**Rate of adoption.**

The S-shaped growth curve that is commonly used to describe adoption is

\[ P = \frac{K}{1 + \exp(-a + b.t)} \]

where

- \( P \) is the proportion of users who have adopted the technology at time \( t \)
- \( K \) is the ultimate proportion of users who will have adopted it when the process is complete
- \( a \) is a constant (the time at which adoption begins)
- \( b \) is a constant the rate of adoption

If both sides of the equation are divided by \( (K - P) \), then after taking logs

\[ \ln\frac{P}{(K - P)} = a + b.t \]

That is, the log of the ratio of the number adopting to the number not adopting is a linear function of time. The coefficient \( b \) is the rate at which this log ratio changes with time, i.e. it is a measure of the speed of adoption.

Blue curve: early adoption and rapid diffusion
Red curve: later adoption and slower diffusion, i.e. smaller \( a \) and smaller \( b \)