Implementing Predictive Analytics Projects in Corporate Environments

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What kind of Predictive Analytics Projects do we deal with?

How do Corporate Environments differ?

How does the Best Implementation look like?
What we do!

INWT Statistics GmbH

INWT Statistics specializes in intelligent data analysis and delivers solutions in the fields of online marketing, CRM, data management and business intelligence/reporting.

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<thead>
<tr>
<th>Online Marketing</th>
<th>CRM</th>
<th>BI/Reporting</th>
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<tr>
<td>- Customer Journey Analysis</td>
<td>- Customer Lifetime Value</td>
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<td>- Conversion Optimization</td>
<td>- Customer Segmentation</td>
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<td>- Fraud Detection</td>
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Selected Customers:

- CosmosDirekt
- OTTO
- SIXT
- tipico
- Webtrekk
- zalando
How we use R internally …

…within the **Predictive Analytics** workflow:
How we use R internally …

… within the **Predictive Analytics** workflow:

1. Development

   - **Data Preparation**
     (in addition to SQL preprocessing)
   - **Data Validation Reports**
     (R Markdown)
   - **Modeling**
   - **Predictions**
   - **Model Validation**
How we use **R** internally …

…within the **Predictive Analytics** workflow:

1. Development
   - Data Preparation
     (in addition to SQL preprocessing)
   - Data Validation Reports
     (R Markdown)
   - Modeling
   - Predictions
   - Model Validation

2. Implementation
How we use R internally …

…within the **Predictive Analytics** workflow:

1. Development
   - **Data Preparation** (in addition to SQL preprocessing)
   - **Data Validation Reports** (R Markdown)

2. Implementation

3. Maintenance

   - **Modeling**
   - **Predictions**
   - **Model Validation**
Our clients have ...

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<th>People</th>
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<td>- R backend</td>
<td>- data science team</td>
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<td>- real time?</td>
<td>- database handshake</td>
<td>- IT team</td>
</tr>
<tr>
<td>- model recalibration</td>
<td>- implementation with alternative programming language</td>
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Our clients have …

**Tasks**
- predictions
  - real time?
- model recalibration
  - required?
  - automated?

**Technology**
- R backend
- database handshake
- implementation with alternative programming language

**People**
- data science team
- IT team

**Challenge:** What does the best implementation look like?
Use Case 1:

**Banking Industry** – development of scoring algorithm

**Setting:**

**Task:**
- predictions in real time
- automated model recalibration

**Technology:** R backend

**People:** Data Science Team
Use Case 1:

**Banking Industry** – development of scoring algorithm

**Setting:**
- **Task:** predictions in real time
  - automated model recalibration
- **Technology:** R backend
- **People:** Data Science Team

**Solution:**
- **Development:** INWT
- **Implementation:** client:
  - R micro services
  - **kickoff training**
- **Maintenance:** client
Use Case 2:

**Inbound Callcenter** – demand forecast

**Setting:**

- **Task:**  predictions on a weekly basis  
  - automated model  
  - recalibration  

- **Technology:**  R instance  
  - data warehouse approach  

- **People:**  IT Team
Use Case 2:

**Inbound Callcenter** – demand forecast

**Setting:**
- **Task:** predictions on a weekly basis
  - automated model recalibration
- **Technology:** R instance
  - data warehouse approach
- **People:** IT Team

**Solution:**
- **Development:** INWT
- **Implementation:** client & INWT:
  - scheduled R job
  - database handshake
- **Maintenance:** INWT
Use Case 3:

**Online Marketing** – conversion score for RTB

**Setting:**

*Task:*  
- real time!  
- no (frequent) model recalibration

*Technology:*  
- no R  
- JAVA backend

*People:* IT Team
Use Case 3:

**Online Marketing** – conversion score for RTB

**Setting:**
- **Task:** real time!
  - no (frequent) model recalibration
- **Technology:** no R
  - JAVA backend
- **People:** IT Team

**Solution:**
- **Development:** INWT
- **Implementation:** client:
  - lookup tables for model coefficients
  - *predict* function in JAVA: **simplicity is essential!**
- **Maintenance:** client & INWT:
  - model recalibration
  - updated lookup tables
Implementing Predictive Analytics in Corporate Environments is not only a technical issue!
Thank You for Your Attention!

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