

## Chapter 6

# Conclusion

This study managed to analyse several racket design parameters that affected the performance of badminton rackets. The understanding about the correlation between racket design parameters and racket performances were successfully obtained. As a result, string tension, racket structural stiffness and head design were proven to have major impact on the racket's performance. In conclusion, the rebound velocity of a shuttlecock can be increased by reducing string tension, increasing stiffness of racket shaft and enlarging the racket head size. Moreover, the findings helped to improve players' understanding regarding the design characteristics of a badminton racket. This understanding allows players to make a good decision in racket selection criteria. The finite element simulation proposed in this study could be used on the development of new badminton racket designs. This approach allows researchers to analyse several rackets designs in order to develop an optimal design. In order to develop 'superior racket' which produce higher rebound velocity of shuttlecock, several design characteristics should be followed. It was recommended the racket design should consist of low string tension, stiffer racket shaft and bigger area of string-bed (bigger head size).