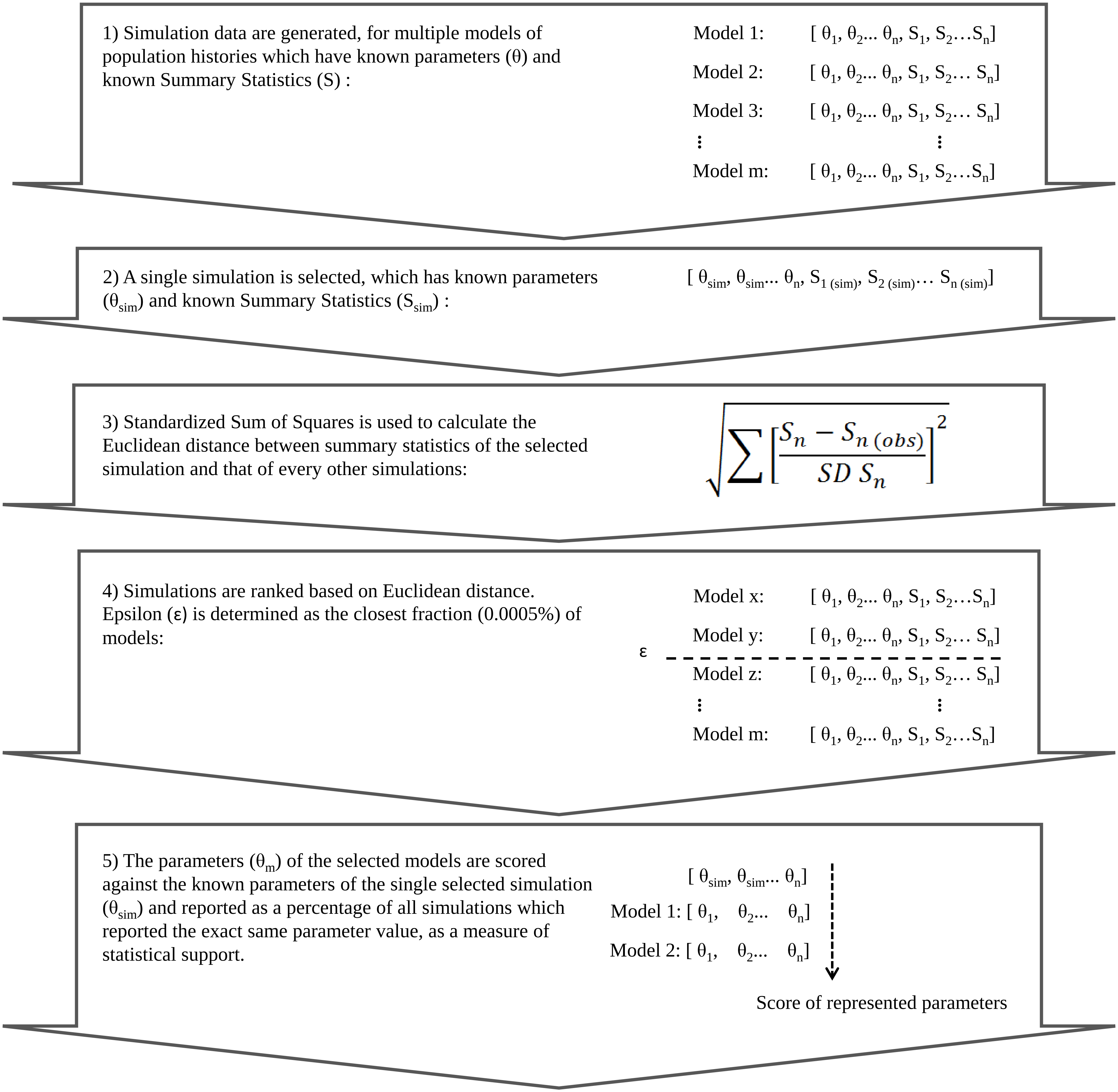
1) Simulation data are generated, for multiple models of population histories which have known parameters (θ) and known Summary Statistics (S) :
Model 1: [θ_1, θ_2... θ_n, S_1, S_2…S_n]
Model 2: [θ_1, θ_2... θ_n, S_1, S_2… S_n]
Model 3: [θ_1, θ_2... θ_n, S_1, S_2… S_n]
Model m: [θ_1, θ_2... θ_n, S_1, S_2…S_n]
2) A single simulation is selected, which has known parameters (θ_{sim}) and known Summary Statistics (S_{sim}) :
[θ_{sim}, θ_{sim}... θ_n, $S_{1\ (sim)}$, $S_{2\ (sim)}$… $S_{n\ (sim)}$]
3) Standardized Sum of Squares is used to calculate the Euclidean distance between summary statistics of the selected simulation and that of every other simulations:
$$\sqrt{\sum\left[\frac{S_n - S_{n\,(obs)}}{SD\ S_n}\right]^2}$$
4) Simulations are ranked based on Euclidean distance. Epsilon (ε) is determined as the closest fraction (0.0005%) of models:
Model x: [θ_1, θ_2... θ_n, S_1, S_2…S_n]
Model y: [θ_1, θ_2... θ_n, S_1, S_2… S_n]
ε
Model z: [θ_1, θ_2... θ_n, S_1, S_2… S_n]
Model m: [θ_1, θ_2... θ_n, S_1, S_2…S_n]
5) The parameters (θ_m) of the selected models are scored against the known parameters of the single selected simulation (θ_{sim}) and reported as a percentage of all simulations which reported the exact same parameter value, as a measure of statistical support.
[θ_{sim}, θ_{sim}... θ_n]
Model 1: [θ_1, θ_2... θ_n]
Model 2: [θ_1, θ_2... θ_n]
Score of represented parameters