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INNOVATION IN MUNICIPAL ADMINISTRATION. A CASE STUDY OF GROUP-BUILD HOUSING IN TÜBINGEN

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Abstract
In this paper, I present a case of innovation in municipal public administration. I analyzed group-build housing in Tübingen (Germany) as an example of technical innovation in housing production. This analysis shows which factors helped the adoption of this innovation, based on the characteristics of innovations proposed by Rogers (2003). This paper may be useful for municipal officials wishing to tackle the shortage of housing in their cities.

Introduction
Some authors argue that the private sector is more innovative than the public sector (Jacobs 1992). Others argue that this is a myth and that innovation depends on its context (Hartley 2013). But it seems to be a consensus that innovation is a necessary feature in public administration (Alves 2013). The adoption of innovative ideas in public services would be important for keeping (or improving) the quality of life (Singlaub 2008) and for dealing with social and environmental issues (Alves 2013). Nevertheless, the adoption and diffusion of innovations in the public sector cannot be taken for granted, since there are many barriers that may halt this process (Mulgan 2007).

In this article, I present a case study on the production of housing by citizen-led construction cooperatives, known as group-build housing¹, which is a case of innovation in municipal public administration. Thus, I have two objectives. The first is to describe the process of group-build housing, as it unfolded in Tübingen. This case has been studied as an exemplary one in architecture and urban planning (Bennicelli and Gérardin 2014; Maddalena and Schuster 2005), but, to my knowledge, there is no study on it from the public administration perspective. The second objective is to provide useful insights for municipal administration searching for new ways to tackle housing problems. To achieve this goal, I will examine the case under the

¹ The term “group-build housing” is proposed by Hamiduddin and Gallent (2015). In French, the organization Vivre en Ville (2013) proposes the term *autopromotion.*
I hope this research will also strengthen the knowledge on the adoption and diffusion of technical innovations in the public sector.

**Innovation and the public sector**

Innovation can be seen as the translation of inventions into useful products or processes (Miles 2013). A simple definition is proposed by Mulgan (2007, 4): “new ideas that meet unmet needs”. Some authors argue that the process of innovation is fundamentally the same for any type of organization (Van de Ven et al. 1999). However, a number of scholars argue that the origins of innovation in the public sector is different from the origins in the private sectors (Veenswijk 2005; Hartley 2005; Torfing 2013; Bekkers 2005). In the private sector, innovation would be driven by economic needs (Hartley 2005), whereas in the public sector innovation would be aimed at increasing public value, seen as “satisfying the desires of citizens and clients” (Moore 1995, 53).

There are multiple ways of classifying innovations (Miles 2013; Hartley 2005). Van de Ven (1988) argues that innovations can be of two types: (1) technical innovations, including new technologies, products and services; and (2) administrative innovations, including new procedures, policies and organizational forms.

Mulgan (2007) identified four barriers that could prevent the adoption and the diffusion of innovations. The first barrier would be efficiency: the adoption of an innovation would lead to a reduction of performance in the short-run. The second barrier regards people’s interests: a new idea will likely provoke a change that can disrupt established systems, threatening existing interests. The third barrier concerns people’s minds: people find it difficult to change their assumptions, values, norms and habits. The fourth barrier concerns personal relationships: a novelty can destabilize networks based on personal relationships.

Given the importance of innovation in public services, it is necessary to understand how innovations eventually get adopted and spread out, in spite of the barriers listed above. There is a need for more evidence based analysis of innovation in the public sector (Hartley 2005). The literature concerning innovation in municipal administration usually addresses questions of organizational structure (for instance, Newton and Borstorff (2011)), which would be an administrative innovation under Van de Ven’s classification. The literature on technical innovations in municipal administration, dealing with new ways of delivering public service, is
less developed. I intend to contribute to this understanding by presenting a case study of a technical innovation in municipal administration regarding housing production. I will analyze the case of group-build housing in Tübingen. As I will show, the municipal public sector had a leading role in this process, for it was the municipal administration who was responsible for the adoption and the diffusion of this innovation.

**Theoretical framework**

To analyze the case, I will use Rogers’ (2003) theory of diffusion of innovations. Rogers’ theoretical framework is still useful for the understanding of the adoption and the diffusion of new ideas in very different contexts (James 2013; Imroz 2013).

Rogers (2003) argues that the rate of adoption of an innovation depends on five characteristics of the innovation. The first characteristic is relative advantage. It concerns how much the innovation is perceived as better than a preceding solution. The second characteristic is compatibility, which regards to what extent the innovation fits existing values, past experiences and needs of potential adopters. The third characteristic is simplicity. It refers to the innovation being perceived as easy to understand and to use. The fourth characteristic is trialability, regarding the possibility of adopting the innovation partially or in an experimental basis. The last characteristic is observability. It refers to what extent the innovation is visible to others. According to Rogers (2003), the presence of these characteristics would have a positive influence on the rate of adoption of an innovation.

**Methodology**

I analyze a case of technical innovation in municipal administration. The case of group-build housing in Tübingen can be considered an influential case (Gerring 2007), since it seems to present the characteristics proposed by Rogers (2003), and it inspired many other municipal administration to adopt the same model (Krämer and Kuhn 2009). Therefore, I believe this case can conform to Rogers’ theory of diffusion of innovations.

The case consists on the adoption and diffusion of group-build housing for the development of two neighborhoods in Tübingen. These neighborhoods are named *Loretto* and *Französisches*

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2 Rogers (2003) uses the term “complexity” instead of “simplicity”. I decided to employ the latter to make my argument clearer, since it makes possible to compare all characteristics in the same direction (higher degree of a certain characteristic leads to a greater rate of adoption).
**Viertel.** They will be treated as a unique case because the process of housing production was the same and they were built at the same time (Maddalena 2005).

Our data comes from three sources: (1) documents, including academic texts and books; (2) two interviews; one with Matthias Schuster, who is one of the designers of the masterplan for the neighborhoods; the other with Matthias Gütschow, architect working for the office w5 Planungsgesellschaft, specialized in the design and construction of group-build housing; (3) direct observation of the neighborhoods.

I analyze the data using a directed content analysis (Hsieh and Shannon 2005). The data is interpreted means of a categorical ordinal scale (Gerring 2012), in which the categories are the characteristics proposed by Rogers (2003). I evaluate each category using an ordinal scale because it is not possible to measure precisely the distance between each class (Gerring 2012). The evaluation is based on my interpretation of the data. To illustrate my findings I employ a graphic based on Kim and Mauborgne’s value curve (2003).

**Group-build housing**

Conventional housing production is usually a private business, in which housing is provided by developers or investors for private clients. In this process, municipal administration has a regulating role, by determining what can be constructed and where it can be constructed; as well as a supervision role, during and after the construction, to make sure rules are respected.

Group-build housing is housing produced by construction cooperatives (Hamiduddin and Gallent 2015). Construction cooperatives are groups of “lay citizens who work directly with architects to build shared multi-unit housing” (Dotson 2015, 9). This process of housing production has neither intermediary developers nor real estate agents (Dotson 2015; Hamiduddin and Gallent 2015). This feature is supposed to improve housing affordability (Hamiduddin and Gallent 2015). Nevertheless, it demands a higher degree of implication from municipal administration than conventional housing production, as I will develop in the next section.

It should be noted that construction cooperatives are different from traditional co-housing. The latter, which is common in cities like Montreal and Amsterdam, is usually a multi-unit building that belongs to a cooperative. The members of the cooperative live in the building and pay a monthly contribution to the scheme. The units do not belong to the members, but to the cooperative. Usually there are common services or areas that are shared by the members (Aune 2013). Construction cooperatives, on the other hand, are set up for the construction of the
building only. After the construction, the cooperative is dissolved and each member becomes the owner of their unit (Gütschow 2009; Bennicelli and Gérardin 2014). As Hamiduddin and Gallent explain, “although a group may intend to live together as neighbours, their goal is to do so as private owners of separate properties” (2015, 4).

Construction cooperatives existed in the Soviet Union since 1921 (The Great Soviet Encyclopedia 2010). However, the first construction cooperatives for group-build housing, in which cooperative members become owners of the housing units, were set up in the beginning of the 1990s in Tübingen and Freiburg-im-Breisgau (Krämer and Kuhn 2009). To date, the most impressive examples of group-build housing are to be found in these two cities (Hamiduddin and Gallent 2015). Tübingen’s Loretto and Französisches Viertel stand out due to the degree of architectural diversity and mix of uses, which is unmatched by other group-build housing initiatives (Bennicelli and Gérardin 2014).

**Tübingen’s case**

Tübingen’s Loretto and Französisches Viertel were occupied by the French army since 1945. Due to the withdrawal of its garrison, the French army donated the area to the state government in 1990 (Maddalena 2005). The municipal administration was keen on the acquisition of these areas, for they are close to the city center and their development could thus hamper urban sprawl (Feldtkeller 2001). The municipal administration convinced the state government to sell the area for the original value of the land (the estimated value in 1945). The municipality argued that the land gained value throughout these years thanks to the municipal investments done in the area. Therefore the profits from the increase in its value should belong to the municipality. As the state government agreed with this argument, the municipality was able to purchase a considerable surface of land for developing new housing (Bennicelli and Gérardin 2014).

As the municipality owned the land, municipal authorities could decide how the area should be developed. It was decided that the new neighborhoods should be inspired by the old neighborhoods of the city, in which there is a mixture of uses and the architecture is diverse and respectful of the human scale (Herwig 2005). The municipal administration realized that large scale private buildings would hardly achieve this goal. Thus municipal authorities decided that group-build housing would have priority in the development of the acquired land (Bennicelli and Gérardin 2014).
The city set up an office for organizing the process. Citizens could go to the office to meet like-minded people in order to establish a cooperative and engage an architect. The cooperatives would then bid for the parcels available for construction (Krämer and Kuhn 2009). The architects would be responsible for the plans and for the coordination of the construction. In some cases the architects initiated the cooperatives (Krämer and Kuhn 2009). Since the city bought the land for a low price, parcels destined for group-build housing were sold for prices that were cheaper than market prices, which encouraged the creation of construction cooperatives. Still, the city could afford the infrastructure works that were necessary for the new housing thanks to the profits of selling the parcels (Schuster 2009; Gütschow 2009).

Due to the low cost of land as well as the absence of intermediary developers and real estate agents, units were affordable and attractive to families, who otherwise would have the tendency to live in the outskirts of the city due to the high cost of housing. One of the objectives of the city was to react to this tendency (Feldtkeller 2001).

**Results**

The process of group-build housing in Tübingen needed the engagement of two types of actors: the citizens (or clients willing to buy a new home) and the municipal public administration, which started the initiative and provided its regulatory framework (Bennicelli and Gérardin 2014). Hence I will analyze the characteristics listed by Rogers (2003) under the perspective of these actors.

**Municipal administration**

**Advantages/disadvantages**

Advantages and disadvantages of group-build housing will be analyzed in relation to comparable market condominiums, for this is the housing type which most resembles group-build housing. I have identified five aspects in which these two types of housing production could be compared under the municipal administration perspective: control over development, increase in tax base, keeping families in the city, effort of coordination and construction permits process. I present these aspects in the paragraphs below.

Concerning the control over development, the municipal administration had the occasion to put underused land to good use. Since it was a municipal initiative, municipal administration had control on which terrains would be used (Bennicelli and Gérardin 2014). In market developments,
the municipal administration works in reaction to promoters’ initiatives, and it has little control on which land will have priority in being developed.

The construction of new buildings in municipal land increases the city’s tax base. On the other hand, market condominiums for families are likely to be built in the suburbs, outside Tübingen’s boundaries, since the cost of land is lower outside the city centre.

Regarding the possibility of keeping families in the city, the conciliation of affordable family-targeted homes and inner city location made the cooperative model very attractive to families (Schuster 2005), which was a stated goal of municipal authorities (Feldtkeller 2001). Due to the higher cost of land compared to the suburbs, market developments in city centres usually cater for singles and retired households, which need less space.

The municipality bought the land from the state government for a price considerably below the market price. However, the city had to set up a project office to coordinate the planning and the construction on the acquired land (Bennicelli and Gérardin 2014). The construction of market condominiums implies much less involvement of the municipal administration. In this latter case, the involvement is mainly the approval and the supervision of construction.

Concerning the construction permits process, there is no difference, for the municipal administration, between market condominiums and group-build housing. In group-build housing, the municipality makes great efforts for the establishment of cooperatives, as seen above. However, once cooperatives are established, the efforts are mostly on the citizens’ and the architects’ side. The municipal administration evaluates their proposals and grants building permits (Bennicelli and Gérardin 2014). The process is the same for the construction of market condominiums.

**Compatibility**

In Tübingen, group-build housing created homes that suit families’ needs in high density inner city areas (Schuster 2005). The tandem family homes and central location is compatible with the municipal strategy of encouraging accessibility over mobility. More people living close to the city centre means shorter distances to travel and access to a high number of services (Schuster 2005; Feldtkeller 2005).
Simplicity

The municipal administration had to deal with two rather complex aspects of group-build housing even before construction started. The first was the need to modify zoning regulations, since the area was formerly used for military purposes. Discussions on what use should be given to this land were lengthy and involved city administrators, elected officials, urban planners, construction firms, building sponsors and citizens (Russ-Scherer 2005). Fifteen years passed from the retreat of the army until the conclusion of the first cooperative building. However, once the construction process picked up, all 17 hectares were built or repurposed in less than a decade (Maddalena 2005).

The second aspect was the absence of a legal framework for housing construction by cooperatives. This absence could lead to potential problems for the cooperatives, who could be seen as commercial developers. Therefore the city had to put in place a legal framework recognizing the cooperatives as a distinct legal entity that exists solely for the construction of units for their members (Gütschow 2009).

Trialability

The development is realized in small individual parcels, which enabled the municipal administration to test its model and make adjustments during the initial phases of construction of the neighbourhoods. As the interest for the model increased, the municipal administration organized the construction in several further phases, so each phase would have incorporated potential improvements unveiled by previous ones (Schuster 2005).

Observability

One can easily distinguish buildings constructed by cooperatives from buildings constructed by a private developer (Bennicelli and Gérardin 2014). In the former case the diversity of architecture is visibly higher. The quality of urban spaces resulting from this diversity is also visible: small parcels and diversity of façades reinforces the human scale (Gehl 2012).

Citizens

Comparative advantages and disadvantages

I have identified five aspects that could be compared between group-build housing and market condominiums under the citizens’ perspective: possibility of personalization of the apartments,
acquaintance of neighbors, control over condominium agreements, price and possibility to visit a model before buying. These aspects will be analyzed in the paragraphs below.

The possibility of personalization of their future home is perhaps the greatest advantage for prospective cooperative members. Members are free to decide the layout of rooms and their finishes, provided certain restrictions are respected, such as total area, position of pillars and beams, position of systems (piping, electricity, sanitary). Members can make these choices taking into account their preferences and their budget (Gauggel 2007). This level of personalization is not possible when one buys a market condominium.

All cooperative members get involved in the planning of their new home (Schuster 2005). Thus, at the planning stage, one gets acquainted to their future neighbours. It is also possible to form a cooperative from a group of people who already know themselves. Members find that it is positive to know in advance their future neighbours (Gauggel 2007), which is not possible in a market condominium.

As members participate in the planning, they are also able to influence co-ownership agreements. In a market condominium, owners have to accept pre-established terms.

The final price of the group-build housing units was cheaper than a market condominium, since the city sold the land for a price that was under the market price and there were no intermediary developers nor real estate agents (Gütschow 2009).

Prospective buyers of market condominiums often can visit a model of the unity they will buy. They can even visit the unit itself, if it is ready or close to completion. In group-build housing, members of the cooperatives could not see what they were buying when they joined the group.

Compatibility

Group-build housing offered people in general, and families in particular, an occasion to live in homes that were affordable and designed to their necessity, and in an inner city location (Schuster 2005). It was therefore a logical next step for tenants living in the city who wished to become owners.

Simplicity

I identified three aspects of group-build housing which hampered simplicity for citizens. The first aspect concerns the setting up of cooperatives themselves. This was quite a complex endeavour,
for the groups needed to be minimally homogenous, they needed to have good relations with the architect and they needed to agree with financing terms. Moreover, they had to agree with the proposed parcel (Gauggel 2007). Concerning this last point, it should be noted that the inhospitable character of the area was an obstacle to prospective cooperatives in the beginning of the development of the neighborhoods. However, after the first buildings were ready, the idea picked up and there was not enough suitable parcels to all groups interested (Schuster 2005).

The second aspect concerns the need to compromise. Cooperative members needed to be very flexible to adjust their demands to the needs of other members (Gauggel 2007). A great degree of compromise was also needed when it came to approving architectural plans, for all members could have a saying on the façades, the common areas and any common facilities, like shared roof terraces or solar panels (Schuster 2005). Smaller cooperatives seem to have a higher degree of complexity, since in them it is harder to find a majority for deciding any controversy (Gütschow 2009). Since Tübingen favoured small cooperatives, cooperative members had to make a substantial effort to accommodate needs and wishes of other group members.

The third aspect regards financing the construction of the buildings. The first cooperatives had to deal with this difficulty, since banks were very conservative and were not willing to lend money to a type of client that did not exist before. It took a lot of negotiation and the participation of the municipal administration to make the cooperative construction model financially feasible. However, after a first bank decided to try the model, many others embraced the cooperatives and financing was not more difficult than financing a market unit (Gütschow 2009). Nevertheless, members of the cooperatives still have to go through the legal process of dissolving the cooperative once their building is completed (Gütschow 2009), which adds some complexity to the process.

**Trialability**

A family or an individual wishing to try the cooperative model cannot try it before adopting it. Cooperative members only see the result of their efforts when the building is ready. That means that they have been through all the process until they can have an appreciation of what they are buying (Gauggel 2007). If they realize their needs are not satisfied, they may sell their unit, but only after a lot of time and effort has been spent.
Observability

As observability regards the innovation being visible to others, this characteristic is the same as the municipal administration perspective.

Discussion

Based on the findings above, I evaluated the five theoretical characteristics using a categorical ordinal scale (Gerring 2012). I classified the results concerning each characteristic in three classes: 3 = high, 2 = medium, 1 = low. These results are shown in Figure 1.

![Figure 1 - Results](image)

The results show that Rogers’ theory could explain the adoption of group-build housing in Tübingen from the municipal administration perspective, with the exception of the simplicity factor. Group-build housing is quite a complex endeavour for the municipal administration. The city could have sold the land to private developers with much less trouble. Given this lack of simplicity, what could explain the successful implementation of group-build housing? The adoption of an innovation in an organization may need the implication of decision-makers (Fujimoto 2004; Van de Ven 1988). The Director of the Office for Urban Development in Tübingen, Andreas Feldtkeller, was the initiator of the idea and its sponsor throughout the process (Feldtkeller 2005; Russ-Scherer 2005). His implication was essential for the adoption of group-build housing (Russ-Scherer 2005; Feldtkeller 2001; Schuster 2009). Tübingen’s mayors have also given their support to this process (Russ-Scherer 2005; Palmer 2007). Having a leader in the
municipal administration with the support of decision-makers can explain how group-build housing overcame its high complexity.

Under the citizens’ perspective, group-build housing was not simple either. Furthermore, citizens did not have the opportunity to try the scheme before getting engaged in a cooperative. Cheaper costs of the units (compared to market condominiums) and the possibility of personalization were fundamental for the diffusion of this innovation among the citizens (Gütschow 2009).

Thanks to the success of Tübingen’s case, group-build housing was rapidly adopted by a number of German cities (Krämer and Kuhn 2009), which shows that the model is replicable, at least in the German context.

Conclusion

I applied the five characteristics of diffusion of innovations proposed by Rogers (2003) in the process of group-build housing in Tübingen. My analysis confirms that these characteristics can explain partially the adoption of an innovation. When not all characteristics are present, other factors may explain the success of an innovation. Roger’s model thus is useful to a certain extent, but it must be completed by other elucidating factors depending on the context. In Tübingen’s case, the leadership of administrative and public officials assured the adoption of group-build housing. Based on this case, one can infer that the adoption of this innovation by other municipalities would likely presuppose the support of public officials and a driving force in the municipal administration. In Germany, the cities that are most successful in the adoption of group-build housing have been very proactive in its promotion. Their administrations have put a lot of effort in this process (Krämer and Kuhn 2009; Bennicelli and Gérardin 2014). In Quebec, on the other hand, the lack of a legal framework has led to a judicial interpellation of the first (and unique) group-build housing initiative (Porter 2016), which hints the lack of implication from municipal administration on this matter.
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