

Integration of older consumers in sustainability innovation processes

The influence of age on the development and implementation of sustainable consumption

promotion strategies

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1. The potential of user integration

Companies are increasingly turning to communication with customers, members of staff, suppliers and stakeholders to promote innovations, satisfy market needs and stay competitive. Open innovation processes address the following three key issues: (1) introducing ideas to the company from outside, (2) passing on ideas beyond the company and (3) maintaining an open dialogue and collaboration with partners (Lang 2009). Apart from the target-group specific design of products and services, methods of open innovation processes can also have an impact on sustainable consumption. Avoiding irreversible damage and a long-term performance shortfall in the ecological, social and economic system are the mission statement of sustainable development and the goal of sustainable action. Consumption comprises the purchase, eating/drinking and use of goods and utilization of services. The main focus is accordingly on the intricate web of relations between companies and consumers. Not only the mode of production but also consumers' spending habits, that is with what level of budget at their disposal do people decide to buy more or less sustainable products and services, are of importance from the point of view of sustainability. With increasing imbalances and social divides, both innovation and gender research highlight the need for change in the fields of technology and product development. Demographic diversity is mirrored in the wide range of needs and expectations made on products or services. Companies are constantly endeavoring to accommodate this social diversity (cf. Ihsen 2006). Particular attention is given to the aspect of age, since the decline in population numbers and the higher average age across all social groups will inevitably lead to changes. Older consumers' requirements for both products and services differ considerably from those of younger generations, especially when it comes to the contents of their shopping basket. In other words, whereas older people do not necessarily choose different products and services, their expectations frequently differ. This is particularly true of mobility. Mobility is an important factor that alters with

advancing age while simultaneously exerting a significant impact on aging. For this reason, the question arises as to what influence the target-group specific involvement of, and appeal to the 55+ generation has on the development and implementation of strategies for promoting consumption in the mobility sector.

2. Integration of older consumers in sustainability innovation processes

2.1. Sustainable consumption

There is no universally valid, binding interpretation of sustainable development so far. The most common and most widely accepted definition – the *Brundtland Commission* (Brundtland 1987) – admittedly provides a very general, yet comprehensive and highly inclusive guideline for its application. The definition also shows that sustainability is always dependent on time, circumstances, culture, knowledge and region, in other words, there is not just one right solution. The concept of sustainable development displays both normative and regulatory elements (Schachtschneider 2000). Within the framework of the regulatory idea, the topic of sustainability regularly revolves around social discourse and participation processes and is largely motivated via role models. On the normative level, it represents a call for change and the creation of measures in environmental, development, social, consumer-oriented and economic policies (see Fig. 1). At the same time, it is necessary to view the ecological, economic and social target dimensions for long-term development across the entire population in an open, integrative manner (Rogall 2000).

Sustainable consumption is essentially the use of goods and services according to the criteria of long-term development for the purpose of satisfying one's needs. This elaborates on the Brundtland definition. Psychological aspects, a person's way of life and lifestyle play a significant role in consumption habits, such as energy consumption, thus increasing the importance of the individual perspective (Hoffmann et al. 2009). From an ecological point

of view, sustainable consumption also covers the manufacturing process, as well as resource and environmental effects. Resources are used and accordingly diminished, nature's capacity for assimilation is strained during the production, utilization and disposal processes. At the same time, consumption both affects and is affected by social aspects, such as the way in which products are manufactured – by which we refer to child labor or project work – or with regard to the usage or actual consumption. So sustainable consumption not only focuses on the point of view of the consumers who utilize goods and services, but also deals with the whole “supply chain” of the goods and services destined for consumption and both their direct and indirect effects (Tukker 2008).

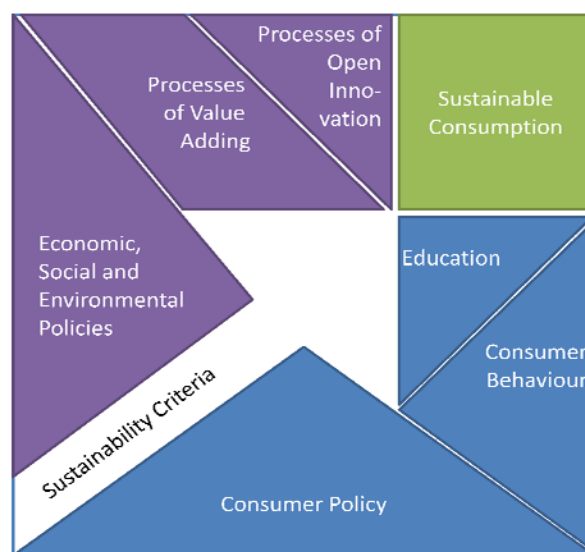


Figure 1: Sustainable Consumption in the area of conflict of supply and demand

Source: Own illustration

Consumption also depends on demand, i.e. sustainable products and services can only be used and purchased when they are available – on offer, in other words. “If it is to be sustainable, consumer behavior not only needs to acknowledge that it is necessary to maintain

the principles of economy, on the one hand, but must also be prepared to accept and legitimize trade-offs, on the other – trade-offs that arise because restrictions in a person's disposable income, for example, make it necessary to reduce the amount of consumables they can afford in view of the higher prices incurred by environmentally friendly and socially compatible shopping habits (de Haan et al. 2008). It is important and necessary to educate and train people so that they understand the connections and can adjust their own buying patterns accordingly (see Fig. 1). Sustainable consumption also addresses the aspects of avoiding excessive consumption and overproduction – this means creating products for which there is a demand while encouraging consumers to buy only what they actually need. This aspect also applies from another viewpoint, namely the interaction between the consumers and the manufacturers. The clearer the demand and the more plainly requirements are identified, the easier it will be to create an eco-friendly, socially compatible “consumption-oriented value-added process” and to boost sustainable consumption.

2.2. Integration aspects for the 55+ generation in terms of mobility

Age can be taken to mean a phase of life but cannot be defined statistically, since “aging” is a multidimensional process of change involving biological, psychological, social and societal factors (Engeln & Schlag 2001). Individual aging processes have their own dynamism from the point of view of these factors – there are so-called inter-individual differences alongside, which there are also intra-individual differences, which means that certain features within the individual aging process develop in different ways (Philipp-Metzen 2001). The current study includes the target group of older consumers over the age of 55. When determining the 55+ target group it is therefore necessary to find a suitable means of differentiation that reflects the heterogeneity of the group, on the one hand, while simultaneously providing a serviceable and methodical mode of analysis, on the other. For the purpose of this study, we had recourse to the life situation concept, which is particularly well suited to describing and explaining the different circumstances in people's lives – in this case the older, over fifty-five age-group. Life situation concepts provide the opportunity to differentiate between the disparate circumstances of different demographic groups while attributing greater significance to the individuality of the life situation than many other sociological concepts. Another advantage is that it can be applied to specific issues.

Life situations are the point of departure for human action as well as the product of this action. They arise out of the economic, social, cultural, political circumstances during the course of people's lives and determine their moves in various areas of their private and working lives (Clemens/ Naegele 2004, p. 388).

According to Clemens and Naegele (2004), it is possible to identify seven distinct areas pertaining to the dimensions of older people's life situations. We will proceed to describe them briefly in relation to the topic of our research:

- (1) The room for manoeuvre afforded by one's income or assets mirrors the financial circumstances that are predominantly determined by social systems of old-age provision in later life.
 - (2) The scope for material provisions, however, refers not only to medical care but in particular to living conditions. These aspects frequently play a special role for the older generation as a greater amount of time is spent at home and socializing increasingly tends to take place in the domestic environment.
 - (3) The scope for contact, cooperation and activity decreases successively with advancing age. This has to do with retirement and the end of one's working life, with increasing mobility within the family and with the fact that social networks are on the decline.
 - (4) The scope for learning and new experiences covers the facilities for personal development and for pursuing one's hobbies and interests.
 - (5) The scope for commitment and participation refers to the opportunities for political co-determination. In this connection, the main focus is on the behavioral patterns of older citizens with regard to social and political involvement and decision-taking.
 - (6) The scope for leisure and regeneration in later life depends a great deal on one's state of health and active life expectancy“ (Clemens/ Naegele 2004, p. 397), which defines the length of time spent in relatively good health.
 - (7) Last but not least, we should also mention the room for manoeuvre provided by private and informal means of support. Practical help in the home, emotional support and nursing for people in need of care can be given by family members or outside institutions.
- Since mobility is the essential prerequisite for numerous activities, such as staying independent, preserving one's existence and social involvement, developing target-group specific mobility programs staying mobile have a particularly high priority status in an aging population. Mobility includes flexibility and the ability to get around in one's surroundings

or social milieu. With advancing years, mobility in the domestic sphere assumes a greater relevance (Oswald 2000). At the same time, elderly people attach considerable importance to mobility outside the home (Engeln & Schlag 2001), since senior citizens pursue a more active lifestyle and will in future continue to move around more and go further afield, mainly as a result of their improved state of health, higher income and a higher level of education (www.ifmo.de). There are currently a number of contradictory effects competing against each other: on the one hand, the aging of the population leads to a reduction in demand, while higher incomes and, generally speaking, increased mobility across the generations boost demand. The mobility of households with a low income is more environmentally friendly and more economical than that of more well-to-do groups (www.vcoe.at).

There are some considerable differences in evidence when it comes to elderly people's use of outdoor mobility services (Schmitz 1994). These differences are not only based on personal factors, such as biographical experience, vocational training and education, physical fitness, available income, car ownership and lifestyle, but also on structural factors and resources, like social networks, infrastructure available and basic institutional conditions (Mollenkopf et al. 1999). Sustainable mobility behavior can therefore make a significant contribution towards long-term development (Hoffmann et al. 2009). In the requirement field of mobility, changing general conditions (demographics, Internet and eCommerce, household income) can have either positive or negative social effects: mobility facilitates the task of maintaining personal contacts and accordingly serves as a kind of social glue (Flade 1994), while the steady increase in fuel prices leads to a rising financial burden on household budgets, which may reinforce social divergence (Dünnhoff et al. 2006). Naegele (2000) argues that the demographic aging of the population evolves from being a problem (from the point of view of socio-political facilities) to a duty (on a social policy level), which is largely the responsibility of the municipality. Local transport and the regional expansion of the public

transport network are of importance – not least, in order to maintain older people's freedom of movement. It was with this in mind that we sought the cooperation of the RMV transport association, which operates in the Rhine/Main area, with a view to developing target-group specific facilities and appealing offers for persons aged 55 and over, the age-group that simultaneously promotes sustainable consumption.

2.3. Open innovation processes with the 55+ generation in the field of mobility

Until now, there have been just a few studies dealing with mobility issues that addressed open innovation processes while providing a direct reference to the mobility behavior of the 55+ generation (to date) and a choice of long-term solutions. On the other hand, there is a serious lack of options that begin with the creation of traffic through people's everyday activities and accordingly exert a preventive effect from the point of view of sustainability. Fichter and Paech (2003) and Fichter (2005) launched an in-depth investigation into participatory processes for innovative sustainability. Their research, however, lacks any specific reference to long-term social facilities and efforts to establish whether consumers who exert an early influence on the range of products and services also boost their market power in the process (Reisch 2004). It is necessary to devise new methods, conduct empirical tests and try them out with a view to promoting sustainable consumption in the field of mobility.

According to von Hippel (2005), there is a tendency for lead users to take part in innovation processes (cf. also Franke & Shah 2003, Lüthje 2004 p.). The lead user concept makes it possible to involve customers who not only act as trend-setters in their sector, but who are also particularly motivated as a result of their early requirements, to have an active impact on the development of new products as well as leveraging the creative trouble-shooting process that accompanies it. This goes much further than the methods of classic market research,

which generally begin with product tests and are, as a rule, restricted to the passive role of the consumer. Apart from opening up innovation areas connected with generating knowledge, implementing ideas and the roles and functions of citizens and consumers who take an active part in the innovation process, open innovation processes also address numerous social processes within the community. There are a number of methods available for this purpose:

- *Innovation and ideas competitions* can be used to generate innovative ideas for the early stages of the innovation process, to develop ideas further or support the launch of these products on to the market with tangible concepts (Reichwald & Piller 2006).
- *Web communities* consist of groups of people who communicate and interact with one another on virtual platforms (Reichwald & Piller 2006). The specific advantage of virtual communities lies in the collaboration of diverse participants who pool their particular areas of expertise, their strengths and their personal experience.
- *Innovation workshops* are workshops initiated by companies or networks for the purpose of collectively developing inventions, ideas and concepts.

Inventions become innovations as soon as they have established themselves on the market.

The journey to the workplace, vocational training, shopping, collection and delivery services are typical areas of everyday life that lend themselves particularly well to innovations designed to change people's mobility behavior. These aspects account for approximately 55% of the traffic and 65% of the resultant CO² emissions (Zängler et al. 2006). Individual mobility behavior, mobility requests and perceived mobility obstacles of the over fifty-five age-group are the key themes of the survey. To this end, it is necessary to find out how to succeed in involving the 55+ target-group in the development and implementation of strategies designed to promote sustainable consumption, and make the scheme appeal to them. Conducting innovation workshops revolving around the subject of sustainability latches on to social sustainability, which addresses such topics as responsible corporate action

in its core business operations, and this in turn targets ecologically relevant aspects, the exchange of ideas and the involvement of relevant user groups and interested parties (Arnold 2007). During the course of this study, innovation workshops were carried out in cooperation with the Rhein-Main-Verkehrsverbund (RMV) transport association. The aim and objective of the workshops was to develop sustainable mobility solutions that effectively combine public transport services with individual carriers coupled with corresponding digital information and communication facilities. In consistency with the lead user concept, one lead user and one non-lead user workshop was held with participants from the 55+ age-group in each case. Both workshop concepts were based on a common, standardized design and the same goals.

3. Case study design

RMV's pronounced interest in offering and (further) developing mobility services for the 55+ generation formed the basis for our cooperation with this association. RMV is the market leader in the innovative information and ticketing service sector and has already distinguished itself by incorporating stakeholders. RMV, which was founded in 1994, is one of the largest transport associations in Europe. RMV provides an integrated local transport service for seven million inhabitants covering an area of 14,000 km². The responsibilities of RMV GmbH range from traffic planning, infrastructure planning, commissioning regional transport services and collective marketing to controlling, research/development and innovation management.

Two innovation workshops were held for the 55+ target group in collaboration with RMV. Each workshop lasted a day and a half and took place at the weekend. Various methods were implemented during the workshop: informative modules on the subject of mobility, sustainability and diffusion with discussion panels alternated with creative work phases in

groups and working on one's own. Following the group work phases, the results achieved by the individual groups were presented in the plenary session and subjected to open discussion. Each workshop participant received the sum of 100 euros to cover their costs, meals during the workshop and travel expenses.

An appropriate method of collecting information for an in-depth insight into more remote subject areas – such as target-group appeal and involving the 55+ age-group in sustainable innovation processes, in this case – as well as implementing long-term requirements and identifying relevant influential aspects, is to employ data acquisition based on semi-structured, theme-specific, qualitative interviews with persons of both sexes, different levels of education and various vocational backgrounds (Mayring 2002). Key issues include organizing and conducting the workshop, applied methodology, the constellation of the participants, group sessions during the workshop and assessing the results of the workshop. The interview study was based on 12 semi-structured, guided interviews, each lasting between 30 and 60 minutes and conducted over the telephone. A total of 12 people from the RMV innovation workshops, 6 of whom were lead users and 6 non-lead users, were interviewed between November 2008 and December 2008 (see Table 1).

Table 1: Summary of the in-depth interviews conducted

Workshop group	Number of interviews /(Gender of interviewees: Education level: age)	Vocational background/ Sector
Lead user	1 (M: k.A.: 66)	Urban public transport services
	1 (M: A: 69)	Business management, finance and property sector
	1 (F: A: 62)	Teaching
	1 (F: A: 66)	Teaching
	1 (F: O: 57)	Industrial clerk/office worker, marketing, human resources, sales clerk
	1 (M: O: 71)	Administrative officer, (public sector)
Non-lead user	1 (F: O: 67)	Personnel officer, public transport
	1 (F: A: 63)	Airline ground staff, aviation
	1 (M: A: 64)	Economist, public sector
	1 (M: O: 65)	Railway staff, public transport
	1 (F: A: 69)	Technical assistant, physics
	1 (F: A: 58)	Commercial assistant, pharmaceuticals
(F= Female; M= Male; O= O-level/secondary school certificate; A= A-level)		

The interviewees were recruited during the workshop and the actual interviews took place about two weeks later.

For the purpose of assessing the interviews, the first analytical step – the so-called open coding level – was to break down the texts into subcategories, to conceptualize them and add comments where appropriate. MAXqda-based coding classifies information using 68 different codes – a number of codes were employed to operationalize each influential factor. Following the filtering process, the codes were classified, with the dimensions of the life situation models serving as the main categories. The various categories were then linked up and compared with one another (Kelle 2007h).

4. Influential factors of the 55+ target group

The survey was based on the theoretical assumption that the following dimensions are of relevance when including older people in innovation processes: room for manoeuvre afforded by one's income or assets, scope for learning and new experiences, scope for commitment and participation and the scope for contact, cooperation and activity. It was, moreover, presumed that individual dimensions can also influence each other.

The main conclusions resulting from the analysis of the interviews are summarized below:

(1) Room for manoeuvre afforded by one's income or assets

The empirical material gives no indication that material incentives played a role. The interviewees did not mention material compensation for taking part in the workshop. The level of income or assets of the interviewees or the 55+ target group was of no significance in the interviews. So it is not possible to prove what relevance room for manoeuvre afforded by one's income or assets has on participation in open innovation processes in this instance.

(2) Scope for material provisions

Scope for material provisions was not one of the topics addressed by the survey. Several individuals, however, explicitly mentioned and praised the organization of the workshop. It is likely that the lump-sum allowance designed to subsidize costs, travel expenses, suitable board and lodging can also be grouped together under the heading of organization, which would explain why material provisions were considered to play a role in the workshop.

(3) Scope for contact, cooperation and activity

It is evident that the contact to other participants and the opportunity to compare notes and exchange views was the most important, determining aspect for the interviewees in their assessment of the innovation workshops. This becomes particularly clear when we bear in mind that almost all those taking part in the interviews described the small group sessions as the part they enjoyed best, mainly citing community spirit, close contact and the familiar

atmosphere as their reasons. The direct cooperation and interaction with the other participants was regarded as the most inspirational phase, the exchange of ideas as particularly conducive to the outcome. In reply to the question as to what aspects of the workshop they particularly remembered, most of the interviewees (i.e. 8 out of 12) mentioned the pleasant atmosphere or the ambiance during the workshop. Team elements that were not connected with the actual subject-matter, such as games designed to get to know one another, sparked various responses. The women tended to find them more beneficial.

Many of the answers given in the interview show that the need for contact to other people has a high priority status:

“It's the recollection (...) that I very much enjoyed being among other people (...)”.

“We met people with similar interests whom one had never really seen before.

Perhaps occasionally when one was out and about, but this gave us a proper chance to compare notes and exchange views. Which was nice.”

“One thing that bothered me (...) was that there were no farewells; nobody really said goodbye to each other; all the men I was sitting with got up and left straight away; no-one came and said goodbye to me. That tells me a great deal, you know. I went and said goodbye to every single person present.

(4) The scope for learning and new experiences

Most of the interviewees said they were interested in the subject-matter in general but did not mention any aspects of specific interest. Only two people referred to the actual topic of the workshop in the interviews, and they had close connections with RMV. The scope for learning and new experiences is mainly addressed in group discussions on the topic concerned. Actively giving thought to the matter is more important than the desire to be informed about it. Even the presentation of the results, which serves to demonstrate the fruits

of the collective contemplations, consistently ranked below the score awarded to the exchange of ideas phase itself.

(5) Scope for commitment and participation

The aspect of “being heard”/ “being taken seriously” also plays a role. The results show that appreciation on the part of those responsible is of significance and that the absence of this appreciation is registered. The majority of interviewees wanted to be kept informed about the implementation of their ideas at RMV. Attending the innovation workshop is seen as an opportunity to contribute and get involved, which touches upon the scope for commitment and participation. This was not described by the interviewees as a need or a motive to take part, however.

“Well, I was a bit disappointed by the cooperation with RMV, especially from the point of view that the RMV representatives did not take us more seriously.”

“Well, I found it nice. I also thought it was nice that the Professor was at least present for the introductory speech.”

“(...) When things like this are held, you naturally hope that it might serve some purpose some time.”

(6) Scope for leisure and regeneration

Scope for leisure and regeneration played no role for those taking part in the workshop. The 55+ target group, which was represented by participants aged between 57 and 71 in this case, is not affected so much by health-related restrictions. In principle, it is also possible to assume that there was some form of preliminary selection, which resulted in only people who were in a relatively good state of health enrolled for the workshop.

(7) Room for manoeuvre provided by private and informal means of support

Private and informal means of support were not dealt with either. Nor was any explicit mention made of the Rhine-Main transport association (RMV) acting as a service provider in this connection.

5. Discussion and looking ahead

The following three factors are central to the configuration of open, sustainability innovation processes for involving the 55+ age group in this study and accordingly for observing them in terms of tendencies:

1. Scope for contact, cooperation and activity
2. Scope for commitment and participation
3. Scope for learning and new experiences.

These three examples of room for manoeuvre have a special influence on the success of innovation workshops and support both motivation and activity in the generation and development of ideas (cf. Fig. 2). The empirical results indicate that the opportunity to communicate and exchange views with other people is of particular importance. Working in small groups as a social form provides the opportunity for more intensive contact, as opposed to discussion rounds on a larger scale. It offers shelter yet, at the same time, sufficient stimulating interaction to allow the generation of ideas. Against the backdrop that scope for contact, cooperation and activity tends to decline with advancing years, cooperative methods of user integration are particularly suitable for involving older people in innovation processes. On the other hand, there is also evidence that social contact cannot be the sole incentive for participating in innovation processes. The aspect of community spirit on its own is regarded as less important on the whole, particularly by the men. Moreover, methods that encourage activity and cooperation should also bear a close connection in terms of content as well as a strong thematic association. A specific interest in the subject-matter

concerned, however, is no doubt advantageous for integration measures, but not absolutely imperative. This study gives no indication that the innovation workshop is explicitly regarded as a means of learning and gaining experience, although this dimension certainly seems to be of significance when coupled with the dimension of contact and cooperation. Taking part in the innovation workshop is viewed as a way of playing an active role and joining in. It is quite right to regard the appreciation on the part of those responsible as an important point. This shows that an innovation workshop of this kind may be used explicitly as an instrument of political and social involvement. The results of the survey also show that receiving feedback about the implementation of the ideas is a main priority.

The room for manoeuvre afforded by one's income or assets appears to be of more minor importance against the backdrop of this survey, since the material reward of participation played no role in the interviews. This is consistent with current studies that conclude the financial circumstances of elderly people are only crucial for a minority of households in Germany today (Clemens & Nägeles 2004).

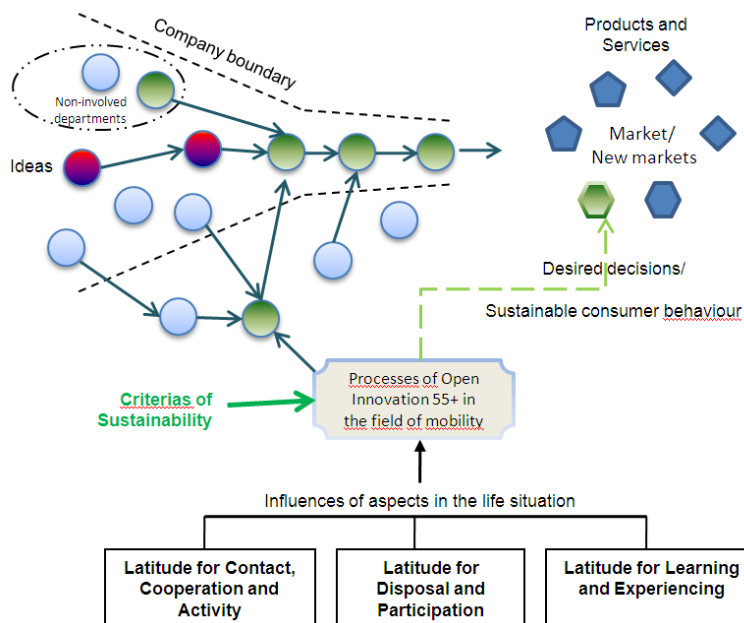


Figure 2: Model for addressing and integrating the target group 55+

Source: Own illustration

The interviewees consistently expressed their satisfaction with the organization of the workshops, however. The reimbursement of outlay incurred, including the refunding of travel expenses and such questions as the standard of the food and refreshments available no doubt played a role, as well, although these factors are probably an indication of the significance attached to the scope for material provisions. The interviews failed to provide any evidence that the scope for leisure and regeneration or the room for manoeuvre provided by private and informal means of support had any impact on the decision to participate in a workshop. It is fairly certain that these areas of scope do, in fact, exert an influence, even if the respondents themselves were not directly affected and may possibly have disregarded these aspects as a result. These areas of scope and the opportunities for expansion offered by the RMV transport association or improved mobility facilities were not anticipated and accordingly not addressed within the context of the subject-matter. The 55+ target group may

not necessarily take into account any strategic considerations in this connection, so it would be up to the presenter to prompt those taking part in the interviews.

The clear preponderance of the scope for contact, cooperation and activity over the other areas suggests that cooperative methods of user integration have a better chance of appealing to, and succeeding with the older generation than isolated methods, such as ideas competitions, tool kits or working in virtual communities.

It is important to make sure that the criterion of sustainability is always included in the innovation process in a conscious effort to promote long-term consumption and develop sustainable ideas (Arnold et al. 2006). Because it is only in this way that ideas and concepts can be specifically devised that are more sustainable than conventional options. We arrived at this conclusion primarily because none of the respondents mentioned sustainability as being a relevant factor in the in-depth interviews and because, even in the workshop process, aspects of sustainability tended to play a somewhat subordinate role. Sustainability criteria may either be actively included in the innovation development process by the presenters or introduced by the companies themselves in order to turn “normal” ideas into concepts with a direct relevance to sustainability – as depicted in Figure 2. At the same time, the continual inclusion of sustainability issues directly touches upon the older generation's scope for learning and new experiences while active emphasis on sustainability aspects in the open development process simultaneously assumes an educational function, which can actually influence the purchasing decisions of the 55+ age group and create a shift towards more sustainability. It may even open up an interactive learning field that also boosts sustainable consumption behavior. This could create suitable conditions for favorable repercussions between sustainability-related supply and sustainability-oriented demand, which would promote long-term consumption.

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