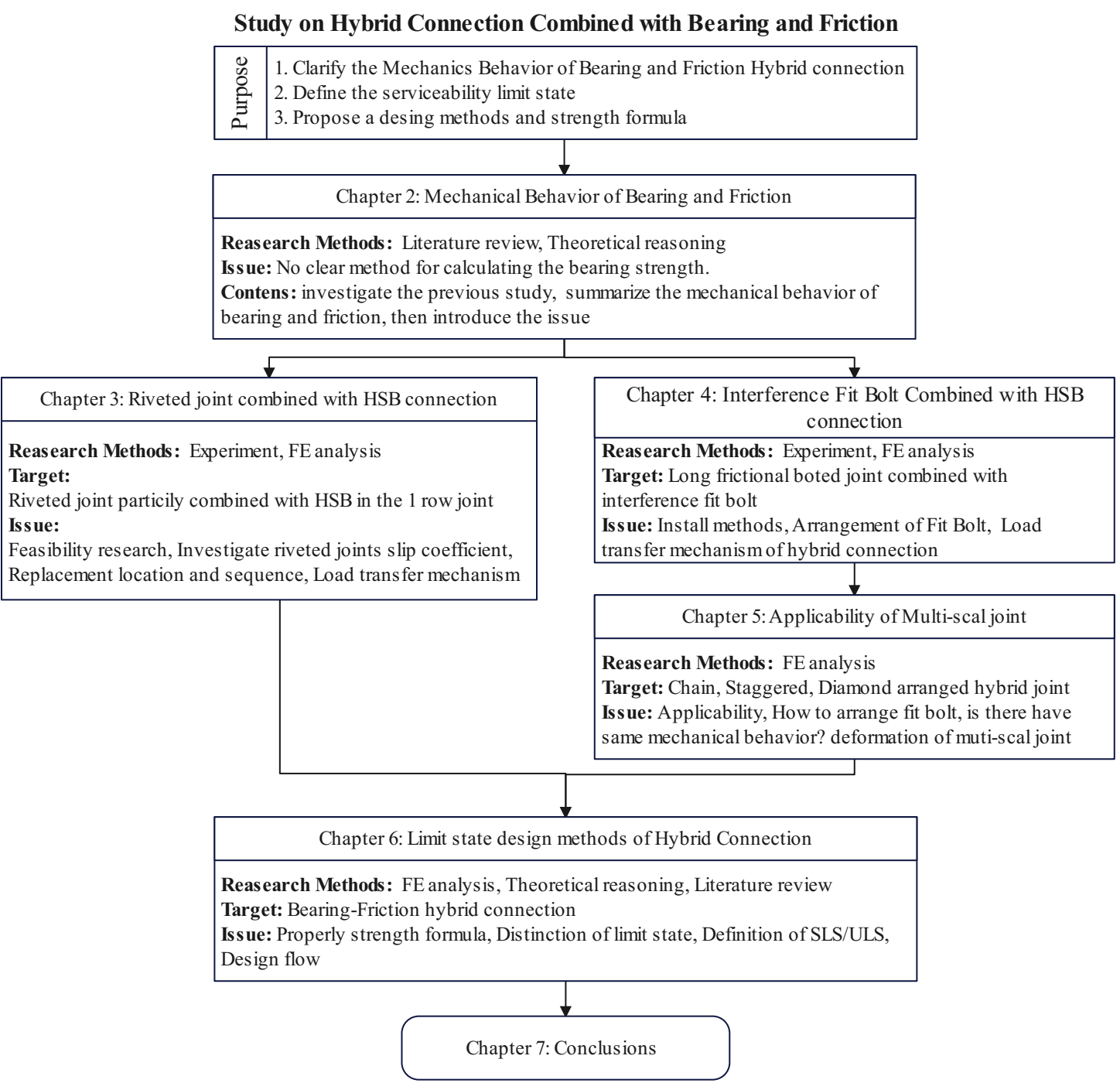
Study on Hybrid Connection Combined with Bearing and Friction
Purpose
1. Clarify the Mechanics Behavior of Bearing and Friction Hybrid connection
2. Define the serviceability limit state
3. Propose a desing methods and strength formula
Chapter 2: Mechanical Behavior of Bearing and Friction
Reasearch Methods: Literature review, Theoretical reasoning
Issue: No clear method for calculating the bearing strength.
Contens: investigate the previous study, summarize the mechanical behavior of bearing and friction, then introduce the issue
Chapter 3: Riveted joint combined with HSB connection
Reasearch Methods: Experiment, FE analysis
Target:
Riveted joint particily combined with HSB in the 1 row joint
Issue:
Feasibility research, Investigate riveted joints slip coefficient, Replacement location and sequence, Load transfer mechanism
Chapter 4: Interference Fit Bolt Combined with HSB connection
Reasearch Methods: Experiment, FE analysis
Target: Long frictional boted joint combined with interference fit bolt
Issue: Install methods, Arrangement of Fit Bolt, Load transfer mechanism of hybrid connection
Chapter 5: Applicability of Multi-scal joint
Reasearch Methods: FE analysis
Target: Chain, Staggered, Diamond arranged hybrid joint
Issue: Applicability, How to arrange fit bolt, is there have same mechanical behavior? deformation of muti-scal joint
Chapter 6: Limit state design methods of Hybrid Connection
Reasearch Methods: FE analysis, Theoretical reasoning, Literature review
Target: Bearing-Friction hybrid connection
Issue: Properly strength formula, Distinction of limit state, Definition of SLS/ULS, Design flow
Chapter 7: Conclusions