State of the Art VSM Ranking Functions

- Pivoted Length Normalization VSM [Singhal et al 96]

$$f(q,d) = \sum_{w \in q \cap d} c(w,q) \frac{\ln[1 + \ln[1 + c(w,d)]]}{1 - b + b \frac{|d|}{avdl}} \log \frac{M+1}{df(w)}$$

- BM25/Okapi [Robertson & Walker 94]

$$b \in [0,1]$$
$$k_1, k_3 \in [0,+\infty)$$

$$f(q,d) = \sum_{w \in q \cap d} c(w,q) \frac{(k+1)c(w,d)}{c(w,d) + k(1 - b + b \frac{|d|}{avdl})} \log \frac{M+1}{df(w)}$$