Summary

Many new products and services are being introduced to the market. This dissertation examines how consumers react to these new products or services and why they accept or resist them. More specifically, in three consecutive empirical studies, we focus on a number of specific research topics that have yet received little attention in the innovation adoption literature: (1) consumers' reactions to radical innovation, (2) forced adoption of innovations, and (3) post-adoption evaluation of innovations. In addition, many of the innovations introduced during the past few decades have been services rather than products and these technology-based service innovations have become a critical component of customer-firm interactions. Therefore, these types of innovations play an important role in this dissertation and are objects of study in two out of the three empirical chapters.

The central objective of this thesis is to examine consumers' reactions to radical innovations and forced adoption of (service) innovations, and to create more insight into how resistance towards these innovations can be managed. In the three empirical chapters, the following research questions are answered:

- Does product bundling facilitate the comprehension, evaluation and adoption intention of radical innovations?
- Does forced use of technology-based self-service lead to negative consumer attitudes to the technology, as well as to the service provider, and does it have negative consequences for the service provider in terms of behavioral responses of the consumer?
- Does consumer expertise have a negative effect on the post-adoption evaluation of a new technology-based self-service in a forced use situation?

Bundling Radical Innovations

Radical innovations are not easily adopted in the market. Potential adopters experience difficulties comprehending and evaluating radical innovations, due to their newness in terms of technology and benefits offered. Consequently, adoption intentions may remain low. Chapter 2 proposes bundling as an instrument to address these problems. More specifically, this chapter examines how bundling such products with existing products may enhance consumer comprehension, evaluation and adoption intention of radical innovations. The results of an experimental study provide evidence of this effect, contingent upon the level of fit perceived to exist between the radical
innovation and the product that accompanies it in the bundle. This study demonstrates that comprehension, evaluation and adoption intention of the innovation even decrease when consumers perceive a low or moderate fit between the products in a bundle. This finding suggests that bundling products with lower perceived fit inhibit effective information processing, which is likely to discourage consumers from progressing through the innovation adoption process.

In addition, the effects of bundling on consumer appraisals of radical innovations are also shown to depend on the level of prior knowledge consumers possess regarding the product category of the radical innovation. More specifically, if bundled with a familiar product, novices tend to evaluate the innovative product more positively, but for experts no such effect can be detected.

In sum, Chapter 2 shows that product bundling represents a suitable strategy for companies that target customers with little or no prior knowledge in the product domain for enhancement of benefits and reduction of learning costs for radical innovations. Because product fit is a crucial condition to ensure that bundling helps enhance evaluation of radically new products, companies should emphasize the fit between the innovation and the bundled product, for example by showing or explaining how both products can be used together or complement each other.

**Forced Use of Technology-Based Self-Service**

Today, traditional full-service is increasingly replaced with technology-based self-service, sometimes with no other option for service delivery. Technology-based self-services, like touch screens, ticket machines, online banking, or self-service check-in, allow customers to perform (parts of) the service, by themselves. However, little is known about the effects of "forcing" consumers to use technology-based self-service. Chapter 3 develops a conceptual model to investigate the impact of forced use of technology-based self-service. The model is tested using an experimental design within railway contexts (ticketing and travel information). The results show that forced use leads to negative attitudes toward using the technology-based self-service, as well as toward the service provider, and indirectly leads to reduced (positive) word-of-mouth intentions and increased switching intentions. On the other hand, this study shows that offering an increasing number of choice options does not linearly contribute to more positive attitudes and behavioral intentions. These results suggest that it is not necessary to offer a whole range of choices of service delivery options, as the benefits may be incremental.

The findings of this study also show that offering interaction with an employee as a "fall-back" option offsets the negative consequences of forced use. A fall-back option
(vs. no fall-back option) leads to significantly more positive attitudes toward using the self-service, as well as more positive attitudes towards the service provider. In addition, previous experience with technology-based self-service (in general) leads to more positive attitudes toward the offered self-service, but does not lead to a more positive attitude toward the service provider.

The results of this study show that to avoid the negative repercussions of forcing consumers to use technology-based self-service, service providers need to carefully consider if forced use of a technology-based self-service option is warranted. If so, service providers can mitigate the negative consequences by offering interaction with an employee as a fall-back option, or by targeting the forced use of technology-based self-service to those customers with considerable experience in using self-service technologies in general, to partly offset the negative consequences of forced use.

**Consumer Expertise and Post-Adoption Evaluations**

Although generally found to be advantageous in the adoption of technology-based self-services, Chapter 4 shows that consumer expertise can also have an adverse effect on the post-adoption evaluation of an innovation, specifically in cases of forced adoption. Consumers can have expertise with the technology, with the service, with both, or with none of them. This study demonstrates how both technology expertise and service expertise affect evaluation following forced use of a technology-based self-service in the transportation sector. In support of our hypotheses, we find that in a forced adoption context technology expertise has a negative effect on post-adoption evaluation of a new self-service.

Moreover, by disentangling technology expertise and service expertise, this study showed that evaluations by technology novices, upon forced adoption of a technology-based self-service, are more positive for service experts than for service novices, while evaluations by technology experts are more negative for service experts than for service novices. In other words, service expertise appears to be an advantage for customers with low technology expertise, whereas it is a disadvantage for customers with high levels of technology expertise. As a consequence, firms should thus carefully consider the roles of technology and service expertise when forcing their customers to use a new self-service option.

Finally, this chapter showed that prior satisfaction with the service provider might act as a buffer to forced usage of new services, as satisfaction positively affects customers’ post-adoption evaluations of new self-services. As such, marketing strategies
that seek to increase customer satisfaction may help to improve customers’ post-adoption evaluations of an innovation, upon forced adoption.

**General Conclusions**

As more and more companies are involved in launching new products or services into the market, a better understanding of consumer innovation adoption processes is needed. In this dissertation, we have investigated three topics that relate to consumer adoption of and resistance to innovations. The empirical studies in this dissertation present different innovation contexts that may lead to resistance to innovations (i.e., radical innovations, technology-based service innovations, and forced adoption). Although these contexts have become of increasing strategic importance for firms, they have yet received little attention in the innovation adoption literature. Furthermore, the topics covered in this thesis focused on the different stages of the innovation adoption process. Although the adoption process itself has gained considerable attention in the literature, knowledge on post-adoption processes is relatively scarce. We therefore not only looked at consumer reactions to innovations in a pre-adoption context, but also looked at post-adoption evaluations, in one of the chapters. Finally, consumer knowledge plays a central role in this thesis. This dissertation shows that there are differences in the evaluation of innovations and subsequent behavioral intentions between consumers with low versus high prior knowledge in a certain domain. More importantly, we demonstrate that experts and novices may react differently to an innovation depending on the context of that innovation and the stage of the adoption process. In addition, we showed that consumers might possess different types of expertise, which may have mutual interactions on the evaluation of an innovation.

The insights obtained in this thesis may help companies to implement more effective segmentation and positioning strategies of their innovations and offer yet another step toward improving our understanding of the evaluation of new products and services among consumers.