

# Chapter 8

## Summary

In the second part of the book, we presented some state-of-the-art algorithms that have been proposed for association rule hiding which belong to the class of heuristic-based approaches. The heuristic class of approaches collects computationally and memory efficient algorithms that operate in a series of steps by optimizing certain subgoals to drive the hiding process. We partitioned the current heuristic approaches into two main categories: *distortion-based schemes*, which operate by alternating certain items in selected transactions from 1's to 0's (and vice versa), and *blocking-based schemes*, which replace certain items in selected transactions with unknowns, in order to facilitate association rule hiding. Each category of approaches was further partitioned into support-based and confidence-based methodologies, depending on whether the algorithm uses the support or the confidence of the rule to drive the hiding process. A large amount of research has been conducted over the past years, leading to several interesting heuristic methodologies being proposed for association rule hiding. In Chapters 6 and 7 it was our intention to cover a selection of the existing methodologies by considering the most representative ones for this domain. As a final remark, we should note down that, as is also evident from the number of presented works in each category, research on heuristic methodologies for association rule hiding has mostly concentrated on the direction of distortion-based approaches rather than blocking techniques. However, blocking techniques are certainly more preferable than conventional distortion methodologies in several real life scenarios and for this reason we feel that such approaches are expected to attract more scientific interest in the years to come. Moreover, the combination of distortion and blocking techniques is also a prominent research direction, which may lead to solutions that further minimize the data loss that is introduced to the original database to account for the hiding of the sensitive knowledge.