Towards Understanding the Use of Information Systems in Caring Communities

Completed Research

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Abstract

Many projects nowadays deal with the problems caused by the demographic change and their possible solutions. One popular concept includes the strengthening of neighborhoods and the fostering of caring communities. Information systems (IS) can hereby help to collect, store, organize, and distribute data throughout the neighborhood. Depending on the implementation of the embedded information and communication technologies (ICT), these systems have the potential to promote participation and social networking in neighborhood structures and enable people to stay at home for as long as possible. This paper presents the results of ten expert interviews on experiences and recommendations of technology usage in different neighborhood projects. The overall tenor is that it must get clear to everyone that technology alone is not the solution but should be used as a community networking tool to strengthen and support aging in place. The need for a person in charge was stressed by all interviewees.

Keywords

Caring communities, social computing, neighborhood projects, aging society, experiences

Introduction

In most western countries, the demographic change requires rethinking in many areas of the health system. E.g. in Germany, low birth rates combined with a higher lifetime expectancy result in a generally aging society. The demands of the working world and increasing mobility are leading to a social dislocation of family bonds (Bianchi 2014). Additionally, the number of single households rises. Apart from that, professional service providers are hardly able to meet the increasing care requirements of old age. In general, there is a shortage of skilled workers in the context of nursing professions which will become even more acute in the coming years (Lindwedel-Reime 2018).

In this context neighborhoods are becoming increasingly important in ensuring successful aging for everyone. While the term neighborhood can mean area within a municipality, for the individual, neighborhood is not only a spatial environment in which someone lives, but also associated with a certain sense of belonging and therefore self-defined. This contribution speaks of neighborhood as a physically
delimitable space, in the sense of a district or residential area, whereby the boundaries could be drawn from popular demands and local challenges as well as administrative reasons. Upcoming are more and more approaches promoting the responsibility and solidarity within local boundaries. Care for yourself as well as care about others are essential facets of the guiding principle of “caring communities” which is spreading over Europe (Klie 2014). Although this may not totally make up the problems of the demographic change, it may lessen its impact on society and help and support in the individual case.

The targeted use of information systems (IS) as tools of community work can hereby offer an opportunity to consolidate social networks and keep them active in old age to maintain independence for as long as possible (Ahmad et al. 2017; Campos et al. 2016; Chen and Schulz 2016). The intergenerational use of technology could bridge the gap between the needs and the social capital. Despite the multitude of projects conducted in the field of smart community building, up till now, these tools have rarely found its way into real life neighborhood work, remain in their exploration and pilot phases and lack a unified model (Li et al. 2018). The implementation and use of technology in this context is subject to a variety of supportive and hindering conditions, which have not yet been analyzed in depth, e.g. the user structure (how to involve socially and economically marginalized groups; the role of a caretaker), non-binding and passive consumer behavior in neighborhood social media, integration in planning and local politics (Schreiber et al. 2017).

The motivation for this contribution evolved out of the experiences the authors made in the implementation of an own-developed research prototype in the projects SONIA (2013-2016) (Selke et al. 2016) and SONIANetz (2015-2018) (Becker et al. 2019). While the experiences and user feedback were very promising in the project SONIA, the platform usage in SONIANetz could not tie in with the success of the previous project. User interviews showed that the reasons here for were manifold.

While much is published about neighborhood development nowadays, these contributions mainly focus on the results of one project. A comparison between several likewise projects and their implementation strategies and problems is missing. The idea behind this contribution therefore is to identify literature, projects and applications in the context of IS for caring communities, to determine possible success factors and thus provide support for practitioners and researchers. The research question for this contribution is: Which barriers and facilitators must be considered when implementing information systems for caring communities?

Related Work

Neighborhood projects exists all over the world in a broad variety aiming on different tasks of neighborhood development. They arise through different drivers. It can be differentiated between bottom up structures, where out of a problem situation, civil engaged persons group together, with the aim of improving the neighborhood. These projects are characterized by high motivation in the population but are often hindered by the lack of funding. One prominent example for this is the German neighborhood platform “WirNachbarn.com” which was grounded in 2014 by civil engaged persons and had to be closed due to a lack of funding in 2017 ¹.

Other projects are initiated top down. This means public institutions see the need for change and fund transformation processes for more socially sustainable neighborhoods. Examples for this are amongst others the regions amKumma in Austria² or Frauenfeld in Switzerland (Stadt Frauenfeld 2017). In these projects the inhabitants of the neighborhoods have to be won first, to participate in a project that develops their own neighborhood.

Independently of the way how such a project is initiated, the general intention is to strengthen the quality of life for all inhabitants. ICT can hereby be beneficial in a variety of forms – e.g. Websites, E-Mail Newsletters, Messenger Groups etc.. Neighborhood platforms in this context evolved as a combination of solutions to simplify the communication between all stakeholders by minimizing media breaks. Beyond this, local news can be distributed faster and reach a wider audience. Forums or bulletin boards are used to communicate target-oriented information and therefore facilitate coordination tasks for actors like the neighborhood management (compare e.g. (Schelisch and Spellberg 2017; Schreiber et al. 2017)). The term

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¹ http://wirnachbarn.com
² http://nachbarschaftshilfe-amkumma.at/
“neighborhood management” (German: Quartiersmanagement) evolved out of the movement of the 1990th for social integrative community development and orientation in Germany and other European countries (Krummacher et al. 2012). Current socio-political measures failed to achieve social justice for the losers (unemployed, poor, old, lonely or young citizens without prospects) of the social transformation. Quarter managers were installed to initiate sustainable neighborhood development in terms of solidarity, empowerment and inclusion (Staroste 2001). Similar positions, with different naming, to activate the local social capital can be found worldwide (Mayer and Rankin 2002).

A comparison of different available neighborhood platforms showed strong similarities regarding the functionalities. Groups, bulletin boards, neighborhood calendars, messages, neighborhood contacts, resource calendars, an aggregated news page, and surveys are combined into one system. These functionalities can hereby be used in different ways and several times (e.g. one bulletin board for sharing goods and another for sharing services). Three types of systems can be differentiated: commonly available neighborhood platforms\(^3\), systems which support neighborhood-specific adaptations\(^4\) and own regional developments\(^5\). To provide an up-to-date and extendable overview of and application examples for IS for neighborhood development the authors currently work on a website (link: http://caring-community.imtt.hs-furtwangen.de/) for practitioners.

In the context of IS for caring communities, senior citizens constitute a special target group. They neither grew up with this modern technology nor have they been confronted with it in everyday working life (Sackmann and Winkler 2013). One of the first projects dealing with this target group was PAUL in the year 2008, where a personal assistant for a self-determined life that included functionalities to connect to others was tried out with seniors (Schelisch and Spellberg 2017). Although since then several projects with a focus on seniors took place (Becker and Weweler 2017; Müller et al. 2015; Selke et al. 2016; Willard et al. 2018), and consent exists that participation of the end-users is of utter most importance (Afzalan et al. 2017; DiSalvo et al. 2008; Hutchinson et al. 2003; Maß and Buchmüller 2018; Müller et al. 2017; Renyi et al. 2018), neighborhood projects still face problems in the implementation processes of IS. While some problems can directly be linked to the target group – the senior citizens – (e.g. low technology commitment, need for special design and usability due to age related disabilities), others may just be the same as in non-specialized social networking projects (e.g. reaching a critical mass).

**Methods – Qualitative Interview Analysis**

For the underlying study a phenomenological approach (Moustakas 1994) was chosen. This approach is particularly useful when it comes to researching the experience of technical applications within a specific target group (Groenewald 2004). In this case an interview guide for expert interviews was compiled, based on the literature presented in the related work section. This instrument allows for structured surveys while, although the number and order of questions are defined in advance, remaining open so that a deviation from the guideline is possible during the conduction of the interview (Bogner et al. 2009). The final interview guideline\(^6\) can be divided into six categories:

1. Current use of ICT in the neighborhood
2. Prerequisites and offers during the implementation process of IS for the neighborhood
3. Participation in the ICT design process
4. Typical functionalities and content of neighborhood platforms
5. Barriers during the implementation process

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\(^3\) For example: nextdoor.com, frontporchforum.com, mycoop.com, nebenan.de, nachbarschaft.net, crossiety.ch, fuenernand.ch, 2324.ch, fragnebenan.com, meinbezirk.at, etc.

\(^4\) For example: hakisa.com, careview.de/quartiersplattformen, the research prototype WirImQuartier of the project SONIAnetz ([https://imtt.hs-furtwangen.de/imtt/wir-im-quartier/](https://imtt.hs-furtwangen.de/imtt/wir-im-quartier/))

\(^5\) For example: kommmit.info, meindorf55plus.de/

\(^6\) Download link: [https://drive.google.com/open?id=1JVBfw7H19O5BFk6wy2sEfYA0454tIrYp](https://drive.google.com/open?id=1JVBfw7H19O5BFk6wy2sEfYA0454tIrYp)
6. Recommendations for long-term success

To gain insights in several projects, experts of the field (persons involved in the implementation process) representative for their neighborhood project were chosen as interview partners. The opinion of the end-users, who were involved in the evaluations of the respective projects, for example through interviews, therefore flowed indirectly into this study in the form of expert knowledge. The selection of the interview partners was made by specifically addressing project managers and important neighborhood actors of neighborhood projects with an ICT context. They were identified through literature and web search (search databases: Google Scholar, IEEEExplore, PubMed, Google; search items: technology-supported neighborhood development, neighborhood portals / platforms, neighborhood work / help, neighborhood AND technology, neighborhood AND social media; language: German, English). Inclusion criteria was a connection to technology usage within the neighborhood projects. 14 German-speaking potential interview partners were contacted in May 2018 and re-contacted after two weeks if no answer was received immediately. Nine interviews were then conducted between May and June 2018. A saturation of information was observed after about seven interviews. In December 2018 there was another chance to conduct an interview with a Dutch researcher. The data collection was therefore completed after ten interviews. Interview partners were two developers of neighborhood platforms, three researchers, one neighborhood manager, two municipal heads of office (municipally office for (1) old age and health (2) community services), one head of a neighborhood association and a social worker of a charity organization. Three experts were from Switzerland, six experts from Germany and one from the Netherlands. The experts had different experiences in top down as well as bottom up initiated projects.

All interviews were recorded and afterwards transcribed. The method of content structuring qualitative content analysis according to (Kuckartz 2016) was used. The data were collected and systematized with the aid of text analysis software and divided into the appropriate main categories. The text of the main categories was then scanned for further sub-codes by one researcher and reviewed by a second. The main categories with the corresponding sub-codes were combined to form a code tree. This allowed for a quantitative evaluation at a glance.

Six aspects accumulating as sub-codes in several main categories were identified as crucial for neighborhood development projects. Supplemented by the own experiences from the projects SONIA and SONIA.netz in which more than 100 end-users were interviewed, these are finally qualitatively discussed.

Results

Current Use of ICT in the Neighborhood. In the interviews the experts stated that five out of ten neighborhoods have their own neighborhood platforms, which are cross-platform (mobile devices and Web application) developments. The platforms can be used for communication purposes between the neighborhood management and the neighborhood’s citizens as well as among the citizens themselves. Their platforms are specially designed for seniors who are the targeted user group. One neighborhood uses an interactive web application for the citizens and the neighborhood management to communicate. One project reported to exclusively use general social media channels like Facebook to get in touch with the citizens. The other neighborhoods do not communicate via special communication platforms. The communication flow is carried out only unilaterally by the neighborhood management to the citizens via a neighborhood website.

Prerequisites and Offers during the Implementation Process of IS for the Neighborhood. Nine people were of the opinion that there must necessarily be a neighborhood manager to support the technology implementation. Amongst others, this person (one or more) is an initiating driver who motivates the residents and maintains the platform with up-to-date information. Especially when focusing on senior citizens this is necessary, due to a kind of consumerism of this group. Without a neighborhood manager only little content is generated in the initial phase, which makes the IS unattractive and leads to abandoning. Six interviewees have noted that a companion concept makes sense. So that senior citizens are able to use neighborhood platforms, they must be trained. For this purpose, a technology-affine person is helpful for the users, so that they can support the users to find their way around the digital tools and to answer questions. Thus, users always have a “contact person or number where [they can call] if something does not work, is incomprehensible or [there] is a problem” (EI2, 7:45). Additionally, training courses should take place in the form of face-to-face training according to six interviewees. For both settings it should be
considered whether there are rooms, loan devices as well as an internet connection for the get together. A manual or training videos are provided by some, but not all neighborhoods, because “most people do not read manuals or help texts” (EI2, 8:03).

In addition, four persons pointed out the individuality of the neighborhoods, for "each neighborhood is different and functions differently” (EI8, 41:15). The social milieu, geographical conditions and financial resources make each neighborhood unique. For this reason, neighborhood activities and association structures vary and must be analyzed for each platform individually.

According to all interviewees, the announcement of the introduction of a new neighborhood platform works best through advertising material in paper form, e.g. flyers, brochures or postcards and the daily newspaper. In addition, public events are also used to disseminate the platform or the general website of the neighborhood.

**Participation in the ICT Design Process.** Concerning the groups to be involved in the development of neighborhood platforms, nine of ten interview partners agreed that developers, multipliers as well as users belong to them. Only one person believes the developers should create a first concept and that the users should afterwards test the developed platform and give feedback.

**Typical Functionalities and Content of Neighborhood Platforms.** Communication is considered the most important aspect a neighborhood application should support. A messenger and an email program are necessary to communicate with each other. The bulletin boards are also very important, as they can be used as an exchange platform or to disseminate information about upcoming events or what's new in the neighborhood. About half believe that "cognitive or [...] amusement games that are aimed at older people" (EI8, 22:43) should also be found on a neighborhood platform. Traffic information, trade and business information, local news and links to other apps or websites are only requested by a few people. Most believe "the focus should be on [the] bulletin boards, i.e. of the transmission of information and messages among each other" (EI2, 18:00). All other content the users "can get from somewhere else" (EI2: 17:57).

**Barriers during the Implementation Process.** With regard to the problems that arise with the introduction of a neighborhood platform, the motivation of users was mentioned as the biggest barrier, because “until everyone [understands the platform] correctly and [fills it with activities], it takes a while. In the meantime, the use must be [...] repeatedly initiated” (EI3, 15:20). Another barrier mentioned by five of the respondents is missing acceptance. "If you introduce a technical aid, [...] you have to talk to as many people as possible in the neighborhood [and work with them] so that they can independently realize that [it] has an added value for them" (EI5, 23:54). Communication problems of the project team are listed as barriers, too. If tasks are not clearly defined and responsibilities are not communicated internally and to citizens, this has a negative influence on the use the IS, as uncertainties can arise among users. Data privacy fears, access to the actual target group, the individuality of the neighborhoods, the low technical affinity of the users, the marketing of the IS as well as internet problems and a missing Design for All were listed as further barriers that must be overcome. Organizational aspects as e.g. a missing contact person is also obstructive. It was stated that it must be clearly regulated who is responsible for what. One interviewee said: "Well, I don't think all IT obstacles and barriers play such a big role because I assume that all new platforms are user-friendly, that they are well structured, that they comply all [...] guidelines [and] that impaired people [...] can use them. [...] I [see] the barriers are more in the organizational area [...]. [Such neighborhood projects] need one person to take responsibility” (EI2, 20:36).

**Recommendations for Long-term Success.** Three people recommended the continued strengthening and use of real physical structures that already exist in a neighborhood. Regular exchange between the residents of the neighborhood and with the neighborhood management is crucial and essential for successful neighborhood work. The use of communication technologies can help to organize and publicize real life encounters. Only one interviewee is skeptical about the use of digital tools to promote communication in neighborhood work and is convinced that good neighborhood work does not require the use of digital technologies. Furthermore, four people recommended involving users more and investing more time for them and not losing sight of the goal of neighborhood work. As with the barriers, the main recommendation is that "it [needs] a central contact point [...] and ideally also a central person” (EI2, 23:14). "Without a central office, a neighborhood platform is not sustainable” (EI2, 23:47). In addition, many have repeatedly pointed out that the “involvement of the entire neighborhood" (EI5, 29:44) is important and that a neighborhood platform should be designed across generations. Neighborhood
platforms represent "a clear complement [to] existing communication possibilities" (EI3, 15:49) and can be successful "if technology [...] meets and supports the human need for social exchange" (EI2, 16:58).

**Discussion**

Analyzing the data to answer the underlying research question “Which barriers and facilitators must be considered when implementing information systems for caring communities”, six crucial aspects were revealed, which should be taken under consideration:

**Target Group**

When introducing or using an ICT platform for neighborhood development, it is not easy to reach out to all residents. The needs and barriers of vulnerable groups (like seniors or disabled people) should be considered as a neighborhood platform provides the most added value to them. Although today’s seniors with their partially low technology experience may not be representative for the future seniors who grew up with today’s technology, age-specific barriers like tremors or bad vision will always exist. For this purpose, barrier-free use must be guaranteed as well as an adapted design and a suitable interaction concept. Nevertheless, a neighborhood platform should not only be aimed at senior citizens. Experience shows that this reduces the attractiveness of the platform for younger generations, which are essential for a lively community. Different designs for the respective user groups would therefore be helpful but are usually not realized due to low financial project budgets. As in project contexts mostly already highly motivated and engaged people are reached and the actual target group (social isolated citizens) is often not part of the project team, these persons must be activated in further steps. A media didactic concept for such vulnerable groups can be helpful here. These concepts should include training offers for self-study as well as training courses and a companion concept.

As seniors may not necessarily own suitable devices, the fulfillment of basic conditions such as internet access and the availability of devices, e.g. loan units, could be a tentative way to try out something new.

**Linking to Existing Structures**

Neighborhood projects differentiate in terms of structural conditions, citizen participation and participatory technology development, project goals, and implementation in the neighborhoods.

Regardless of whether electronic tools are in use or not, the introduction of a new tool can be seen as intrusion. Changing existing structures therefore constitutes a barrier in the implementation process. Therefore, it is essential to analyze the current neighborhood structures and to win multipliers and institutions over for promoting a new system. A participatory design process can hereby help to connect to existing structures and give everyone the chance to be part of the creation process. This also ensures, that no double structures are created, which would lead to rivalry between the offers and rejection of the platform. This participatory process though takes time, usually several months, which must be considered in the planning phase.

Local premises like meeting centers are beneficial during all project phases (meeting point for technology trainings and get togethers). The IS can constitute a virtual extension to the existing resource.

On an individual basis, the integration of existing ICT structures can make sense to avoid media gaps for the user and extra work for the neighborhood manager. In the concept design for an own neighborhood platform one interview partner reported e.g. that the integration of the twitter news via a feed was intended.

Essential for the success of the ICT implementation is the anchoring of the project in the overall strategy of the neighborhood. The platform itself does not create structures or social offers, but is only a tool that can, properly used, support given structures. This must get clear to every multiplier, institution and user.

**Onboarding and Content**

The onboarding concept must be well chosen, because it is crucial to demonstrate the trustworthiness and security of the information system. The identity verification e.g. for the wirRauner (SONIAnetz project) and the KommiTiT platform took place in the neighborhood office. First, the personal registration made sure
only real persons were added on the platform, whereby the registration was not limited to citizens in the neighborhood. Through the control of the neighborhood management also persons important for the neighborhood, but not living directly in the neighborhood could be added. Second this registration process allowed for an increase of the awareness level of the citizens for the neighborhood management and a personal contact person in the case of any problems with the registration and first steps with the technology. Despite these advantages, this also means that a person needs to be responsible for this, must be reachable and must have the needed time resources. Another way for the registration is chosen e.g. on the fuerenand.ch platform. The two-way registration process is started via the platform website. After the registration and verification of the e-mail address the postal address must be provided. A letter with a verification code is then sent to the user per post and the registration process can be completed online by inserting the verification code. The registration process is therefore completely independent of time resources of the neighborhood manager, however only allows people living in the defined neighborhood to access the platform.

The marketing concept and channels are as important as the registration process itself. The promotion of the IS should appeal to people regardless of their interest in technology. Some projects try to attract users e.g. by implementing “outdoor displays” at strategic places in the neighborhood, to ensure access to the platform for everyone, independently of own hardware (Müller et al. 2015).

Incentives and added values must not only be made clear for the citizens as end-users. Multipliers are essential for the successful implementation of an ICT platform for neighborhood development. In accordance with the literature (Johnson and Halegoua 2014), the interviews showed that especially at the beginning and with the integration of a vulnerable group in focus, there is less user content generated on a neighborhood platform compared to other social media networks. Accordingly, an active moderation of initiators and multipliers is necessary to create a basis of interactions and therefore added value for everyone. The integration of existing content generated via existing structures can be helpful in the beginning.

**The Role of a Caretaker**

The experiences of the authors and the interviewees, as well as findings in the literature (Schreiber and Göppert 2018) have shown that a caretaker, e.g. (but not necessarily) in the form of a neighborhood manager, is decisive for the success of the IS implementation process for caring communities. The caretaker is a moderator, networker, designer and ambassador in one person. Personal motivation is of great importance here. The caretaker must demonstrate understanding for the technology, be able to show others the added value of using such a tool and understand that the promotion of the information system must be seen as community work itself.

To be able to achieve this, enough resources (especially time) must be available. The effort to maintain such technology is often underestimated. The support of the tool on-top to existing tasks is reported to be problematic.

Additionally, it is not only this caretaker as a person who is important for the overall success but also the commitment of the superior institution. Regarding the institution and therefore the operator of the platform, experiences show that the connection to communal structures strengthens the role of the caretaker and thus the entire project.

**Own Development vs. Commonly Available Neighborhood Platforms**

By choosing to promote an own neighborhood platform, a decision for control over the data in and the design of the platform is made. Local identification with the technology can be created by colors, logos and applications fitting to the neighborhood. The integration of anyone important for the neighborhood is possible through the control of the neighborhood management. Commonly available neighborhood platforms have a fixed design and functionalities and cannot be adapted to specific needs of the neighborhood. Scaling to the respective social space is achieved by opening a new access restricted online-neighborhood. While this means losing the control over the platforms data, appearance and functionalities for the neighborhood management, it also means gaining time. For example, the registration processes of commonly available platforms are automated and do not need any interaction of the neighborhood management. Also marketing materials are most often provided by the operators which would need to be
prepared by the neighborhood management elsewise. The financial budget may be a decision maker in that dispute.

Apart from that during the implementation process as well as during the continuous operation neighborhood platforms compete with existing unspecific social media concepts (especially Facebook, WhatsApp). These therefore set the standards for design, usability and stability.

Users in general choose to use social networking tools for reasons of sharing economy, community as well as to get to know the neighborhood and get together. The differentiation to commonly available neighborhood platforms (e.g. nextdoor.de) is often not easy to understand for users and multipliers. The added values of an own municipally organized neighborhood platform, as a tool for community work (with the aim to provide equality, motivate and solve community problems), must become comprehensible (local control, data economy and privacy, inclusion).

Research Context

The research context can create additional barriers. For example, consent is required to participate in the project. In addition, sustainability beyond the project context is an important prerequisite for participation. Unclear perspectives for the project and missing guaranteed funding after the official project period can scare off potential multipliers as well as users. The early development of a sustainable business concept can ensure trust and commitment by users and multipliers. The robustness and usability of the technology which is used also plays a role.

Furthermore, it must be made sure that there is no oversaturation of the citizens regarding the research questions. Too many actions in which the experiences, improvements, recommendations etc. are asked of the users, could lead to a rejection of the project and thus also to a negative attitude towards an IS.

Concerning cooperation between local and external actors, a need for clear responsibilities got apparent. Hereby transparency for all actors must be guaranteed. A generally important aspect is: less is more.

Conclusion

Limitations. Although an information saturation was observed the number of ten interviews with German, Swiss and Dutch experts is a constraint of the study. Further work could complement the results with deeper experiences from other countries. The presented results may therefore not be directly transferable to other countries due to the different social conditions, structures and health systems. Although the phenomenological approach of this study revealed consistent results, it may have suppressed the subjectivity of senior citizens since we provided no contextualization about their habits, their nationalities or even their neighborhoods.

What was already known on the topic? Comparing the literature with the results, it is found that there are many overlaps, e.g. that the users have to recognize their personal benefits or added values (Renyi et al. 2018). The implementation of a neighborhood platform must be accompanied by a suitable marketing concept and training material (Schreiber and Göppert 2018). Thus, many barriers have to be faced during the implementation process of IS for neighborhood development projects. Target group oriented participatory design can enhance the acceptance of technology usage.

What this study added to the body of knowledge? Through the comparison of several neighborhood projects, more weight could be given to the fact that a neighborhood platform is just a tool to support neighborhood work. IS can be used to organize events or discussions, but the offer itself must be created by the community and community workers in real live. Lunch tables or neighborhood associations are not created by a platform; only the dissemination of offers and the matching of needs can be supported by ICT. The most emphasized point by all experts is the need for a caretaker. Usually the implementation stands or falls with the existence of a committed and convincing caretaker!

Future Work. To contribute to the generation of uniform implementation strategies and models, further research activities will deal with the creation of evaluation frameworks for IS for caring community projects. In addition, the transfer of knowledge and networking to politicians as well as to practitioners has a high priority.
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