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Understanding the Silver Economy: A Critical Literature Review

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Abstract

The Silver Economy has emerged as a transformative paradigm that recognises global demographic ageing as a driver of economic growth, innovation, and social development. This review and appraisal of literature synthesises diverse perspectives on the evolution, dimensions, and challenges of the sector. Historically rooted in discussions from the 1960s, the concept has since developed into a multidimensional economic ecosystem encompassing healthcare, finance, housing, technology, tourism, leisure, education, and social inclusion, all tailored to individuals aged 50 and above. The literature consistently underscores the economic significance of older adults, who contribute to GDP through extended labour participation, consumption power, and intergenerational knowledge transfer. Health and wellness services, technological innovation, and financial inclusion emerge as core enablers, while silver tourism and lifelong learning are identified as vibrant growth segments. The review also emphasises the social imperative of promoting equity and inclusion, with particular attention to digital literacy, accessible infrastructure, and age-friendly policies. Despite notable strengths such as purchasing power, expertise, and brand loyalty, the Silver Economy faces barriers including ageism, unequal access to healthcare, technological exclusion, and social isolation. SWOT analyses reveal that opportunities lie in age-friendly financial services, emerging healthcare technologies, and sustainable innovations, yet threats persist in fiscal pressures, labour shortages, and widening digital divides. Literature further identifies synergies between the Silver Economy and the Sustainable Development Goals, particularly in promoting health, inclusive growth, innovation, and sustainable communities. The evidence suggests that realising the full potential of the Silver Economy requires reframing ageing from burden to resource, with integrated strategies, inclusive policymaking, and intersectoral collaboration. Ultimately, the Silver Economy is positioned as a major engine of 21st Century growth, contributing simultaneously to economic resilience, social cohesion, and sustainability.

Keywords: Silver Economy, Ageing Population, Social Inclusion, Technological Innovation

I. Introduction

The silver economy, defined as the economic opportunities driven by the spending capacity and consumption behaviour of individuals aged 50 and above, has become a pivotal focus of both academic inquiry and policy development. With global populations experiencing rapid ageing, analysing the economic influence of this demographic is increasingly important for businesses, policymakers, and researchers alike. A thorough literature review forms the cornerstone of advancing scholarship in this domain, offering critical insights into current research, highlighting knowledge gaps, and framing theoretical approaches for future exploration. Broadly, the silver economy includes all economic activities catering to the preferences and requirements of older adults, spanning healthcare, financial services, housing, mobility, leisure, and consumer goods designed for ageing populations **(European Commission, 2018).** This sector presents vast economic potential, as older adults not only control substantial wealth but also exhibit consumption behaviours that are distinctly different from those of younger generations **(Kohlbacher and Herstatt, 2011).**

Literature reviews in silver economy research play a vital role in constructing comprehensive theoretical frameworks by consolidating insights from diverse disciplines such as economics, sociology, gerontology, and business studies, a multidisciplinary perspective that is indispensable since the silver economy spans multiple academic domains **(Bloom et al. 2010).** Through such reviews, researchers identify central theoretical constructs, including active ageing, successful ageing, and economic participation theories that guide further scholarly inquiry. Systematic reviews of existing research also allow scholars to pinpoint underexplored dimensions within silver economy studies. For example, while significant work has been undertaken on healthcare expenditures of older adults, reviews have highlighted a lack of attention to technology adoption and digital economy engagement within this demographic **(Peek et al. 2014).** Identifying such gaps is

critical for steering future research toward areas with the highest potential for new insights. Literature reviews further provide an overview of the methodological strategies employed in silver economy research. By analysing prior research designs, data collection techniques, and analytical tools, new studies can adopt established methods or design innovative approaches that address existing limitations **(Coughlin, 2010).** Evidence-based policymaking on ageing populations is often grounded in literature reviews, which offer an informed understanding of the economic consequences of demographic shifts **(OECD, 2019).** For instance, reviews have influenced reforms in pension systems, healthcare financing, and the design of age-friendly urban environments. Companies looking to tap into silver economy markets also rely on literature reviews to understand consumer behaviour, market dynamics, and successful business practices. Synthesising academic and industry research helps businesses target viable segments and create products and services tailored to older consumers **(Kohlbacher and Herstatt, 2011).** Given the complex nature of the silver economy, integrating perspectives from multiple fields is essential, and literature reviews facilitate this process by drawing together findings from economics, sociology, psychology, and public health, thus producing a more holistic understanding of ageing-related economic issues **(Walker, 2002).** Systematic reviews contribute to setting standards for research quality in the silver economy by evaluating the rigour and reliability of existing studies, allowing academics and practitioners to distinguish between robust findings and those based on weaker methodologies **(Moher et al. 2009).** They also provide valuable evidence regarding the scale and growth prospects of the silver economy, with studies consistently showing that the 50-plus demographic commands substantial purchasing power and projections estimating the market to reach several trillion dollars by 2030 **(Oxford Economics, 2017).** Synthesising multiple studies further reveals distinct consumption behaviours among older populations, such as prioritising quality over quantity, valuing experiences, and demonstrating a willingness to pay more for age-friendly products and services **(Sudbury and Simcock, 2009).** Reviews also shed light on the nuanced relationships between older populations and technological engagement, challenging stereotypes about technology aversion and underscoring the factors that either enable or hinder digital adoption **(Czaja et al. 2006),** which is vital for designing inclusive technologies. The integration of healthcare economics into silver economy literature highlights connections between healthcare expenditures, healthy ageing initiatives, and older adults' economic productivity, shaping preventive health strategies and workplace practices that promote age inclusivity **(Christensen et al. 2009).** Given the multidisciplinary scope of the silver economy, systematic review methodologies that use structured protocols for searching, selecting, and analysing literature are increasingly applied to ensure both comprehensiveness and methodological rigour **(Liberati et al. 2009).** Conducting robust silver economy reviews requires drawing from a wide range of databases across business, economics, sociology, and gerontology, a broad search strategy that ensures coverage of research from diverse scholarly communities **(Palumbo et al. 2021).** Finally, literature reviews continue to highlight evolving areas of focus, including digital transformation, sustainable ageing practices, and the integration of artificial intelligence into services for older adults, rapidly developing fields that demand continuous synthesis of new knowledge **(Klimczuk, 2016).**

Literature reviews play a pivotal role in silver economy research by building theoretical foundations, uncovering knowledge gaps, guiding policy and business strategies, and upholding research quality. With global populations continuing to age, the value of comprehensive reviews in this area will only grow. They provide essential syntheses of existing knowledge, enabling a deeper understanding of the complex economic dimensions of ageing and offering direction for future research, policymaking, and business innovation. Given the inherently multidisciplinary character of silver economy studies, literature reviews are particularly important for integrating diverse perspectives and shaping a coherent understanding of this expanding economic domain.

II. Review and Appraisal of Literature on Silver Economy

Harper (2000) highlights Andrej Wojrczak's assertion that the "ageing of the population is one of the most important socioeconomic challenges for the 21st century" **(WHO, 1998).** This observation reflects the growing recognition among policymakers, politicians, and the public of concerns long emphasised by gerontologists over the past three decades. In both developed and developing nations, demographic transition and shifts in population age structures are increasingly acknowledged as carrying profound societal implications. As British gerontology moves into a new century, Harper stresses the importance of reflecting on past progress while addressing emerging questions. His discussion examines ageing and later life, considering both societal and individual dimensions, as well as the experiences, needs, and contributions of older adults. The paper specifically focuses on social gerontology, encompassing social, behavioural, historical, demographic, and economic aspects of ageing while intersecting with health and health services, and referencing medical or biological perspectives only when directly relevant.

Schulz and Radvanský (2014) explain that the socio-ecological transition is expected to reshape both the supply and demand of goods and services, leading to significant shifts in national consumption and production structures, as well as sector-specific transformations. They emphasise that three sectors, in particular, will be most affected by demographic change: healthcare, long-term care, and the provision of goods and services tailored to older adults. This policy brief, based on the findings of Work Package 12 of the NEUJOBS project, titled *"Health care, goods and services for an ageing population"*, focuses on analysing the current employment landscape within these sectors while also exploring potential changes in employment structures across European countries over the next 15 years.

Pauhofová and Dovalová (2015) examine the implementation of the silver economy in the European Union, focusing on demographic ageing and its effects on consumption patterns. The study compares older and newer EU member states, highlighting differences in potential demand among older populations. Slovakia is emphasised as an example, where regional income inequalities and consumption constraints limit purchasing power. The research considers both economic and non-economic determinants, including technological change, and uses EU-SILC data alongside information from the Slovak Social Insurance Agency. Findings indicate that during economic crises, low growth, high unemployment, and wage stagnation hinder demand formation, resulting in lower pensions, altered consumer preferences, and impacts on employment and production structures. The study concludes that newer EU member states have limited capacity to support older consumers within the silver economy, whereas older EU countries, including Germany, Austria, France, and the Mediterranean, Nordic, and Benelux regions, offer significant market opportunities for individuals aged 50 and above.

Klimczuk (2016) notes that approaches to analysing population ageing and its economic impacts have evolved considerably in recent years. Growing attention is being paid to the development and use of products and services linked to gerontechnology, along with other social innovations that are increasingly regarded as integral components of the *silver economy*. Nonetheless, the concept of the silver economy remains under development and calls for more in-depth research. In response, Klimczuk (2016) proposes a typology of silver economy models within the European Union (EU), both at national and regional levels. This typology is constructed by comparing the Active Ageing Index with existing classifications of varieties and cultures of capitalism, as well as typologies of welfare states. The study further offers practical recommendations for EU institutions and outlines directions for future research to strengthen the understanding and application of the silver economy.

Bran et al. (2016) explain that although the terminology of the silver economy is relatively recent, its foundations are deeply rooted in long-term demographic and economic dynamics that have shaped what we now recognise as the silver economy. They emphasise that both its explicit and less visible characteristics, along with its long-term consequences, are central to current debates within the European Union, particularly for the European Commission. One of the most pressing issues, they argue, is economic: the urgent need for a coherent strategy that can shape the structure and content of EU economies in alignment with their respective social dimensions. Such a strategy is seen as crucial not only for ensuring the optimal functioning of both real and social economies but also for strengthening key sectors, most notably healthcare, within the EU's economic framework.

Felix (2016) explores the development of a silver economy or longevity economy strategy in Brazil and its potential contribution to national economic growth. The paper begins by reviewing international debates on the concept, with a particular focus on experiences from European Union countries. It then turns to the Brazilian context, where discussions on ageing remain largely framed by pessimism. Building on this, Felix identifies opportunities for implementing a longevity savings strategy in Brazil, drawing from international literature to highlight key sectors with action potential. The study further examines the income and purchasing power of older adults and families with elderly members, emphasising their role as active contributors to economic demand. In conclusion, the paper proposes a set of recommended measures aimed at shaping a robust silver economy strategy tailored to Brazil's demographic and socio-economic realities.

Barković Bojanić and Erceg (2017) observe that global demographic trends, highlighted by organisations such as the UN Population Division, WHO, and ILO, clearly indicate that populations worldwide are ageing at an unprecedented pace. By 2050, it is projected that more than 20.0 per cent of the world's population will be aged 65 years or older. This demographic is characterised by four distinctive features: its unprecedented scale, pervasiveness, endurance, and profound implications for human life. The European Union reflects these global patterns, with projections showing that by 2060 the share of individuals aged 65 and above will rise from 18.0 per cent to 30.0 per cent, while those over 80 will more than double. In response to such demographic shifts, the EU has advanced the concept of the "Silver Economy," referring to the economic activities of individuals aged 50 and above and their influence across multiple sectors. Traditionally, older adults were perceived primarily as a fiscal burden, but EU member states are increasingly reframing this challenge as an opportunity, fostering new markets for products, services, and employment, thereby contributing to economic growth. The purpose of their study is to analyse the silver economy, with a particular focus on the economic potential of active ageing. Supporting the silver economy, both in theory and practice, involves recognising the elderly population not as a liability but as a driver of local, regional, and national development.

Technopolis Group and Oxford Economics (2018) prepared this report for the European Commission with the aim of advancing the development of the Silver Economy in Europe. The report's primary objective is to provide the Commission with strategic insights and a reference framework to guide the creation of a comprehensive Silver Economy Strategy. This strategy seeks to stimulate economic growth by leveraging technological innovation and labour market opportunities tailored to an ageing population, while simultaneously addressing the broader societal challenges posed by demographic change. Although primarily intended to support the Commission, the findings are also relevant for policymakers across European Member States and industry stakeholders. The study followed a structured methodology that included: (i) estimating the present and future size of the EU Silver Economy using statistical data and an impact model; (ii) mapping key policy initiatives at national and regional levels to highlight sectoral diversity, geographic coverage, and socio-

economic potential; (iii) developing ten case studies of promising opportunities, informed by stakeholder input through online ideation to identify and prioritise determinants of growth; (iv) formulating targeted policy recommendations to effectively foster the Silver Economy; and (v) validating outcomes through participatory stakeholder workshops. While this report outlines the key results, supplementary material provides detailed methodology, a comprehensive review of current and planned initiatives across Europe, in-depth case study presentations, and an extended set of policy recommendations for expanding the EU Silver Economy.

Hauk et al. (2018) conducted a meta-analysis to explore two pressing issues of contemporary society: the rapid proliferation of technologies and the challenges posed by population ageing. Specifically, the study examined how chronological age influences technology acceptance, addressing inconsistencies found in prior research. Drawing on 144 primary studies across diverse technologies and user groups, and applying a random effects model, the authors found that age was negatively associated with perceived ease of use ($\rho = -.25$), perceived usefulness ($\rho = -.09$), and intention to use technology ($\rho = -.07$). Importantly, these effects remained consistent over time, indicating they were not simply cohort-related. A meta-analytic mediation analysis further revealed that the influence of age on both perceived usefulness and intention to use was fully mediated by perceived ease of use. Additionally, the findings were moderated by the type of technology, showing that age-related effects were significant only for technologies that did not align with the needs of older adults. The authors conclude that age primarily affects perceptions of ease of use, and only in relation to specific technologies, thereby challenging age-related stereotypes and highlighting the importance of age-sensitive technology design.

Zhukovska (2020) highlights that sustainable economic growth requires more than a market economy, emphasising the importance of inclusive development. Elderly populations are both a challenge, due to budgetary pressures, and a resource, contributing through labour participation, consumption, and production. The study traces the evolution of the "silver economy" concept, linking it to inclusive economic development and analysing its theoretical foundations. It reviews models developed by international scholars, outlines near-term prospects, and identifies growth opportunities, particularly in integrating older adults into economic life. Methodologies employed include induction and deduction, logical generalisation, analysis, synthesis, comparison, and grouping. The research presents an authorial definition of the silver economy and explores its connection to inclusive development, proposing state policy measures to support its advancement. Zhukovska suggests future studies focus on applying silver economy principles within domestic economic contexts to harness the potential of ageing populations for sustainable and inclusive growth.

Krzyminiewska (2020) explains that the silver economy refers to the existing and emerging economic opportunities generated by an ageing population. While it opens new avenues for growth, it simultaneously raises a range of dilemmas that require in-depth analysis, particularly in relation to emerging ethical challenges. The central aim of the article is to highlight ethical issues associated with population ageing. It advances the hypothesis that many activities undertaken within the framework of the so-called "silver economy" often conflict with ethical norms of social relations, potentially diminishing both the quality of life and the social standing of older citizens. A key dimension of this problem is the rejection of stereotypes and biases about the elderly, which lies at the core of the silver economy's proper implementation. The ethical dilemmas outlined underscore the need to reflect on the balance between two equally significant perspectives: a personalised, pro-senior citizen approach, and a pragmatic perspective aimed at mitigating the societal impacts of demographic ageing. These challenges are particularly evident across different areas of the silver economy, notably within the silver industry, social innovation, and gerontechnology. The findings emphasise that the silver economy will emerge as one of the defining megatrends of future economic development. Initiatives in silver industries, social innovations, and gerontechnology are vital to improving the well-being and quality of life of older generations. However, such progress must rest on ethical principles that encourage both social and economic inclusion while counteracting stereotyping, ageism, and exclusion. The analysis further indicates that the ethical dimension of the silver economy has so far received insufficient attention in scholarly and policy debates.

Podgórniak-Krzykacz et al. (2020) address the challenges of an ageing society by examining the silver economy (SE) as both a social and economic concept developed in response to demographic change. Their study focuses on the strategic planning of SE development across Polish voivodeships, introducing an original indicator, the Indicator of Policy Willingness to Support Silver Economy (IPWSSE), to measure the readiness of regional governments to foster SE initiatives. The authors also assess the perspectives of local authorities regarding the importance of integrating SE into municipal strategies. Two hypotheses guided their research: first, that regions with greater SE population potential would demonstrate stronger policy support, and second, that higher IPWSSE values at the voivodeship level would correlate with greater municipal interest in SE. However, their analysis ultimately refuted both hypotheses, raising critical questions about the realistic prospects of SE development strategies in Poland.

Gschwendtner (2020) conducts a comparative analysis of Japanese and South Korean governmental measures designed to harness the economic potential of an ageing population. The study notes that, although numerous initiatives have been undertaken worldwide, no comprehensive global framework for addressing ageing strategies has yet been developed. By evaluating the strategic action plans and policies of both countries through general criteria, including actors and plans, contributors and factors, as well as actions and content, the research explores the possibility of formulating a more universal

approach. The findings suggest that Japan and South Korea's strategies share significant similarities, reflecting the intervention capacities of two democracies with comparable structures. Key parallels include support for small and medium enterprises to drive innovation in emerging industries, the enhancement of research and development environments, and the integration of social transformation assessments into policy design. Sectoral priorities emphasise information and communication technology, artificial intelligence, and robotics, along with health and medical care devices and technologies that promote independent living and mobility.

Klimczuk (2021) presents the concept of the "silver economy" as an economic system shaped by population ageing and highlights its defining policy characteristics. The study begins by outlining the discourse and stages involved in constructing this system through the efforts of both international and national public policy actors addressing ageing. It then provides a critical analysis of the dimensions, areas of implementation, and development of the silver economy as a policy concept, while also reviewing its internal and external limitations. The paper concludes with recommendations for future research directions in this evolving field.

Zhukovska et al. (2021) analyse global trends in population ageing and their socio-economic consequences, with particular attention to the rise of the silver economy driven by advances in information technologies that cater to the needs and opportunities of older adults. The study explores worldwide developments in the silver economy and outlines its near-term prospects. Using correlation-regression analysis, the authors examine the relationship between elderly employment rates and both retirement duration and pension size. They also assess demographic dynamics in Ukraine, focusing on the challenges faced by older citizens after retirement. The paper identifies opportunities for developing the silver economy in Ukraine and proposes government measures to strengthen its growth. Emphasis is placed on enhancing the social dimension of public policy and leveraging digitalisation as a critical tool to support the expansion and sustainability of the silver economy.

Jiménez et al. (2021) examine demographic and economic trends in Latin America and the Caribbean (LAC), a relatively young region set to experience rapid population ageing. This shift presents challenges in pensions, healthcare, and long-term care, while generating business opportunities across housing, tourism, care, transportation, and more, collectively forming the "silver economy." The study maps 245 actors providing products or services to older adults, finding that health and care dominate (40.0 per cent), most actors operate domestically (90.0 per cent), and private enterprises account for nearly three-quarters. Sector maturity varies, with long-term care most established, while digital solutions, home automation, and cohousing are emerging. Innovations include chronic disease management, home care expansion, financial products for older adults, smart homes, mobility solutions, and lifelong learning initiatives. Digitisation and gender inclusion are cross-cutting considerations, with women playing pivotal roles. The report highlights 11 innovative organisations and serves as an initial mapping of LAC's silver economy, guiding future research and fostering regional integration and development.

Kubejko-Polanska (2021) addresses the challenges of developing the silver economy and fostering age-friendly cities and communities in Poland's Subcarpathian Voivodeship, one of the European Union's least economically developed regions. The study is based on a survey of 2,120 seniors, with analysis differentiated between rural areas and cities of varying sizes. Its primary objective was to identify the needs and expectations of older adults in relation to active ageing, thereby assessing their potential contribution to the silver economy. The research also sought to determine the factors limiting senior engagement, which are crucial for shaping business models for small and medium-sized enterprises in underdeveloped regions characterised by rural and small-town populations. Furthermore, the article examines the determinants that enhance seniors' self-reliance, emphasising the importance of planning public spaces adapted to the needs of the elderly. Such initiatives, the study argues, benefit not only seniors but also residents, entrepreneurs, and the broader regional economy.

Marcucci et al. (2021) argue that the economy of the future is undergoing a fundamental structural transformation, primarily driven by demographic factors. In this context, the concept of the silver economy has emerged, referring to the consumer segment consisting of individuals aged 50 and above. Their study aims to provide a comprehensive state-of-the-art literature review in this field of research, employing VOSviewer software, a freely accessible tool for constructing bibliometric maps. The analysis of these maps offers valuable insights into the key themes and emerging topics within the domain of the silver economy.

Caridà et al. (2022) examine the evolution of silver economy research within business and management, focusing on technological innovations and their role in addressing ageing population challenges. Using systematic literature review and bibliometric science mapping, the study identifies three research phases: formation (1985–2007), emphasising welfare expenditures, transition (2008–2014), focusing on health policy and services; and early development (2015–2022), highlighting technological change. Despite this progression, the literature remains fragmented, lacking holistic perspectives on how technology supports older adults. Limitations such as potential omission of grey literature and researcher subjectivity were mitigated through collaborative consensus among four researchers. The findings provide actionable insights for business managers, policymakers, and service ecosystem stakeholders, highlighting societal challenges and opportunities arising from technology-driven silver economy initiatives. Overall, the study offers a structured, systematic

overview of research trends, emphasising technology's transformative potential in enhancing services, fostering innovation, and leveraging the economic and social contributions of ageing populations.

Kangilaski et al. (2022) note that higher life expectancy, combined with persistently low birth rates, is reshaping the age pyramid across the 27 European Union (EU) countries. The most significant outcome of this demographic shift is the transition toward an older population structure, leading to a substantial rise in the proportion of elderly people in the coming decades. Consequently, the working-age population faces an increasing burden in financing the social costs associated with ageing. To address this challenge, the article examines the EU-funded OSIRIS project in the Baltic Sea Region (BSR), which seeks to support elderly populations by creating a communication platform that integrates stakeholders across the service provision lifecycle. The study highlights the design of the Silver Hub (SH), the central architecture proposed as a foundation for coordinating services among diverse actors in silver economy development. By incorporating the needs of relevant stakeholders, the Silver Hub provides an effective interface that enables companies and research institutions to develop and deliver innovative, sustainable services within the silver economy market.

Baños-Martínez and Limón Mendizabal (2022) emphasise that the purpose of their research, grounded in a literature review, is to raise awareness of the emerging reality of the silver economy. This concept holds significant potential not only due to the economic resources it is expected to mobilise but also because of the growing recognition of older adults as key consumers of specialised products and services. The findings present a clear depiction of an evolving scenario in which European institutions are actively working to promote and give visibility to this reality. However, the study also reveals that society at large is not yet fully prepared to adapt to and integrate the changes brought about by the rise of the silver economy.

Álvarez-Díez et al. (2022) identify and examine the main research, development, and innovation topics, key actors, and most influential articles related to the intersection of the silver economy and entrepreneurship. Using bibliometric techniques, tools, and methodologies, including performance, impact, and scientific mapping analysis conducted with VOSviewer software, the study evaluates both the quantitative and qualitative dimensions of this emerging knowledge area. The analysis highlights leading authors, institutions, countries, sources of information, and fields of study, presented through three science maps: the first outlining central themes, the second tracing their evolution, and the third illustrating relationships among contributing authors. Based on these findings, a reference framework is proposed. The study underscores that the convergence of the silver economy and entrepreneurship is giving rise to a new area of inquiry aimed at fostering societal development. This involves not only the economic participation of older populations but also the promotion of entrepreneurship among them, supported by agents that drive innovation and business creation. Although still in its early stages, the field already shows four primary development clusters: Silver Entrepreneurship, Entrepreneurship Strategies, New Business Models, and Population Ageing. These clusters represent distinct yet complementary research directions. With the global increase in older populations and the related socioeconomic challenges ranging from pension systems to healthcare and public policy design, researchers recognise silver entrepreneurship as an important opportunity. Positioned within the domains of research, development, and innovation, it offers pathways to address the complex realities of ageing societies.

Eager et al. (2022) present a narrative review that traces the historical emergence of vehicle-based living among mature-aged, hypermobile gig workers. Drawing on diverse strands of literature, including road-based tourism, digital nomadism, and cultural narratives, the authors examine the intersections of tourism, housing, senior entrepreneurship, remote work, and active ageing. They highlight how this lifestyle trend creates new opportunities within the silver economy, particularly for regional communities seeking to attract patronage and benefit from the evolving purchasing patterns of ageing populations. Despite its growing significance, this cohort remains under-researched and largely invisible in scholarly discourse. The study emphasises the need for further inquiry to better understand the requirements of mature-aged, hypermobile gig workers and to identify associated market opportunities.

Butt et al. (2023) highlight that life expectancy has risen across the European Union (EU) and the Baltic Sea Region (BSR), leading to a growing proportion of older people in the total population. This demographic shift creates pressing needs, including increased risks of chronic disease, dependency, disability, and greater demand for assistance. An equally important challenge for the elderly is the need to remain active participants in economic and social life. To address these issues effectively, robust systems must be developed that ensure the needs of ageing populations are met sustainably. The authors emphasise that Information and Communication Technology (ICT) and innovations such as robotics, artificial intelligence (AI), cloud computing, and digital infrastructure play a pivotal role in promoting healthy and active ageing, as well as supporting independent living solutions for older adults. However, the successful integration of these technologies depends on the silver generation's ability and readiness to adopt them; otherwise, such innovations risk becoming underutilised resources. To investigate this, Butt et al. (2023) conducted a systematic literature review aimed at identifying the technology readiness, technology acceptance, and digital skill levels of the silver generation, as well as the barriers and challenges hindering their adoption of digital transformation. The collected studies were analysed thematically using NVIVO, with results shedding light on attitudes toward ICT, obstacles to adoption, and the digital tools most easily embraced by older adults, providing valuable benchmarks for future innovation in the silver economy. The study also offers

recommendations on leveraging digital transformation to more effectively engage older people in economic and social activities by overcoming barriers to ICT adoption. Overall, the findings enrich the existing literature and provide a resourceful reference for other regions facing similar challenges in responding to the needs of an ageing society.

Álvarez-Diez (2023) observes that society is undergoing profound transformations driven by economic, political, technological, social, and above all, demographic changes. Within this context, the role and significance of older adults are becoming increasingly important, as these transformations reshape their characteristics, needs, expectations, and goals across personal, economic, political, technological, and social dimensions. This dynamic has led to the emergence of the concept of the *silver economy*, which broadly encompasses the segment of the economy associated with demographic ageing and includes all economic activities, products, and services aimed at meeting the needs of older populations. As a rapidly expanding field of knowledge, the silver economy presents complexities in identifying its driving forces and key actors, as well as in fostering its promotion and consolidation. To address this, Álvarez-Diez (2023) conducts a bibliometric analysis using SciMAT-based smart tools and techniques to map the principal research themes in the field. The study not only highlights the main thematic areas but also identifies the leading agents, pioneering countries, productive organisations, and key sources shaping the discourse. Drawing on the Scopus database, which contains 281 publications from 1979 to 2022 related to older adults and their roles in economic, political, technological, and social development, the research provides a detailed framework for understanding the evolution of the silver economy. Ultimately, the findings offer valuable insights into current research trends while outlining implications for future directions in this emerging domain.

Griva et al. (2024) observe that the global population is ageing at a remarkable pace, creating both significant challenges and promising opportunities for businesses. The term *silver economy* refers to the financial activities related to the production, consumption, and marketing of goods and services targeted at older adults. As an emerging sector, it holds strong potential for job creation and economic growth. To attract and retain skilled workers, companies must remain aware of shifting demographic and labour market trends. Research in this field is ongoing, with a steadily expanding body of literature. However, further empirical studies are needed to identify best practices for managing enterprises within this domain. Technology plays a pivotal role in shaping the silver economy by enabling the development of innovative products and services for older people, improving the efficiency of healthcare and social services, and fostering connections among older individuals and their communities. At the same time, companies must carefully address the ethical and social dimensions of the silver economy, ensuring that products and services are inclusive, non-discriminatory, age-sensitive, and respectful of privacy and safety concerns. This study specifically investigates the development of the silver economy in Greece and compares it with that of other European countries. Using a literature review methodology, it synthesises studies conducted in Greece and across Europe over the past nine years (2014–2022). The findings reveal that Greece still has considerable progress to make in advancing the silver economy relative to other European nations. Nonetheless, the paper contributes new data to this emerging area of business literature by presenting empirical evidence of the valuable opportunities that an ageing population can generate for effective management. By addressing this topic, the study offers insights that can enhance understanding of how organisations may successfully leverage the opportunities arising from demographic change.

Iwański (2024) examines the determinants shaping the development of the silver economy in the area of residential care services for dependent elderly individuals in Poland. The study is based on statistical and financial data drawn from sources such as the Ministry of Family and Social Affairs, the Ministry of Health, and the OECD. While the demand for care services is projected to rise steadily in the coming years, several barriers continue to constrain the growth of this segment of the silver economy. These include a shortage of qualified personnel, the limited attractiveness of financial compensation, ineffective funding mechanisms, insufficient public investment in the expansion of care facilities, and escalating costs associated with service provision in all forms.

Wierzbicka and Farelnik (2024) set out to examine the demographic situation of older adults in municipalities that are part of the Polish National Cittaslow Network and to evaluate their potential for fostering a local silver economy. Their study encompassed all 36 municipalities within the network and employed a mixed methodology, including a critical review of literature, analysis of secondary data such as strategic development plans, and quantitative techniques using a synthetic variable for object grouping. The findings revealed that nearly all Cittaslow municipalities experienced population decline during the study period, alongside a rising proportion of non-working-age residents, clear evidence of ongoing population ageing. One of the key challenges identified was the growing demographic burden. Using the synthetic indicator of silver economy potential, the municipalities were categorised into five groups: very high, high, medium, low, and very low potential. Strikingly, the majority of municipalities were classified as having medium, low, or very low potential for silver economy development. This analysis not only highlights pressing demographic and economic issues in these regions but also offers valuable insights for shaping development policies and tools that can influence the advancement of the silver economy in Polish Cittaslow municipalities and beyond.

Rajan and Mishra (2024) emphasise that although the increasing proportion of elderly populations is a global concern, the issue is particularly pronounced in India and China due to their vast population sizes. With rising longevity, this concern is becoming more pressing, underscoring the need to transform the challenge into an opportunity through reforms that

address the evolving needs of older citizens. Evidence shows that it is not just the size of the elderly population that matters but also the quality of life they experience, which demands focused attention and intervention. For example, healthcare consumption among India's elderly is currently estimated at $7 billion and continues to grow, largely because three-quarters of seniors suffer from at least one chronic illness, and a quarter face limitations in daily activities. Additionally, one-third experience depressive symptoms coupled with low life satisfaction. When these challenges are compounded by economic insecurity, the case for senior care reform becomes even stronger, making it essential to prioritise measures that enhance the overall well-being of this segment of the population.

Lomchavakarn (2024) highlights that *"Thailand 4.0"* serves as the nation's current strategic plan, propelled by digital technology and innovation, with the *Silver Economy* identified as a critical flagship initiative to address the urgent needs of an ageing society, which accounts for approximately 20.0–30.0 per cent of Thailand's population. Notably, around 60.0 per cent of the elderly population live below the poverty line, with their most pressing needs being economic opportunities, digital skills, and healthcare. The study sets out three objectives: (1) to examine the current situation of the elderly in relation to the Silver Economy embedded with *Soft Power*; (2) to assess the digital literacy and competency skills of the elderly in engaging with the Silver Economy and *Soft Power*; and (3) to provide recommendations for supporting elderly participation in the Silver Economy through *Soft Power*. A mixed-methods approach was adopted: quantitative research was conducted via an e-survey of 100 elderly individuals across the country engaged in Silver Economy and Soft Power activities, while qualitative insights were gathered through in-depth interviews and focus group discussions with 15 key informants, including elderly participants and stakeholders. The findings revealed that: (1) most elderly participants demonstrated positive attitudes and expressed strong interest in pursuing Silver Economy activities, particularly those aligned with their personal *Soft Power*; (2) while many elderly individuals possessed basic digital literacy and competency, there remained a strong need for advanced digital skills such as creative digital marketing, AI-driven digital public relations, digital storytelling, and local tourism promotion; and (3) recommendations emphasized the importance of stronger collaborations among policymakers, implementing agencies, and elderly communities, supported by the creation of a user-friendly and effective portal to facilitate such multi-stakeholder engagement.

Durai et al. (2025) present the Silver Economy as a transformative paradigm that views ageing populations as engines of growth and innovation. Their study traces its evolution from the 1960s to a vital economic sector, offering twenty definitions and frameworks that capture its complexity. They highlight older adults' growing contributions to GDP, driven by healthcare, wellness, and labour participation, while stressing governments' role in integrated policy responses. Despite barriers such as ageism, digital divides, and social isolation, the authors emphasise strengths like purchasing power and expertise, concluding that inclusive strategies can unlock the Silver Economy's 21st-century potential.

Lopane (2025) highlights the Silver Economy as a pivotal economic and social transformation shaped by the ageing population, particularly across Europe. With rising life expectancy, challenges such as frailty, chronic illnesses, and social isolation are becoming increasingly significant. The study examines these demographic shifts, their implications for healthcare systems, and the role of assistive technologies in promoting independent and healthy ageing. Emerging solutions ranging from smart cities and digital health tools to home automation are identified as key enablers for enhancing the quality of life of older citizens while supporting economic sustainability. Italy, positioned at the forefront of this transition, is actively investing in digital healthcare solutions to improve accessibility, especially in underserved areas. By aligning innovation with public policy and private sector participation, Lopane argues that the Silver Economy can foster inclusive growth, strengthening individual well-being alongside broader welfare systems.

Wu et al. (2025) investigate the consumption characteristics of the silver economy industry market, which encompasses the full range of economic activities generated by products and services designed to meet the specific needs of older adults. Owing to global demographic imbalances, this phenomenon exhibits distinct regional characteristics worldwide. The study analyses the uniqueness of elderly consumption behaviour and the market potential of the silver economy. A detailed market analysis highlights the size and growth trends of consumption, services, and products, revealing a rapid upward trajectory. In particular, the growing demand among older populations for industries such as healthcare, entertainment, and information technology demonstrates the diversification of the silver economy's industrial structure. The competitive landscape analysis shows that many companies are enhancing their market position by innovating services and offering personalised products. Furthermore, the research finds that elderly consumers increasingly display rational decision-making, strong brand loyalty, and heightened sensitivity to quality and safety, thereby shaping a distinct consumption psychology. The paper also examines the influence of policy environments on the silver economy and proposes systematic policy support measures, such as strengthening community-based elderly care services and promoting the use of smart technologies. These recommendations aim to ensure the sustainable development of the silver economy, offering both theoretical insights and practical guidance for policymakers and industry stakeholders.

Durai et al. (2025) highlight the global demographic transition as one of the 21st century's most profound socio-economic shifts, with those aged 60+ soon to outnumber children under five. They explain how rising life expectancy and falling fertility have shaped the Silver Economy, encompassing healthcare, housing, finance, technology, leisure, and personal

services. Drawing on the IMF's 2025 *World Economic Outlook*, the authors note opportunities in innovation, markets, and jobs, alongside challenges of fiscal strain, labour shortages, and digital divides. They conclude with strategies promoting age-friendly policies, technological advancement, and intergenerational collaboration to harness this demographic dividend.

Kaviya et al. (2025) highlight the pressing need for senior-friendly housing in India, driven by the country's rapidly ageing population and the necessity to meet the physical, emotional, and social needs of older adults. In their scoping review, the authors explore the relationship between the silver economy and senior-oriented housing, emphasising how supportive environments and universal design principles foster autonomy, well-being, and active ageing. Drawing on 30 studies sourced from databases such as Scopus, MDPI, PubMed, and Google Scholar, the review demonstrates how senior-friendly housing reduces dependency while simultaneously opening new economic opportunities. The findings underscore that these housing solutions not only align with sustainable development goals by creating demand for age-specific goods and services but also stimulate employment in sectors such as design, construction, and maintenance. To promote healthy ageing and unlock the financial potential of the silver economy, the paper stresses the importance of integrating universal design principles into senior housing policies tailored to India's socio-economic and demographic realities. Such an approach ensures that housing effectively addresses the needs of the elderly, contributes to economic growth, and fosters supportive living environments that enhance well-being.

Durai et al. (2025) examine the rapidly ageing global population and the transformative role of technology in shaping the Silver Economy, defined as economic activities addressing older adults' needs. They emphasise that technological innovation is not just supportive but essential for enhancing independence, health, mobility, communication, and social connection, while driving economic growth. The article highlights advancements in health, smart living, finance, and lifelong learning, alongside challenges such as digital divides, privacy, and ethics. Strategic solutions, including user-centric design, digital literacy, policy support, and interdisciplinary collaboration, are proposed to foster inclusive, age-friendly societies and sustainable demographic resilience.

Zhao and Li (2025) analyse the accelerating ageing of China's population and its implications for the development of the silver economy. According to the seventh national population census in 2021, people aged 60 and above made up 18.7 per cent of the population, while those aged 65 and above accounted for 13.5 per cent, with the elderly dependency ratio reaching 22.5 per cent. By June 2025, the number of "silver-haired" internet users aged 60 and older had already risen to 161 million. In this context, the authors argue that cultivating the silver economy has become an essential strategy for addressing demographic challenges. They position silver-age new-quality productive forces as both a key driver and a primary entry point for advancing this economic sector. Through theoretical exploration, the paper defines the core concepts of new-quality productive forces and the silver economy, while identifying current obstacles, including mismatches between supply and demand, uneven resource allocation, insufficient talent pools, and weak institutional frameworks. To overcome these issues, Zhao and Li propose a dual policy strategy combining supply-side structural reform with demand-side guidance to resolve the imbalance of "excess ineffective supply" and "insufficient effective demand." Their study concludes that realising the projected 30 trillion yuan silver economy by 2035 will require building robust technological innovation ecosystems, establishing unified industry standards, and implementing tailored regulatory frameworks.

Durai et al. (2025) analyse the vital link between financial inclusion and the Silver Economy, stressing that equitable financial access for older adults is both a social imperative and an economic necessity. With the 60+ population projected to reach 2.1 billion by 2050, the study explores retirement income, healthcare financing, and estate planning needs, while addressing barriers like digital divides, accessibility issues, and age-based discrimination. It identifies four pillars: accessible banking, tailored products, financial literacy, and supportive policies as essential for inclusion. The paper highlights that inclusive finance enhances older adults' independence, dignity, and participation, contributing significantly to global economic growth.

Sarkar and Basu (2025) report on the rapid growth of India's silver economy, driven by the rising demand for elder care services. Platforms such as Samarth, Emoha, and Yodda are expanding quickly as more professionals face the dual responsibility of managing careers while caring for ageing family members. These platforms provide essential services, including health monitoring and emergency assistance, which have not only increased their relevance but also attracted corporate partnerships. Furthermore, their reach is extending beyond metropolitan areas, with significant expansion into tier-2 and tier-3 cities, underscoring the sector's potential as a key pillar of India's evolving silver economy.

Durai et al. (2025) examine the rise of silver tourism as a vital segment of the Silver Economy, highlighting travellers aged 50 and above who are affluent, active, and experience-driven. The study explores diverse preferences spanning cultural heritage, wellness, soft adventure, cruises, educational travel, multi-generational trips, and accessible tourism. It emphasises that success in this market requires product innovation, customised services, targeted marketing, skilled staff, and technology integration. Despite challenges such as ageist perceptions, accessibility gaps, and digital divides, silver tourism offers immense growth potential, positioning destinations and providers to foster inclusivity, sustainability, and significant market expansion.

Woo (2025) highlights that the silver economy, encompassing products, services, and innovations designed for older adults, is emerging as a vital and expanding market segment in Europe, largely shaped by demographic transitions. Rising life expectancy combined with declining birth rates is steadily increasing the share of older people within Europe's population. This demographic shift presents both challenges and opportunities, requiring innovative economic approaches that not only mitigate pressures on public finances but also meet the evolving needs of ageing populations while fostering sustainable growth. In response, the European Union (EU) and the French government have launched a range of programmes and strategies to promote the development of the silver economy, particularly through advancements in healthcare, housing, technology, and tourism. As the EU's second-largest economy by output and population, France represents a substantial and growing market for silver economy initiatives. With a strong strategic focus on innovation and independent living, the country offers significant opportunities for diverse products and services, paving the way for new markets and continued innovation in this sector.

Durai et al. (2025) emphasise that education and training are pivotal to sustaining a vibrant Silver Economy, extending far beyond the domain of youth. This article underscores the role of continuous learning initiatives in enabling older adults to remain active in economic and social spheres. By analysing demographic trends, educational models, innovative practices, and implementation barriers, the study highlights how tailored learning programs enhance employability, well-being, and social engagement. The findings reveal that such initiatives not only empower individuals but also strengthen economic development, inclusiveness, and social cohesion, positioning education as a cornerstone of ageing societies.

Lu et al. (2025) draw on data from the China Health and Retirement Longitudinal Study to examine how post-retirement employment influences the expenditure patterns of older adults in urban China. By approaching retirement behaviour from a consumer welfare perspective, their research extends the literature on retirement consumption, offering theoretical explanations, empirical evidence, and policy insights. The findings indicate that post-retirement employment reduces household expenditure among retirees, with the effect being more pronounced for men than women, though it weakens as overall consumption levels increase. The study suggests that rising income, enhanced social participation, and improved subjective health outcomes are possible channels through which employment after retirement shapes consumption behaviour. Two main mechanisms explain the reduction in expenditure: first, post-retirement employment enhances subjective health, which in turn lowers healthcare costs; second, such employment does not uniformly promote social participation or self-rated health across all consumption levels and genders, leading instead to decreased spending. Additionally, preliminary evidence reveals that internet use moderates this negative relationship, mitigating the reduction in expenditure. Collectively, these insights hold important implications for retirement policy and for strategies aimed at fostering the silver economy.

Durai et al. (2025) examine how the Silver Economy, encompassing economic activities for adults aged 50 and above, intersects with the United Nations' Sustainable Development Goals (SDGs). Their study highlights meaningful connections with SDGs on health, decent work, innovation, sustainable cities, responsible consumption, and reduced inequalities. Six strategies are identified, including policy integration, green technology, inclusive design, lifelong learning, responsible practices, and innovative financing. While challenges such as resource pressures, digital divides, and behavioural barriers persist, opportunities include innovation, leveraging older workforces, and sustainable markets. The authors conclude that cross-sector collaboration is essential for sustainable, age-inclusive futures.

Jiang (2025) establishes a comprehensive index system to evaluate the digital economy and the silver economy, focusing on 16 provinces and municipalities in China with high levels of ageing between 2014 and 2023. Using the entropy method, the study calculates indices for the comprehensive development of both economies and employs ArcGIS for visualisation. The coupling coordination degree between the two economic forms is assessed through a coupling coordination degree model, with further visualisation achieved using 3D Gaussian kernel density curves in Matlab. The findings reveal that: (1) both the digital economy and the silver economy exhibited high levels of overall development, with the silver economy showing relatively greater strength; (2) both economies experienced a decline following the pandemic compared to pre-pandemic years; (3) the coupling degree between the two economies was consistently high and showed an upward trend throughout the study period; (4) in Northeastern China, where aging is severe, the silver economy lagged significantly behind the degree of aging; and (5) although coupling coordination generally improved nationwide, a clear polarization trend emerged in the western and northeastern regions. The study concludes with policy suggestions to enhance coordination and sustainability between the digital and silver economies.

Durai et al. (2025) highlight that as global populations age, the value of longer life spans lies not only in health but in sustained connection, engagement, and inclusion. This paper examines social inclusion as a cornerstone of the Silver Economy, ensuring older adults have equitable access to opportunities, resources, and support for full participation in social, cultural, civic, and economic life. Addressing issues such as loneliness, digital divides, and ageism, the study emphasises strategies that foster community engagement, cultural involvement, and economic contribution, ultimately enhancing well-being, strengthening social cohesion, and unlocking the economic potential of ageing societies.

III. Conclusion

Population ageing stands out as one of the foremost socioeconomic challenges of the 21st century, with profound implications for individuals, societies, and economies alike. This demographic transition is reshaping consumption patterns, labour markets, and service demands, particularly in sectors such as healthcare, long-term care, housing, finance, and products and services tailored to older adults. While advanced economies present substantial opportunities within the silver economy, developing or newer economies often face limitations in consumption capacity, necessitating context-specific strategies to unlock their full potential. Technological innovation, gerontechnology, digitalisation, and social innovation are central to facilitating older adults' active participation, promoting independence, and bridging age-related gaps in access and engagement. The silver economy increasingly functions as a driver of inclusive economic development, integrating older populations into labour markets, consumption, and production, while supporting lifelong learning, social engagement, and community cohesion. Emerging sectors, including elder care services, silver tourism, senior-friendly housing, and digital solutions, exemplify the breadth of opportunities, emphasising the need for innovation, customised offerings, and ethically grounded, inclusive practices. Effective policy frameworks, financial inclusion strategies, and strategic interventions are crucial to enhance sectoral capacity, address workforce shortages, and ensure equitable access to resources and services. International experiences underscore the importance of collaboration among governments, industry, and communities for sustainable development. Ultimately, the silver economy holds transformative potential to convert demographic challenges into social and economic opportunities. By fostering active ageing, leveraging technology, and ensuring inclusive participation, societies can enhance older adults' well-being, drive economic growth, and build resilient, future-ready economies. A comprehensive, multi-dimensional approach encompassing innovation, education, policy support, and social inclusion is essential to fully realise the social, economic, and ethical promise of the silver economy across diverse regions and populations.

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