

# Chapter 6

## Conclusion

Choosing a non-best element from a set of alternatives cannot be automatically termed as unreasonable. On certain occasions depending on the context of choice one may reasonably choose an element that is not the best element. Internal consistency conditions of choice therefore cannot be applied in a context independent way. In order to see whether different parts of a choice function are consistent or not we need to specifically consider the context of that choice. Standard consistency conditions are applicable to cases where the chooser is only picking the best elements from any set. In chapter 3, we found complete characterizations of choice functions with full domain which are 2-rationalizable either by an ordering or by a reflexive, connected and acyclic binary relation. In chapter 4, domain restriction on choice function is withdrawn. There we found a necessary and sufficient condition of existential nature for a choice function with general domain to be 2-rationalizable by an ordering. In chapter 5, we first characterized choice functions with full domain which are  $k$ -rationalizable by an ordering where  $k \geq 3$ . We also found a complete characterization of choice functions with full domain which are  $k$ -rationalizable by a reflexive, connected and acyclic binary relation where  $k \geq 2$ . Adding the best element rationalizability conditions with the results obtained in this thesis provides us with necessary and sufficient conditions for choice functions with full domain to be  $k$ -rationalizable, for all  $k \in N$ , by orderings as well as by binary relations that are reflexive, connected and

acyclic. A characterization of  $k$ -rationalizable choice functions by a reflexive, connected and quasi-transitive binary relation, where  $k \geq 2$ , has not been attempted in this thesis and remains as an open problem. One may also look at a choice behaviour that always picks the  $k$ -th worst elements of a set. Complete characterization of such a choice function would be interesting. Also characterization exercise of  $k$ -rationalizable choice functions with general domain remains largely unexplored. For  $k = 1$ , Houthakker's axiom characterizes a choice function with ordering  $k$ -rationalization. In this thesis a characterization result of an existential nature is given for choice functions with ordering  $k$ -rationalization, where  $k = 2$ . Any further result in this context would be of considerable importance.