Fifty years of research on silver economy: a bibliometric analysis

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Abstract

Frame of the research: Population ageing is a global demographic trend that will have tremendous implications for individuals, firms, organizations, policy makers and, in general, for mostly all sectors of society. Specifically, silver economy (SE) encompasses all the activities aimed at providing goods and services that meet the changing needs of this heterogeneous market. While academic interest on SE has greatly increased in the last years, management research on older persons is still fragmented and needs to be systematized.

Purpose of the paper: This paper establishes the state of the art and the emerging issues on the SE in the management literature to define and prioritize the future research directions that will support scholars who wish to address the silver market.

Methodology: A systematic review of the literature published between 1969 and 2022 was conducted using bibliometric techniques.

Findings: Based on bibliographic coupling, 10 clusters emerge, showing the heterogeneity of contributions on the SE in management. Analysis of the thematic map reveals five main research topics on the SE, classified according to the degree of relevance and the level of development. Service quality and service providers are the motor themes (i.e., well-developed and important themes) in the SE management literature.

Research limits: Future studies could analyse the single clusters more fully to identify specific features of SE in the various management research fields.

Practical implications: This study helps managers to better focus on the design, production and delivery of goods and services in line with the emerging complexity and extension of the population life cycle.

Originality of the paper: As far as we are aware, this study is the first to systematize knowledge on the SE in the management literature and to propose a comprehensive research agenda for management scholars.

Key words: silver economy; research agenda; bibliometric analysis; seniors; management

1. Introduction

Population ageing is a phenomenon that affects almost all industrialized countries, with the number and proportion of older people[1] increasing

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[1]   There is no consensus about the definition of older persons. Both academics and practitioners use different terms to refer to older people, including for example "seniors", "elder", "elderly", "mature", "grey". Some of these terms may contemporarily be considered having negative connotations or bias associated

all over the world; it is predicted that there will be almost half a million centenarians in 2050 (Eurostat, 2022). The society of the next few years will consist of many older people; that is, people older than 65 years. Such a change in global demographic structures is likely to have a significant impact on most aspects of life and the economy, as well as on countries' macroeconomic and fiscal sustainability.

Thus, institutions, organizations and businesses must fundamentally rethink and redesign their offerings (Kohlbacher *et al.*, 2011). This unified and multi-layered "silver" macro segment poses challenges thus requires consideration (European Union, 2021). First, given the decline in the working-age population and the growing number of older people in society, maintaining the labour force is a main concern of policy makers. Closely related to this is the issue of healthy/unhealthy ageing. Considering life expectancy has increased, the period of old age has become much longer. Within the silver macro segment, different groups can be distinguished, characterised by different levels of independence and health status and therefore different needs at both social and market levels.

The so-called silver economy (SE) was recognised by the World Health Organization (WHO) in 2014 as a system for producing and delivering products and services that aims to shape the environment in which older people lead healthy, active and productive lives. Also, considering the 17 Sustainable Goals of the 2030 Agenda for Sustainable Development, management research needs to address the problems of the ageing population to guide both institutions and companies in developing services and products to fit the changing profile of society. Indeed, fulfilling the 2030 Agenda's primary goal of global human well-being goes beyond social inclusion.

In the management field, the topic of ageing has recently been approached from the perspective of social innovation (Sooraj *et al.*, 2020), which considers the creation of novel, scalable and sustainable ideas, and solutions, to solve systemic societal problems (Aksoy *et al.*, 2019; Mulgan *et al.*, 2007; van Wijk *et al.*, 2019). Contributions focus mainly on "the elderly" -that is, the less active members of the aged population- and address the health and assistance sector (Čaić *et al.*, 2018), especially in relation to technology use (Neven, 2015). Extant studies on the silver market address only specific industries such as tourism, hospitality and financial services (Sudbury-Rilegy *et al.*, 2014; Laperche *et al.*, 2019; Hvozdikova *et al.*, 2015).

Given the extended life prospects of the population and the obvious impact of demographic change on the planning and provision of goods and services, management studies need to approach the SE from a systematic perspective addressing firms and institutions. Such perspective should focus on environments, conditions and activities that enable the

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with them. Similarly, different age thresholds are used to refer to older individuals, ranging for example from 50 and older (European Commission, 2018) to 65 and older (United Nations, 2019). To avoid any ambiguity, in this study we use the term "older persons" to refer to individuals older than 65, while recognising that chronological age alone is not sufficient to identify an older person.

well-being of a population that has changed so much in its demographic composition and thus in its needs. We believe that the contribution of management theory is essential to the social and market challenges of the SE, particularly in relation to the issues of service design and innovation.

Therefore, we provide a research agenda to support both academics and managers to redefine priorities in the design, production and delivery of goods and services in line with the emerging complexity and extension of the population life cycle. With the dual aim of filling the gap in the literature and guiding future research, we opted for a systematic review of the literature using bibliometric techniques (Tranfield *et al.*, 2003) to not only establish the state of the art but also, more important, identify emerging issues and thus future research directions.

The remainder of the paper is structured as follows. Section 2 illustrates the methodological path and describes the methodological choice and the dataset building procedure. The main descriptive results of the systematic literature review are then presented in Section 3. Next, Section 4 discusses the results of the bibliometric analysis by illustrating the emerging research clusters on the topic of the SE. Lastly, Section 5 proposes a research agenda for management scholars of the SE and outlines implications for managers and policy makers.

2. Methodology

We combined a systematic literature review with a quantitative bibliometric analysis to illustrate the current state of research on the economy connected to the ageing population (SE) in the management field. This approach is widely used in knowledge management (Gaviria-Marin *et al.*, 2019; Fakhar Manesh *et al.*, 2021) and innovation (Klarin, 2019; van Oorschot *et al.*, 2018). Systematic literature reviews are robust (Ciampi *et al.*, 2021), minimize bias from exhaustive searches of documents in the field and provide a control schedule of the literature review's approach and conclusions (Tranfield *et al.*, 2003).

Figure 1 illustrates the methodological procedure employed, specifying the activities and instruments used.

2.1 Dataset building

On 29 September 2022, we ran a query on Scopus and Web of Science (WOS), using the operators "TITLE-ABS-KEY" and "TS", respectively, and the keywords "service", and ["senior" or "older" or "elder" or "elderly"]. The choice not to include "silver economy" was made on the basis of an exploratory analysis of the WOS and Scopus databases. An initial query launched on 16 September 2022 revealed that: (i) although a term defined by the European Commission (2018) for an economic system, "silver economy" is not widely used in the literature (fewer than 150 articles in all Scopus/WOS categories); (ii) "silver economy" has a terminological meaning used mainly in studies of economics and regional economics (fewer than 30 published papers); (iii) when appearing as a keyword,
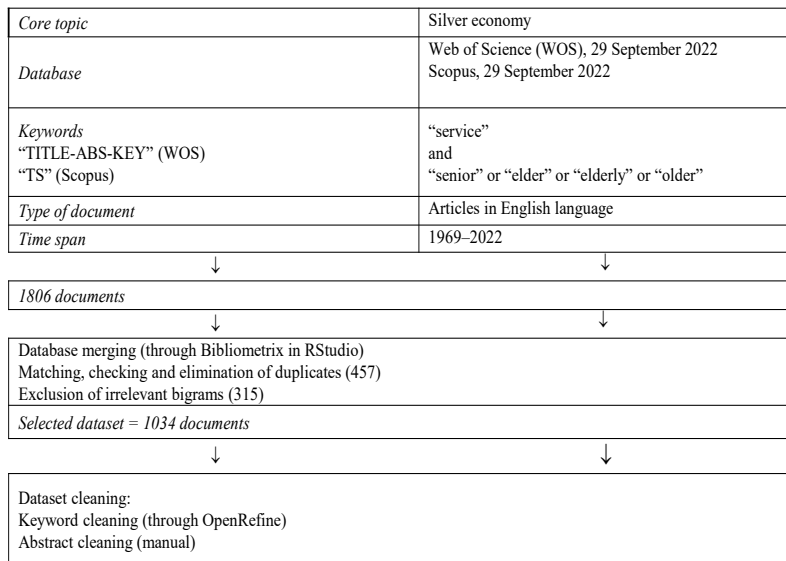
all management articles containing the term include at least one of the keywords identified by the authors for the final query. We limited the search to articles written in English, selected only documents in the field of business and management, and excluded subject areas not pertinent to the scientific domain of our research. We obtained 1045 articles from Scopus and 761 from WOS.

As second step, we merged the two datasets using the Bibliometrix package opensource (Aria and Cuccurullo, 2017) in RStudio (http://www.bibliometrix.org); this process was necessary to ensure a complete and exhaustive bibliometric analysis (Echchakoui, 2020). Duplicates (457) were removed, leaving 1349 articles in the merged dataset. We cleaned keywords using OpenRefine, (https://openrefine.org/) then we manually cleaned abstracts. This was done to homogenise spelling (such as, British and American English, singular and plural, etc.), and to avoid recurrent words in abstracts (such as "purpose", "findings", "limitations"). Moreover, considering the meaning of the bigrams "senior management", "senior manager", and "senior executives", which refer to carrier and organizational issues, we decided to remove documents including these in their abstracts (315). The final dataset consists of 1034 articles.

2.2 Data analysis

We then analysed the data by performing bibliographic coupling using VOSviewer 1.6.18 version (van Eck and Waltman, 2010) and strategic map analysis using the Bibliometrix package in RStudio. Strategic maps are two-dimensional diagrams plotting clusters that are derived from co-word analysis according to their centrality and density ranks (Cobo *et al.*, 2011).

Fig. 1: Methodological procedure

Core topic	Silver economy
Database	Web of Science (WOS), 29 September 2022 Scopus, 29 September 2022
Keywords "TITLE-ABS-KEY" (WOS) "TS" (Scopus)	"service" and "senior" or "elder" or "elderly" or "older"
Type of document	Articles in English language
Time span	1969–2022

↓   ↓

1806 documents

↓   ↓

Database merging (through Bibliometrix in RStudio) Matching, checking and elimination of duplicates (457) Exclusion of irrelevant bigrams (315)
Selected dataset = 1034 documents

↓   ↓

Dataset cleaning: Keyword cleaning (through OpenRefine) Abstract cleaning (manual)

Source: Authors' elaboration

3. Scientific production: descriptive analysis

Over time, the issue of ageing has emerged and gained momentum in the management and business literature (Figure 2). Indeed, although there were several breaks, the average number of articles published annually increased over the study period, 1969-2022, with three subperiods identified (Table 1).

Fig. 2: Scientific production by year
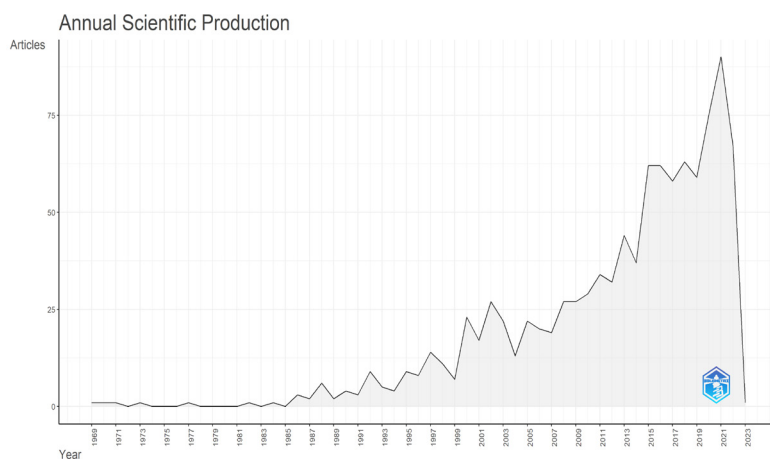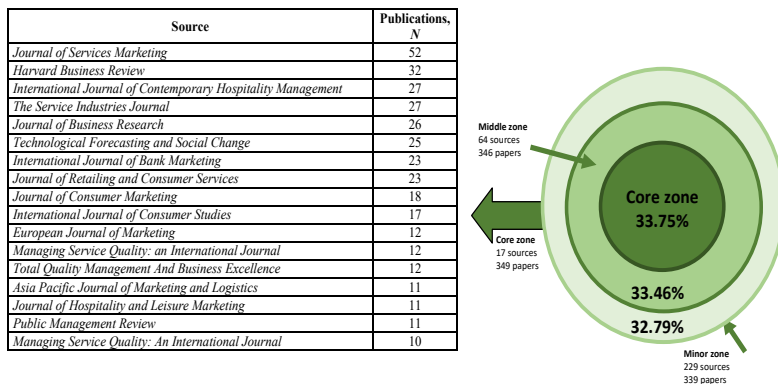

Source: Authors' elaborations

Tab. 1: Scientific production by average number of publications

Years (from - to)	Publications, N	Average number of publications
1969 - 1999	94	3
1999 - 2014	393	26
2015 - 2022	537	67

Source: Authors' elaborations

Lacking a reference line for research, the scientific production on the SE appears very heterogeneous in terms of the journals in which papers are published. Bradford's law (Bradford, 1985) was applied to identify a corpus of journals in which significant contributions has appeared and which show some continuity (Figure 3). Bradford's law methodology allows for the distinction of three "zones" that represent a hierarchy of sources for a single topic or subject area. Zone 1 is the top third, the core zone, and includes the journals that are most frequently cited in the literature of the subject area in question and are therefore likely to be of greatest interest to researchers in that subject area. The middle zone (2) comprises the journals that are frequently cited on average, and the bottom zone (3) consists of the long tail of journals that are rarely cited and of little importance to the field (Nash-Stewart, 2012). Figure 3 shows that the analysis found 349 papers belonging to the core area (about one-third of the total production) and

published in 17 major journals, such as the Journal of Services Marketing, Harvard Business Review, The Service Industries Journal and Journal of Business Research.

Fig. 3: Source clustering through Bradford's law

Source	Publications, N
Journal of Services Marketing	52
Harvard Business Review	32
International Journal of Contemporary Hospitality Management	27
The Service Industries Journal	27
Journal of Business Research	26
Technological Forecasting and Social Change	25
International Journal of Bank Marketing	23
Journal of Retailing and Consumer Services	23
Journal of Consumer Marketing	18
International Journal of Consumer Studies	17
European Journal of Marketing	12
Managing Service Quality: an International Journal	12
Total Quality Management And Business Excellence	12
Asia Pacific Journal of Marketing and Logistics	11
Journal of Hospitality and Leisure Marketing	11
Public Management Review	11
Managing Service Quality: An International Journal	10

Middle zone
64 sources
346 papers

Core zone
33.75%

Core zone
17 sources
349 papers

33.46%

32.79%

Minor zone
229 sources
339 papers

Source: Authors' elaborations

4. The state of the art and emerging trends

4.1 The results of bibliographic coupling

To verify whether there is a mainstream in the management literature on population ageing, we decided to conduct bibliographic coupling (bibliographic network analysis). Bibliographic coupling pairs two documents that have a third reference in common. The greater the number of shared references, the stronger the bibliographic coupling relation (Van Eck and Waltman, 2014)

Analysis of the map resulting from bibliographic coupling shows a low level of shared linkage in the network: within a dataset of 1034 articles, the largest set of linked elements consists of 359 documents. All documents in the dataset are used as the aim is to identify literature streams that share the same theoretical reference points. The map does not highlight all references, but only those papers that are linked, i.e. only articles that share at least one bibliographic reference in the bibliography. On one hand, this finding is in line with the earlier consideration concerning the heterogeneity of contributions on ageing and the SE in management; on the other hand, it confirms the need for a research agenda on the SE in management. Figure 4 shows the network map of the set of 359 interconnected documents with normalized citations as node size (Marzi *et al.*, 2021). Using the association method, a resolution of 0.50 and a minimum cluster size of 10 (van Eck and Waltman, 2010), we were able to identify 10 clusters. Based on normalized citation, we included over 10% within each cluster (thus, we analysed 10 papers for each cluster) (Turzo *et al.*, 2022).

Table 2 shows the number of documents for each cluster by network-map colour.

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Fig. 4: Network map of interconnected documents
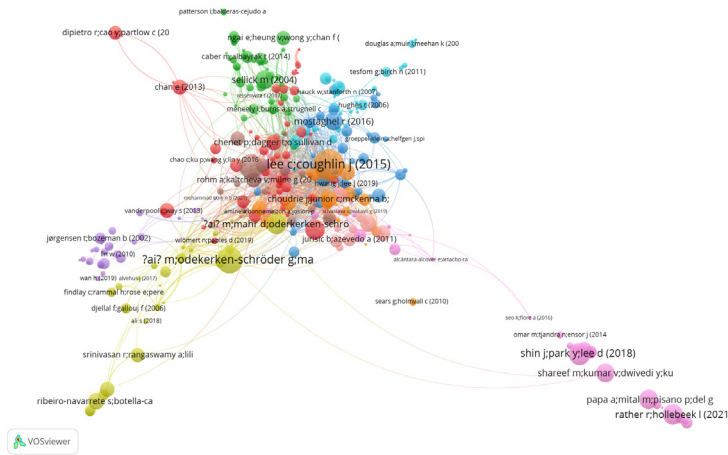
Source: Authors' elaborations

Tab. 2: Bibliographic coupling clusters and cluster size

Cluster	Publications, N
1 - Red	56
2 - Green	48
3 - Blue	43
4 - Yellow	35
5 - Purple	34
6 - Turquoise	33
7 - Orange	30
8 - Brown	29
9 - Pink	28
10 - Peach	22

Source: Authors' elaborations

The map describes a network in which some clusters are clearly visible (pink, green, blue, purple, yellow), while others overlie (red, orange, peach, brown, turquoise). In this last case, there is a core of literature that has a common reference and probably a common theoretical environment. Following, the clusters that emerged from the bibliographic coupling are discussed, focusing on the connections between them.

The literature in the red cluster focuses on service innovation for older individuals and attempts to provide a better understanding of older consumers' characteristics, behaviour, and lifestyles. Several studies address older individuals in tourism and hospitality context. For example, Tsiotsou and Ratten (2010) highlight the importance of developing specific marketing approaches to market tourism services to an ageing population. Similarly, Hudson (2010) reviews consumer trends among the baby-boomer generation in terms of travel and identifies the relevant

marketing communication strategies needed to effectively connect with this generation of tourists. Concerning restaurants, Lee *et al.* (2012) focus on older individuals' perception of restaurant service and explore the relationship between customer satisfaction and service quality. Differences between older and younger consumers are also investigated. Kim *et al.* (2013) explore the relationships among older individuals' versus younger individuals' lifestyles in terms of health and sustainability, healthy food choices, trust, and emotional loyalty. With regard to lifestyles, Kim *et al.* (2003) examine how older citizens' lifestyles affect their choice of retirement community. Further, Lipowski and Bondos (2018) investigate differences in the perceived media richness of offline, telephone, and online channels among baby boomers, generation X and generation Y. They suggest that for transitioning towards online channels, the pre-purchase phase of the customer journey (e.g., information search) is a good start for customers unfamiliar with the online environment, such as older individuals. Other studies in this cluster address job conditions from workers' perspectives in the health-care services context. For example, Vanderpoolol and Way (2013) investigate the relationship between work–family balance, job anxiety, turnover intentions and voluntary turnover among employees working in health-care and care services for older adults. Their findings show that work–family balance is related to job anxiety, turnover intentions and actual voluntary turnover. Chao *et al.* (2016) find a positive relationship between job satisfaction and service quality in care services for older persons. Specifically, they show that caregivers with higher job satisfaction within a high ethical climate provide better services.

The literature in the orange cluster focuses on older individuals' technology adoption in a variety of consumption contexts, such as restaurants (Cha, 2020; Garg, 2021) or online grocery shopping (Park *et al.*, 2021), rather than in terms of assistive robots or care services. Some studies also address the use of mobile devices in banking and payments. For example, Choudrie *et al.* (2018) develop a conceptual framework that combines the factors that influence the adoption, use and diffusion of mobile banking among older adults. Harris *et al.* (2016) explore consumers' preferences in banking technologies, comparing the importance of mobile, online and physical banking to younger and older customers. Cham *et al.* (2022) consider barriers to the adoption of mobile payment among older consumers, finding functional and risk barriers. Regarding barriers to technology adoption, Shen (2020) also examine physiological and cognitive decline as predictors of perceived ease of use and actual use of technology among older adults.

The literature in the green, purple and brown clusters shares a common focus on ageing from a consumer-behaviour perspective in different services contexts. Specifically, studies in the green cluster attempt to improve understanding of older consumers to provide firms and organizations with the knowledge necessary to serve this market better and improve service quality and customer satisfaction. In this regard, Johnson-Hillery *et al.* (1997) explore the difference between older consumers' self-reported preferences and satisfaction, and retail sales personnel's perceptions, showing a need for improved understanding of

older consumers. Pettigrew *et al.* (2005) address older consumers' shopping experiences in supermarkets and identify three major issues particularly important for older people when shopping: the courtesy and efficiency of supermarket employees, convenient product location, and the functionality of shopping equipment. In addition, older individuals' preferences and behaviour have been explored in research in the tourism and hospitality industry. Chen *et al.* (2013) identify crucial customer service factors for older guests in hot-spring hotels, while Caber and Albarak (2014) focus on a cross-country analysis of the hotel attributes affecting older individuals' customer satisfaction. Other studies focus on segmenting and profiling older customers in different service contexts, such as retail or tourism. For example, Meneely *et al.* (2009) examine consumers' retail food behaviour, showing a change in buying and food-related behaviour as consumers grow older. In the tourism industry, Sellick (2004) segments older tourists based on their psychographic characteristics, including travel motives, risk perceptions and cognitive age. Le Serre and Chevalier (2012) perform cluster analysis using behavioural variables and find the importance of subjective age in tourism consumption. Research conducted in the hospitality industry shows that older individuals tend to complain publicly. For example, Ngai *et al.* (2007) explore differences in consumer complaint behaviour regarding hotel services based on cultural and demographic factors, finding that older individuals tend to complain publicly. Research has also addressed stereotypes in marketing and communications regarding older individuals (e.g., Schewe and Balazs, 1992), suggesting the importance of enhancing the quality of products and services for this market and of educating older consumers about role expectations related to age.

The literature in the purple cluster adopts a different perspective, focusing on public-sector and social services (e.g., Laing and Hogg, 2002; Hansen, 2010) or, more generally, on services dedicated to improving older individuals' well-being. For example, Laing and Hogg (2002) explore patient attitudes to services provision in the National Health Service in Scotland and to the consumer-orientation shift of health-care services. Research has also explored older adults' empowerment, for example through social engagement in third places (Meshram and O'Cass, 2013). Some studies also adopt a stakeholder-engagement approach to design innovative housing and well-being services for ageing individuals (Hennala *et al.*, 2011) or for implementing telecare and telehealth technologies (Bjørkquist *et al.*, 2015). User participation is crucial specifically to favour technology-related innovations in health-care services, as well as to increase older individuals' presence in the online context, for example through purchases via electronic commerce (Leppel and McCloskey, 2011). In services contexts, understanding older consumers' preferences can also help firms to better customize their services. In this regard, Bogicevic *et al.*'s (2018) findings challenge age-related stereotypes regarding hotel-design styles, with the researchers observing that older guests are indifferent to hotel-room design.

Publications in the brown cluster mostly focus on older adults as vulnerable customers (e.g., in terms of health, disabilities or social

conditions) in different service contexts and highlight the importance of improving knowledge on this market to improve older individuals' inclusion, quality of life and eudaimonic well-being (Palumbo *et al.*, 2018). Several studies adopt a transformative service research perspective (Anderson *et al.*, 2013). For example, Rosenbaum *et al.*, 2014 investigate the role of "senior centres" in generating health benefits, such as fatigue relief and overall physical and mental well-being without medications. More recently, Henkel *et al.* (2020) have focused on transformative services and address the role of social robots in improving the well-being of vulnerable consumers. They develop a conceptual approach to integrate social robotics and transformative service research. Vulnerable older adults may need assistance from family members, who have also been included in the SE literature. In this regard, Leino *et al.* (2021) adopt a relational perspective on primary and secondary customers' needs in nursing and suggest that family members' service inclusion is necessary to enhance primary customers' inclusion and well-being. Transformative service research has also been combined with technology adoption research to explore how internet services can improve older consumers' well-being, highlighting the importance of co-creation behaviours (Bianchi, 2021).

The blue, yellow, turquoise and pink clusters comprise papers with a common focus on innovation in ageing, decision-making processes and a marketing perspective. Specifically, some studies in the blue cluster address innovation and technology for services aimed at older individuals. For example, Mostaghel (2016) reviews the extant literature and examines innovative technology adoption among older individuals, identifying the important actors in older people's lives. Arenas-Gaitàn *et al.* (2020) investigate the adoption and use of e-banking by older adults, observing the importance of psychographic characteristics and cognitive age as discriminant segmentation criteria. Bae *et al.* (2020) also explore if older individuals' innovativeness tends to decrease with age and why if so. Interestingly, thier study shows a moderating effect of stereotype threat: in other words, older individuals who think they are negatively viewed as "old" limit their innovativeness to avoid situations that would confirm this negative stereotype. The effect of stereotypes on older people's behaviour is addressed also by Groeppel-Klein *et al.* (2017), who find that negative stereotypes lead to decreased cognitive performance among older adults in a consumption context. Some research also investigates service quality from older individuals' perspective to identify marketing opportunities in different industries, including tourism (e.g., Wang *et al.*, 2013; Hwang and Lee, 2019).

Publications in the yellow cluster particularly explore co-creation in the older market. In this regard, in a conceptual paper, Čaić *et al.* (2019) explore the role of social robots in care services for older persons in terms of their co-creation and co-destruction potential. Further, Čaić *et al.* (2018) adopt older individuals' perspective to investigate the potential roles for service assistive robots in care-base value networks. These roles, identified according to their value co-creating/destroying potential, can be linked to three health-supporting functions by robots: safeguarding, ensuring the patient's social contact and providing cognitive support. Essén (2009)

also investigates the role of technology-based care services and proposes a framework to explain the emergence of new services. Djellal and Gallouj (2006) challenge the stereotype of ageing and innovation and explore the various types of innovation in care services for older persons. Based on their findings, they propose a framework to analyse the diverse types of innovation based on different "targets" (i.e., the forms of assistance and residential provision of older adults, the technologies used, the services offered, the human and institutional environments).

The literature in the turquoise cluster has a strong focus on the analysis of older individuals' decision-making process in different service contexts, such as travel (Faranda and Schmidt, 2000), shopping malls (Kim *et al.*, 2005) and retail banking (Tesfom and Birch, 2011). Research has also investigated the characteristics of customers who have difficulty making buying decisions and found that older, less educated female consumers experience more difficulty (Walsh and Mitchell, 2005). With regard to shopping behaviour, Kim *et al.* (2005) found a significant effect of social interaction and loneliness on mall spending, suggesting that malls should offer more experiential features to attract older customers. A social dimension emerges also in a study conducted among the customers and service providers of a diner in the United States (Rosenbaum, 2009). The findings show that customers and employees engaged in a mutually beneficial exchange of attention and social support. The importance of social relations was also found in an early study on older persons' attitudes and motivations to Internet usage, revealing that users perceived the Internet as a tool to keep in close touch with family and friends (Trocchia and Janda, 2000).

The pink cluster comprises publications on the role of technology for older individuals' well-being in various service contexts, including tourism, homecare and health care. For example, Gomez (2015) researches autonomy-enabling innovations among telecare users. Aceros *et al.* (2015) have undertaken an ethnographic study on the introduction of a telecare system in older individuals' homes consisting of a personal alarm system to obtain assistance at home in case of emergency. The findings reveal that this type of telecare stimulated "good ageing" by requiring, for example, memory and boundary work to align the user with the system. Compagna and Kohlbacher (2015) address service robots in care facilities for older adults and highlight the importance of participatory technology development. To enhance older persons' participation in this process, technology developers should increase usability trials in the middle stages of the innovations process and the use of rapid prototyping by enhancing the direct interaction between users and developers (Compagna and Kohlbacher, 2015). In addition, Shareef *et al.* (2021) investigate the role of trust in older individuals' acceptance of autonomous homecare systems to replace human support. Their study attempts to reveal how trust and personal characteristics can increase intent to adopt an autonomous system. Research also considers the service providers' perspective. For example, Jang *et al.* (2016) adopts the providers' perspective to determine the quality characteristics of ubiquitous health-care services in long-term care hospitals.

Finally, the peach cluster, smaller than the other clusters, includes studies that consider older persons' emotions in consumption behaviours. For example, Chaouali *et al.* (2021) address older customers' reactions to service failure, considering the role of emotions and older individuals' ability to cope with stressful situations. Research has also shown that negative emotions towards usage constraints imposed by service providers can act as a barrier to purchasing intentions-for example, from online trave"l agencies (Talwar *et al.*, 2020). Further, Godefroit-Winkel *et al.* (2019) explore the interplay of emotions and consumption between grandmothers and their grandchildren, providing interesting insights from an intergenerational marketing perspective. Finally, research also address the potential of branding in social marketing services (Gordon *et al.* 2016) and the relationships between older persons' caregivers and family members to understand consumption from a collective perspective (Barnhart *et al.*, 2014).

4.2 Thematic maps

To identify the main topics, we analysed the strategic diagrams, also called "thematic maps" (Cobo *et al.*, 2011), for the cleaned abstracts. We used bigrams and edited text (title, abstract and keywords) by uploading a list of terms to remove, and a list of synonyms. We used the Walktrap clustering algorithm and selected 250 for the number of words, and five as the minimum cluster frequency. Each bubble corresponds to a cluster/ theme, labelled using the two most recurrent bigrams. Figure 5 shows the thematic map of studies on SE in management. Themes in the upper-left quadrant are well developed (high density) but peripheral (low centrality), meaning that they have strong internal ties but unimportant external ties, thus their importance for the research field is marginal. Specifically, the yellow bubble represents studies on grocery shopping, self-service technology and customers' adoption intention. This bubble contains early studies in SE that now have a marginal role.

*Fig. 5: Thematic map*
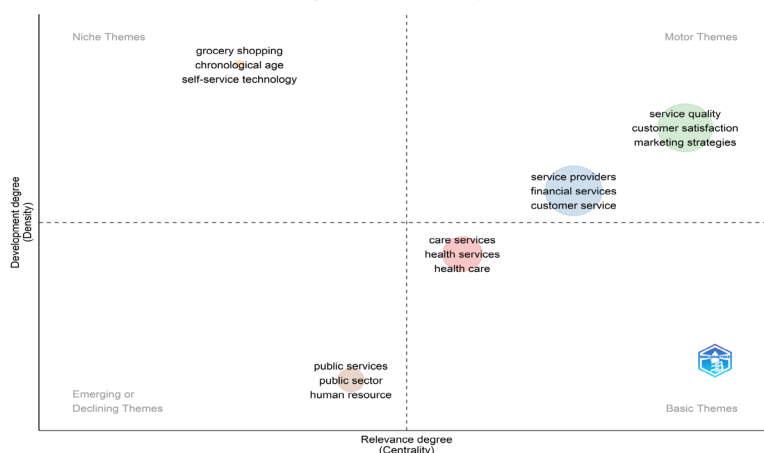
Source: Authors' elaborations

The themes in the lower left quadrant are both weakly developed and marginal; they can represent either emerging or declining themes, which means that these themes are not consolidated in the literature and can develop in different directions. The light orange bubble represents studies on public services aimed at providing older individuals with facilities, housing services and health care. This bubble considers older individuals as fragile individuals who need assistance and focuses on public organizations' role as service providers for this target group.

Themes in the lower-right quadrant have very strong external ties but unimportant internal ties, meaning that they are very important for the research field, even if they are not well developed. Topics in this quadrant are general and transversal. The peach bubble represents studies in services to improve the autonomy, independence, active ageing and well-being of older people-for example, through the use of technology and assistive robots, as well as participation in leisure activities such as tourism or by removing barriers to buying behaviour. This bubble also incorporates studies addressing the role of family members.

Finally, the themes in the upper-right quadrant are the "motor themes". These themes are both well developed (high density) and very important (high centrality). They have very strong external and internal ties, meaning they represent motor themes, namely service quality (light green) and service providers (light blue). The light green bubble addresses older individuals, mainly from a consumer behaviour and service marketing perspective, in a variety of service contexts, including health-care services, food services, tourism and financial services. Specifically, some studies in this bubble investigate the older market in terms of customer experience and segmentation strategies. Others focus on older customers' perception of quality, satisfaction and brand loyalty or on marketing and communication strategies. Research represented in the light blue bubble focuses on various service providers from service innovation, customer orientation and firm performance perspectives. A variety of service sectors is addressed, including financial, tourism and hospitality. These studies also address older customers' decision-making processes and investigate the role of technology in improving service delivery and consumption processes.

The trend of research focusing on population ageing from a management/ marketing perspective is confirmed also by analysis of the so-called overlay network (Van Eck and Waltman, 2014), which shows how research has evolved over time in terms of key words. Indeed, the overlay map (Figure 6)-in which the colour shading of the nodes indicates the average year of publication-shows key words such as "well-being", "technology adoption" and "customer experience" are the leading terms in recent research relative to consolidated key words such as "consumer behaviour" and "older consumers". In addition, the key word "Covid-19" highlights the relevance of the ageing issue, especially in relation to vulnerable populations who find it difficult to cope with a pandemic and therefore indicate the need for adequate and appropriate services.

Fig. 6: Overlay network
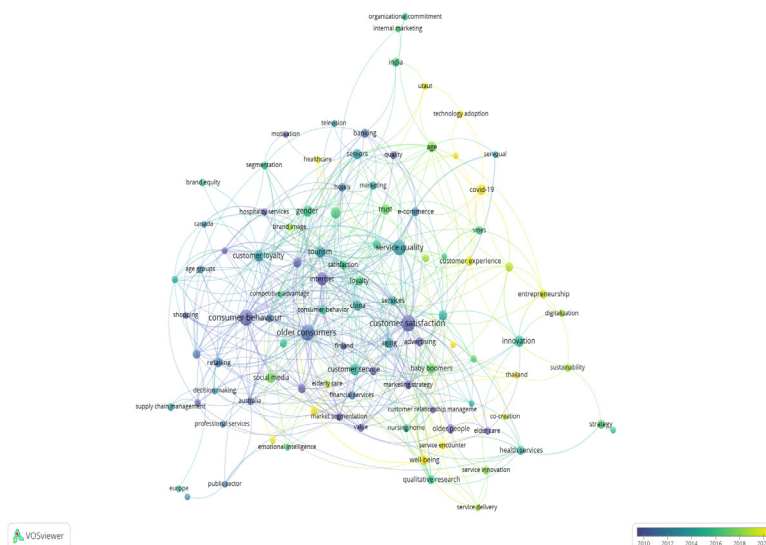
Source: Authors' elaborations

5. Contributions, implications and a research agenda

This paper contributes by systematizing knowledge on SE in the management literature and proposing a comprehensive research agenda for management scholars. The literature review provides an overview of research on various issues in an important and growing part of modern economies, the SE. A systematic review of the literature published between 1969 and 2022 was conducted using bibliometric techniques. In the analysis, 10 clusters emerged, showing the heterogeneity of contributions on SE in management studies. Analysis of the thematic map reveals five main research topics, classified in terms of degree of relevance and degree of development. Service quality and service providers were found to be the motor themes.

The literature review shows that a clear and unambiguous definition of the SE is lacking in management studies. This seems to be related, on one hand, to the interdisciplinary nature of the topic and, on the other, to the strict linkage with development and health policies. Furthermore, the existence of scholars in different academic disciplines using a wide range of theoretical and methodological perspectives is also a way to understand why there is no widely accepted definition of the SE. The term "silver economy" mainly refers to an empirical phenomenon rather than a theoretical concept. However, we believe that a definition would be useful when it comes to, for example, creating statistics that make it easy to compare data from different countries, as well as comparing different groups or segments within the SE domain.

This literature review provides managers and policy makers with some guidelines regarding management opportunities related to production and delivery of goods and services designed for SE customers. These management challenges include how to respond to the emerging complexities and specific needs and preferences of older consumers. In management studies, technology seems to play an important role, both as an enabling factor for the use of goods and services (active ageing) and for the provision and expansion of treatments and health care (fragile ageing) (Čaić *et al.*, 2018), especially considering the lessons learned from the pandemic (Frishammar *et al.*, 2022). In the field of transformative service research (Anderson *et al.*, 2013), the importance of digital technologies is emphasized for the integration of resources, thus enabling the co-creation of social well-being (Caridà *et al.*, 2022) through the identification of social inclusion of older people for companies providing goods and services. Therefore, the findings of the bibliometric analysis provide relevant implications for firms, organizations and policy makers on the process of service design and the provision of market offerings and health-care and medical services adjusted to the specific needs of older individuals.

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Future studies could analyse the different clusters in more depth to identify specific features of SE in the various management research fields, including their theoretical underpinnings. Empirical studies on different management and marketing challenges are also needed. Finally, based on the discussion of the clusters and the evolution of themes in the SE, we outline a research agenda for management scholars who wish to address challenges and opportunities in the SE-in particular, issues that emerged from the literature analysed in this paper-identifying eight key research challenges for future research and investigation.

Theme 1-Innovation in services. A key task is defining innovation in services focusing on older people and their specific needs:
- What do we know about service innovations for older people in different markets?
- How does the management of innovation address these needs?
- What are the challenges in scaling up service innovations in markets for older people?

Theme 2-Goods specifically designed for older persons. Understanding the needs of older individuals poses interesting challenges, including the following questions:
- What do we know about goods designed for older persons?
- What drives the scaling up and success of products for older persons?
- How are different categories of goods designed for different groups of older persons?

Theme 3-Public health-care or home-assistance services. Although the issue of health care and home assistance for older people is developed in studies about public service providers, many questions remain, including:
- How can older persons be engaged and empowered in health-care and home-assistance services?

- What aspects of health care services do older persons complain about and why?
- How do public service providers engage older persons in service design and provision?

Theme 4-The active role of older individuals and their role in society. This theme concerns the issue new and changed familial and societal structures and poses questions such as:
- What role do older persons play in the family economy (e.g., taking care of older family members or grandchildren)?
- How can older individuals be engaged in various volunteer roles and services in society?
- What organizations engage older persons in society?
- What types of caregiving services do older persons perform in society and why?

Theme 5-Marketing, communication and distribution. Research priorities includes exploring marketing and communication strategies for addressing the needs among older individuals; in particular, to answer the following questions:
- How do businesses design their marketing communication strategies to reach older customers?
- What is driving success and failure in the management of strategies, and relations with older individuals?

Theme 6-Culture and creative industries. Understanding the role of culture and creative industries in improving older individuals' engagement and well-being poses interesting questions for investigation, including:
- What do we know about managing older individuals' well-being?
- How can older people be engaged in designing and implementing well-being services?
- What role do the creative industries have in, and what services can they provide, to older people's well-being?

Theme 7-Research extension. The need to extend the research on managing services for older people in more contexts and markets than have been focused on so far offers opportunities and challenges, including posing the following questions:
- What do we know about services adapted to the needs of older people in different markets?
- How can artificial intelligence (AI) provide or support services for older people?
- What service types currently do not meet older people's needs?
- What can be learned from comparing the successes and failures in managing services for older people in different markets?

Furthermore, digital technologies and platforms are becoming increasingly important in management practice. This poses additional questions, such as:

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- How and in what situations can digital technology and AI be used to manage services for older people?
- What would permit robots to be perceived as human actors in different service contexts?
- How can managers and older customers, who have different goals, cope with the logic and boundaries of different service ecosystems?
- How can management and marketing empower older customers to achieve their intended goals and outcomes within a service ecosystem?

Theme 8-Terminological issues. The co-existence of multiple concepts and definitions of older people requires a common terminology to construct theoretical and operational models. This raises challenging research questions, including:
- What do we know about the terminology used in management research on older individuals and in different market segments?
- What are the key management concepts in the domain of the SE and how are the concepts operationalized?
- What can SE research learn from key concepts and terminology in other management domains?

We may conclude that the management challenges and opportunities are multifaceted and the need for further research is evident. This paper has provided one basis for this and contributed some suggestions for future management research in the domain of the SE.

References

ACEROS J.C., POLS J., DOMÈNECH M. (2015), "Where is grandma? Home telecare, good aging and the domestication of later life", *Technological Forecasting and Social Change,* vol. 93, pp. 102-111.

AKSOY L., CHOI S., KIM P.B., ZHANG L. (2019), "Social innovation in service: a conceptual framework and research agenda", *Journal of Service Management,* vol. 30, n. 3, pp. 429-448.

ANDERSON L., OSTROM A.L., CORUS C., FISK R.P., GALLAN A.S., GIRALDO M., WILLIAMS J.D. (2013), "Transformative service research: An agenda for the future", *Journal of Business Research,* vol. 66, n. 8, pp. 1203-1210.

ARENAS-GAITÁN J., VILLAREJO RAMOS A., PERAL-PERAL B. (2019), "A posteriori segmentation of elderly internet users: applying PLS-POS", *Marketing Intelligence and Planning,* vol. 38, n. 3, pp. 340-353.

ARIA M., CUCCURULLO C. (2017), "Bibliometrix: An R-tool for comprehensive science mapping analysis", *Journal of Informetrics,* vol. 11, n. 4, pp. 959-975.

BAE H., JO S.H., LEE E. (2020), "Why do older consumers avoid innovative products and services?", *Journal of Services Marketing*, vol. 35, n. 1, pp. 41-53.

BARNHART M., HUFF A.D., COTTE J. (2014), "Like a member of the family: Including and excluding paid caregivers in performances of family", *Journal of Marketing Management*, vol. 30, n. 15-16, pp. 1680-1702.

BIANCHI C. (2021), "Exploring how internet services can enhance elderly well-being", *Journal of Services Marketing*, vol. 35, n. 5, pp. 585-603.

BJØRKQUIST C., RAMSDAL H., RAMSDAL K. (2015), "User participation and stakeholder involvement in health care innovation-does it matter?", *European Journal of Innovation Management*, vol. 18, n. 1, pp. 2-18.

BOGICEVIC V., BUJISIC M., COBANOGLU C., FEINSTEIN A.H. (2018), "Gender and age preferences of hotel room design", *International Journal of Contemporary Hospitality Management*, vol. 30, n. 2, pp. 874-899.

BRADFORD,Ì S.C. (1985), "Sources of information on specific subjects", *Journal of Information Science,* vol. 10, pp. 176-180.

CABER M., ALBAYRAK T. (2014), "Does the importance of hotel attributes differ for senior tourists? A comparison of three markets", *International Journal of Contemporary Hospitality Management,* vol. 26, n. 4, pp. 610-628.

ČAIĆ M., MAHR D., ODERKERKEN-SCHRÖDER G. (2019), "Value of social robots in services: social cognition perspective", *Journal of Services Marketing,* vol. 33, n. 4, pp. 463-478.

ČAIĆ M., ODEKERKEN-SCHRÖDER G., MAHR D. (2018), "Service robots: value co-creation and co-destruction in elderly care networks", *Journal of Service Management*, vol. 29, n. 2, pp. 178-205.

CARIDÀ A., COLURCIO M., MELIA M. (2022), "Digital platform for social innovation: Insights from volunteering", *Creativity and Innovation Management,* vol. 31, pp. 755-771.

CHA S. (2020), "Customers' intention to use robot-serviced restaurants in Korea: relationship of coolness and MCI factors", *International Journal of Contemporary Hospitality Management,* vol. 32, n. 9, pp. 2947-2968.

CHAM T.H., CHEAH J.H., CHENG B.L., LIM X.J. (2022), "I Am too old for this! Barriers contributing to the non-adoption of mobile payment", *The International Journal of Bank Marketing,* vol. 40, n. 5, pp. 1017-1050.

CHAO C.Y., KU P.Y., WANG Y.T., LIN Y.H. (2016), "The effects of job satisfaction and ethical climate on service quality in elderly care: the case of Taiwan", *Total Quality Management and Business Excellence*, vol. 27, n. 3-4, pp. 339-352.

CHAOUALI W., SOUIDEN N., RINGLE C.M. (2021), "Elderly customers' reactions to service failures: the role of future time perspective, wisdom and emotional intelligence", *The Journal of Services Marketing,* vol. 35, n. 1, pp. 65-77.

CHEN K.H., FENG-HSIANG C., WU C. (2013), "Investigating the wellness tourism factors in hot spring hotel customer service", *International Journal of Contemporary Hospitality Management,* vol. 25, n. 7, pp. 1092.

CHOUDRIE J., JUNIOR C. O., MCKENNA B., RICHTER S. (2018), "Understanding and conceptualising the adoption, use and diffusion of mobile banking in older adults: A research agenda and conceptual framework", *Journal of Business Research*, vol. 88, pp. 449-465.

CIAMPI F., GIANNOZZI A., MARZI G., ALTMAN E.I. (2021), "Rethinking SME default prediction: a systematic literature review and future perspectives", *Scientometrics*, vol. 126, n. 3, pp. 2141-2188.

COBO M.J., LÓPEZ-HERRERA A.G., HERRERA-VIEDMA E., HERRERA F. (2011), "An approach for detecting, quantifying, and visualizing the evolution of a research field: A practical application to the Fuzzy Sets Theory field", *Journal of Informetrics,* vol. 5, n. 1, pp. 146-166.

Maria Colurcio
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Bo Edvardsson
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bibliometric analysis

COMPAGNA D., KOHLBACHER F. (2015), "The limits of participatory technology development: The case of service robots in care facilities for older people", *Technological Forecasting and Social Change,* vol. 93, pp. 19-31.

DJELLAL F., GALLOUJ F. (2006), "Innovation in care services for the elderly", *The Service Industries Journal,* vol. 26, n. 3, pp. 303-327.

ECHCHAKOUI S. (2020), "Why and how to merge Scopus and Web of Science during bibliometric analysis: the case of sales force literature from 1912 to 2019", *Journal of Marketing Analytics*, vol. 8, n. 3, pp. 165-184.

ESSÉN A. (2009), "The emergence of technology-based service systems: A case study of a telehealth project in Sweden", *Journal of Service Management,* vol. 20, n. 1, pp. 98-121.

EUROPEAN COMMISSION, DIRECTORATE-GENERAL FOR COMMUNICATIONS NETWORKS, CONTENT AND TECHNOLOGY, WORTHINGTON H., SIMMONDS P., FARLA K. *et al.* (2018), The silver economy : final report, Publications Office, 2018, https://data.europa.eu/doi/10.2759/685036

EUROPEAN UNION (2021), Ageing Europe - 2021 interactive edition, https://ec.europa.eu/eurostat/web/products-interactive-publications/-/ks-08-21-259

EUROSTAT (2020), Ageing Europe - looking at the lives of older people in the EU, https://ec.europa.eu/eurostat/documents/3217494/11478057/KS-02-20-655-EN-N.pdf/9b09606c-d4e8-4c33-63d2-3b20d5c19c91?t=1604055531000

FAKHAR MANESH M., PELLEGRINI M., MARZI G., DABIC M. (2021), "Knowledge Management in the Fourth Industrial Revolution: Mapping the Literature and Scoping Future Avenues", *IEEE Transactions on Engineering Management,* vol. 68, n. 1, pp. 289-300.

FARANDA W.T., SCHMIDT S.L. (2000), "Segmentation and the senior traveler: Implications for today's and tomorrow's aging consume", *Journal of Travel and Tourism Marketing*, vol. 8, n. 2, pp. 3-27.

FRISHAMMAR J., ESSÉN A., SIMMS C., EDBLAD R., HARDEBRO,V. (2022), "Older individuals and digital healthcare platforms: usage motivations and the impact of age on post-adoption usage patterns", I*EEE Transactions on Engineering Management,* pp. 1-17, https://ieeexplore.ieee.org/abstract/document/9844858

GARG A. (2021), "Investigating the Moderating Effects of Age and Gender on Customers' Use of Tablet Menu in Casual Dining Restaurants", *Journal of Quality Assurance in Hospitality and Tourism,* vol. 23, n. 6, pp.1509-1547.

GAVIRIA-MARIN M., MERIGÓ J.M., BAIER-FUENTES H. (2019), "Knowledge management: A global examination based on bibliometric analysis", *Technological Forecasting and Social Change*, vol. 140, pp. 194-220.

GODEFROIT-WINKEL D., SCHILL M., HOGG M.K. (2019), "The interplay of emotions and consumption in the relational identity trajectories of grandmothers with their grandchildren", *European Journal of Marketing,* vol. 53, n. 2, pp. 164-194.

GÓMEZ D.L. (2015), "Little arrangements that matter. Rethinking autonomy-enabling innovations for later life", *Technological Forecasting and Social Change,* vol. 93, pp. 91-101.

GORDON R., ZAINUDDIN N., MAGEE C. (2016), "Unlocking the potential of branding in social marketing services: Utilising brand personality and brand personality appeal", *Journal of Services Marketing*, vol. 30, n. 1, pp. 48-62.

GROEPPEL-KLEIN A., HELFGEN J., SPILSKI A., SCHREIBER L. (2017), "The impact of age stereotypes on elderly consumers' self-efficacy and cognitive performance", *Journal of Strategic Marketing*, vol. 25, n. 3, pp. 211-225.

HANSEN M.B. (2010), "Marketization and economic performance: Competitive tendering in the social sector", *Public Management Review*, vol. 12, n. 2, pp. 255-274.

HARRIS M., COX K.C., MUSGROVE C.F., ERNSTBERGER K.W. (2016), "Consumer preferences for banking technologies by age groups", *Marketing*, vol. 34, n. 4, pp. 587-602.

HENKEL A.P., CAIC M., BLAUROCK M., OKAN M. (2020), "Robotic transformative service research: deploying social robots for consumer well-being during COVID-19 and beyond", *Journal of Service Management,* vol. 31, n. 6, pp. 1131-1148.

HENNALA L., PARJANEN S., UOTILA T. (2011), "Challenges of multi-actor involvement in the public sector front-end innovation processes: Constructing an open innovation model for developing well-being services", *European Journal of Innovation Management,* vol. 14, n. 3, pp. 364-387.

HUDSON S. (2010), "Wooing zoomers: marketing to the mature traveler", *Marketing Intelligence and Planning,* vol. 28, n. 4, pp. 444-461.

HVOZDIKOVA V., DOVAĽOVA G., PETRIKOVA K. (2015), "Silver Economy - Emerging Business Opportunities", *Proceedings of Central European Conference in Finance and Economics (CEFE2015)*, Herlany, Slovakia, Sep 30-Oct 01, 2015, pp. 254-264

HWANG J., LEE J. (2019), "Understanding customer-customer rapport in a senior group package context", *International Journal of Contemporary Hospitality Management*, vol. 31, n. 5, pp. 2187-2204.

JANG S.H., KIM R. H., LEE C.W. (2016), "Effect of u-healthcare service quality on usage intention in a healthcare service", *Technological Forecasting and Social Change,* vol. 113, pp. 396-403.

JOHNSON-HILLERY J., KANG J., TUAN W.J. (1997), "The difference between elderly consumers' satisfaction levels and retail sales personnel's perceptions", *International Journal of Retail and Distribution Management*, vol. 25, n. 4, pp. 126-137.

KIM M.J., LEE C.K., KIM W.G., KIM J.M. (2013), "Relationships between lifestyle of health and sustainability and healthy food choices for seniors", *International Journal of Contemporary Hospitality Management,* vol. 25, n. 4, pp. 558-576.

KIM S.H., KIM H.B., KIM W.G. (2003), "Impacts of senior citizens' lifestyle on their choices of elderly housing", *Journal of Consumer Marketing*, vol. 20, n. 3, pp. 210-226.

KIM Y.K., KANG J., KIM M. (2005), "The relationships among family and social interaction, loneliness, mall shopping motivation, and mall spending of older consumers", *Psychology and Marketing*, vol. 22, n. 12, pp. 995-1015.

KLARIN A. (2019), "Mapping product and service innovation: A bibliometric analysis and a typology", *Technological Forecasting and Social Change,* vol. 149, 119776, pp. 1-12.

KOHLBACHER F., HERSTATT C., SCHWEISFURTH T. (2011), "Product development for the silver market", *In The Silver Market Phenomenon* (pp. 3-13). Springer, Berlin, Heidelberg.

LAING A., HOGG G. (2002), "Political exhortation, patient expectation and professional execution: perspectives on the consumerization of health care", *British Journal of Management*, vol. 13, n. 2, pp. 173-188.

LAPERCHE B., BOUTILLIER S., DJELLAL F., INGHAM M., LIU Z., PICARD F., REBOUD S., TANGUY C., UZUNIDIS D. (2019), "Innovating for elderly people: the development of geront'innovations in the French silver economy", *Technology Analysis and Strategic Management*, vol. 31, n. 4, pp. 462-476.

LE SERRE D., CHEVALIER C. (2012), "Marketing Travel Services to Senior Consumers", *Journal of Consumer Marketing,* vol. 29, n. 4-5, pp. pp-262.

LEE T.J., CHO H., AHN T.H. (2012), "Senior citizen satisfaction with restaurant service quality", *Journal of Hospitality Marketing and Management,* vol. 21, n. 2, pp. 215-226.

LEINO H.M., HURMERINTA L., SANDBERG B. (2021), "Balancing service inclusion for primary and secondary customers experiencing vulnerabilities", *Journal of Services Marketing,* vol. 35, n. 6, pp. 692-705.

LEPPEL K., MCCLOSKEY D.W. (2011), "A cross-generational examination of electronic commerce adoption", *Journal of Consumer Marketing*, vol. 28, n. 4, pp. 261-268.

LIPOWSKI M., BONDOS I. (2018), "The influence of perceived media richness of marketing channels on online channel usage: Intergenerational differences", *Baltic Journal of Management*, vol. 13, n. 2, pp. 169-190.

MARZI G., CIAMPI F., DALLI D., DABIC M. (2021), "New product development during the last ten years: the ongoing debate and future avenues", *IEEE Trans. Eng. Manag.,* vol. 68, n. 1, pp. 330-344.

MENEELY L., BURNS A., STRUGNELL C. (2009), "Age associated changes in older consumers retail behaviour", *International Journal of Retail and Distribution Management,* vol. 37, n. 12, pp. 1041-1056.

MESHRAM K., O'CASS A. (2013), "Empowering senior citizens via third places: research driven model development of seniors' empowerment and social engagement in social places", *Journal of Services*, vol. 27, n. 2, pp. 141-154.

MOSTAGHEL R. (2016), "Innovation and technology for the elderly: Systematic literature review", *Journal of Business Research,* vol. 69, n. 11, pp. 4896-4900.

MULGAN G., TUCKER S., ALI R., SANDERS B. (2007), *Social Innovation: what it is, why it matters, how it can be accelerated,* University of Oxford, Young Foundation, London.

NASH-STEWART C.E., KRUESI L.M., DEL MAR C.B. (2012), "Does Bradford's Law of Scattering predict the size of the literature in Cochrane Reviews?", *Journal of the Medical Library Association: JMLA*, vol. 100, n. 2, pp. 135-138.

NEVEN L. (2015), "By any means? Questioning the link between gerontechnological innovation and older people's wish to live at home", *Technological Forecasting and Social Change,* vol. 93, pp. 32-43.

NGAI E.W.T., HEUNG V.C.S., WONG Y.H., CHAN F.K.Y. (2007), "Consumer complaint behaviour of Asians and non-Asians about hotel services: An empirical analysis", *European Journal of Marketing*, vol. 41, n. 11/12, pp. 1375-1391.

PALUMBO R., ANNARUMMA C., MUSELLA M., ADINOLFI P. (2018), "A recipe for excellence in health care: investigating the relationship between health literacy, self-efficacy, awareness, and health services' use", *Sinergie Italian Journal of Management,* vol. 36, Sep-Dec, pp. 89-112.

PARK J., KIM D., HYUN H. (2021), "Understanding self-service technology adoption by "older" consumers", *Journal of Services Marketing*, vol. 35, n. 1, pp. 78-97.

PETTIGREW S., MIZERSKI K., DONOVAN R. (2005), "The three" big issues" for older supermarket shoppers", *The Journal of Consumer Marketing*, vol. 22, n. 6, pp. 306.

ROSENBAUM M.S. (2009), "Exploring commercial friendships from employees' perspectives", *Journal of Services Marketing*, vol. 23, n. 1, pp. 57-66.

ROSENBAUM M.S., SWEENEY J.C., MASSIAH C. (2014), "The restorative potential of senior centers", *Managing Service Quality*, vol. 24, n. 4, pp. 363-383.

SCHEWE C.D., BALAZS A.L. (1992), "Role transitions in older adults: A marketing opportunity", *Psychology and Marketing*, vol. 9, n. 2, pp. 85-99.

SELLICK M.C. (2004), "Discovery, connection, nostalgia: Key travel motives within the senior market", *Journal of Travel and Tourism Marketing*, vol. 17, n. 1, pp. 55-71.

SHAREEF M.A., KUMAR V., DWIVEDI Y.K., KUMAR U., AKRAM M.S., RAMAN R. (2021), "A new health care system enabled by machine intelligence: Elderly people's trust or losing self control", *Technological Forecasting and Social Change*, vol. 162, 120334, pp. 1-16.

SHEN A. (2020), "Aging, PEOU, and adoption of communication technology", *Journal of Consumer Marketing*, vol. 37, 2, pp. 139-147.

SOORAJ S.K., SUNDARAVEL E., SHREESH B., SIREESHA K. (2020), "IoT smart home assistant for physically challenged and elderly people", In *2020 International Conference on Smart Electronics and Communication (ICOSEC)* (pp. 809-814), IEEE.

SUDBURY-RILEY L., HOFMEISTER-TOTH A., KOHLBACHER F. (2014), "A cross-national study of the ecological worldview of senior consumers", *International Journal of Consumer Studies*, vol. 28, n. 5, pp. 500-509.

TALWAR S., DHIR A., KAUR P., MÄNTYMÄKI M. (2020), "Barriers toward purchasing from online travel agencies", *International Journal of Hospitality Management,* vol. 89, pp. 102593.

TESFOM G., BIRCH N.J. (2011), "Do switching barriers in the retail banking industry influence bank customers in different age groups differently?", *Journal of Services Marketing,* vol. 25, n. 5, pp. 371-380.

TRANFIELD D., DENYER D., SMART P. (2003), "Towards a methodology for developing evidence-informed management knowledge by means of systematic review", *British Journal of Management*, vol. 14, n. 3, pp. 207-222.

TROCCHIA P.J., JANDA S. (2000), "A phenomenological investigation of Internet usage among older individuals", *Journal of Consumer Marketing,* vol. 17, n. 7, pp. 605-616.

TSIOTSOU R., RATTEN V. (2010), "Future research directions in tourism marketing", *Marketing Intelligence and Planning*, vol. 28, n. 4, pp. 533-544.

TURZO T., MARZI G., FAVINO C., TERZANI S. (2022), "Non-financial reporting research and practice: Lessons from the last decade", *Journal of Cleaner Production,* vol. 345, 131154, pp. 1-13.

UNITED NATIONS (2019), World Population Ageing 2019, https://www.un-ilibrary.org/content/books/9789210045544

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Vania Vigolo
Bo Edvardsson
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on silver economy: a
bibliometric analysis

VAN ECK N.J., WALTMAN L. (2010), "Software survey: VOSviewer, a computer program for bibliometric mapping", *Scientometrics*, vol. 84, n. 2, pp. 523-538.

VAN ECK N.J., WALTMAN L. (2014), "Visualizing bibliometric networks", in Ding Y., Rousseau R., Wolfram D., (edited by), *Measuring scholarly impact* (pp. 285-320), Springer, Cham.

VAN OORSCHOT J.A., HOFMAN E., HALMAN J.I. (2018), "A bibliometric review of the innovation adoption literature", *Technological Forecasting and Social Change,* vol. 134, pp. 1-21.

VAN WIJK J., ZIETSMA C., DORADO S., DE BAKKER F.G., MARTI I. (2019), "Social innovation: Integrating micro, meso, and macro level insights from institutional theory", *Business and Society*, vol. 58, n. 5, pp. 887-918.

VANDERPOOL C., WAY S.A. (2013), "Investigating work-family balance, job anxiety, and turnover intentions as predictors of health care and senior services customer-contact employee voluntary turnover", *Cornell Hospitality Quarterly*, vol. 54, n. 2, pp. 149-160.

WALSH G., MITCHELL V.W. (2005), "Demographic characteristics of consumers who find it difficult to decide", *Marketing Intelligence and Planning*, vol. 23, n. 3, pp. 281-295

WANG K.C., MA A.P., HSU M.T., JAO P.C., LIN C.W. (2013), "Seniors' perceptions of service features on outbound group package tours", *Journal of Business Research*, vol. 66, n. 8, pp. 1021-1027.

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