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The Role of Participation and Communication for Energy Efficient Refurbishment

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Abstract: The effort of changing energy production and supply in Germany has not only led to innovative power supply concepts and large grid expansions, but also to ambitious goals for low and zero carbon (LZC) technologies in residential buildings. The present research project has a specific focus within this context: apartment buildings with a large number of flat owners. Prior to any major refurbishment, whether standard or energy efficient, the owner community needs to make decisions based on a majority consensus. Considering the financial strain and the wide-ranging impact for future living, these majority decisions have not always been easy to make. Effectively, they have been a serious barrier for the implementation of energy efficient refurbishment in large apartment houses with a heterogeneous ownership structure. Therefore, both a participation framework and an adequate communication concept for this particular stakeholder group are needed. Approaches from various fields, e.g. acceptance research, psychology, Design Thinking, and communication studies can be applied in order to integrate all owners into the planning process and find energy efficient solutions that most owners can agree on.
This paper introduces a participation and communication framework for energy efficient refurbishment with defined participation stages and communication formats. Derived from this framework and preceding studies, ten essential communication recommendations are formulated that ensure the success of the planning process. Apart from classical communication instruments, one focus of the framework is on the implementation of applicable online activities. Furthermore, based on the Design Thinking idea, the needs and requirements of the target group should be identified at an early stage of the planning process. Consequently, these demands can be incorporated into the entire process by presenting customized offers. The paper concludes with a discussion of the presented framework and an outlook for innovative opportunities of participation in order to enhance refurbishment rates in large apartment houses with multiple owners.

Keywords: energy efficient refurbishment, sustainability, communication, participation

JEL codes: Q; O

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1. Introduction: Energetic refurbishment and participation

After a period of high approval ratings, the energy policy in Germany is increasingly leading to reservations in the acceptance of renewable energy. This is the result of longitudinal studies for large regions in Germany (Lenk et al., 2012; Rottmann and Kilian, 2015). In the past, many technically challenging projects in the field of energy-related refurbishment have failed to result in implementation of planned measures because decision-makers have not been adequately involved (Schweizer-Ries et al., 2010: 5). For this reason, it seems expedient to examine how to inform homeowners as comprehensively and neutrally as possible about their options for energetic redevelopment, thus integrating them into the planning process right from the start. This paper develops a procedure as fair as possible with an early and comprehensive involvement of all stakeholders.

In particular, it seems necessary to identify the various communicative factors which can influence the decision for or against energy rehabilitation. In this context, the "human factor", e.g. the effort to take people's psychological, social and cultural constitution as a starting point for further reflection, is becoming increasingly important in the entire context of LZC- technologies. When, for example, current insights from the field of Design Thinking are transferred to the field of energy-related renovation, the solutions should ideally be based on the specific needs of the apartment owners. The overriding goal should be to enable them to make an informed decision, taking into account major advantages and disadvantages of the proposed options. Thus, in this paper, theories, methods and instruments from the fields of psychology, sociology and communication studies were used. The participation instruments proposed derive directly from these theoretical foundations. Since online-supported participation became more significant over the last few years (Nanz and Fritsche, 2012: 88), their prerequisites and possible applications will also be investigated.

2. Approaches to participation

2.1 Initial position and target definition

The paper focuses on the assistance that can be given to apartment owners in multi-family houses when planning or thinking about performing energy renovation. These property owners are

typically organized in a Homeowners association (HOA). The conclusions, however, can also be transferred to energy redevelopment projects within quarters or districts or even to owners of single houses. Contrary to participation projects in cities and neighbourhoods, each member of a HOA has one vote, with immediate and long-term consequences for his residential and financial situation.

Although people generally pursue divergent interests, decisions on energetic sanitation measures within a HOA must be subject to the majority principle. In order to obtain legally binding decisions, an agreement must be made. For this reason it is necessary to enable all owners in a fair and democratic process to make an informed decision on the future of their property.

Similarly, the individual house owner, who considers an energetic rehabilitation, participates in this social discourse, chooses communication offers and consults with experts as well as with his social network (family, friends, and colleagues). Therefore, all communication channels used must meet certain requirements for both target groups: the individual home owner and the apartment owner.

A theoretical framework of non-hierarchical discourse is described, for example, in the “Theorie des kommunikativen Handelns” by Jürgen Habermas (Habermas, 1981). According to this framework, arguments must be formulated reasonably and must be objectively true; they have to comply with the applicable laws and directives and must be calculated reliably. Following Habermas, a discourse gains normative correctness when it meets the criteria of energy efficiency and sustainability. The discourse becomes subjectively true when its claims are conveyed convincingly and without contradiction. Moreover, these claims confirm the individual in his perceived self-efficacy.

2.2 Design Thinking as a framework

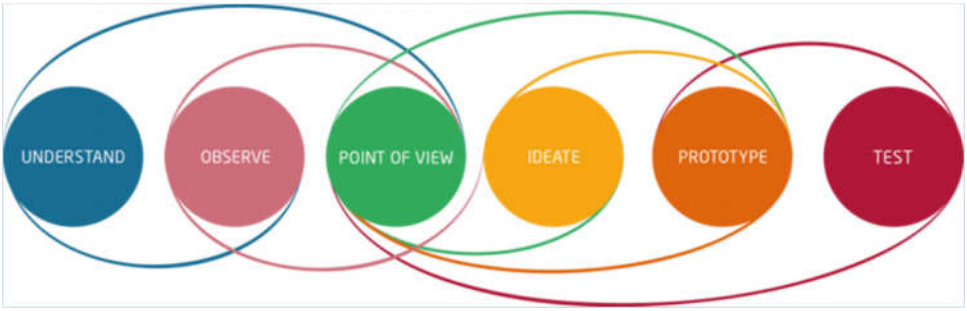
More than an academic field, Design Thinking is a relatively new perspective on product innovation. Since the design of a product is inextricably linked to its function, designers are assuming an important role in product development right from the start: "Now, however, rather than asking designers to make an already developed idea more attractive to consumers, companies are asking them to create ideas that better meet consumers' needs and desires. (Brown, 2008: 86)".

Thereby, the user of a product, an application or a service gets into the focus at an early stage by bringing product designers in close contact with him: "If one observes people in their habitual environment, one should not only look at the nuances of their behaviour, but also try to gain insight into *motivation* and *emotions*. (Kelley, 2002: 44, emphasis in original)". This also includes addressing the selected user personally (Kelley, 2002: 37).

This paradigm shift has taken place not only in technology, sociology and acceptance research, but in many disciplines and fields of application in recent years. It is often referred to as an emphasis on the "human factor": "The design driven by user needs is termed as 'Human-Centered', and it aims to gain a deeper understanding of all stakeholders, context of use, and to involve users throughout the design process, development, and long-term monitoring of the artifact (product, system or service) (Adikari et al., 2016: 3)".

The (small) body of published research on the subject of citizen participation and energy rehabilitation is consistent with the fact that the early information of all stakeholders involved is a key success factor for the implementation of the measures (Arbter, 2012: 73; Schäfer and Keppler, 2013: 22; Hofmann, 2016: 7). For this reason, it seems promising to review and use the general focus and the instruments of Design Thinking for the participation process related to energy conservation measures. In practical terms, this means the necessity of a precise analysis of the apartment owners and other stakeholders affected by the process and its outcome in order to understand their needs and, accordingly, to offer suitable (rehabilitation) solutions. The conceptualization phases "Understand", "Observe" and "Defining the point of view" of Design Thinking origin (see Figure 2) are especially important to be applied to stakeholders when planning an energetic refurbishment.

Figure 1. Design Thinking as an iterative process



Source: School of Design Thinking, Hasso Plattner Institute

In Design Thinking, the solutions to be developed should correspond to the needs of the stakeholders. These solutions are increasingly adapted in an iterative process (Ambrose and Harris, 2013: 134-143). In practice, this process can be fuelled, inter alia, by using feedback instruments such as questionnaires and (qualitative) interviews. They can be used both for identifying and evaluating ideas and could further support the decision-making process. Again, it is important to organize the entire process as well as the individual phases from a participatory and communicative perspective.

A further tool of Design Thinking is the creation of "spaces", especially when interdisciplinary teams work together on the project: "We are convinced that neighbourhood spaces and a functioning community are essential to promote innovation. (Kelley, 2002: 137)". Likewise, during the participation process, "spaces" can be created in which all owners meet on the same level (Arbter, 2012: 22). This also affects the selection of suitable communication tools.

A key requirement of Design Thinking approaches is to present communication offers as tangibly as possible, making them visually perceptible and to create – if possible – a haptic experience ("make it tangible"). The provision of visually appealing information is intended to address the entirety of the stakeholders: "Create compelling visualization tools that communicate strategic outcomes and value propositions to all key stakeholders (Weiss, 2002: 37)". This idea can also be implemented in the present framework (see figure 2) of decisions on energetic renovation when providing information, for example through visits of model houses or power plants (see also Schäfer and Keppler, 2013: 43).

As an example, state energy saving programs in the U.S. used a large number of didactic tools, such as thermal images or sample parts of insulation materials, in order to increase their success rates: "Thus a new technology is more likely to be adopted by an individual or a group if there is sufficient opportunity to see the innovation in action and to witness its results. (Coltrane et al., 1986: 141)". In order to use this haptic effect as profitable as possible, both 3D models and virtual representations are conceivable. In the field of energy renovations, show houses could be useful as well as the presentation of materials (e.g. for insulation). These are further challenges that should be addressed by a comprehensive communication concept.

2.3 Acceptance research: Attitude and behavioural psychological approaches

A central subject within the field of acceptance research is the introduction of technical innovations (such as new materials for insulation or technologies to produce energy). Topics included are "diverse aspects as the individual user acceptance of larger and smaller technical artefacts (e.g. mobile phones, office technology, software), the social acceptance of new and / or risky ones (e.g. nuclear energy, genetic engineering, or carbon capture storage technologies for the subterranean shipment of CO_2 from fossil energy generation) (Schäfer and Keppler, 2013: 7, own English translation)".

Within the field of acceptance research two main dimensions can be distinguished: the "attitude" and the "action" dimension. Regarding the first dimension, acceptance means the "positive attitude, assessment, or valuation of the acceptance object (Schäfer and Keppler, 2013: 11)". In contrast, research work concerning the "action" dimension attempts to consider a second aspect in which attitude has an impact on action, that is, it influences the behaviour directly or indirectly.

It should be noted that although a causal link is assumed between the two, attitude does not necessarily have to trigger action: "According to this understanding, acceptance is always given when there is a positive assessment; action is not absolutely necessary (Schäfer and Keppler, 2013: 14)". Both levels are handled independently and without prejudging the outcomes. This means, even if a positive attitude towards energetic refurbishment exists, it is possible that there is no related behaviour perceivable. In psychology, this effect is known as attitude-behaviour gap (see, for example, Boulstridge and Carrigan, 2000). Related to our context, even if the attitude towards energy renovation is changed throughout the process, home owners could still decide against energetic refurbishment measures.

Self-efficacy as a psychological concept is a key term especially in the context of participation processes when it comes to acceptance of proposed measures: if the individual believes that his or her involvement has an impact on the ongoing process and is thus confirmed in his self-efficacy, consequently, he will perceive the procedure as fair. Thus the expected self-efficacy has an impact on the assessment of the procedure as fair or unfair, but not on the decision itself.

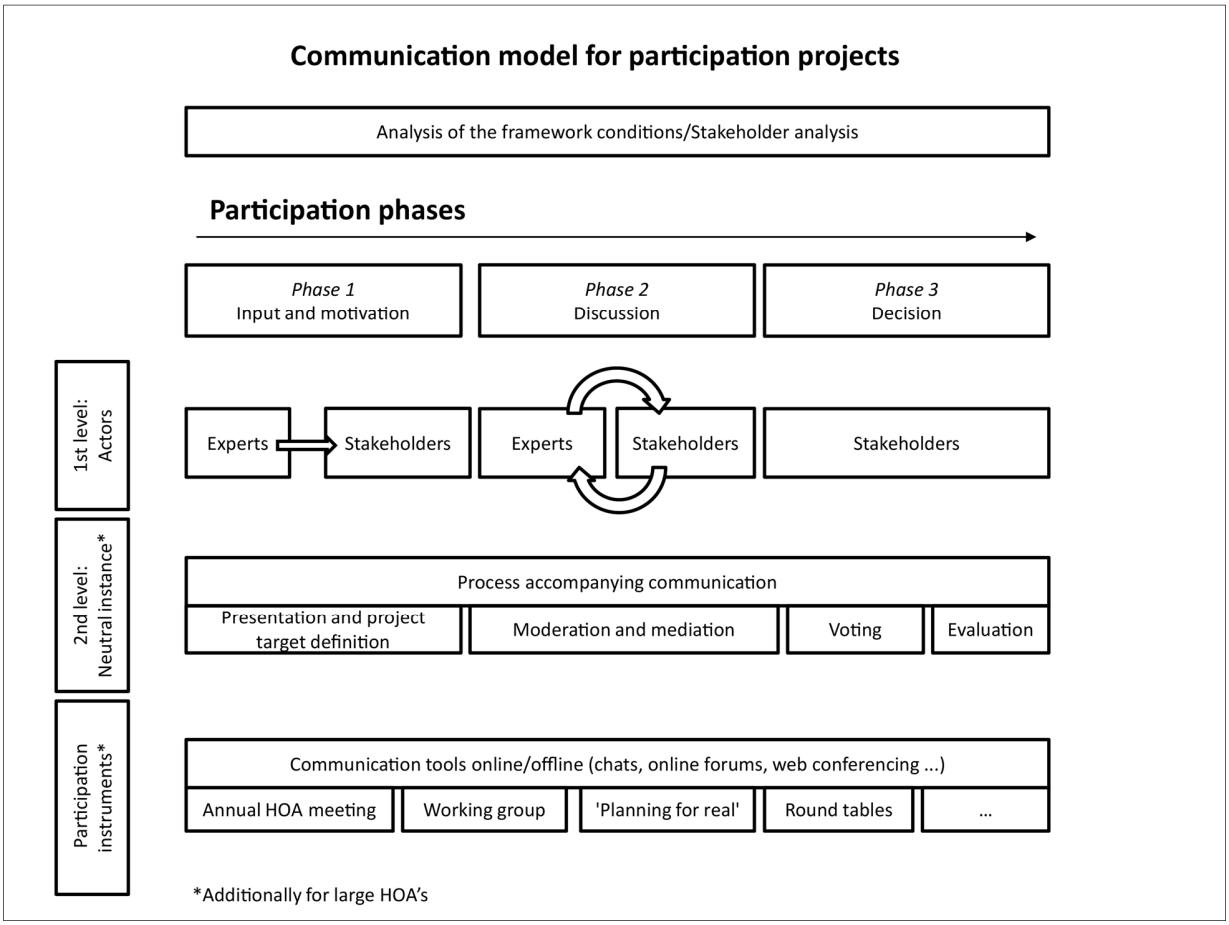
In order to increase acceptance, decision making and thus create reliability, participation procedures are the essential methods of choice (Schäfer and Keppler, 2013: 45). A key measure within these procedures is the provision of objective facts that help to value the perceived costs, risks and benefits: "The importance of interventions / measures to disseminate information for acceptance is that knowledge is a prerequisite for attitude, opinion making and a willingness to act, and an increased knowledge can contribute to reducing reservations, identifying opportunities for use and benefits, and evaluating objectively on costs and benefits. (Schäfer and Keppler, 2013: 43)".

3. Communication Concept

Based on previous considerations on the subject, a model was designed that attempts to introduce both the phases of citizen participation as well as approaches from communication studies into the context of decision-making in energy efficient refurbishment projects. The communication model for participation, developed for this purpose, is a phase model illustrating the timing of an ideal type of participation process, where the individual phases are arranged in relation to the necessary communication measures (see Figure 2).

The choice of communication tools employed depends on whether there are single owners who make the decision for or against an energetic refurbishment in their immediate social environment, or whether the decision has to be taken within the committee of a HOA. Since only this latter can be referred to as participation in an extensive decision-making process, additional communicative measures must be envisaged in the model, which are taken into account in a second level called "Neutral instance". As a result, two levels are established: a general level which includes all participants (in HOAs as well as individual house owners) and other interested stakeholders (e.g. tenants, neighbours) and a supplementary level of involvement which exclusively occurs in the context of large HOAs.

Figure 2. Communication model for participation projects



Source: authors own elaboration

The three phases "Input and motivation", "Discussion" and "Decision" are assigned to the dynamic communication processes. Corresponding measures include the provision of information, their processing and evaluation as well as the follow-up communication (usually with the social network such as family and friends) and should conclude in a decision. Research supports the importance of follow-up communication during the process, i.e. the importance of the personal network and social interaction: "But it has been repeatedly shown that the adoption of innovations [...] is also influenced by word-of-mouth communication from friends and associates and by relevant personal experience. (Stern, 1985: 56)".

The information sources available are to be found both offline and online. Supplementary to the internet, many proven offline tools such as brochures and trade journals can be found. Direct communication with external experts (e.g. craftsmen, chimney sweeps, energy consultants) continues to play an outstanding role (Stieß and Dunkelberg, 2013: 254). The role of experts in comparison to home owners and other affected stakeholders is outlined in the first level "Actors".

In addition, different feedback loops are conceivable between the single phases, which can increase the quality of participation methods. These loops can be installed in between the three phases as well as within the second phase "Discussion". In particular, an expert group can develop, conceive and calculate rehabilitation proposals for a HOA. Subsequently, they are submitted to the entire HOA for decision. In a feedback loop, this vote can be afterwards returned to the expert group, and, consequently, be further improved. This expert-stakeholder-interaction can also take place, somewhat less obvious, among individual homeowners. They can be informed via various sources such as the internet, trade fair visits, personal contact with craftsmen or similar encounters. Ideally, experts evaluate all information and then return it to the homeowners. As a result, this could lead to an iterative process for both target groups following the Design Thinking model (cf. Figure 1).

Especially for a HOA, the level “Participation instruments” was integrated into the framework (see bottomlevel in Figure 2), where additional communication instruments can be used that accompany the decision-making process within a dynamic group. These could include meetings, working groups and round tables, which can be used throughout all phases. A challenging feature during a HOA participation process is the establishment of a neutral authority (level two “Neutral instance” in the middle of Figure 2), which can undertake two different communicative tasks: On the one hand, it informs all stakeholders about the current state of affairs during the entire process of decision-making, thus fulfilling the function of meta-communication. On the other hand, this neutral authority acts mediatory during the individual forms of participation, formulating clear objectives, moderately controlling the process, coordinating and evaluating. In this respect, distinctly naming the communication targets is a decisive success factor (Kubicek et al., 2011: 13). The role of a neutral authority can be assumed, for example, by the facility management, by independent energy consultants or by the local administration. It contributes immensely to the professionalization of participation procedures. By implementing a neutral

position, the whole process gains subjective truthfulness ("subjektive Wahrhaftigkeit"), one of Habermas' requirements for a non-hierarchical discourse.

4. Communicative mediation: credibility of the stakeholders

Regarding energy-efficient refurbishment, the communication model for participation indicates key requirements for a successful communication, helping to integrate them into a comprehensive and sustainable communication strategy and increasing the likelihood of acceptance for the decision finally made. In the context of stakeholder-expert-interaction and the establishment of a neutral instance, a further criterion is the credibility of all persons involved. Therefore, the use of the construct "credibility" will be briefly discussed.

Whilst investigating complex exchange processes between transmitter, receiver and message, credibility is one key term focused in communication studies. This has made the term, especially in times of online publishing, an important concept in current research studies in the field of journalism and media use research (see, as one example, the Credibility and Digital Media Project at the University of California, Santa Barbara).

Applied to the decision making process in an ongoing or planned remediation, communication must meet certain established requirements to ensure a sound and sustainable decision for the future. In a negative turn, necessary information often does not get to the recipients and thus prevents a decision in favour of energetic refurbishment: "People often fail to notice, understand, or trust the information. (Stern, 1985: 2)". As a technically innovative field, in which many owners lack the necessary expertise, the credibility of information is a mayor requirement that influences - via attitude - the final acceptance.

The credibility of the statement cannot be separated from the credibility of the source: "A given message, when attributed to a person of high credibility, produces greater attitude in the target audience than the same regarded as either inexpert or untrustworthy. (Stern, 1984: 45)". The trustworthiness within the communication process therefore refers both to the exchange with experts as well as to the social network of the owners. In both cases, it varies widely. There may be different, even contradictory views on the expert side as well as on the friends' or neighbours' side.

As an interesting aspect in previous studies in the US, energy supply companies were subject to strong credibility deficiencies (Coltrane et al., 1986: 139). Households with low incomes trusted neighbourhood initiatives and non-profit organizations, while households with higher incomes tended to use their social network (Coltrane et al., 1986: 142). Therefore, credibility is dependent on psychosocial and demographic determinants.

Additionally, it has also been shown in various energy saving programs in the US, that addressing the owners personally is a critical success factor (Coltrane et al., 1986: 137). It is another indication that it is recommendable to address all apartment owners directly and respond to their personal needs.

Communication strategies

In the course of planning an (elaborate) energetic refurbishment, the decision-making process is usually accompanied by several communication measures. For homeowners, these range from the acquisition of information via various channels, their evaluation as well as follow-up communication.

Concerning a HOA, a neutral instance should accompany the participation process as close as possible. Ideally, the stages of conceptualization and target definition, moderation and mediation, coordination and evaluation are to be passed. Regarding a professional design of the participation process, an overall concept must be drawn up at all stages. Furthermore, a target position for the various communicative steps must be determined (Bischoff et al., 1996: 17). Thus, the implementation of the provided communication strategy (defined as fulfilment of previously defined communication targets) is part of a comprehensive energetic refurbishment management.

5. Ten recommendations for successful communication

Given the previous considerations on the general course of the participation process, there are consequences for the implementation of communication measures to be taken into account. Concisely, they can be formulated in ten recommendations, which must be followed at all stages of the process described in the communication model:

1. All relevant stakeholder groups must be involved.

2. The needs of the stakeholders must be determined in advance (e.g. via target group analysis). The solutions have to be aligned with these requirements.
3. All communication measures must be implemented professionally. This also means that a target position and strategy for the different participation types is plainly defined in advance.
4. Stakeholders need to be informed about all steps early and on an ongoing basis.
5. At all times, the process must be transparent, comprehensible and credible for all stakeholders in order to build up trust.
6. The dialog must be characterized by mutual respect.
7. The process must be perceived as neutral and fair, for example through the use of a moderator or neutral expert.
8. All information must satisfy the requirement of being objectively true. All things said must be checked and binding.
9. Moreover, all facts must be presented convincingly in order to become subjectively true.
10. A common vision must be established, e.g. via a lighthouse project.

Again, following the recommendations should increase the participation rate as well as the probability of a successful outcome of the decision process.

6. Communication tools

After an ideal communication process has been modelled, and ten general recommendations of communication have been laid down, the emphasis is now put on the conditions that are particularly applicable to large HOAs. For this purpose, participation instruments provided (see bottom of Figure 2) are mostly borrowed from participation research and have been conceived especially for dynamic groups. The various types are intended to prevent a social selection of the participants, which is generally a problem for participation meetings: "Participation offers are socially selective. Groups capable of articulation, dealing with authorities and, above, having sufficient free time are always overrepresented. (Bischoff et al., 1996: 16, own English translation)".

Depending on the participation instrument, a considerable amount of organizational effort may be necessary to accompany decision-making and coordination. This is reflected not only in personnel and temporal resources, but also in financial terms, which are needed for the preparation

and follow-up. As an example, up to € 50,000 can be estimated for a "consensus conference" (Bertelsmann Stiftung, 2017). The higher the costs, the more important it is to build up an innovative process as efficiently as possible, by the so-called "E-participation".

6.1. Established instruments of citizen participation: Offline tools

Most participation instruments to be employed are proven instruments within the concept of deliberate democracy (21st Century Town Meeting, working groups, consensus conference, World Café). Others, however, were borrowed from other disciplines and adapted accordingly for participation purposes (focus groups, scenario planning, planning for real).

First-named, "original" forms of participation are recognized by the structured process leading up to a didactic aim, which assumes a phase-wise increasing participation. Due to the large number of instruments, a suitable selection should be made for a HOA, involving a number of several hundred participants (for projects in neighbourhoods or districts) as well as meetings in small groups. In principle, they can be used throughout the process of decision-making.

Reasonably, meetings in which a totality of owners and other stakeholders should take part are more likely to be implemented at the beginning of the process. With advancing discussion and detailed issues discussed, meetings can also take place in small owner or expert groups. After that phase, a large event should take place for the final vote.

6.2. Outlook on alternative instruments: E-participation

In the past, participation formats have traditionally been implemented as on-site events. Due to the progressive digitization of the public space, they are increasingly being accompanied by online tools or, as a necessary consequence of media convergence, they are even replaced by them.

The advantages of electronic participation tools are obvious: in addition to a better accessibility, especially for young people, and a far higher potential number of participants, the variety of information does improve significantly (Kubicek et al., 2011: 27). Another major factor affecting the implementation of participation formats is the much lower organizational expenditure: "Internet-based offers enable citizens to express themselves quickly and directly. Participation is

not linked with physical presence and its spatial and temporal framework. (Nanz and Fritsche, 2012: 89, own English translation)".

Likewise, the fast evaluation of feedback instruments, such as surveys, as well as the availability and timeliness of information on the internet are further reasons for online-supported measures. Another advantage is the comprehensive documentation of the entire participation process by online-tools (Höffken, 2014: 71). Furthermore, modern web applications are focused on usability, which allows people with low vision or physical impairment to handle internet websites, for example by automated reading. By doing this, further participation barriers can be actively lowered.

In spite of these advantages, electronic participation instruments are currently used rarely and rather accompany existing on-site events (Nanz and Fritsche, 2012: 88; Höffken, 2014: 69). Consistently, online tools such as chats, forums, wikis or web conferencing have an enormous potential for further development. They can reduce the inhibition threshold for participation and open up new target groups for democratic decisions (Höffken, 2014: 71).

Whereas it seems not yet possible to transfer the participation process completely to the online world, it can be made leaner, more transparent and more efficient through online-based procedures. For example, the invitation for participation events can take place electronically via e-mail or text message. During the on-site event, data can be collected, processed and evaluated online. The same applies to expert responses, which can be posted on a website. Interim and final reports can be prepared as electronic presentations, accompanied by a follow-up or evaluation of the event via e-mail.

It remains to be noted that while there are many possibilities of E-participation, they are presently used rather isolated: "There are good single examples and experiments, but their diffusion is missing. (Albrecht and Kohlrausch, 2008: 36, own English translation)". So far, empirical findings attending to the potential of online measures in participation projects are missing. In the meantime, applying online measures helps to simplify and speed up processes.

7. Conclusion

We argued in this paper, that the decision process preceding an energy renovation does often not lead to the expected outcome. One reason for this may be that the needs of stakeholders involved

(especially apartment / houseowners) are not considered early and sufficient throughout the planning process. Following the ideas of the Design Thinking approach stakeholders should be integrated from the very beginning of the planning process. In order to meet this demand, a communication plan should guide the process preceding the final decision about which measures should be implemented in a building. In this paper we outlined a general communication model (following the steps from input and motivation through discussion to decision-making) and proposed communication recommendations that could be used as guidelines when setting up such a communication plan. The model highlights the role of a neutral instance moderating this process, especially in the case of HOAs. Additionally, different forms of (offline and online) participation instruments should be used in order to make sure that all stakeholders are integrated into the process and have the chance to form an attitude towards the topic and to state their point of view. Following these recommendations should increase the likelihood that apartment owners (esp. of a HOA) will come to an informed decision and will accept the decision made by all owners.

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Rola partycypacji i komunikacji dla odnowy w zakresie wydajności energetycznej

Streszczenie

Wysiłek, mający na celu zmianę produkcji i dostaw energii w Niemczech, nie tylko doprowadził do innowacyjnych koncepcji dostaw energii oraz dużej ekspansji sieci energetycznej, ale też do ambitnych założeń co do technologii niskiej i zerowej emisji dwutlenku węgla w budynkach mieszkalnych. Niniejszy projekt badawczy koncentruje się na specyficznym obszarze z tej tematyki: budynkach apartamentowych z bardzo dużą liczbą właścicieli mieszkań. Przed każdym poważnym remontem, niezależnie od utrzymania standardu efektywności energetycznej, wspólnota właścicieli musi podejmować decyzje na podstawie konsensusu większości. Biorąc pod uwagę duży wkład finansowy oraz istotny wpływ na przyszłe warunki życia, owe decyzje wspólnotowe nie zawsze są łatwe do podjęcia. Co więcej, mogą one stanowić poważną barierę dla implementacji rozwiązań wydajnych energetycznie w dużych budynkach apartamentowych z heterogeniczną strukturą własności. Z tego względu, dla tej szczególnej grupy interesariuszy potrzebne stają się zarówno podstawy partycypacji, jak też właściwe założenia co do komunikacji. Aby zintegrować wszystkich właścicieli w procesie planowania i znaleźć odpowiednie rozwiązania w zakresie wydajności energetycznej, na które większość właścicieli wyrazi zgodę, można zastosować podejścia z różnych dziedzin, np. badań akceptacji, psychologii, Design Thinking czy badań dotyczących komunikacji.

Niniejszy artykuł przedstawia zarys strategii partycypacji oraz komunikacji w odniesieniu do odnowy budynków w celu poprawy wydajności energetycznej, wraz z etapami partycypacji oraz scenariuszami komunikacji. Na podstawie tych założeń oraz poprzednich badań, sformułowano dziesięć kluczowych rekomendacji co do komunikacji, które mają zagwarantować sukces w procesie planowania. Poza klasycznymi instrumentami komunikacji, w artykule podkreślono między innymi zastosowanie odpowiednich działań online. Co więcej, w oparciu o ideę Design Thinking, należy zidentyfikować potrzeby i wymagania grupy docelowej we wczesnym etapie procesu planowania. Konsekwentnie, potrzeby te mogą być włączane w cały proces dzięki przedstawianiu ofert dostosowanych do indywidualnych wymagań. Artykuł wieńczy dyskusja nad omówionymi założeniami, a także nad perspektywą innowacyjnych możliwości partycypacji w celu dynamizacji odnowy energetycznej w dużych budynkach apartamentowych z wieloma właścicielami.

***Słowa kluczowe**:* wydajny energetycznie remont, podtrzymywalność, komunikacja, partycypacja

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