

Housing management, satisfaction and customer loyalty

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Housing Management, satisfaction and customer loyalty

Patrick Dogge, Jos Smeets

Department of Architecture, Building and Planning, Eindhoven. University of Technology; Eindhoven, The Netherlands.

Aim

Housing managers try to hold on to their tenants as long as possible. For that purpose they concentrate on the enhancement of customer satisfaction to improve their market position. It is assumed that satisfaction immediately leads to loyalty in accordance with the concept of the 'service-profit-chain' (Heskett et al., 1997).

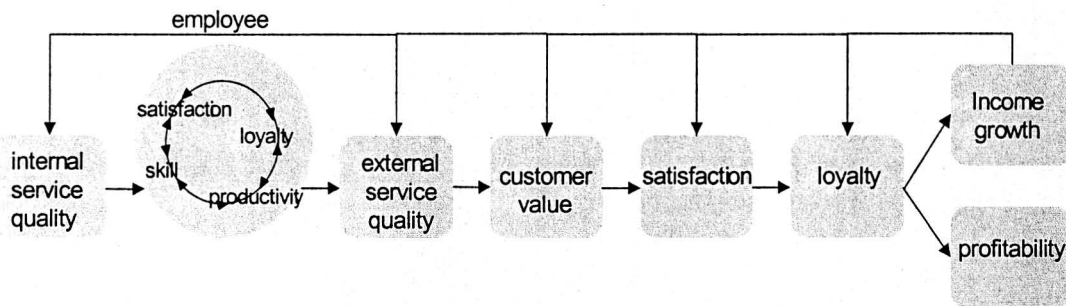


Figure 1: the service profit chain (Heskett et al., 1997)

By improving housing conditions and services (so called 'housing package') they hope to retain their tenants. Our research tries to find out which aspects of this housing package influence tenants satisfaction and which relation exists between the overall satisfaction and customer loyalty.

The overall satisfaction with the housing package is conceived as a complex aggregation of satisfaction with the separate attributes of the dwelling estate, the physical and social environment and the services. Loyalty is seen as reflected by the tendency to move house. Both are measured in a survey among tenants of social landlords.

Methods

Structural Equation Modelling was used to estimate the relationship between satisfaction with several attributes of dwellings semi-public spaces, living environment and services and the overall satisfaction with the housing package and to estimate the relationship between overall satisfaction and loyalty (Byrne, 2001).

In a survey, among tenants of housing association SWS in Eindhoven, 137 variables were used as indicators for satisfaction with the housing package of the housing association (Dogge et al., 1999). By using four confirmatory factor analyses the indicators were grouped into factors that explain the satisfaction of the dwelling, the semi-public space, the living environment and the service. Next, the indicators that formed the different factors in the results of the four

confirmatory factor analyses were aggregated into new constructs (like size of dwelling, layout of dwelling etc. (See figure 2). Those new constructs are used as the observed variables in a second order factor analyses. In the first order the relationships between those observed variables and the satisfaction with the dwelling, the semi-public spaces, the living environment and the services (all latent variables) are estimated. In the second order the relationship between satisfaction with dwelling, the semi-public space, the living environment and the services and the overall satisfaction with the housing package (latent variable) is estimated. Besides these two orders also the relationship between overall satisfaction (latent variable) and the tendency to move house (observed variables) is estimated.

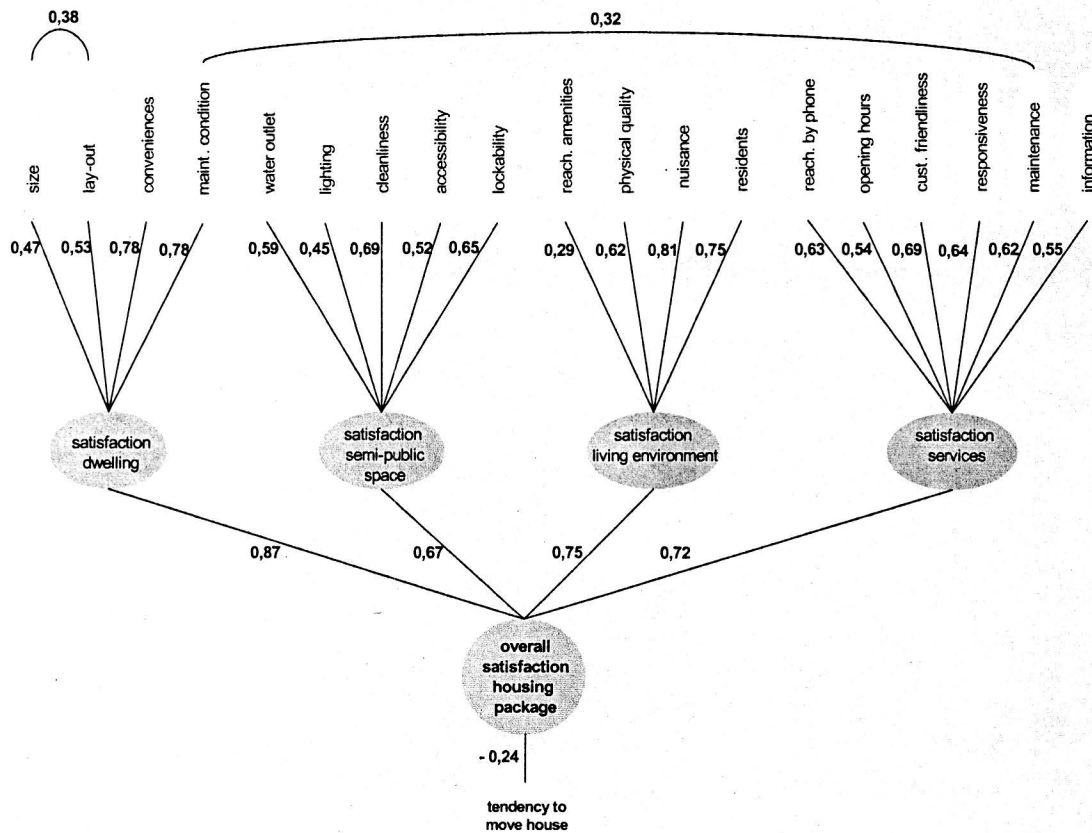


Figure 2: the relation between customer satisfaction and loyalty

Results

In the second order factor model the aggregated construct that resulted from the confirmatory factor analyses and the tendency to move house are used as observed variables. The second order factor model directly showed an acceptable fit: $\chi^2(166)=491,904$ ($p<0,001$); GFI=0,93; AGFI=0,91; RMSEA=0,06; TLI=0,89; CFI=0,91. In the results the modification indices showed a high value (MI=80,868) for the covariance of the error of 'size of the dwelling' and 'layout of the dwelling'. This also was the case with 'maintenance condition of the dwelling' and 'maintenance by the landlord' (MI=42,987). Adding covariance between the named constructs to the model even improved its fit: $\chi^2(164)=362,255$ ($p<0,001$); GFI=0,95; AGFI=0,93; RMSEA=0,04; TLI=0,93; CFI=0,94. The standardized regression weights are interpreted as indicators for the relationship between the various variables in the model. All these relationships appear to be significant.

Overall satisfaction with the housing package

There is little variance in the weight of the satisfaction with the dwelling , the semi-public spaces, the living environment and with the services in the overall satisfaction with the housing package of the landlord. The weight of the satisfaction with the dwelling is a little higher than the weight of satisfaction with the living environment and with the services. The weight of the satisfaction with the semi-public spaces is a little lower than the satisfaction with these aspects.

Satisfaction with the dwelling

Satisfaction with the availability and quality of conveniences in the dwelling and the maintenance condition of the dwelling appear to be most critical constructs in the overall satisfaction with the dwelling.

Satisfaction with semi-public spaces

The variance in the weight of the satisfaction with the used constructs in the overall satisfaction with the semi-public spaces is not very high.

Satisfaction with living environment

Satisfaction with the (absence of) nuisance in the neighbourhood and satisfaction with the other residents in the neighbourhood appear to be most critical in the overall satisfaction with the living environment.

Satisfaction with services

There is little variance in the weight of the satisfaction with the used constructs in the overall satisfaction with services.

Overall satisfaction and loyalty

The model shows that when overall satisfaction with the housing package increases the tendency to move house decreases. This relationship between satisfaction and loyalty is significant but not very strong. There are several reasons for that. Research of Wetzels (1998) shows that the intention to stay with a service organisation not only depends on satisfaction with the product of that organisation but also depends on aspects like trust, commitment and dependence.

In our research we analysed motives to move house to explain this weak relationship (see also Dogge & Smeets, 2001). On one hand satisfied tenants still move house, because there are even better alternative housing packages available. Especially home ownership is in the Netherlands a very attractive alternative for high-income tenants. There are also tenants that have motives to move house independent of the housing situation. They for example want to move house because of job changes, marriage or divorce, addition to the family or medical reasons. On the other hand dissatisfied tenants cannot leave because there is no better alternative available.

The weak relation between customer satisfaction and loyalty places housing managers in a dilemma. On the one hand, additional efforts in increasing the quality of the housing package does not guarantee loyal tenants, on the other by neglecting customer satisfaction the income growth and profitability will be damaged on the long run and the competitive position will be harmed.

Although there is a relatively weak relation between satisfaction and loyalty, there is no reason not to optimize tenants satisfaction. For that reason, housing managers should not only improve the performance of their dwelling estates (maintenance, convenience), but also the performance at the level of the living environment (nuisance, residents) and their services. In many cases they have to cooperate with other stakeholders (especially tenants, the local authority and service organizations).

References

- Byrne, B.M. (2001). *Structural Equation Modelling with Amos. Basic Concepts, Application and Programming*, New York: Lawrence Erlbaum Associates Publishers
- Dogge, P., Rijpers, B., Maussen, S. (1999). *Huurdersonderzoek SWS en Goed Wonen 1999*. Stichting Interface: Eindhoven.
- Dogge, P.J.C., Smeets, J.J.A.M. (2001). Seniors, satisfaction and customer loyalty in the social housing sector, *Gerontechnology*, 1(2), 122-124.
- Heskett, J.L, Sasser, W.E., Schlesinger, L.A. (1997). *The service profit chain*. New York: Free Press.
- Wetzels, M.G.M. (1998). Service quality in customer-employee relationships: an empirical study in the after-sales services context. Maastricht: Universit