Service Engineering - Recitation 6

SEEStat

- Project Data MOCCA (p.2)
- Variables
  - Daily summaries (using within-day data)
    - Time Periods (p.3-5)
    - Durations (p.6-8)
    - Instants (p.9-11)
  - Time Series Summaries (trajectories over days, or months) (p.12-14)
- General Useful Tools (p.15)
Project Data MOCCA

• **System Components**
  - Clean databases: operational histories of *individual* calls, agents and sometimes customers (ID’s).
  - Friendly powerful interface: online access to (mostly) operational and (some) administrative data (but no financial data, yet).

• **Currently Three Databases:**
  - US Bank (220/40M calls, 1000 agents, 2.5 years).
  - Israeli Bank (500 agents, 1.5 years; ongoing).
  - Israeli Hospital
Daily Summaries (using within-day data)

• Time Periods – Select tables
  ➢ Variables → Options → Select Categories → X Properties

Drawing Arrivals Counts of Summit Service, on 25, 29 and 30 May, 2001 (HW3, Q6)
  ➢ Select Variable → Arrivals to queue
  ➢ Select Option → Counts
  ➢ Select Category → Summit
  ➢ Select X Properties → Resolution 60:00
    Range 6:00-23:00
Daily Summaries (using within-day data)

- Time Periods – Select dates
  - Months → Days

Drawing Arrivals Counts of Summit Service, on 25, 29 and 30 May, 2001 (HW3, Q6)

- Select Month → May
- Days type → Individual days
- Select Days → 25, 29 and 30
Daily Summaries (using within-day data)

- **Time Periods – Output**
  - Drawing Arrivals Counts for Summit Service, on 25, 29 and 30 May 2001

**SEEStat output**

**HW3, Q6 drawing**

![Graph showing arrivals to queue, Summit USBank from 25, 29, and 30 May 2001](image_url)
Daily Summaries (using within-day data)

- Durations – Select tables
  - Variables → Options → Select Categories → X Properties

Drawing Waiting time distribution of waiting customers for Platinum Service calls, on weekdays, March 2001

- Select Variable → Wait time (waiting)
- Select Option → Relative frequencies
- Select Category → Platinum
- Select X Properties → Resolution 00:01
  - Low limit – Minimal value
  - Upper limit – 95%
Daily Summaries (using within-day data)

- Durations – Select dates
  - Months → Days

Drawing Waiting time distribution of waiting customers for Platinum Service calls, on weekdays, March 2001
  - Select Month → March 2002
  - Days type → Aggregated days
  - Select Days → Weekdays

<table>
<thead>
<tr>
<th>Name</th>
<th>n days</th>
<th>n normal days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mondays</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Tuesdays</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Wednesdays</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Thursdays</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Fridays</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Saturdays</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Sundays</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Weekdays</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>All days</td>
<td>31</td>
<td>31</td>
</tr>
</tbody>
</table>
Daily Summaries (using within-day data)

- Durations – Output

- Drawing Waiting time distribution of waiting customers for Platinum Service calls, on weekdays, March 2002
Daily Summaries (using within-day data)

- **Instants – Select tables**
  - Variables → Options → Select Categories → X Properties

---

**Drawing Number of Agents on-line**

Summit Service, on 25 May 2001 (HW3, Q4)

- Select Variable → Agents on line
- Select Option → Counts
- Select Category → Summit
- Select X Properties → Resolution 01:00
  - Range 6:00-23:00
Daily Summaries (using within-day data)

• Instants – Select dates
  ➢ Months → Days

*Drawing Number of Agents on-line Summit Service, on 25 May 2001 (HW3, Q4)*
  ➢ Select Months → May
  ➢ Days type → Individual days
  ➢ Select Days → 25
Daily Summaries (using within-day data)

• Instants – Output
  ➢ Drawing Number in Agents on line for Summit Service, on 25 May 2001

SEEStat output
Time Series (trajectories over days, or months)

- Time Series Summaries – Select tables

  - Variables → Options → Select Categories

<table>
<thead>
<tr>
<th>Variables</th>
<th>Options</th>
<th>Select Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disconnect in service proportion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuation proportion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-waiting proportion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average waiting time given waiting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average waiting time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average customer service time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arrivals to offered (all sub-calls)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handled (all sub-calls)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handled proportion (all sub-calls)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unhandled (all sub-calls)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unhandled proportion (all sub-calls)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short abandon (all sub-calls)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short abandon proportion (all sub-calls)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abandons (all sub-calls)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abandons proportion (all sub-calls)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other abandon (all sub-calls)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Drawing Abandons rate for Premier Service, in second half 2001

  - Select Variable → Abandons proportion (all sub calls)
  - Select Option → Rate
  - Select Category → Premier
Daily Summaries (using within-day data)

• Time Series Summaries – Select dates
  - Months → Days

```
Drawing Abandons rate for Premier Service, in second half 2001

- Select Months → from June 2001 to December 2001
- Select Time series type → Aggregated days by months
- Select Days → Weekdays
```
Daily Summaries (using within-day data)

- Time Series Summaries – Output

Output:

Zooming on December 2001:

- Days for one month
- Aggregated days by months
General Useful Tools