Business Process Management – the next wave in operational effectiveness
What is BPM?
What is Business Process Management (BPM)?

Simple definition

- BPM is a discipline to **optimize** processes, manage & monitor **process performance using specially designed IT applications**
- BPM **enables rapid automation** of a large variety of different processes
- A **number of vendors** offer **BPM software** (BPMS) to automate processes and build workflows
- BPMS provides an environment where business users can change processes in the system based on ‘**pre-built** components’ without the need for ‘hard coding’
- **BPMS vendors differ significantly**. Therefore BPMS implementation requires a solid pre-assessment of what the system is supposed to do before choosing the vendor.
What is the logic of BPM?

- BPM is based on the logic of ‘work packages’ that are routed from one working place to the next with the support of a system, so that manual intervention can be reduced to a minimum.

- The routing is either done by pre-determined steps (workflows) or through ‘programmed decision logic’ that are pre-defined in the systems (rules).

- The automation of workflows and rules significantly increases the efficiency of the process. What does this mean?
  - Process steps are carried out by systems
  - Translating business decisions into rules, allows systems to process decisions automatically.

Example of a rule specification:

Example: A claim is received by a call centre of an insurance organization.

**Rule** (from a business user perspective): only claims that are eligible (customer has valid policy, customer does not have critical track record) will be forwarded to claims department.

**Business rule** (from a IT BPMS developer perspective):

If ValidPolicyClaim = True then SendClaim(ClaimDepartment).

This rules is then called at the Receive&Validate process step.

**What does it mean for the end user?**

System will validate according to data provided, if Claim is valid and will automatically route it to its pre defined destination.

**What does it mean for your business?**

Automated standardization, reduced risk and rules enforcement which will drive a cost effective policy claim process.
There is a variety of BPMS providers in the market

- Not all BPMS offer same features. Some are more *Workflow oriented*, others *Business Rules oriented*
- Not all BPMS offer packaged solutions which can be extended to fit special requirements
- The pre-built functionalities (asset catalogue) on each BPMS is different
- The licensing model varies from vendor to vendor
PwC is a partner of Pegasystems since 2007

What makes Pega technology unique?

1.) **Combined workflow and rules engine** – integrated in one architecture platform

2.) **Pre-built industry frameworks** – addressing specific client issues such as FATCA, claims solution, payments solutions etc; Financial Services frameworks are particularly robust as Pega’s roots are in Financial Services and most implementations so far have been done in banks and insurance companies

3.) **Automated programming** – allowing business users to change functionalities while in the background code is generated automatically. (like in excel when recording a macro and coding is done in background)

4.) **Highly scalable** – Pega is a highly transactional technology. Currently any American Express transaction in the world goes through Pega platform.
**Heathrow Airport:**
An example of leveraging BPM technology using Pega (1/2)

### About Heathrow Airport
- The world's busiest international airport, owned and operated by BAA (British Airport Association).
- Each year over 65 million passengers
- 75,000 employees

### Project Background
- The Project was about converting airplane servicing processes into BPMS
- The project was called ‘Collaborative Decision Making (CDM)’ and was developed by the EURO Control (inter governmental organization that manages European air space.)
- CDM enables airlines, airport management, ground handlers and air traffic control, to effectively share information.
- Heathrow Airport chose a Pega BPM software as their CDM backbone system

### Business Goals
- Improve overall *operational efficiency*
- Support Airport-Collaborative Decision project
- Enhance *decision efficiency process* and safety
- Consistent view of flight status
- Reduce Airport environmental impact

### Results

<table>
<thead>
<tr>
<th>&gt; £ 10 OF MILLIONS</th>
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<tr>
<td>of liters of fuel conserved annually saving cost</td>
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<tr>
<th>INCREASED from 68% to 85%</th>
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<td>on-time departures</td>
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<tr>
<th>£30 MILLIONS MEASURABLE COST AVOIDANCE</th>
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<tr>
<td>From integrating Pega Solution into airport’s systems</td>
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<tr>
<th>Approx. £ 20 MILLION A YEAR REVENUE INCREASE</th>
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<tr>
<td>Increased retail revenue from more efficient flight management</td>
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What BPM was able to do:
A simplified illustration of aircraft turnaround process (2/2)

Aircraft landing – data submitted to tower

Landing → Taxiing

Allocation of Gates (rules based)

Inbound Flight Activities

Cleaning
Ordering through system

Bags
Scanning done manually, allocation automatically

Outbound Flight Activities

Refueling
1.) Request for refueling (y/n)
2.) Execution (manually)
3.) Enter system done – further processing of invoicing etc

Passenger Mgmt
1.) Match bags to passengers
2.) Boarding through system

Departure Scheduling
1.) Enter departure date into departure schedule
2.) Manage delays, slots, gate closing

People involved
- Stand planners
- Airport staff (Tower, service staff)
- Airline operations
- Passengers

Channels involved
- Radar
- CDM Portal
- Mobile Phone
- Handheld devices
When does BPM make sense?
When does BPM makes sense?

BPM goes beyond methods like ‘Lean’ or ‘Six Sigma’ – as it automates processes and connects legacy systems

- **BPM is designed on the principle of re-usability** - therefore automating each consecutive process becomes faster and cheaper with time – this is particularly important for large organizations where after a few implementations it becomes economically feasible to optimize even processes with small throughputs (and thus small cost base)

- **BPM is independent of legacy IT systems** – the process can be automated while still using a variety of legacy front-office and back-office systems (overcoming the need for complex legacy transformation)

- **BPM shows quick results** - implementation is done in small steps (90 days sprints) converting process into automated workflow with business rules defined.

BPM has moved from business process modeling to business process automation and integration
Where does BPM suit best?

Process management milestones

- **BPR (Business Process Reengineering):** Reengineer business processes to close gaps and leverage opportunities.

- **BPO (Business Process Optimization):** Optimize business processes between transformation cycles.

- **BPT (Business Process Transformation):** Plan and execute business process transformation and stabilize post change.

- **BPMS (Business Process Management System):** Create business process management system and identify process gaps and opportunities.

- **CPI (Continuous Process Improvement):** Develop continuous improvement culture.

- **PCM (People Change Management):** Plan and facilitate people aspect of developments.

- **Lean Six Sigma method.**

- **Shared Service Centres & Outsourcing.**

- **Operational Excellence maturity level.**

- **BPR was the start phase of banks to draft processes to have more control.**

- **During BPO phase organizations needed to cut cost in order to be more competitive, e.g. by outsourcing processes.**

- **BPT is the era where banks had to focus on putting the client processes central.**

- **The new phase is business process management where processes are automated, geographically flexible, combine agile front end requirements with inflexible legacy and reach a new level of operational excellence in terms of processing speed, costs and adaptability.**
## BPM examples for Accounts Payable improvement

<table>
<thead>
<tr>
<th>Invoice Receipt</th>
<th>Matching / Authorisation</th>
<th>Query Resolution</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>➤ Invoices quickly visible on the system</td>
<td>➤ Efficiency – straight through processing</td>
<td>➤ Invoices with queries sent to the right person first time and quickly</td>
<td>➤ Early payment discounts</td>
</tr>
<tr>
<td>➤ Liability is recorded immediately and accurately</td>
<td>➤ Invoices matched to the right PO</td>
<td>➤ Queries resolved in a timely fashion</td>
<td>➤ Payments not made late</td>
</tr>
<tr>
<td>➤ Invoices received in one place to prevent lost invoices</td>
<td>➤ Non PO invoices sent to the right contact first time</td>
<td>➤ Query reasons visible</td>
<td>➤ Payments not made early</td>
</tr>
<tr>
<td><strong>Customer Values</strong></td>
<td>➤ % invoices received electronically</td>
<td>➤ % of invoices that go “in query” / on hold</td>
<td>➤ Minimum time and effort spent on payment proposals and payment</td>
</tr>
<tr>
<td>➤ % on invoices on AP clerk desks and not in system</td>
<td>➤ Average number of days for invoice to be approved</td>
<td>➤ Average Invoice processing time</td>
<td>➤ Cost effective Accounts Payable function</td>
</tr>
<tr>
<td>➤ Days taken from invoice receipt to visible on system</td>
<td>➤ Number of invoices that didn’t match 1st time</td>
<td>➤ Average invoice query time</td>
<td>➤ High productivity per member of staff</td>
</tr>
<tr>
<td>➤ % invoices paid electronically</td>
<td>➤ Number of POs &amp; GRs created after invoice date</td>
<td>➤ Number of credit notes</td>
<td>➤ Processing cost per invoice</td>
</tr>
<tr>
<td><strong>KPIs</strong></td>
<td>➤ % PO usage</td>
<td>➤ Number of supplier queries</td>
<td>➤ Number of invoices processed per FTE</td>
</tr>
<tr>
<td>➤ Unnecessary date / other invoice stamping</td>
<td>➤ Manual query resolution process</td>
<td>➤ Late payments</td>
<td>➤ Customer satisfaction rating</td>
</tr>
<tr>
<td>➤ All / high volume of invoices received in paper format</td>
<td>➤ High volume of invoices in query / on hold status</td>
<td>➤ Invoice terms not used / followed</td>
<td>➤ Costly function compared to benchmarks</td>
</tr>
<tr>
<td>➤ Invoices not entered onto system in a timely fashion</td>
<td>➤ Invoices sent to wrong people for resolution</td>
<td>➤ Daily payment runs</td>
<td>➤ Low productivity compared to benchmarks</td>
</tr>
<tr>
<td>➤ Manual signatures for invoice authorisation</td>
<td>➤ Lengthy process to resolve issues</td>
<td>➤ High volume of cheque payments</td>
<td>➤ Dissatisfied business Requisitioners</td>
</tr>
<tr>
<td><strong>Symptoms of non compliance</strong></td>
<td>➤ Large amount of non PO invoices</td>
<td></td>
<td>➤ Poor reputation with suppliers</td>
</tr>
<tr>
<td>➤ Receive electronic invoices where possible</td>
<td>➤ POs used for all spend other than few exceptions</td>
<td></td>
<td>➤ Shared Service Centres used for invoice processing.</td>
</tr>
<tr>
<td>➤ Use Scanning and OCR technology for paper invoices</td>
<td>➤ Automated PO – Invoice matching</td>
<td></td>
<td>➤ Potential outsourcing of non key activities such as OCR of paper invoices</td>
</tr>
<tr>
<td>➤ Suppliers required to quote PO on invoices (No PO = No Pay)</td>
<td>➤ Authorisation levels held on system</td>
<td></td>
<td>➤ Standardised processes</td>
</tr>
<tr>
<td><strong>Methods of improvement</strong></td>
<td>➤ Automatic workflow for query resolution with email notification and reminder</td>
<td></td>
<td>➤ Remove or outsource of non value added activities</td>
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<td></td>
<td>➤ Audit trail and process in place for monitoring status of invoices</td>
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<td></td>
<td>➤ Payment terms defined and agreed with supplier</td>
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<td></td>
<td>➤ Optimisation of early payment discounts</td>
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<td></td>
<td>➤ Segregation of duties for payment approval process and payment execution.</td>
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**= End To End**
How is BPM implemented?
How is BPM implemented?

**BPM for 1 process takes between 3 to 6 months**

Unique in a BPM project is that business analysts and IT architects sit together to design workflows directly in system. After each day, process flow can be reviewed on the screen.

Each cycle is a *SPRINT* (Set of functionalities delivered before end of project)

1. Business case
2. High-level Design
3. Design
4. Test solution

Iterative solution build

Weekly show and tell sessions

Weekly 10 Ready for testing

Week 18 Go-live

Week 1 Start of project

Week 6 Sign-off requirements
The approach of BPM is iterative

BPM implementation allows visible outputs on a daily base

1. **Business Case, Application Profile, Sizing**
   - Design of business case based on industry comparison or internal calculation
   - Design of process and clarity on overall objectives. High level process walkthrough
   - Based on walkthrough understanding of process complexity, interfaces (sizing).
   - As a result, an application profile is generated (specification doc for IT)

2. **Business Requirement gathering**
   - Capture detailed business requirements.
   - Translate them directly into system language (DCO* sessions)
   - As a result, detailed IT specifications are gathered
   - Business requirements are translated into detailed IT requirements

3. **Iterative Process Definition**
   - Business analyst and IT architect sit together in front of screen to design process workflow and rules in system
   - After each day, automation of process steps can be reviewed
   - Changes to process can be made immediately
   - Once a process is done, it is moved to test environment

4. **Test, Implement, Operate**
   - In test environment, the process is simulated on its target IT platform
   - Performance, functionalities and interfaces are tested
   - After testing, the process is moved into production systems and goes Live
   - Changing parameters to reflect process or rules changes is easy done and does not require programming

*Direct Capture of Objectives (DCO) define functional specification that IT can read*
**A client example we are currently working on**

*The demo for one process was done in 2 weeks. Business users could run - in the system – through the process to test if they like the solution*

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**About the client**

- Largest universal bank in Russia with over US$300 billion of assets
- 20,000 branches across Russia and 300 million individual accounts
- Approx 250,000 employees

**Client issue – Incident Mgmt**

- Resolving an incident takes up to **15%** of branch managers daily time
- **Complex organizational structure**, many different internal departments involved that need to be coordinated
- Critical **downtime** of e.g. ATMs not detected & resolved sufficiently fast
- Lot’s of **manual** and paper work involved in current process – high degree of inefficiency and process failures

**Solution**

- Branches use Dynamic Case Management to **automatically route** work to regional offices.
- Each case holds one or more attached documents which automatically route to the right department to the right workbasket.
- Access to this workbasket is defined by the user skills set in the system
- **Business rules** are routing work automatically
- Operation managers inform branch management via **automated reporting** capabilities based in real time operations data (built in functionality in system)
- Branch management’s time spend on incident follow up reduced due to automatic **real time information** flow.

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*Example of solution centralization for Incident Management Lifecycle at a Russian Bank*

*Create request, detailed process view...*
What to consider when implementing BPM?

BPM is not a package – therefore success of implementation depends on maturity of organisation as well as the choice of implementation partner

- Ensure BPM vendor’s functionalities meet your business requirements. Consider processing capabilities for high volume of data. Proper vendor selection process is advisable
- Ensure that business case is solid. If unsure, work with an advisor who has the industry knowledge and vendor knowledge
- When implementing BPM, ensure internal capabilities are build up. Most often mistake is to rely from the beginning on external vendors
- BPM is very flexible. Therefore strong business knowledge is required to implement properly. When choosing an advisor, ensure business integration capabilities are strong. There are many technical implementation partners who struggle to meet business needs
- BPM changes the current way of working dramatically. Change management should be considered while rolling out BPM
What does PwC bring to the table?
PwC BPM and PEGA capabilities

We have significant experience helping our clients implementing BPM –
We utilize a full project life-cycle approach to BPM programs focusing on key project phases

Our Global BPM practice consist of approximately 1000 professionals. For Continental Europe we have established a Centre of Excellence in Bratislava

Out of our Centre of Excellence we are servicing multiple Pega projects in the FS Industry across Europe in countries such as:
• Russia
• Poland
• Hungary
• Czech
• Romania
• Netherlands
• Switzerland
• Spain

... with a team of approx 100 Pega practitioners

PwC is Golden alliance PEGA partner
**PwC and PEGA a full scope alliance**

From the business case to the Go-Live and the benefit realization, we cover a full life cycle BPM project/program implementation.

**PEGA support:**
- PEGA provides the licence and maintenance
- Pegasystems unifies Workflows and Rules in one platform

**PwC support:**
- Business Case to Application Profile and sizing & effort proposal
- Direct capture of objectives (DCO) sessions
- BPM process implementation/construction
- Pega system configuration
- Training, QA and Go – Live, Benefit Realization

**Our BPM project roles are:**
- Program and project managers
- Industry subject matter experts
- Lead system architects
- Lead business consultants
- Senior system architects
- System architects
- User experience architect
- Business testing consultant
PwC BPM capabilities

We have significant experience helping our clients implement BPM – We utilize a full project life-cycle approach to BPM programs focusing on key project phases

**Strategy**
- Developing vision and mission
- Designing stakeholder analysis
- Mapping process to stakeholder objectives
- Producing key performance indicators (KPIs) and targets
- Linking process KPIs to objectives
- Performing process value-chain development

**Design**
- Developing detailed requirements and design
- Reviewing and documenting current and emerging business environment as it relates to BPM strategy
- Creating future-state BPM vision that aligns with the client-stated business objectives
- Performing a gap analysis between BPM current and future state
- Assessing BPM tools
- Creating BPM value creation roadmap and strategy report to include project definition/scope and estimated implementation costs
- Building a business case

**Execution**
- Performing unit testing, integration, and system testing
- Deploying solution
- Organizing, managing, and executing implementation of BPM, including:
  - Current/future-state application environments and capabilities
  - Gap analysis and transformation diagrams
  - Guiding principles
  - Leading practices
  - Conceptual views, design guidelines, and application development patterns
- Managing change

**Optimization**
- Providing post-implementation support
- Building a BPM center of excellence
- Defining industry practices and determining how client can effectively utilize leading BPM practices to enable business optimization
- Reviewing and confirming the proposed BPM future-state capabilities and future process optimization opportunities
Case studies
BPM Solution for a CEE Banking Client
Solution: Service Management Solution prototype

Client issue
A major CEE Bank sought assistance in understanding how BPM could help them solve a big issue when dealing with Incidents within their organization in CEE region. An Incident could range from a cash machine not working in a branch in a specific region or a non working air conditioning in a region central office. Overall this was a paper intensive process, lacking control, standardization, transparency, SLA management and was causing negative public feedback for the bank. The desired outcome was to not only standardize and build automated processes across all the organization, but also to leverage business process management to automate controls, enforce SLA and increase both efficiency and transparency of process workflows.

Our approach
- PwC performed a current state assessment through targeted interviews and workshops with Key Business and IT owners.
- PwC brought process, and IT subject matter experts to assist in redesigning the client’s existing processes to align with current bank overall strategy to became more efficient, transparent and adhere to lean process design.
- To every extent possible, processes were designed to be automated through the proposed BPM tool and to interface with existing systems.
- PwC deliverables satisfied both business owners and IT stakeholders needs, including enhanced management, auditing and monitoring of all Solution, while being aligned with the current Bank overall strategy to use BPM technologies to enhance control, transparency and generate efficiencies necessary to reduce operating costs.

Benefits realized:
- The banking organization was able to validate how the proposed Solution could standardize the existing processes and automate work routing and SLA management.
- PwC deliverables and Solution where achieved in a record time while achieving all the goals proposed and served has a benchmark for next coming projects.
- This project created synergies with other existing projects, allowing for a better understanding on how to use the preferred BPM tool.
- Redesigned processes enabled fully automated decisions, routing and closure of processes, while delivering an enhanced user experience.

- Standardization
- Automation
- Control
BPM Solution for a Global Pharmaceutical Provider
Solution: Collateral Assessment Solution

Client issue
A major pharmaceutical company sought assistance assessing existing compliance operating processes, procedures and controls for the purpose of improving the overall state of the compliance function. The desired outcome was to not only standardize and build compliant processes across business units, but also to leverage business process management and master data management software to automate compliance controls and increase the efficiency of process workflows.

Our approach
- PwC performed a current state assessment through targeted interviews and documentation review.
- PwC brought compliance, process, and IT subject matter experts to assist in redesigning the client’s existing processes to align with federal and state regulations, while adhering to lean process design.
- To every extent possible, processes were designed to be automated through the proposed BPM tool and to interface with existing systems.
- The re-designed processes were validated with Compliance, business process, and IT stakeholders to ensure buy-in and feasibility.
- PwC deliverables satisfied both Compliance and business needs, including enhanced auditing and monitoring programs, modifications to standard operating procedures, and FCPA program enhancements, as well as IT needs including Data Dictionaries, detailed process maps, user requirement specifications, a KPI framework, and a BPM scoping tool.

Benefits realized:
- The Company was able to efficiently and comprehensively evaluate credentials and capabilities of multiple vendors to determine which was best suited to automate the redesigned processes within their BPM tool.
- PwC deliverables were detailed to the extent that the vendor was able to advance immediately to prototyping the solution on Day 1 of their engagement.
- Development phase for the automated BPM solution was accelerated, ultimately leading to a reduction in overall implementation timing.
- Redesigned processes enabled shorten time frame to implement the non-automated operating processes.

- Compliance
- Automation
- Simplification
BPM Solution for a Financial Services Company
Solution: Incident Management Platform

Client issue
A large Financial Services company requested to design, create and implement new platform for Incident Management. One of key aspects was high level of automation based on large amount of requests per day. Other aspect of complexity was multiple types of request, as per each separate process of service delivery were requested. During process of implementation client raised a new challenge, to build Service Level Management service on top of Incident Management.

Our approach
- Initial documentation of AS-IS processes
- Reengineering of AS-IS processes and GAP analysis of non-process items
- Design of new platform by Lead Architects and Subject Matter Experts
- Development of new platform used agile methodology by which we ensured maximal business value added
- Agile Release management, using which client have been receiving new product every 4 weeks
- Creation of new Target Operating Model based on new Business Process Model
- Final Calculation of Economic Model & ROI

Benefits realized:
- Platform which automatically improves service quality and is self-learning
- New process of Service Level Management and Central Catalogue of Services
- New Target Operating Model adjusted for new Business Process Model
- Free Up 30 min of working time for each employee of Front-Office

- Leading Practice Input
- Design & Implementation
- Technology Integration
BPM Solution for a Financial Services Company
Solution: Online system of arbitration proceedings

Client issue
Independent organization which provides arbitration services for FS companies established new Company Development Strategy. The main goal is to get leading position on the market by transforming the ways of servicing clients. Client asked PwC to design and implement online BPM-based solution to automate arbitration related operations.

Our approach
- Design of new processes by Subject Matter Experts
- Development of new BPM-solution used agile methodology by which we ensure maximum business value added in shorter time
- Assessment of the solution by legal experts to identify possible legal risks by bringing such services online
- Development of risks mitigation actions

Benefits realized:
- Platform which allows parties to communicate over internet during preparation to arbitration proceedings
- System guaranties that services are provided in fully compliant with Arbitration Law
- System support of fast growth of client's business
- Client got major competitive advantage by reducing time of arbitration cases processing

Leading Practice Input
Design & Implementation
Technology Integration
**BPM Solution for a Financial Services Company**

**Solution: BPM platform implementation**

**Client issue**

Large financial services client requested assistance to run large-scale technology transformation programme. The goal of programme is to transform operations to achieve agility and improve efficiency of operations and product sales. PwC was requested to provide QA services for whole programme.

**Our approach**

- Establish QA team consisting of top-level technology consultants
- Assessment of architecture and designed solutions
- Assistance to enable of client’s team to use the platform through couching and trainings.

**Benefits realized:**

- Fast successful start of large-scale technology transformation program
- Guaranteed quality of BPM solutions being built
- Fast enablement of client’s team

- **Leading Technology experts**
- **Quality Assurance**
- **Enablement, Coaching & Trainings**
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