Public computer workstation use: visualizing occupancy

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University of British Columbia

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UBC Library manages 590 public computer workstations, distributed across 11 branches.
Do we have enough?
Do we have too many?
Are they in the right places?
What data do we collect?

<table>
<thead>
<tr>
<th>User</th>
<th>Login/off</th>
<th>Computer</th>
<th>Location</th>
<th>Timestamp</th>
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<tbody>
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<td>04/01/2016 8:13</td>
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What data do we collect?

Number of logins by day, Jan-Jun 2016
What data do we collect? We can do more!

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Occupyancy level by day, Jan-Jun 2016
Between Jan & Apr 2016, workstations at this location were **100% busy on 49 days**.
During the busiest period* workstations at this location were at least ¾ full 63% of the time

* Weekdays 11am-5pm during the busiest four-week period
UBC Library manages 590 public computer workstations distributed across all branches. 156 workstations in the Irving K. Barber Learning Centre (IKBLC).
IKBLC occupancy patterns by location
IKBLC occupancy patterns by location

- **IKBLC - Concourse**: 26 of 41 computers in use
- **IKBLC - Level 3 Book Stacks**: 22 of 29 computers in use
- **IKBLC - Level 4 Book Stacks**: 26 of 41 computers in use
Developing planning tools and occupancy targets to inform branch-level decisions
Dashboard available on Tableau Public, https://goo.gl/Ssztxl
**Location:** IKBLC - Level 3 Book Stacks

**Workstation counts**

- Actual workstation count: 29
- Adjusted workstation count: 29

**Occupancy percentages, weekdays only**

**Actual workstation count (reflects date/time filter settings)**

- 0% to 10%: 40.3% of the time
- 10% to 20%: 48.4% of the time
- 20% to 30%: 4.6% of the time
- 30% to 40%: 0.3% of the time
- 40% to 50%: 0.3% of the time
- 50% to 60%: 0.3% of the time
- 60% to 70%: 0.3% of the time
- 70% to 80%: 0.3% of the time
- 80% to 90%: 0.3% of the time
- 90% to 100%: 0.3% of the time
- Above 100%: 0.3% of the time

**Adjusted workstation count (reflects date/time filter settings)**

- 0% to 10%: 40.3% of the time
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- 70% to 80%: 0.3% of the time
- 80% to 90%: 0.3% of the time
- 90% to 100%: 0.3% of the time
- Above 100%: 0.3% of the time

Optional: adjust % to see what occupancy would have been with fewer workstations

- Number of days when reached capacity
- Total minutes at capacity
Busiest periods, weekdays only
Minutes when occupancy was > 50% (blue), and total
minutes logged (green), calculated as a moving average.

4-week moving average (time of year)
Label shows start of busiest 4 week period

6-hour moving average (time of day)
*Start of busiest 6hr block (reflects date limits, if applied)

Occupancy pattern, 2016
Based on adjusted workstation count. Calculated at one-minute intervals, including weekends. Red band indicates occupancy of 75% to 100%.
Busiest periods, weekdays only
Minutes when occupancy was > 50% (blue), and total minutes logged (green), calculated as a moving average.

4-week moving average (time of year)
Label shows start of busiest 4 week period

Optional: use filters below to limit to selected 4 week period and 6 hour block

Limit to 4 week period?
- Yes
- No

Start date of 4 week period
17/01/2016

6-hour moving average (time of day)
* start of busiest 6hr block (reflects date limits, if applied)

Limit to 6 hour block?
- Yes
- No

Start hour of 6 hour block
10
Busiest periods, weekdays only
Minutes when occupancy was > 50% (blue), and total minutes logged (green), calculated as a moving average.

4-week moving average (time of year)
Label shows start of busiest 4 week period

6-hour moving average (time of day)
* start of busiest 6hr block (reflects date limits, if applied)

Optional: use filters below to limit to selected 4 week period and 6 hour block

- Limit to 4 week period?
  - Yes
  - No

- Start date of 4 week period
  - 17/01/2016

- Limit to 6 hour block?
  - Yes
  - No

- Start hour of 6 hour block
  - 10
evidence-based redistribution = better ROI
Questions?

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