

An Adoption Model for Corporate Carsharing: A Qualitative Approach

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Table of Contents

Table of Contents..... I

List of Abbreviations..... III

List of Figures.....IV

1. Introduction 1

2. The Development of Carsharing Services for Business Customers..... 5

3. Theoretical considerations on Corporate Carsharing 9

 3.1. Corporate Carsharing - Towards a Definition..... 10

 3.2. The Development of Corporate Carsharing 10

 3.3. Corporate Carsharing - an Innovation in Mobility Services 12

 3.4. State of Research..... 13

4. Corporate Carsharing - in Practice 13

 4.1. The Demand Side 14

 4.1.1. Corporate Mobility Management..... 14

 4.1.2. Managing Corporate Car Pools..... 15

 4.2. The Supplier Side - Basic Elements of Carsharing Systems 19

5. Market Overview - Current Providers and Services Offered 22

 5.1. Procedure..... 22

 5.2. Market Overview – Findings..... 23

6. A Conceptual Framework for Predicting Organizational Adoption of CCS 27

 6.1. The Theory of Planned Behaviour 27

 6.2. Innovation Diffusion 30

 6.3. Towards a Conceptual Framework for the Adoption of Carsharing 32

7. Deductive Reasoning in Qualitative Research 39

 7.1. Deductive Qualitative Analysis..... 39

 7.2. Applying Deductive Qualitative Analysis in Context of CCSAM..... 40

8. Expert Interviews 41

 8.1. Semi-Structured Interviews with Experts..... 41

 8.2. Interview Development 42

9. Data collection 44

 9.1. Sample Selection - Choice of Interview Partners..... 44

9.2. Interview Setting	46
10. Data analysis	46
10.1. Creating Codes	46
10.1.1. Initial Set of Codes	47
10.1.2. Extended Set of Codes.....	48
10.2. Pattern Coding.....	49
11. Research Results.....	50
11.1. Findings	50
11.2. Discussion of Findings	56
11.3. Rigor and Trustworthiness in Qualitative Research.....	60
12. Implications for Research and Practice	62
12.1. Implications for Research.....	62
12.2. Practical Implications for Providers of Corporate Carsharing	64
13. Limitations	66
14. Future Outlook	66
15. Summary	68
BibliographyV
Index of Appendices	A1
Appendix	A2

1. Introduction

Problem Definition

„Using instead of possessing” has become a sounding keynote of today’s public debate. In this context the term carsharing (CS) has become ubiquitous. By emphasizing urban traffic problems, space constraints and ecological challenges, currently a media-hype can be constituted that propagates carsharing to provide social, ecological and economic benefits for users.¹

Current studies dealing with mobility trends predict carsharing to become a key element of future urban mobility mix and therefore see high growth potential in this business area.

Yet there is a variety of carsharing providers. Apart from traditional carsharing organizations, in recent years companies have entered the market, which were originally operating in other business segments. Particularly major car manufactures, transport operators, rental and leasing companies have set up own carsharing businesses.

However, market figures reveal that carsharing is still a niche product with a very low market penetration². In Germany currently only 0.83 % of all drivers’ licenses holders use carsharing services. What’s more private carsharing customers are very price sensitive and thus profit margins are correspondingly low. Traditional carsharing organizations, which are established on the market and enjoy high market shares, compensate low profit margins by relatively high capacity utilization and lean, cost-saving organizational structures. In contrast, most car manufacturers or rental car companies, who have set up carsharing as new complements to their core businesses, have to admit that their business is not profitable yet.^{3,4,5} Nevertheless, most of these companies have given priority to their carsharing projects and cross-finance them by other profitable business segments. Accordingly, the market for carsharing is characterized by high competitive pressure and an on-going battle for market shares, which lead to price dumping and even deteriorating profit margins⁶. In order to achieve profitability new, less price sensitive customer segments like business customers have come into focus. Thus, carsharing providers have developed new services especially for the management of corporate car pools. Yet a look at current challenges in fleet management and requirements for corporate mobility reveals that, among others, there is still need for optimization particularly in terms of vehicle

¹ cf. Loose (2010 (a)), p.7

² cf. Loose (2010 (a)), p.19

³ cf. ZEIT ONLINE (2012)

⁴ cf. taz.de (2012)

⁵ cf. Süddeutsche.de (2012)

⁶ cf. Handelsblatt (11.03. 2013), p. 43

occupancy and cost efficiency.⁷ Having in mind traditional fleet management processes, car-sharing may provide a variety of advantages. For example, a flexible usage of corporate cars for business and private purposes or full service provisions offered by carsharing agencies would lead to an increase in occupancy and would have cost-saving aspects.^{8,9} This indicates that applying carsharing systems for the management of commercial fleets may lead to several improvements. Furthermore, CS services may also represent an alternative to other services used to meet demands for corporate mobility.

Current studies and market analysis indicate high market potential for such services. Therefore, it seems somewhat surprising, that there are only a few companies, which have or intend to adopt carsharing systems for internal use.¹⁰ This implies that there might be certain factors that constitute barriers to adoption of carsharing in a corporate context. However, in order to increase market penetration and gain profits, offerings have to meet market demands. Therefore it gets increasingly important to take a demand-driven perspective and gain knowledge about factors influencing adoption of services for corporate carsharing.

Objectives

Today various papers and analyses can be found that deal with carsharing services for business customers and the assessment of their market potential. However, due to the novelty of corporate carsharing services, scientific research on this topic is quite rare. So far, even a generally agreed definition or description of the term corporate carsharing is missing. Thus, to provide a basis for further investigation, a definition of CCS will be developed and CCS services will be placed in the context of service innovations.

In the following, this research sets out to identify factors which influence the intention to adopt carsharing systems for the management of corporate car pools. With the theoretical background of the theory of planned behaviour¹¹ (TPB) and innovation diffusion,¹² the objective is to develop a structural model, which displays critical success factors for adoption of CCS. Transferred to the particular context of in-house carsharing for the management of corporate car pools, the framework will incorporate equally potential barriers and facilitators of adoption, which in turn can be used to derive customer requirements for CCS services. Thus

⁷ cf. Handelsblatt (11.03. 2013), p. 43

⁸ cf. Loose (2010 (b)), pp. 6

⁹ cf. AIM Car sharing Barometer (2012), p. 2

¹⁰ cf. AIM Car sharing Barometer (2012), p. 3

¹¹ cf. Ajzen (2012), pp. 19

¹² cf. Rogers (1962)

the framework will also form a good basis for practical implications. With regard to these findings implications for research and practice will be given.

State of Research

Even if research on public carsharing is vast, scientific publications on CCS are very limited. In Germany the Automotive Institute for Management (AIM) is one of the only German institutions publishing scientific studies in this field of research. Nevertheless, growing interest of the public and numerous articles in specialized magazines, discussing potentials and shortcomings of concepts of corporate carsharing, indicate a need for research in this area.^{13,14} However, research can be found that identifies business customers as possible users of private carsharing services and analyses potentials for further development.¹⁵

When focusing on TPB and innovation diffusion, a broad and well-funded state of research can be constituted. Research on antecedents and relationships between intention and behaviour can be traced back to Ajzen's theories on belief, attitudes, intention and behaviour published in 1975¹⁶. Since that time theory has been extended, modified and adapted to several contexts. The same applies to innovation research based on Rogers theory on diffusion of innovations introduced in 1962.¹⁷ As a theoretical basis for the current study, research will be applied which link the theory of planned behaviour to organizational innovation adoption.

Structure and Methods

In order to gain deeper knowledge on the field of investigation, the second chapter will outline the development of carsharing services for business customers over the last decades by reviewing publications by the Bundesverband car sharing e.V., studies issued by the University of St. Gallen and articles in professional journals like the Transportation Research Board.

In a next step, the very topic of corporate carsharing will be approached from a theoretical perspective, by giving a generally applicable definition on CCS, presenting further theoretical considerations and identifying reasons for the emergence of CCS services.

As a basis for subsequent market overview, there will be a brief introduction into basics of corporate mobility management, fleet management and the operation of carsharing systems.

¹³ cf. Flottenmanagement (2012)

¹⁴ cf. IT TIMES (2012)

¹⁵ cf. Wilke (2006), pp. 135

¹⁶ cf. Fishbein, Ajzen (1975)

¹⁷ cf. Rogers (1962)

and providers alike. Since, there are already systems available that enable car booking and vehicle access via Smartphone, an integration of systems and services seems at least possible. Another trend, which will become increasingly important, especially in the context of carsharing and CCS, is e-mobility. Today, most leading car manufacturers produce e-vehicles in series and first pilot projects, testing e-vehicles in carsharing fleets, have already been launched. Moreover, several companies have attached priority to topics like e-mobility, because of reasons of image enhancement and increased attention, which constitute a high willingness to invest. Hence, it seems to be only a matter of time until E-CCS will become the next major trend.

15. Summary

Focusing on the field of new mobility concepts and carsharing services, this research set out to identify determinants for the adoption of corporate carsharing. Having identified a mismatch between the predicted market potential for CCS services and actual low penetration rates gave rise to the question of which factors are likely to facilitate or hinder CCS adoption. Since corporate carsharing is quite a new topic, there was hardly any theoretical basis to start from. Thus, an initial focus was set on the proposition of a generic definition for CCS and an explanation of factors that fostered the development of CCS services. An overview of the German market for corporate carsharing provided valuable insights on current offerings, range of service design, and system functionalities.

In order to determine factors which influence the intention to adopt CCS, a conceptual framework has been developed that combined core constructs of the theory of planned behaviour and elements of concepts referring to innovation diffusion. By following a deductive qualitative research approach, the proposed CCS Adoption Model and corresponding hypotheses then served as basis for the development of semi-structured interviews. Since the implementation of CCS systems is assumed to depend on attitudes and intentions of responsible decision makers, data collection aimed at the conduction of expert interviews with fleet managers. Subsequent data analysis applied qualitative content analysis and deductive and inductive coding techniques. A start was made with an initial set of codes, that contained a set of categories and corresponding sub-categories, derived from independent variables of the proposed CCSAM and previous explanations on corporate mobility management and carsharing. Data analysis enabled the identification of several barriers and facilitators of CCS adoption decisions, which then served as basis for the evaluation of hypotheses and a later revision of the proposed CCSAM.

As this research belongs to one of the first aiming at adoption processes of corporate carsharing, findings make a valuable contribution to research in this area. Furthermore, insights on the importance of certain independent variables may be relevant for future studies that focus on innovation diffusion and primary adoption in organizational contexts. However, in order to validate findings and the appropriateness of overall CCSAM, further research is needed.

Yet, this research especially provides valuable findings for practice. To start with, it is important to emphasize that in the first place providers should understand CCS as a service and only thereafter as tool to increase car sales. As CCS offers the opportunity to overcome difficulties and problems in pool management, it is not only of interest for companies with large internal fleets, but also renews the interest in pool vehicles of companies, which downsized their internal car pools over the last years. Besides, CCS allows for networking decentralized internal pools and provides several additional benefits for corporate mobility management. Overall, CCS represents a mobility service, which should be integrated in processes of corporate travel management. This aspect is even underlined by the demand for integrating internal CCS systems into external networks of car pools and intermodal mobility concepts. However, research reveals that resulting unclear competences and increased need for coordination constitute barriers for adoption. Yet, this implies that adoption and implementation processes require top-down initiatives and thus have to be supported by top management. In this context also the relevance of e-mobility comes into focus, as it is believed that executives would prioritize implementation of E-CCS services, because of its innovative and eco-efficient image. Hence, e-mobility is assumed to be another major facilitator for CCS adoption.

Recalling the objective this research, to identify critical success factors of corporate carsharing, it can be concluded that results provide useful indications for the improvement of current CCS services. Especially implications for system functionalities and service design, might contribute to increase market acceptance.

In addition, findings emphasize the growing interest in e-mobility and intermodality. Yet, these trends are assumed to become not only of high relevance for providers of corporate carsharing, but for the whole business area of new mobility concepts.