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Determinants of the implementation of facility management in German communes

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Abstract

Purpose – This paper sets out to assess the extent of application of two important facets of facility management – building management and the principle of public-private partnership (PPP).

Design/methodology/approach – The approach takes the form of a survey of German communes, the primary interest in this regard being the question of the determinants of this application. The theory of planned behaviour forms the theoretical basis of the investigation. A total of 282 mayors, 217 treasurers and 168 heads of real estate offices ultimately participated in the survey.

Findings – Professional building management, understood to be a package of facility management services during the building use phase, and in particular PPP, have so far only been realised in German communes to a very limited extent, despite consistently positive attitudes on the part of the decision-makers. The investigation sheds light on the differential reasons: in the case of PPP, normative pressure for co-operation between communes and business proves to be the most influential determinant, while in the case of building management subjectively perceived control is of greatest importance.

Research limitations/implications – The results reflect just processes in communes, but they give an example of the usability of the theory of planned behaviour as the explanation of the FM-implementation process.

Practical implications – The results give ideas for pushing the FM-implementation in communes.

Originality/value – There has been no previous research on this topic.

Keywords Germany, Partnership, Facilities

Paper type Research paper

Introduction

Facility management (FM) has been increasing in importance worldwide in recent years (Mudrak *et al.*, 2004). Tay and Ooi (2001) define FM as “integrated management of the workspace to enhance the performance of the organization”. This allows FM to encompass a very broad range of possible activities (see Alexander, 1999; Bernard Williams Associates, 1999; Chotipanich, 2004). The spread of FM has been fuelled primarily by the increasing outsourcing of services in the public and private sectors (El-Haram and Agapiou, 2002; Mudrak, 2003; Roberts, 2001). Classic examples of this



are building planning, often assigned by a company to an external organisation, and the long-term binding contract of a public-private partnership (PPP). There are numerous reasons for increasing outsourcing: concentration on core competences, increased flexibility, cost advantages, increased quality, integration of external professionals and delegation of risks (Mudrak *et al.*, 2004; Kakabadse and Kakabadse, 2000; van Wagenberg, 2003; Lehtonen and Salonen, 2006). Furthermore, in this way, individual expertise leads to the incorporation of an optimum of innovation into joint projects (Mudrak, 2003).

Particularly in the public sector, where economic thinking has traditionally been far less influential in guiding action than it has in private companies, the advantages of FM are not always used to best effect. In order to change this situation, we must first know the variables upon which the decision to use FM in municipalities depends. The aim of our study is to investigate this. For theoretical structuring we have used a psychological theory which has established itself in the last 20 years as one of the most influential theories in the explanation of human actions (Armitage and Conner, 2001): the theory of planned behaviour (Ajzen, 1991; Ajzen and Madden, 1986).

The theory of planned behaviour

The theory of planned behaviour (Ajzen and Madden, 1986) is one of the classics of social-psychological research and has found attention and confirmation in a large number of areas of application (Armitage and Conner, 2001). The theory's starting point was the recognition, well supported by empirical proof, that the behaviour of humans has relatively little to do with their own attitudes (Eagly and Chaiken, 1993; Zanna and Fazio, 1982). For example, even people who strongly advocate protection of the environment themselves only exhibit environmentally aware behaviour to a minor degree. Building on this phenomenon, Ajzen initially developed the theory of reasoned action (Ajzen and Fishbein, 1977) and then, later, the expanded version, the theory of planned behaviour (Ajzen and Madden, 1986). According to this model, behaviour is particularly determined by a concrete behavioural intention, which is itself influenced by three variables (see Figure 1). Behavioural intention is a person's concrete intention to exhibit a particular behaviour under the given conditions of a situation. A person's attitude is their conviction that a certain behaviour can have positive consequences. The more positive the attitude, the stronger the behavioural intention and, ultimately, the higher the probability of a corresponding behaviour should be. The subjective

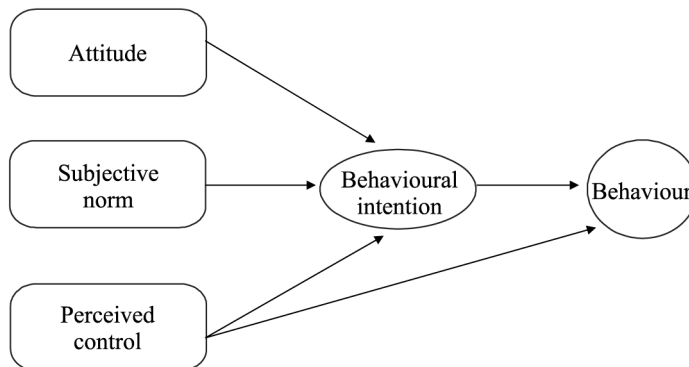


Figure 1.
Ajzen and Madden's
model (1985)

norm refers to person's conviction of the extent to which his social environment considers such a behaviour to be normal and desirable. A pronounced subjective norm corresponds to subjectively experienced high social pressure to realise the behaviour in question. The more strongly this pressure is experienced, the greater the behavioural intention and, indirectly, the probability that the behaviour will be realised. Perceived controllability of the behaviour is concerned with the question of how capable the person believes himself of actually realising the behaviour successfully. A person who does not believe himself capable of certain behaviour will exhibit a correspondingly limited behavioural intention and will also be considerably less likely to realise such behaviour. At the same time, perceived controllability also exerts a direct influence on behaviour realisation. A person who has little belief in their own capability can, for example, fail to realise an action that has already been started, if unexpected difficulties arise (cf Ajzen, 1991).

Applied to the two facets of facility management we are interested in, it is to be expected that the implementation of professional building management and PPPs according to the processes illustrated in Figure 1 would depend upon the attitude of the municipal authorities, the subjective norm experienced, the perceived controllability of FM and the intention to implement FM. These interrelationships are examined in the context of an empirical investigation. Of particular interest here is the relative importance of the predictors of behaviour. However, the investigation is not only for purely research purposes: it should also yield indications of possible avenues of approach for the promotion of FM in municipalities. The investigation of municipalities seems particularly relevant when viewed from the point of view of promotion of facility management. It is expected that German municipalities have so far instituted FM only to a minor degree.

Methods

Measurement instrument

The investigation was carried out using a questionnaire. Data on building management and on PPPs were elicited sequentially, and both parts of the questionnaire were constructed fully symmetrically. First of all, the expressions "building management" and "PPP" were defined, as follows:

Building management: "Building management consists collectively of all services relating to the operation and planning of buildings, including construction and technical work, on the basis of integrated strategies. This also includes commercial, technical and infrastructure services. Building management aims for strategic conception, organisation and control to the point of a systematic integration of services formerly performed individually."

PPP: "The public-private partnership (PPP) is a form of procurement by which the public sector realises long-term infrastructure/building construction projects through the implementation of a co-operative partnership with a private service provider. In this process, services formerly provided by the state are performed by a private service provider throughout the building's life cycle, from planning, financing and construction through operation to conversion/revitalisation."

Following each definition were ten questions on the variables of the theory of planned behaviour. Question statements are rated on a multiple-point scale (see Table I). For the variables relating to attitude, a bipolar scale with a neutral midpoint

<i>Behaviour</i>	
1	To what extent has building management already been practically implemented in your city?
<i>Attitude</i>	
2	In my estimation, the vast majority of city employees consider building management to be ...
3	In my estimation, the political majority in my city consider building management to be ...
<i>Norm</i>	
4	In my estimation, building management is supported emphatically by the vast majority of city employees
5	In my estimation, building management is supported emphatically by the political majority in my city
<i>Control</i>	
6	In your estimation, to what extent does your city currently possess the professional competence to practically implement building management?
7	To what extent is your city currently in the situation, in terms of financial resources, to practically implement building management?
8	To what extent is your city currently in the organisational situation to practically implement building management?
9	To what extent is your city currently in the political situation to practically implement building management?
<i>Behavioural intention</i>	
10	How strong is the intention in your city to start introducing building management within the next six months?

Notes: For questions 2 and 3, a five-point scale is available to the subject (1 = "very poor" to 5 = "very good"), and for all others a six-point scale is used (1 = "not at all" to 6 = "completely"). For the questions on PPP, the same questions are used, with "building management" simply replaced with "public-private partnership" in all cases

Table I.
Variables and items in
the questionnaire

was used. Unipolar scales were employed for the remaining variables. The questionnaire ended with a question asking the number of inhabitants in the municipalities.

Procedure

Municipalities were selected at random using an internet-based list of German municipalities. In the list, the municipalities are ordered alphabetically. The first municipality for each letter was chosen, then the second, third, etc. until the target sample size of 1,000 was reached. The municipalities selected in this way were each sent a letter with three identical questionnaires and three stamped self-addressed envelopes. The three questionnaires were addressed to the mayor, the city treasurer and the head of the real estate office. This was intended to lay a broad foundation for the survey of each individual municipalities, as well as to increase the probability that at least one completed questionnaire would be returned by each municipalities.

Sample

In total, 282 mayors, 217 treasurers and 168 heads of real estate offices ultimately participated in the survey. A total of 684 records could therefore be entered for further data analysis. The average number of inhabitants in the municipalities participating in

the investigation was 31,947. The lowest number of inhabitants was 1,400, and the highest was 1.7 million.

Results

Table II gives the mean values for the investigated variables across the whole sample. The values were in the central and lower ranges of the scale, and the values for building management were in all cases significantly higher than for PPP (*t*-tests for paired samples; *p* < 0.001).

The relevance of the determinants of behaviour and behaviour segments was examined through two regression analyses for both building management and PPP. In the first regression analysis, the measures of attitude, of the subjective norm and of controllability served as predictors of behaviour, and behavioural intention served as the criterion. In the second analysis, the criterion was behaviour and the predictors were behavioural intention and controllability. The results (standardised beta values) for building management can be found in Figure 2. With the exception of attitude, all of the variables entered proved to be important behavioural predictors. Perceived controllability proved to be particularly influential. It is the most important predictor of both behavioural intention and the actual realisation of professional building management.

Table II.
Arithmetic mean and
standard deviation of the
model's variables

	Building management		PPP	
	M	SD	M	SD
Attitude ^a	3.54	0.55	2.96	0.64
Norm	3.10	1.22	2.11	1.03
Control	3.56	1.14	2.64	1.06
Behavioural intention	3.54	1.74	2.31	1.50
Behaviour	2.67	1.32	1.52	0.95

Notes: ^a Five-point scale (1 = “very poor” to 5 = “very good”); otherwise six-point scale (1 = “not at all” to 6 = “completely”)

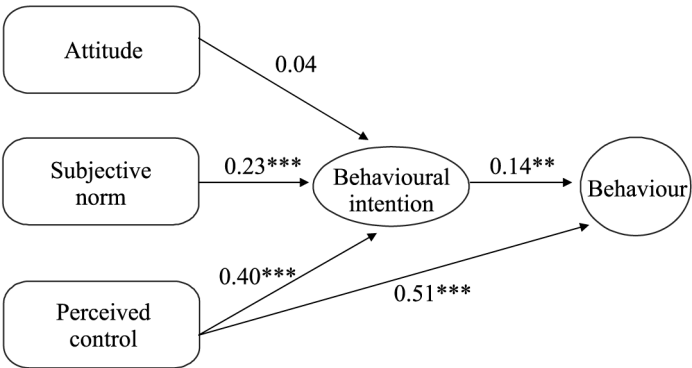


Figure 2.
Results for building
management

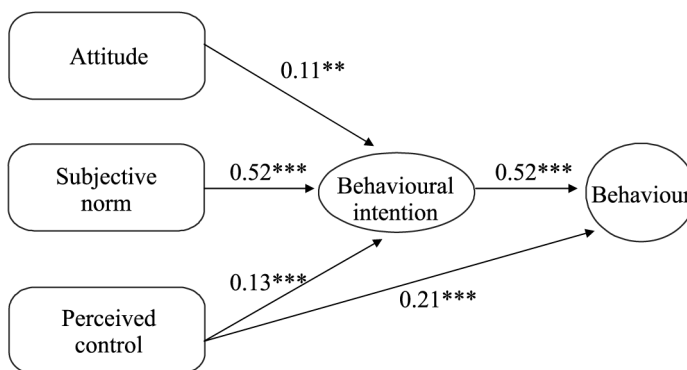
Note: ** *p* < 0.05; *** *p* < 0.001

An analogous process was used to analyse the results with regard to PPP (see Figure 3). This time, all behavioural predictors had a significant influence. The pattern of results also differed clearly from the results for building management in other ways. The most important predictor of behavioural intention is the subjective norm. Behavioural intention is in turn the most important predictor of actual implementation of PPP.

Discussion

The results clearly showed that building management has so far not been implemented universally. The same is true of PPP projects. But even professional building management is currently in no way part of the everyday life of German municipalities. For anyone asking the question why and thinking about possible interventions, our study provides interesting information. Attitude is, in general, only a secondary factor. Although attitudes towards building management and towards PPP are average, behaviour realisation is low.

In the case of building management, attitudes do not have an encouraging effect at all. Instead, perceived controllability is dominant. In other words: the decision makers simply do not have sufficient confidence to implement professional building management. Thus if one wants to encourage the spread of professional building management, more enlightenment and support for the decision makers is recommendable. If those responsible can be convinced that professional building management with external aid is in principle a task that is easy to accomplish and helps to avoid potential difficulties, the results of the study indicate that this should have a clear positive influence on the proliferation of building management. A second but not quite as efficient starting point is the subjective norm. The more the decision makers gain the impression that professional building management is the rule and not the exception in other municipalities, the more willing they will themselves be to become active in this way. The first and second intervention strategies go hand in hand. Success in increasing perceived controllability would lead to an increased proliferation of professional building management. In turn, this increases the normative pressure to implement this type of management.



Note: ** $p < 0.05$; *** $p < 0.001$

Figure 3.
Results for public-private
partnerships

With regard to PPP, the pattern of results was very different. Here, all variables investigated proved to be relevant. If PPP is only practised to a very limited extent, this is because attitudes are not positive enough and controllability is not perceived as high enough, but primarily because the subjective norm for the implementation of PPP is too low. The most effective starting point for encouraging the proliferation of PPP would be the subjective norm. For example, the legislator could provide financial support for such projects or stipulate an investigation of the most economical variant (self-construction in-house construction management or external involvement) by means of a feasibility study. The more municipalities practise PPP, the greater the normative pressure to imitate the movement's protagonists will become. Interventions with a focus on attitudes and perceived controllability would also be a good idea, if less effective. Of primary importance here are explanation, positive practical examples and support in implementation.

This study is an example of how useful it can be to apply general psychological theories of behaviour control to structuring, research and intervention planning in an economic sector that has little natural overlap with psychology. Of course, this model does not encompass all conceivable factors. In any case, not all possible factors can be integrated into a model. Ajzen and Madden's (1986) well-attested model and the results generated in this study provide a first foundation for further research and interventions in the field of practical implementation of targeted facility management.

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