Availability Formulas

Designing Collection Experiences: Availability

Ratio of items in use to items in the collection

\[
Ratio = \frac{\text{Items in use}}{\text{Items in the collection}}
\]

Ratio of items on the shelf to items in the collection

\[
Ratio = \frac{\text{Items on the shelf}}{\text{Items in the collection}}
\]

Availability Survey Ratio

\[
Availability = \frac{\text{Items found}}{\text{Items looked for}}
\]

Holdings Ratio

\[
Holdings\ ratio = \frac{\text{Items in rhizome}}{\text{All items in collection}}
\]

Circulation Ratio

\[
Circulation\ ratio = \frac{\text{Circulation of rhizome}}{\text{All circulation for the collection}}
\]

Relative Use

\[
Relative\ use = \frac{\text{Circulation ratio}}{Holdings\ ratio}
\]

Brief Test Holdings Availability

\[
Brief\ test\ availability = \frac{\text{Items owned}}{\text{Items on scaled list}}
\]
Reader-Weighted Availability: shelf sample

\[
Reader - weighted availability = \frac{\text{Specific items on shelf in 2nd sample period}}{\text{Specific items out in 1st sample period}}
\]

Turnover

\[
Turnover = \frac{\text{Annual circulations in rhizome}}{\text{Holdings in rhizome}}
\]

Mean Annual Days Out

\[
\text{Annual days out} = \text{Turnover} \times \text{Days in circulation period}
\]

Time on Shelf

\[
\text{Time on shelf} = 365 - \text{Annual days out}
\]

Mean Time Between Arrivals

\[
\text{Time between arrivals} = \frac{\text{Time on shelf}}{\text{Turnover}}
\]

Total Demand for a Rhizome (from table at http://bitly.com/16rbEL2)

\[
\text{Demand for rhizome} = \text{Demand per item from table} \times \text{rhizome holdings}
\]

Reader-Weighted Availability (from table at http://bitly.com/16rbEL2)

\[
Reader - weighted availability = \frac{\text{Original circulation for rhizome}}{\text{Total demand for rhizome}}
\]

Duplication (see full explanation at http://bitly.com/1676Dot)

\[
\text{Number of copies} = 1 + \frac{\text{Days in loan period} \times \text{Number of circulations}}{\text{Days in circulation life}}
\]