Behind the Scenes of Productivity Metrics at LinkedIn

DPE Summit 2023
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If I had a nickel for every metric at LinkedIn... 😆

“Wall of Numbers”
Data-Informed, Metrics-Forward, Insightful Change

- Actionable
- Accurate
- Relevant
- Comprehensive
- Timely
- Reliable
- Comparable
- Cost-effective

Insights Hub Operational Insights View
Stakeholders & Ownership 🤝

**Tool / Service Owners** maintain systems that **Users** interact with, creating telemetry and feedback that the **Insights Team** uses for metrics which **Leaders** leverage for insights.
Median duration that pull request authors wait for feedback in code review.

Lines of code merged by a developer.

Good Metric

Bad Metric
Logins per Worker per Day

Logins Per Worker Per Day P90

10 logins/day

Over Last 6 Weeks

0.00%

vs. prior 6 weeks

Historical Trend

Breakdowns

<table>
<thead>
<tr>
<th>Persona</th>
<th>logins/day</th>
<th>volume</th>
<th>Status</th>
<th>logins/day</th>
<th>volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOOLS</td>
<td>13</td>
<td>40753</td>
<td>success</td>
<td>10</td>
<td>373987</td>
</tr>
<tr>
<td>SRE</td>
<td>26</td>
<td>38407</td>
<td>failure</td>
<td>4</td>
<td>14263</td>
</tr>
</tbody>
</table>

Insights Hub Metric Expanded View of Logins Per Worker Per Day P90
Data Collection and Aggregation 🌧️💦🛠️🧺

Typically the costliest part of metric development.

<table>
<thead>
<tr>
<th>Collection</th>
</tr>
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<tbody>
<tr>
<td>● Common datasets like Gradle build scans, GitHub webhooks, Jira tickets, etc.</td>
</tr>
<tr>
<td>● Build connectors for common data stores like Kafka, MySQL, etc.</td>
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<tr>
<td>● Long retention times help with functionality like backfill.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Aggregation</th>
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<tbody>
<tr>
<td>● Ensure traceability back to source datasets.</td>
</tr>
<tr>
<td>● Metric transforms like “business hours” calculations.</td>
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<tr>
<td>● Customized aggregates like “winsorized mean” for durations.</td>
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</table>
## Analysis & Visualization

### Audiences

1. Leaders
2. Power users
3. Productivity champions
4. Analysts
Did you know that only 17.4% of [user]’s team used remote development? Remove development provides a consistent and fast development environment. Visit go/dev/onboarding to onboard today.

**Developer Build Time Metrics**

- **Developer Build Time P50**
  - 22.8 sec, down 14.2% over last 6 weeks vs. prior 6 weeks
  - 4.3

- **Developer Build Time P90**
  - 147.1 sec, down 14.1% over last 6 weeks vs. prior 6 weeks
  - 2.8
The LinkedIn Learning Curve

image of a dashboard showing CSAT analysis:

- We made numbers!
- Work is **not** your goal.
- If we all X, then metric!
- Super score of important things.
Insights Hub Platform

1. Metric Definition
2. Team Reviews Request
3. Requester Prepares Data
4. Team Builds Metric Pipeline
5. Owner Acceptance Testing
6. Ops Review Integration
Ascending with Insights: Numbers to Change

1. **Goal is transformation**
   Learn the moving parts, remember it’s a process, and strive for transformation. Revisit one key metric in your organization.

2. **Develop a framework**
   Build personas that represent your end-users. Understand their pain points and needs before jumping to metrics.

3. **Learn the process**
   Host a session in your team or company on the intricacies of defining and refining metrics. Foster a culture of informed metric creation.

4. **Look to the future**
   Imagine your metrics three years from now. What changes can you begin today to get there?