Citizen Centric Business Process: Empowering Citizens in Public Service design and delivery

CiberDem & PRiSM joint research
People

Renata Araujo (Professor, UNIRIO)

Matheus Sell (Msc student)

Yehia Taher (Uversailles)
Context

Research and Innovation Center in Cyberdemocracy

https://sites.google.com/site/ciberdem/

Open and Collaborative Governments
BPM, Collaborative Systems, SocialBPM

Organizational Transparency
BPM, enterprise architecture, transparency assessment and design, organizational transparency maturity model

Open Data & Governance
Interoperability, open data, linked data, governance in public organizations

Democracy & Digital Heritage
Digital memory, digital heritage

Virtual Environments for Social Innovation in Sports
Innovation, Triple Helix, IT & Sports

Laboratoire d’Informatique - PRiSM
http://www.prism.uvsq.fr/

Citizens Collaboration and Co-Creation in Public Service Delivery
http://www.cockpit-project.eu/
Introduction

What is Public service?

- Governments, including local municipalities, provinces and national public bodies, deliver public services to their citizens for their general interest.

- Range from simple services such as publishing information to services as complicated as issuing passports, civil act certificates (birth, marriage, death), and, building/commercial activity permissions, etc.

- Public services typically rely on several cross-organizational business processes, transactions and resources
Current public service design and delivery: Ad-hoc way
Problem statement (1/2)

1. Public service still seen as a commodity, rather than something profounder, a form of human interaction:
   - Public organisations still seek to deliver services for the lowest cost and maximum profit
   - *Without explicitly consulting their citizens* while designing their service offerings

→ *This eats away at the fundamental purpose of public service: to provide support and to help people to live their life at their full potential*
Problem statement (2/2)

2. There is still no common representation for public service:
   - Currently public services are created in ad-hoc way
   - Each service designer uses its own representation
   → Fragmented piece of services that they have limited value-added outside their own organisation
   → Integration, reuse, and assembly of services provided by external public organisation are then hindered
Objective

- A systematic methodology **empowering the citizen role** in the service design and delivery process

- Ultimate target:
  - More adaptive services to the citizens' needs
  - Better services which has a positive impact on the citizens’ life
  - Improvement of the communication between the citizens and the Local and Public Administration
  - Creation of ideal conditions for social activation of the citizens
Motivation

- Electronic Governance as a complex system

- Integrating:
  - social and participative processes
  - public administration (processes and services)

- By means of:
  - Technology
  - BPM

- Aiming at:
  - Process/service co-design, delivery & innovation

- Buzzy words:
  - Open/social innovation
  - End-user information systems
  - Ecosystems
  - Business Process Sustainability
  - Systems of Systems
  - ...
Viewpoint

• Governance seen as:
  
  • Processes to be managed - Business Process Management (BPM)
  
  • Composed by services - Service Oriented Computing (SOC) and data (delivery) services
  
  • Citizen participation
    • Process understanding
    • Process flexibility, change & innovation
**Viewpoint**

- **Processes**
- **Process/Service Management**
- **Process Analysts/Managers**
- **Organizations**
- **Clients/citizens**
- **Process Model**
- **Process Visualization/understanding**
- **Process-based interaction**
- **Discussion visualization/opinion mining**

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**Process Model Diagram**

- **Process Analysts/Managers**
- **Governance**
- **Process/Service Management**
- **Organizations**
- **Clients/citizens**
- **Process Visualization/understanding**
- **Process-based interaction**
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The Problem of Governing Public Services

• Public services are
  • Complex
  • Large scale
  • Difficult to understand/follow
  • Non customized
  • Obliged to be compliant with regulations

• Public services need to be:
  • Running on the digital convergence:
    • Cloud
    • Mobility
    • Social platforms
    • Big Data

• Process/service flexibility/change/innovation
• Social Participation
• Process Understanding
• Preserving compliance, performance, quality, privacy
Scenario

Phases of a process:
- Design
- Configuration
- Instantiation
- Run
- Auditing

Flexibility mechanisms:
- Defer – decide to decide later
- Change – decide to change
- Deviate – decide to ignore

Service providers
- Only deals with workflow rules
- We should consider other business rules
The challenge

• Issues

  • How to support citizens understanding/visualization of the service/process operation considering different process phases (design, configuration, instantiation, run, auditing)

  • How to support citizens in process change decisions considering different flexibility mechanisms (defer, change, deviate) and different process phases

  • How to deal with different participation profiles in order to provide effective participation/innovation channels in process flexibility/change

  • How to suggest process flexibility decisions based on social opinion/process discovery

  • How to evaluate/preserve process compliance, performance, quality and privacy for each process change

Process Change/flexibility
Scalable
Sensible to social opinion
Preserving performance, quality, privacy, compliance
Explained to users
Solution Approach

• Support for citizen process flexibility/change

• Support for citizen process understanding

• At different process phases

• Allowing different change mechanisms

• Focusing on:
  • Process
  • Events
  • Rules

• Using hybrid approaches:
  • Declarative process definitions
  • Imperative process definitions
  • Semantics Of Business Vocabulary And Business Rules (SBVR)

• Considering
  • Different participation levels
  • Social content

• Preserving
  • Compliance
  • Performance
  • Quality
  • Privacy
Proposal

- Define a model to describe/translate processes/services in terms of process-rules-events

- Specify and build mechanisms to visualize/understand processes/services based on rules & events

- Specify and build mechanisms to allow citizens to change process

- Specify models for process change evaluation (performance, quality, privacy...)

- Define ways for change evaluation visualization

- Specify/build mechanisms to discover process based on the memory of changes/social opinion
Starting points

• CiberDem - UNIRIO
  • Social participation support
  • Organizational Transparency
  • Process communication/understandability

• PRiSM - UVersailles
  • Process (meta)modeling, design, execution and composition
  • Effectiveness and Quality evaluation of services operation
  • Context-aware monitoring and adaptation
Expected Outcomes

- **Artifacts**
  - Define model(s)
  - Define visualization mechanisms
  - Build tools
  - Case studies

- **Research areas/domains to be improved**
  - Electronic Government/Democracy/Participation
    - Citizen empowerment
      - Transparency – process understanding
      - Flexibility – process change
    - Effective ways for citizen engagement
  - Service Oriented Computing
    - Service management – rules+events+flow
    - Service compliance, cost, performance, privacy and quality
  - Business Process Management
    - Hybrid descriptions – declarative + imperative processes + SBVR
    - Process understanding
Ongoing work

• Use of declarative languages/sbvr to provide process definitions understandable and changeable by citizens

• Issues addressed:
  • Define a model to describe/translate processes/services in terms of process-rules-events
  • Specify and build mechanisms to visualize/understand processes/services based on rules & events
  • Specify and build mechanisms to allow citizens to change process
Publications
