SOCIAL ASPECTS OF MULTI-FAMILY APARTMENT BUILDING RENOVATION

Mara Laizane[1], Ilze Vardanjana[1], Ilona Laizane[2]
[1]NGO Building and Energy Conservation Bureau, Latvia;
[2]Riga Teacher Training and Education Management Academy, Latvia
mara.laizane@gmail.com, ilze.vardanjana@gmail.com, ilona.laizane@gmail.com

Abstract. Social capital has been identified as an important factor of renovations, therefore this paper aims to show the social aspects of multi-family building renovations. All attributes that are revealed in the course of this study aid to strengthen the understanding of why and how residents decide to renovate their homes in an energy efficient manner, focusing on decision making, values and the role of leadership. Moreover, the study can be useful for policymakers to predict the potential social obstacles to renovations.

Keywords: social capital, energy efficiency, renovations, leadership, decision making, individualism, climate change mitigation.

Introduction

If current trends in urbanization and income growth persist, the affordable housing gap would grow from 330 million urban households to 440 million by 2025, leaving at least 1.6 billion people living in substandard housing or financially stretched by housing costs.

(McKinsey report, 2014)

Eastern Europe today is faced with an unavoidable process: multifamily apartment building stock is deteriorating, but apartment owners do not have sufficient access to resources to deal with the issue.

Almost all multifamily apartment buildings (total area exceeding 300 million square meters) currently occupied by Eastern Europeans were built during Soviet times (Buildings Performance Institute Europe, 2015). During the 90's, these apartments were privatized, but new owners did not (and still do not) have the financial resources and management skills to take proper care of the building, thus as even basic maintenance of the buildings was repeatedly deferred the conditions of the multifamily building stock built during the Soviet era have slowly worsened, posing a threat to inhabitants of these buildings.

To avoid a housing crisis, an extensive renovation of the existing building stock must be undertaken, through which it is possible to reach up to 65 % energy savings and provide residents with safe and comfortable homes. After an extensive renovation, energy consumption can be decreased to 60-70 kWh·m^{-2} for heating [1]. Extensive renovation here is understood both as an extension of the buildings lifetime and significant increase in buildings energy performance [2].

Extensive renovation is crucial not only in the context of a potential housing crisis, but also because renovation and insulation of multifamily buildings may provide a significant contribution in the reduction of climate change. It might prove to be an efficient solution in the reduction of greenhouse effect gas emissions, and has an enormous potential, as 30 % of the total overall consumption of energy resources, on average across countries are attributed to households. Even though they are the biggest end consumers of energy, and therefore could potentially save significant amounts of energy, the potential productivity of buildings has not been tapped..

While the issue has been in some sense recognized by the European Union and Government of Latvia, extensive renovations have been a slow process, as they have been put on the shoulders of residents. Residents do not have enough experience in joint decision making, lack knowledge and expertise about renovation process to make smart, informed decisions, and do not have sufficient access to financial support or cheap funds to use for the renovation. Thus, while some kind of renovations and insulation works took place the past years, their quality and benefit to both residents and climate is a question for discussion.

With an aim to analyse the current situation regarding multi-family building renovations, the project "Renovation impact on climate change and energy efficiency habits of residents" was launched in 2015 in collaboration between Latvian and Norwegian scientists and engineers [3]. The project is a comprehensive and in-depth study of apartment buildings in Latvia, combining social anthropology, psychology, environmental engineering and economics research methods. The goal was to develop

recommendations on how to influence people's decisions regarding renovations, climate change and energy efficiency, as well as to understand which business and energy efficiency models are most appropriate to reach the goals of all involved stakeholders, starting with residents: private enterprises, government, EU institutions and others.

This article focuses on the social aspects of the renovation. Lately, social capital has been identified as an important factor of renovation, specifically highlighting the ability of the actors involved to participate, cooperate and mobilize to attain a common goal through coordinated action [2]. Social capital is "features of social organization, such as networks, norms and trust that facilitate coordination and cooperation for mutual benefit" [4]. Perception about renovations will be discussed - how the value of the renovation is perceived by residents and which other values might clash or work in favour regarding the renovation. Furthermore, impact that the house leaders have on these values will be described as houses with smoother renovation stories have a strong leader figure. All of the aforementioned perspectives will be discussed to understand how they affect resident attitudes towards such issues as global warming and climate change. House leader is one of the house residents, who is elected by other residents to oversee their interests and take care of the house. House leader is not always also the maintenance person or company (those are often hired separately), but he is the one who mainly communicates with all other involved parties and then informs the other residents about what is happening. This definition is the "best house leader" not the "always house leader" definition, as the duties and activity of the house leader differs from house to house. Not all houses in Latvia even have a house leader.

Materials and methods

Target group for the study were residents of renovated buildings in Latvia. One city for each major region was selected, with five renovated houses per city (total of 25 multifamily buildings from Latvia) to cover the country and identify any regional differences. From each renovated house, a house leader and, on average, three residents were interviewed. As a control group, leaders from five non-renovated houses that were close to the renovated houses in each city were also interviewed.

In each city, two focus group discussions were organized, one for house leaders of renovated buildings and one for leaders of non-renovated buildings. The house leaders that were interviewed were also invited to join in the corresponding focus group discussion, but not all of them chose to do so.

During research, 125 semi-structured in-depth interviews were performed. Interviews lasted on average 40 minute, ranging from 20 minute interviews in non-renovated buildings to an hour and longer interviews with residents from renovated buildings. When choosing respondents, demographic aspects were taken into account, such as age, gender and language, to form a diversified sample.

Another criteria for respondent selection was the placement of his/her apartment, to include respondents that live both in the central part and along the inner perimeter of the building, as well as on different floors, because respondent living conditions, especially before the renovation, could differ substantially. A total of 63 participants took part in 10 focus group discussions, of which only 19 were prior interviewed. The total number of respondents was 179 (130 from renovated buildings, 49 from non-renovated buildings).

Interviews were recorded and transcribed, and the transcripts were coded with the interview analysis software Atlas.ti, thus making the large qualitative data sample easier to analyse. During fieldwork, all of the interviewers were requested to keep a research journal and note their observations, ideas and first impressions in an online based mind-map that was shared by all project participants, thus connecting qualitative social data with financial and technical data.

As semi-structured guidelines for the interviews and focus group discussions were used, initially the gathered data were grouped according to guideline questions. Afterwards, the data were analysed to reveal common or consistent themes with respect to respondent's perceptions regarding renovation inefficiencies.

The framework presented in Table 1 was used to structure findings. Viewing the renovation decision in two levels demonstrates its various attributes.

Table 1

Analysis framework: core concepts

	Core concepts
Individual level	Need of constant detailed information; personal benefits create value; global warming seen as unrelated to their own behaviour;
Group level	Social ties; house leader as the leader of group; shared values in group; shared goals.

Results and discussion

Value and decision making process

Culturally, people in Latvia are relatively independent in their thinking [5], and this research shows that personal benefits from the renovation are the most important factor in decision making. Thus, if residents had trouble identifying the specific improvements in their life after the renovation, they were more likely to be against the renovation. These findings are in line with Triandis' view on how people in individualistic cultures, such as Latvia, rate their own goals as significantly more important than common goals, and how they will choose their own goals over the goals of others [6].

The interdependent or communal mode of existence is not that common, however, a substantial share of people in renovated buildings mentioned the renovation benefits that others gained. This may result from the fact that collective payment for the whole house made residents "take ownership" and thus the responsibility of the house. The envelope of their perceived individually owned space was stretched and after renovation included the whole house.

Perceived value of the renovation – the belief that the reward outweighs the investment – is very important, as that is the first step towards successful decision making process. Renovations may be initially viewed as low-value because of general aversion for delayed rewards. Even when confident experts thoroughly inform residents on the multiple gains that will be met by renovating their building, these positive effects are not coming in the short-term. The short-term actually offers only inconvenience – physical and financial, as well as emotional. Therefore, as the renovation decision must be made well in advance of receiving any gains, residents might doubt whether or not the rewards will actually be attained [7]. This uncertainty often leads to choosing the perceived safe decision – do nothing, thus opposing renovation.

Previous research shows - the higher the belief of shared goals in the community, the more likely people are to work together [8]. In renovated buildings that seems to have been affected by how much information the residents had about their neighbours, the renovation service providers and the whole renovation process. Although shared values are crucial in decision making [9], residents were often unsure whether their neighbours share the same values and future plans regarding the house as they do, before the renovation. Therefore, even if they were able to see the value of the renovation, they might have voted against it if their perception was that the values of other residents would put them in an uncertain situation. They reported their fears about other resident's own payment discipline, the already accumulated debts and the overall attitude towards the common property.

Best practice examples show that thoroughly informing residents and answering their questions highly increases the probability of their acceptance of renovation. Residents who were thoroughly informed report a feeling of confidence and trust in the involved parties. Moreover, even when these buildings had some difficulties, the residents trusted their leader and his/her competence. Whereas in buildings where people were not informed enough and/or did not have access to any details of the renovation, residents reported doubting their house leader and his/her decisions, as well as not trusting the construction workers, the bank and other involved parties.

The role of the house leader

An important finding is that all house leaders have strong leadership attributes in common – in most cases, even their professional skills are related to being a leader (some house leaders are army officers, personality couches, sales specialists etc.). They are people who feel confident to take on the challenge of a renovation, which includes building mutual trust with the residents and making decisions in a participatory manner. This fits into the collaborative leadership category, which has a strong focus on democracy and relationships. This is represented in house leader behaviour, as they are frequently considering the worries of other involved parties.

Moreover, since the renovation decision has to be made by reaching a majority vote, the house leader cannot neglect any of the seemingly insignificant worries the residents might express. Explaining and solving every issue in a democratic manner takes a lot of time.

Everything was crumbling, there was no sewage, so I thought, that we should choose a house leader and I could agree to that to renovate the building. Approximately for three years I prepared people for renovation, as it is not that easy. I went to every resident separately and tried to convince them to renovate the building. (House leader from a renovated building, Latgale region, Latvia)

Multiple buildings reported never having a house leader until the current one volunteered – this shows that leaders often choose the role themselves. Many house-leaders mentioned a feeling of responsibility to try and solve the problems that the building/community has. Residents also acknowledged the importance of the house leader – they mention the leader as the pushing force, the supervisor and the mediator in the process of renovation. However, house leaders still need support, so many of them have a team or at least one other person that thinks alike and helps by sharing some responsibilities.

The findings correspond with previous research which states that information is perceived better, if it is received from someone who is both an expert and an insider [10]. House leaders often have this role in their communities – therefore residents trust the information that is given to them. For instance, if the house leader chooses to change the renovation service provider or the maintenance company, the residents will trust his decisions. This also applies to creating the aforementioned value of the renovation – if the house leader values the renovation highly, it is much more likely that the residents will make a joint decision and the house will be renovated. However, if the house leader is against the renovation, residents are either also resistant to the idea or it is very hard for them to raise the issue, showing that it is noteworthy, and convince the community.

Nevertheless, while the house leader and his/her opinions have a strong influence, the house leader factor can be neutralized, in cases of a passive or a negatively inclined leader, if there is outside support from a service provider, such as a maintenance company.

People in many buildings, especially those that do not have a house leader, reported hiring a maintenance company to take care of their building. A frequent problem with maintenance workers is that instead of communicating with the residents face to face, they use questionnaires and work with numbers only. That makes any decision-making difficult, especially when the decision to be made is both complex and important, such as doing a renovation.

Climate change perception

When asked about climate change issues, residents answered that they do care about environmental issues, but believe that solving them is something the government should do. Moreover, some mentioned that even the whole country (Latvia) does not impact environment in any meaningful way, as it is too small, therefore this is not an issue the country should focus on. On an individual level, most residents also believed their own impact not to be significant enough to make any difference. This corresponds with other research, such as the findings of Brenda Boardman [11], which states that people do not always see the connection of their energy-related behaviour and climate change.

Residents reported rarely consciously engaging in actions that could be classified as eco-friendly. However, energy savings are recognized as a means to save money. Multiple residents mentioned using energy efficient light bulbs or changing the lightning in the hallway to one with a sensor-control, but these actions are then explained as ones that save money not the environment.

This also shows a problem with goal-setting. Goals like "save the Earth" or "save the environment" are very abstract and seem quite unattainable, so people do not link them to their own actions. The best way to set a goal is to make it specific [12], for example, the goal "reducing the pollution made by our building by 25 %" is measurable, comprehensible, attainable and challenging at the same time.

Conclusions

1. Social aspects related to multi-family building renovation prove to be very important in Latvia society.
2. Relatively high level of independence of Latvia people linked to the importance of personal benefits from renovation are the most important factors in decision making to renovate the building.
3. Collective payment for the renovation made residents "take ownership" and thus develop responsibility of the whole house.
4. Perceived value of the renovation – the belief that the reward outweighs the investment – is very important
5. Residents reported rarely consciously engaging in actions that could be classified as eco-friendly. However, energy savings are recognized as a means to save money.
6. In order to get positive decision on house renovation, it has to have the house leader with strong leadership attributes.
7. Thoroughly informing residents and answering their questions highly increases the probability of their acceptance of renovation.

Recommendations from the research are divided into two levels – individual and group – as follows. On individual level:

1. Informing residents face-to-face, individually and thoroughly throughout the renovation establishes trust and thus helps to avoid conflict;
2. Making the benefits of the renovation clear for each resident, including financial, as well as environmental gains, will demonstrate the individual value of the renovation;
3. Global warming issues must be explained in a manner that helps individuals to see the connection between their energy-related behaviour and climate change

On group level:

1. Acknowledging that the house-leader is able to heavily influence and sway the opinions of other residents;
2. Energy efficiency goals must be specific, challenging, comprehensible and measurable. Furthermore, when setting energy efficiency goals, individual commitment must be provided by setting the goals together.

References

1. Zvaigznītis K., Rochas C., Žogla G., Kamenders A. Energy Efficiency in Multi-Family Residential Buildings in Latvia. Costs Benefit Analysis Comparing Different Business Models. From: Abstracts of 55th International Scientific Conference: Subsection: Environmental and Climate Technologies, Latvija, Rīga, 14.-15. oktobris, 2014. Riga: RTU Press, 2014, pp. 9-10. ISBN 978-9934-10-612-5.
2. Cirman A., Mandic S., Zoric J. Decisions to renovate: Identifying key determinants in central and eastern european post-socialist countries. Urban Studies, 50 (16), 2013, pp. 3378-3393.
3. The Housing and Energy conservation bureau (ESEB). Renovation impact on climate change and energy efficiency habits of residents. Unpublished research, 2016.
4. Putnam R. Making democracy work. Princeton, NJ: Princeton University Press, 1993.
5. Hofstede G. What about Latvia? [online] [17.12.2015] Available at:
6. https://geert-hofstede.com/latvia.html
7. Triandis H.C., Gelfand M.J. A Theory of Individualism and Collectivism. In: Handbook of Theories of Social Psychology Edited by: Paul A. M. Van Lange, Arie W. Kruglanski E. Tory Higgins DOI: http://dx.doi.org/10.4135/9781446249222.n51

8. Patak M., Reynolds B. Question-based assessments of delay discounting: Do respondents spontaneously incorporate uncertainty into their valuations for delayed rewards? Addictive Behaviors, 32, 2007, pp. 351-357

9. Wong A., Wei L., Tjosvold D. Conflict Management for Government and Businesses to share effective practices in China. Group & Organization Management 36:5., 2011

10. Evans M., Wensley A., Choo C.,W. How Shared Language and Shared Vision Motivate Effective Knowledge Sharing Behavior. Proceedings of the European Conference on Knowledge Management. vol. 1, 2012, pp. 294-302.

11. Burgess D. What motivates employees to transfer knowledge outside their work unit? Journal of Business Communication 42(4), 2000, pp. 324-348

12. Boardman B. New directions for household energy efficiency: evidence from the UK. Available from: AAU Library; [online] [27.07.2015] Available at: http://www.en.aub.aau.dk/

13. Locke E.A., Latham G. P. Building a practically useful theory of goal setting and task motivation. American Psychologist, 57 (9), 2002, pp. 705-717.