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Unprecedented transparency to consumer loans

QPR Conference 2018
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Headquartered in Athens, with approximately 12.9th employees, Piraeus Bank Group offers a full range of financial products and services to approximately 5.2mn customers in Greece. Total assets of the Group in Greece amounted to €58.4bn, net loans to €39.8bn and customer deposits to €41.4bn on March 31, 2018.

Piraeus Bank was founded in 1916. Since then, it has rapidly grown in size and activities, representing today the leading Bank in Greece with 29% market share in terms of loans and deposits. Along with its organic growth, Piraeus Bank has made a series of strategic acquisitions and mergers aiming to establish a strong presence in the domestic market.

Piraeus Bank today leads a group of companies covering all financial activities in the Greek market (universal bank). Piraeus Bank possesses particular know-how in the areas of medium-sized and small enterprises, in agricultural banking, in consumer and mortgage credit and green banking, capital markets and investment banking, as well as leasing and factoring. These services are offered through nation-wide network of 574 branches and 1,998 ATMs, and also through its innovative digital banking platform winbank.

597 Branches 12.9 thousand Employees 5.2 million Customers
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Consumer Loans Automation

E2E workflow tool

- Implemented in 2007
- Automatic notifications, alerts, data controls – all operations are performed within the workflow
- Automated disbursement

Automated Credit Engine

- Implemented in 2016
- Credit process automation – automated aggregation of data from multiple sources to take a credit decision

Electronic doc uploads

- OCR technology to maximize document digitization and avoid manual errors in data entry

Linkage to external data

- Fully automated data retrieval from Teiresias
- Fully automated data retrieval from other Bank Systems

€39.8 Billion Net Loans

€4.8 Billion Consumer Loans

2.5 thousand New loans (monthly)
Automation of Loan Origination Process

End-to-End (E2E) Loan Origination workflow system and other automation
Automated Credit Engine

**Credit Scoring**
- Probability of default
  - Behavioral Score
    - Tiresias Score
    - Application Score

**Affordability**
- MDI
  - Income & overall economic situation
  - Monthly borrowings
  - Reasonable living costs

**Relationships**
- Banking history
  - Deposit accounts
  - Transactional history
  - Other credit products

**Credit enhancement**
- Guarantor & Collateral checks
  - Availability of collateral
  - Guarantor assessment
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The initiative came with a steep challenge: bring clarity into a process which was often handled in a non-standard way. Despite conducting several previous business analyses, resolution for fundamental problems remained out of reach. Analysis of the process, by the traditional method of conducting interviews, suffered from limited visibility, subjective point of view and omitted exceptions.

The potential hidden in the data behind the process remained untapped.

<table>
<thead>
<tr>
<th>Business Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Create detailed end-to-end process map of selected loan process</td>
</tr>
<tr>
<td>2 Identify the key bottlenecks in the selected process</td>
</tr>
<tr>
<td>3 Monitoring of process flow reworks</td>
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<tr>
<td>4 Monitoring of incoming/completed applications per product type/origination channel</td>
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<tr>
<td>5 Identification of deviations from the targets set when designing the process flow</td>
</tr>
<tr>
<td>6 Identification of areas of improvement to optimize performance</td>
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**The Solution**

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The Solution

Partner selection
- We have selected OMAS Business Consultants
- A company with specialized experience in Process Analysis
- Positive Recommendations for other ongoing bank projects

Software selection
- QPR Process Analyzer capabilities were selected
- A Software that offers
  - Automatic Process Visualization
  - Root Cause Analysis
  - KPI Analysis
  - Lead Time Analysis
  - Conformance Analysis
  - Data Sources

Data understanding
- 20,000 applications-cases are processed on a monthly basis
- 110,000 steps are completed by users-events monthly

Data Extraction
- Big Data extraction has been performed from BPM (Loan Origination) system, and a broader dataset is extracted, in order to show the actual execution of business processes in the organization on a day to day basis
- Initial analysis has identified over 1,000,000 events. For this amount of data, instant analysis would not be possible by other software
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As the analysis showed, the main pain point was a lack of standardization of the consumer loan process and multiple inefficient variants of the process. A lot of time was wasted by “swimming against the flow” of the process and returning to an already passed point in the process flow multiple times.

Thanks to QPR powerful process visualization capabilities, our partner was able to demonstrate the consumer loan process bottlenecks to the broader management, identify optimization points and make recommendations to improve the consumer loan process.

The implementation plan for making the loan processes more efficient and simpler was put in place. Optimize Consumer Loan Process and Optimize Automatic Credit Decision

### Unprecedented transparency

1. Key bottlenecks, inefficient process variants, and their sources were uncovered

2. Differences in employee performance and their reasons were diagnosed

3. Process optimization points were identified
## Optimized Consumer Loan Process

<table>
<thead>
<tr>
<th>Description</th>
<th>Unsecured loans</th>
<th>Secured loans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time to apply</strong></td>
<td>Actual Target Benchmark</td>
<td>Actual Target Benchmark</td>
</tr>
<tr>
<td>Time that a customer spends for submitting an application</td>
<td>35’ 5’ 5’</td>
<td>40’ 15’ 5’</td>
</tr>
<tr>
<td><strong>Time to yes</strong></td>
<td>1-2 days &lt;1 hour Instant</td>
<td>3-5 days &lt;1 hour Instant</td>
</tr>
<tr>
<td>Time that is needed between the customer application submission and the formulation of a final decision</td>
<td>2-3 days &lt; 1 day &lt; 1 day</td>
<td>1-3 months &lt;10 days &lt; 10 days</td>
</tr>
<tr>
<td><strong>Time to cash</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time that is needed between the formulation of a final decision and the actual disbursement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Optimized Automatic Credit Decision

Expected Results

From ... To ...

Red 25% 49%
Yellow 73% 15%
Green 2% 36%

SOURCE: Piraeus bank data, Jan-May 2018 data
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QPR Dashboards for KPI Monitoring and Process Measurement

**Business Needs**

1. Introduction of standardized reporting across involved divisions

2. Monitoring process performance based on SLA metrics

3. Monitoring of process flow reworks

4. Monitoring of incoming/completed applications per product type/origination channel
Process Mining in the Future

End-to-End (E2E) Loan Origination enhanced workflow system and other automation

**Present**

- **E2E workflow tool**
  - Implemented in 2007
  - Automatic notifications, alerts, data controls – all operations are performed within the workflow
  - Automated disbursement

- **Electronic doc uploads**
  - OCR technology to maximize document digitization and avoid manual errors in data entry

- **Linkage to external data**
  - Fully automated data retrieval from Telesis
  - Fully automated data retrieval from other Bank Systems

**Future**

- **Automated Credit Engine**
  - Implemented in 2016
  - Credit process automation – automated aggregation of data from multiple sources to take a credit decision

- **Digital signature**
  - Optionality for customers to use electronic signing through e-signature or OTC

- **Advanced analytics**
  - Identify problems using predictive analytics and prevent problems for ongoing cases based on information gained from other data
Thank you!!