a significant challenge remains: the lack of preparation in utilising and collecting Big Data effectively. Many institutions and individuals may not have the necessary training or infrastructure to handle the scale and complexity of data available today. Addressing this gap requires targeted educational programs and resources that teach both generations how to leverage Big Data, ensuring that data-driven solutions are inclusive and accessible. Public administrations, in particular, can play a critical role by investing in capacity-building initiatives that equip all age groups with the skills needed to contribute meaningfully to data-driven sustainability efforts.

1.2. Artificial Intelligence (AI) and Large Language Models (LLMs)

AI and LLMs revolutionise the way we process and utilise information. These technologies can automate routine tasks, optimise operations, and predict future trends, contributing to economic sustainability. Senior volunteers, with their rich professional backgrounds, can guide AI projects by providing domain-specific insights, while younger individuals can implement and refine these technologies, enhancing their practical application. Implementing Generative AI and LLM applications between generations is a positive way to create a bridge of knowledge between the latter. Learning together with two perspectives could be a mutually beneficial way to learn about modern, ever-evolving technologies.

By linking AI and LLMs with Big Data collection, both older and younger generations can work together to uncover trends and insights on a larger scale, making their collaborative efforts even more impactful. This integration allows for richer, more diverse data sources to inform AI models, enabling predictive insights that are both accurate and contextually relevant.

Public and private sectors can also promote intergenerational programs that facilitate hands-on learning experiences. Such initiatives would allow senior participants to provide experiential knowledge that complements data-driven insights, while younger generations apply their technological skills to enhance and expand these applications. Together, this collaborative approach to AI fosters innovation, understanding, and lifelong learning.

1.3. Innovation

Innovation in IT is crucial for developing tools and systems that support sustainable practices. For instance, smart grids, IoT devices, and blockchain for supply chain transparency all contribute to more sustainable business practices. Seniors can play a mentoring role, guiding the development and deployment of these innovations based on their industry experience. Younger generations, skilled in the latest technological trends, can drive the technical implementation and scaling of these solutions.

The integration of digitalisation, big data, AI, LLMs, data collection, and IT innovation is essential for building sustainable economies. These technologies not only drive economic growth but also provide a platform for the valuable exchange of knowledge between younger and older generations. By leveraging the strengths of both age groups, we can create a more cohesive, innovative, and sustainable society. Programs like Erasmus+, the ESF, and the Digital Education Action Plan play crucial roles in supporting this intergenerational collaboration, ensuring that senior citizens remain active contributors to economic and social development. However, there is a lack of funding for innovation projects within non-academic institutions, for example Horizon and E+. In order to solve this issue the budget envelope within the European Commission for intergenerational and/or inter-institutional collaboration programmes must be increased. Alongside this, universities should collaborate with senior organisations. From this the mix of experience, brought by seniors, and creativity, brought by the youth, will create and promote innovation.

2. Intergenerational cooperation

2.1. Senior experience

The long-term perspective and practical knowledge of senior citizens can provide critical insights into industry trends, problem-solving strategies, and ethical considerations. This experience is particularly vital in sectors undergoing rapid technological change, where historical context and seasoned judgement can prevent costly mistakes and ensure sustainable growth. Seniors can not only provide experience and knowledge of both soft and hard skills, but also give support around topics such as mindsets, mental resilience, mindfulness, and facing problems at work.

2.2. Mentoring

Mentoring is a powerful tool for intergenerational cooperation, enabling the transfer of knowledge and skills from seniors to younger individuals. Through mentoring relationships, seniors can provide guidance, support, and career advice, helping young professionals navigate their career paths and develop competencies.

A notable project in this context is the "Mentoring Across Borders"[1] initiative involving **CESES**, **CEV**[2] and several other partner organisations. This project focuses on establishing mentoring hubs across multiple European countries, creating a platform where experienced seniors can provide mentorship to young professionals. The project emphasises cross-border cooperation and knowledge exchange, allowing for a diverse range of insights and experiences to be shared. By leveraging the expertise of senior mentors, the project aims to enhance the professional development of young individuals and promote sustainable growth across the EU.

2.3. Knowledge exchange

There are mutual benefits of knowledge exchange. For younger people, one of the advantages is access to experience. They gain invaluable insights from the extensive experience of older generations. This includes industry-specific knowledge, problem-solving techniques, and historical context that are often not covered in formal education. They are able to develop their skills through mentoring and guidance, developing both hard and soft skills, giving crucial preparation for their professional development, helping bridge the gap between theoretical knowledge and practical application. They also benefit from a professional network: establishing relationships with seasoned professionals can open doors to new career opportunities and collaborations.

For the older generation, it allows them to stay engaged. Sharing their knowledge is a good way for senior citizens to remain active and engaged, which can have positive effects on their mental and emotional well-being. This cooperation allows them to learn new technologies, and interact with younger generations, helping them stay up-to-date with the latest technological advancements, ensuring they remain relevant in a digital world. This ultimately allows seniors to contribute to the growth and development of younger people, and provides older individuals with a renewed sense of purpose and fulfilment.

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[1] https://eumentoring.eu/
[2] https://www.europeanvolunteercentre.org/

3. Economic sectors

3.1. Agrifood

More young people are leaving rural areas and rural industries for a range of reasons including: urbanisation, labour intensity, and economic viability. According to the 'Agriculture, forestry and fishery statistics report by Eurostat (2018 p.27)[3], young farmers are getting scarcer; in 2005, 6.9 % of farm managers in the EU were very young (to enable comparisons, under the age of 35 years old) but this share had fallen to 5.1 % in 2016. This decline in young people will inevitably lead to a decrease in the intergenerational sharing of knowledge regarding agrifood and similar industries. Operational groups run by the EU CAP Network[4], seek to create a 'group of people with complementary knowledge... who co-create practical solutions for agriculture... and rural communities in an innovation project'. These groups can include young people and older farmers as two complementary knowledge groups. However, this scheme is a rarity at the EU level, and also works with researchers, advisors, businesses, environmental groups, consumer interest groups in their operational groups. Therefore, there needs to be a bigger push of operational groups focussed on intergenerational cooperation as well as other focussed schemes in order to ensure the passing of knowledge to the younger generation.

To address the pressing need for innovation within this economic sector, it would be valuable for the Directorate-General for Agriculture and Rural Development and the Directorate-General for Employment, Social Affairs, and Inclusion to explore comprehensive strategies. Such efforts would ideally extend beyond theoretical discussions on intergenerational cooperation to encompass practical considerations around work quality and the methodologies that will drive these improvements.

3.2. Primary Sector

We can see a similar trend to that of the agrifood sector when it comes to the primary sector. Mainly concerning industries such as other forms of agriculture, fishing, forestry and mineral extraction, there are similar issues in terms of urbanisation, working conditions and income levels. This trend can be seen on both a European and a global scale[5]. Around the world there have been multiple schemes set up to support, train and retain young people in this sector. For example, the European Maritime and Fisheries Fund (EMFF)[6], seeks to help fishers to adopt sustainable fishing practices and coastal communities to diversify their economies, improving quality of life along European coasts. Part of this includes support for young fishers via loans and funded training programmes. These programmes could include two elements that promote intergenerational learning, mentorship programmes and joint workshops.

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3 https://ec.europa.eu/eurostat/documents/3217494/9455154/KS-FK-18-001-EN-N.pdf/a9ddd7db-c40c-48c9-8ed5-a8a90f4faa3f?t=1558692068000

4 https://eu-cap-network.ec.europa.eu/operational-groups_en

5 https://openknowledge.fao.org/server/api/core/bitstreams/408708f0-82dc-418e-b92b-e2d7ec0cd2e6/content

6 https://oceans-and-fisheries.ec.europa.eu/funding/european-maritime-and-fisheries-fund-emff_en#emff-support

3.3. Research and Academia

The generational transfer of knowledge is vital for economic sectors to be sustained. In research and academia, sharing of knowledge is important to not only continue, but to forward research and discovery. Mentorship programmes between scholars and junior students are a common way to transfer knowledge between generations in this sector.
For example, the European Association for International Education (EAIE)[7] hosts a mentorship program for experienced internationalisation professionals with colleagues who are eager to learn and grow.

3.4. Medical Technology

The rapid advancements in medical devices, telemedicine, and health informatics not only improve patient care but also create new economic opportunities. By integrating cutting-edge technologies such as AI and big data analytics, healthcare systems can achieve greater efficiency and better outcomes.

Senior professionals, with their extensive experience in traditional healthcare practices, can provide invaluable insights and mentorship to younger professionals navigating these new technologies. This intergenerational knowledge transfer is vital for maintaining high standards of healthcare and adapting to technological advancements. Moreover, the inclusion of seniors in the development and implementation of medical technologies ensures that these innovations are user-friendly and accessible to all age groups. The collaboration between seasoned experts and younger professionals in the development of medical technology fosters an environment of continuous learning and adaptation, which is essential for sustainable healthcare systems.

3.5. MSMEs

Micro, Small, and Medium Enterprises (MSMEs) are vital to sustainable economies, driving innovation, employment and local development. These enterprises are often more agile and adaptive to changes, making them key players in fostering sustainable practices. The facilitation of knowledge transfer between older and younger generations within MSMEs can significantly enhance their sustainability and resilience.

Experienced senior professionals bring not just expertise and knowledge, but industry insights, and established networks that can help young entrepreneurs navigate the challenges of business and development. Conversely, younger professionals often bring fresh perspectives, digital savvy, and innovative ideas that can drive modernization and efficiency. The inclusion of MSMEs in sustainable economic strategies, supported by effective knowledge transfer between generations, is crucial. It ensures that these enterprises remain competitive and capable of contributing significantly to sustainable development goals.

3.6. Manufacturing

Manufacturing plays a crucial role in fostering sustainable economies by adopting eco-friendly practices and resource-efficient technologies, thus reducing environmental impact while boosting productivity. This sector's evolution towards sustainability also hinges

[7] https://www.eaie.org/resource/2024-mentorship-programme.html

on the seamless transfer of knowledge between generations. Older generations, with their wealth of experience and technical expertise, share valuable insights on traditional methods and problem-solving techniques, while younger generations contribute fresh perspectives, digital literacy, and innovative ideas. This intergenerational exchange not only preserves essential skills but also encourages the development of new, sustainable manufacturing processes, ensuring economic growth that is both inclusive and environmentally responsible.

This also includes passing on knowledge from the innovation sector, a significant and key area that has huge relevance in today's digital world. A synergistic transfer of knowledge between generations here would

4. Education & training

To effectively transfer knowledge between generations, structured programs and initiatives are essential. Erasmus+ and the European Social Fund (ESF) support lifelong learning and skill development, offering funding for projects that enhance the competencies of older adults. These programs encourage older individuals to stay active in the workforce and share their expertise with younger colleagues.

4.1. EU Programmes

EU initiatives, such as Erasmus+ and the European Social Fund (**ESF**), play a pivotal role in promoting lifelong learning and skill development among older adults. These programs fund projects aimed at enhancing the competencies of individuals, including seniors, thereby enabling them to remain active in the workforce and contribute to economic sustainability. Similarly, the Digital Education Action Plan (**DEAP**) emphasises the development of digital skills for all citizens, including older adults. By improving digital literacy among seniors, this plan enables them to participate more fully in the digital economy and facilitates intergenerational knowledge transfer.

4.2. Vocational education and training

Vocational education and training (VET) serve as vital conduits for the transfer of knowledge between younger and older generations, bridging the gap between seasoned expertise and emerging talent. By providing hands-on, practical learning experiences, VET programs enable older generations to pass down specialised skills and industry-specific knowledge that are often not covered in traditional academic settings. This mentorship and apprenticeship model fosters a collaborative learning environment where younger individuals can learn directly from experienced professionals, ensuring the continuity and evolution of essential trades and crafts.

4.3. Other exchange programmes

There are several exchange programmes that exist within the EU sphere, including the Mentors Across Borders (**MAB**) program from **CESES**, which exemplifies a powerful initiative designed to facilitate the exchange of information and expertise from older to younger individuals. This program leverages the extensive experience of seasoned professionals, who volunteer as mentors, to provide guidance and support to emerging talents in various fields.

Through structured mentorship, these experienced individuals impart critical insights, industry-specific knowledge, and practical skills that are invaluable for the professional development of younger participants. The MAB program not only preserves and disseminates the rich reservoir of knowledge accumulated by older generations but also fosters a collaborative environment where young professionals can gain confidence and competence. By bridging generational divides, the MAB program ensures that essential skills and wisdom are passed down, promoting sustainable growth and innovation across borders.

5. Engagement Opportunities

It is essential to create opportunities for seniors to engage with digital tools in a supportive and encouraging environment. EU programs like Erasmus+ (E+), the European Solidarity Corps (ESC), and the Citizens, Equality, Rights, and Values Programme (CERV) offer valuable frameworks for intergenerational exchange in education, training, and digital skills development.

However, several challenges hinder the effective involvement of seniors in digital training initiatives. Many seniors face a lack of confidence in using new technologies, while limited access to user-friendly tools and platforms can discourage active participation. Additionally, generational differences in communication styles may sometimes create barriers to a productive exchange of knowledge.

To address these challenges, vocational education and training (VET) initiatives within EU programs could implement specialised training modules that are tailored to the pace and preferences of senior participants, building foundational digital skills in a gradual and accessible way. Providing mentors or peer guides within these programs can also create a more supportive atmosphere, allowing seniors to ask questions freely and work at their own comfort level. To overcome generational barriers, creating structured intergenerational workshops and collaborative projects can help foster mutual respect and understanding.

Through targeted digital skill workshops, exchange programs, and intergenerational mentorship networks, EU programs can bridge the generational knowledge gap and support lifelong learning. This approach not only enhances digital literacy among seniors but also facilitates the seamless transfer of knowledge, creating a more inclusive, skilled workforce equipped to contribute to a sustainable economy.