Chapter 8
Directions for Future Research

While existing studies have identified and tested a number of influential characteristics in human-recommender system advice seeking relationships, many potential characteristics suggested by general communication theories such as authority, caring, and humor have not been examined. Those unexamined characteristics need to be successfully implemented and also empirically tested in future recommender system studies.

The identified and tested characteristics also need to be more precisely examined. The effects of source characteristics on judgments of source credibility are often found to be complex rather than linear in previous studies conducted in human-human advice seeking contexts (O'Keefe 2002). Since situational factors, individual differences and product type can also play a significant role in determining the recommender system's credibility, relationships will have to be specifically tested for specific recommender systems to provide accurate input for design considerations.

In addition, there can be additional persuasive characteristics that might not be prominent in influencing advice seeking relationships among human actors but are important aspects to be considered in the realm of recommender systems. For instance, anthropomorphism of the technology has been identified as an important characteristic that influences interactions with technologies (Koda 1996; Nowak and Biocca 2003; Yoo 2010) while it is of course not a critical characteristic in interactions among human actors. The realness of interface agents can also be considered as a potentially influential source cue. There is some evidence that users are less likely to respond socially to a poor implementation of a human-like software character than to a good implementation of a dog-like character (Kiesler et al. 1996). In future research, such additional source cues need to be identified and tested.

Some of the influential characteristics have been tested in isolation from another. In order to investigate interaction effects, different cues should be tested simultaneously if it is possible to implement them at the same time and also to examine the relationship among source, message as well as receiver factors. This will help with understanding the relationships among various factors.

Overall, the literature presented in this book suggests that there is a great need for research in this area. It also suggests that new methodologies might have to be developed to investigate influences that happen at a sub-conscious level. Especially a greater emphasis on behavioral measures of recommendation acceptance seems to be warranted if the persuasiveness of recommender systems is to be evaluated. There is also a critical lack of qualitative research in the recommender system realm that could help build theory based on rich under-standings of the user-system interaction. Further, recommender systems are nowadays often accessed through mobile devices. This changes the interaction process considerably. While there have been studies on mobile recommender systems (Ricci 2011), comprehensive evaluations of interactions and persuasion in mobile contexts are currently missing from the literature. As Ricci (2011) noted, usability is influenced by particular characteristics of the mobile devices. For instance, the input and interaction capabilities are often limited on mobile devices (Ricci 2011). Small size of display was found to lessen the effectiveness of users' task completion (Jones and Marsden 2005). In addition, tasks completed on mobile devices can be frequently interrupted since mobile users access information on the move. Considering these particular aspects affecting mobile interactions with recommender systems, persuasive cues and their effects in mobile contexts should be examined in future research. Another aspect to consider is that technology use is often social (Gretzel 2011). This means that future research should also consider situations with multiple receivers and the dynamics that emerge from their interactions among themselves and with the recommender system.

Recommender systems are here to stay and will only increase in importance with an ever greater amount of information available online and an increasing need for personalized solutions. Research that can help improve the interactions recommender systems facilitate is essential for driving recommender system developments forward. One of the challenges with increasing their persuasiveness is however, the question of which persuasion attempts are ethical and which are not. Users often see recommender systems as objective in their choices of products to recommend. This is of course not always the case. While user preferences play a fundamental role, marketer or provider preferences are usually also incorporated into such systems. Recommender system developers and researchers will have to decide where they draw the line between persuasion and manipulation. Ultimately, users will evaluate their satisfaction with the choices they made based on the recommendation. Therefore, manipulation will not pay off in the long run.