The Business Architecture journey at Huawei: importance of a metamodel

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This is Huawei

A privately-owned Global Company

An Innovative Industry Contributor

An ICT Industry Leader
A Privately-owned Global Company

- A global company providing information and communications technology (ICT) solutions.
- Products and solutions have been deployed in 170+ countries, serving 1/3 of the world’s population.
- A privately-owned company founded in 1987, Shenzhen
## Broad Portfolio

### Carrier Business Group
- Fixed Network
- Wireless Network
- Global Services
- Telecom Software and Core Network
- Network Energy

### Enterprise Business Group
- Enterprise Networking
- Cloud Computing and Data Centers
- UC&C
- Management and Tools
- Wireless

### Consumer Business Group
- Smartphones
- Mobile Broadband
- Home Devices

### Revenue by three BGs in 2013

- Consumers: 24%
- Carrier: 70%
- Enterprise: 6%

**Note:** The percentages may not sum up to 100% due to rounding.
Global Footprints

- 170+ Countries
- 16 R&D Centers
- 28 Joint Innovation Centers
- 15 Regional HQs
- 45 Training Centers
- 150,000 Employees Worldwide

Revenue by Geography in 2013:
- 16% Americas
- 13% Asia-Pacific
- 36% EMNA
- 35% China
Phases of Huawei’s Development

- **1987-1992**: Starting up
- **1992-1997**: China Rural Market
- **1992-2000**: Chinese Market
- **1997-2000**: Global Emerging Market
- **2000-present**: International Market

USD in billions

Year: 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13
Spectacular growth… brings challenges

- Young company
- Young population
- Fast pace of transformation

⇒ Established Business Process & IT & Quality, with two missions:
⇒ Emphasis on business process practice and governance
⇒ Emphasis on transformation management
Construction of a structured process framework (à-la APQC) was necessary...

Process became the “point of accumulation” of the whole system.
The structured process framework was necessary... but not enough...

- Process changes over time => unstable accumulation point
- No clear way to reflect end-to-end business across different process silos
- Process design is slow and therefore difficult to coordinate with IT design
- Difficult to engage the business and no obvious link with business strategy

⇒ Transformation tends to be confused with “pain-point” fix in a “bottom-up” fashion
… We needed to establish a Business Architecture capacity

Design Strategy

Manage Transformation

Architecture domain

Solution domain

- Anchor architecture to a stable reference
- Holistic impact awareness
- Top-down, coordinated development of process/org/IT
- Bridge with business

⇒ Enable build on a solid vision, based on future (strategy) not only on the past (pain-points)
We started building BA capacity and trust through practice in a few critical projects, as in this example:

- Advanced vendor’s value stream:
  - concept
  - development
  - delivery
  - promotion

- Consumer’s value stream

- Carrier’s value stream

- Follower vendor’s value stream:
  - requirement
  - development
  - delivery

New capabilities and value streams been built…

…allowed Huawei to evolve from niche player and become #3 WW smartphone vendor in 2Y
The BA practice was then consolidated into a repeatable framework.
...consisting in metamodel plus associated methodology.
...represented as an “executable metamodel”

Structure:
- Algorithm:
  - I/O: 5 inputs, 3 outputs
  - several internal deliverables
  - connected through 13 steps,
    - grouped in 4 stages
- manual (230 pages) with examples

For each deliverable the BA method gives:
- Description
- Examples
- Template

For each step the BA method gives:
- Inputs, Outputs
- Flow-chart, Explanation “how to do”
- Examples
- Validation criteria
- Skills and effort required
- Reference documents

Steps
Detailed steps are represented by lines connecting deliverables (in => out)

Deliverables
BA deliverables are represented by points

Structure:
- integrated according to this diagram

Business Architecture flow-chart

IN / OUT

steps

110 Ind. Ecosystem Analysis
120 Huawei Analysis
130 Biz. Context
140 Benchmarking

111 Biz. Operation Model: as-is
121 Biz. Operation Model: ideal
131 Biz. Operation Model: to-be

112 BA Devel.: Processor
122 BA Devel.: Information
132 BA Devel.: Org/R&R
142 BA Devel.: Biz.Rules
152 BA Devel.: Metrics

113 Synthesis of BA logic
We mapped BA clients’ needs within the transformation flow

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Transformation Planning</th>
<th>Program/Project</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>Business</td>
<td>Business/Transf.Board</td>
<td>Transf.Board</td>
</tr>
<tr>
<td>Client’s perspective</td>
<td>set direction</td>
<td>communicate needs</td>
<td>design the transformation plan</td>
</tr>
<tr>
<td>Client’s concern</td>
<td>reach Business KPI</td>
<td>reach strategy objectives</td>
<td>reach solution objectives</td>
</tr>
<tr>
<td>BA deliverable</td>
<td>to-be Capabilities, to-be BOM</td>
<td>gap and change points, BOM, Capability roadmap</td>
<td>biz. context BOM, integrated requirements, BA Baseline, methodology</td>
</tr>
<tr>
<td>BA activity</td>
<td>research on best practices, problem solving, BOM &amp; Capability design</td>
<td>domain and cross-domain requirements, capability roadmap, reference blueprint, governance</td>
<td>cross-domain integration, blueprint mapping of process/info/org</td>
</tr>
<tr>
<td>BA Key Partners</td>
<td>strategy (corporate and FU), Business leadership</td>
<td>strategy/Q&amp;O</td>
<td>EA</td>
</tr>
</tbody>
</table>
...projected most frequent BA use scenarios accordingly

Each scenario is meant to practice a certain subset of the BA “space”

Metamodel and scenarios are being used as reference for new version of the corporate transformation process
The “executable metamodel” had been used as a basis for defining the desired skill profiles and training modules.
Quality assessment/acceptance criteria had been defined leveraging metamodel standard and methodology framework.

- Complete
- Integrated
- Actionable
- Purposeful
- Accurate
- Consistent
- Scalable
- Modular
- Other specific…

Deliverables Quality Assessment:
- Formal attributes
- Content attributes
- Solution attributes
Metamodel+methodology enable time/cost saving and quality without BA

- Duration: - 25%
- Cost: - 55%

standardization => quality

with BA

Resource profile (person months)
Common Metamodel to enable cooperation within BA ecosystem

<table>
<thead>
<tr>
<th>Partners</th>
<th>SLAs to users and practitioners @ Huawei</th>
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<tbody>
<tr>
<td></td>
<td>Support to transformation Programs or projects</td>
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<tr>
<td>SL4</td>
<td>Co-Leadership</td>
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<td>SL3</td>
<td>Deliverables &amp; Application Support</td>
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<tr>
<td>SL2</td>
<td>Guidance</td>
</tr>
<tr>
<td>SL1</td>
<td>Training &amp; best wishes</td>
</tr>
</tbody>
</table>

BA CoE @ Huawei

Metamodel + Methodology

Training and tools

- Introductory
- Basic
- Advanced
- Master
What’s next…

Best practices, Collaborative teams

align Huawei to the Guild’s Metamodel & Certification

Research

QFD for quantitative management of business impacts

Simulation and system dynamics

methodology extension through pilots and cooperation on BA scenarios, e.g.:

- BA and Sustainability <=> Guild’s team
- BA and Quality (QMS design, auditing…)
- BA application in research
- Interlock with IA and AA

ONA for architectural analysis

DFx of architectural topologies, Dynamic rules based routing

BA Metamodel, Certification Program

Peking University HSBC Business School
Lessons learned

• **The introduction of “BA thinking” can be disruptive**
  › Build trust with pilot projects of “business problem solving”
  › Then, adoption of a standard metamodel and methodology helps smooth the impact

• **BA Metamodel joined with standardized methodology enable/facilitate:**
  › Establishment of a BA skill development program
  › Deployment of standard quality criteria for BA deliverables
  › Introduction of BA practice within transformation governance
  › Partnerships and participation to the extended “BA ecosystem”

• **All that helps the foundation of a BA CoE model, by:**
  › Establishment of clear scenarios for BA developers and BA consumers
  › Establishment of clear SLA and engagement model
  › Establishment of a basis and opportunities for continuous improvement
  › Investment on methodology will generally make BA more affordable by a young org.
  › Benefits in terms of time and cost saving against non-BA scenario should show
Thank you

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