Use of data, user knowledge and machine learning to drive engagement and create a sustainable subscription business
Largest local media company in Sweden.

19 news destinations covering a large portion of Sweden.

400,000 active digital customers.

A booming digital advertising business.

A digital ecosystem: Products, platforms and tech for data, content and ad business.

In-house development of products and tech.

A mission to uphold local democracy by staying relevant to readers and customers.

To do so, we must transform fast and agile.
To uphold mission, we must transform from legacy media company to local information partner.

Real challenge is NOT primarily about changes in media interfaces.
Challenge: Regain position in new contextual reality of customers

Strategy: Presence in customers routines by personalized products
First step: Understand their routines
Routine patterns: A needle in a haystack
<table>
<thead>
<tr>
<th>Persona</th>
<th>Morning</th>
<th>Lunch</th>
<th>Afternoon</th>
<th>Evening</th>
<th>Night</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persona #1</td>
<td>25%</td>
<td>15%</td>
<td>30%</td>
<td>25%</td>
<td>5%</td>
</tr>
<tr>
<td>Persona #2</td>
<td>5%</td>
<td>10%</td>
<td>50%</td>
<td>30%</td>
<td>5%</td>
</tr>
<tr>
<td>Persona #3</td>
<td>20%</td>
<td>10%</td>
<td>10%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Persona #4</td>
<td>70%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Persona #5</td>
<td>25%</td>
<td>15%</td>
<td>30%</td>
<td>25%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Quantifying routines
### Example: comparing two clusters

<table>
<thead>
<tr>
<th>Cluster 9</th>
<th>Cluster 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning:  74%</td>
<td>Morning:  8%</td>
</tr>
<tr>
<td>Lunch:  10%</td>
<td>Lunch:  7%</td>
</tr>
<tr>
<td>Afternoon:  7%</td>
<td>Afternoon: 11%</td>
</tr>
<tr>
<td>Evening:  9%</td>
<td>Evening:  74%</td>
</tr>
</tbody>
</table>
Visualization of cluster specific routines

Active users

00.00  Time of day  23.59
Routines stay the same over time
Day for day comparisons
The full image of our customers daily consumption routines

| Persona #1  | Morning | Lunch | Afternoon | Evening | Night | Age | Churn prob. | Interest 
|-------------|---------|-------|-----------|---------|-------|-----|-------------|-----------
|             | 25%     | 15%   | 30%       | 25%     | 5%    | 46  | 11%         | Sport     
| Persona #2  | 5%      | 10%   | 50%       | 30%     | 5%    | 57  | 23%         | Crime     
| Persona #3  | 20%     | 10%   | 10%       | 40%     | 20%   | 68  | 7%          | Traffic   
| Persona #4  | 70%     | 10%   | 5%        | 5%      | 10%   | 73  | 14%         | Opinion   
| Persona #5  | 25%     | 15%   | 30%       | 25%     | 5%    | 44  | 30%         | Business  |
Why do we need a personalized experience to monetize and drive reader revenue?

It’s a simple matter of supply and demand.
The churn process from a supply-demand perspective in an average-based/non-personalized information product.
Relative consumption in an average product
Relative consumption in a personalized product
Optimizing content distribution

- Stable training data
- New data
- Adapted user experience
Launch of live test

Day -15

Day +15
Launch of live test

Content consumption during live test
Proven effect in Mittmedias' machine driven personalization
Mittmedia
Questions?