Enterprise Architecture - WHY? (Practical Experiences)

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Background - As a vendor of tools:

- Vendor companies for 36 years, CIO for 4
- Modelling and Architecture Tools for 20 years
- Ernst & Young MCS - 1990
  - Navigator AD Methodology
  - Knowledgeware tools IEW, ADW
- Software Futures – 1996
  - Bachman
  - ARIS (Architecture for Info Sys – IDS Prof Scheer)
  - Rochade – Repository for modelling artefacts
  - Rational Rose
Basics – Why Modelling?

• Simplified representation of something in the real world.
• An abstraction of the real thing
• Communication
  ▫ Picture is worth a thousand words
  ▫ Allows people to conceptualise the real thing
  ▫ Raise discussion to the conceptual level
• Keywords: Abstraction, Conceptualisation
The day the lights went on!

- Met John Zachman at a Knowledgeware conference in New Orleans mid 90s
- Suddenly all the modelling techniques had a context
- Suddenly levels of abstraction became clear
- Business Architecture became a meaningful concept
- Framework for organising my own thoughts
Temptation!!

• Lets model everything!!
• Populate every cell of the Zachman Framework
• Danger is that modelling becomes the end not the means
• Business Architecture is not about building models.
• Business Architecture is developing the ability of the organisation to conceptualise, strategise and evolve the Organisation and its systems by consensus.
Observations:

- Seen many Organisations struggling
- Role of Architecture not clearly defined
- Where in the Organisation does Architecture belong?
- Belief that Architecture is for Architects
- Evangelist without a pulpit – No Congregation
- Get lost in the beauty of the models
- Hard to show business value
Principle 1

• Do not lose focus of the objective!
  ▫ Deliver real business value
  ▫ Conceptualise the business as a means of communication
  ▫ Show the role of Systems in supporting the business
  ▫ Communicate, Communicate, Communicate
  ▫ Architecture must have a business focus, not just a systems focus
Principle 2

- Do not get lost in trying to do it all!!
  - Don’t try and populate every cell of the Zachman Framework – focus on Value now!
  - Most tools have 100+ modelling techniques, which 3-5 will add value in your Organisation
  - Be clear on what Models are for Business people, what models are for IT consumption
  - Don’t take a purist Architecture approach with Business people, you will lose them
Principle 3

- If it doesn’t have Business value, don’t share it!!
  - Conceptual models can be meaningful.
  - The purpose of sharing models is to promote common understanding – keep it simple!
  - Technical models may have value in the SDLC
  - Be consistent – conceptual models should not flip flop.
  - Without business value you will be ignored – politely if you are lucky
Principle 4

- High Level Conceptual Architecture remains relatively stable over time. (Years)
  - Consistency will be heard and heeded more
  - Business understanding will evolve and become deeper over time – keep the message consistent
  - Use the Conceptual Architecture as a base for developing presentations around specific subjects
  - Don’t underestimate the effort it takes to evangelise the Conceptual Architecture
Principle 5

• Success is when the Conceptual Architecture becomes the Lingua Franca
  ▫ When Business Leaders use the Architecture to explain the impact of new initiatives then Architecture is adding real value
  ▫ Conceptual Architecture is helpful in developing common meaning and terminology across the business
Principle 6

- Conceptual Architecture can be the basis for Business / IT Alignment
  - Evolution of the Business can be roadmapped against Conceptual Architecture
  - IT Systems evolution can be roadmapped and explained
  - Business / IT alignment is the challenge for all organisations
Principle 7

- People are important
  - Architecture without business acumen is useless but the combination of skill sets is very rare
  - Do not assume all people have developed skills in conceptualisation
  - Real understanding of Abstraction and Conceptualisation are critical and in short supply
  - Architecture is not a short term initiative, but delivering Business value quickly is.
Change in view!!

- Until 2003 my only experience was as a Vendor of tools and observing my customers trials and tribulations with Architecture.
- For 2004,5 was semi retired – some ad hoc consulting
- Early 2007 took on a 3 month assignment at Internet Solutions – ending up as CIO
Brief History of IS

• Founded 1993 – Birth of Internet in SA
• 1996, 1997 DD buys 25%, VPN Services launched
• 1998 – 1000th Corporate Customer
• 2000 Capacity exceeds 100 MBps, DD 60%
• 2001 IS establishes Internet Data Centres (IDC)
• 2003 IS 10 years, 200MBps Bandwidth
• 2005 Vois launched
• 2008 IS Nigeria, IS Ghana, 3.5 GBps
IS Product Focus

Connectivity:
- VPN
- Internet Access
- Fixed Broadband
- Mobile Broadband

Communications:
- Voice
- Voice Mobile
- Hotspots
- Collaborative Applications

Cloud:
- Hosting
- Security
- Back Office Applications
- Core People

Carrier:
- Satellite
- Last mile fibre
- Last mile wireless
- Last mile agency
- Mobile APN
In 2007 IS was:

- Highly successful
- Dominant player outside Telkom
- Growing at rates of 25-30% per annum
- Approaching R2B turnover
- BUT
- The market was changing rapidly
- Internal systems were disjointed
- Architecture was unheard of
The Challenge

- IT / Business relationship was broken
- Fragmented Systems Teams
- Business largely siloed by product
- Facing major changes:
  - Telco deregulation
  - Multiple international cables underway
  - Bandwidth prices dropping
  - Barriers to entry dropping
BUT

• Hard to tell an organisation growing as fast as IS and as successful as IS that it is doing it wrong!!
  ▫ Lack of consistent Systems Architecture
  ▫ Lack of cross divisional process definition
  ▫ Lack of Data Ownership culture
  ▫ Fragmented system ownership
Where to start?

- Stabilise major systems
- Improve and mature development process
  - System Ownership
  - End User Training
  - System Testing formalised
  - Project management matured
  - Introduce concepts of models & modelling
  - Start to document major processes
Architecture Forum

• Informal discussion group
• Selected individuals across the Org
  ▫ Conceptual thinkers
  ▫ Representing business and Various systems
  ▫ Complete view of the Business
  ▫ Experience
• Weekly discussions free ranging
  ▫ Current problems
  ▫ Generic approaches
  ▫ Break down barriers
Architecture - saved by the TMF

- TMF = Telco Management Forum
- Global body of major Telcos
- Industry Best Practice Reference Models
  - eTOM = enhanced Telecomms Operations Map
  - TAM = Telecomms Applications Map
  - SID = Shared Information Data Model
TMF - eTOM used as a catalyst

- Many hours exploring eTOM and its relevance to IS – Consensus reached that it was.
- Decided to adopt eTOM terminology where possible
- Debated at length how IS Systems were positioned against eTOM
- Developed a consensus model of how all IS Systems overlayed the eTOM
eTOM MODEL - (Enhanced Telecom Operations Map)

Customer

Strategy, Infrastructure & Product
- Strategy & Commitment
- Infrastructure Lifecycle Management
- Product Lifecycle Management
  - Marketing & Offer Mgmt
  - Service Dev & Mgmt
  - Resource Dev & Mgmt
  - Supply Chain Dev & Mgmt

Operations
- Operations Support & Readiness
- Fulfillment
- Assurance
- Billing
  - Customer Relationship Mgmt
  - Service Mgmt & Operations
  - Resource Mgmt & Operations
  - Supplier/Partner Relationship Mgmt

Enterprise Management
- Strategic & Enterprise Planning
- Brand Management & Market Research
- Stakeholder & External Relations management
- Enterprise Risk Management
- Financial & Asset Management
- Human Resources Management
- Knowledge & Research Management
- Enterprise Effectiveness Management
Building a common view

- Improved trust between systems groups
- Need for close cooperation became self evident
- Common problems identified – joint solutions
- Gaps became clearer – needs identified
- Workshops agreed top 10 burning issues
- Strategic Systems Roadmap emerged
- Developed into a presentation to evangelise
- Common conceptual Architecture Diagram
CUSTOMER MANAGEMENT -

**MAJOR FUNCTIONS:**

**MASTER DATA:**

**INTEGRATIONS:**

**Business Owner(s):**
Rallying point

- Widely evangelised
- Systems Roadmap reviewed 6 monthly
- New projects positioned against Framework
- Used as the basis for problem discussions
- Common starting point for discussions
- Terminology standardised
- Data ownership mapped
- How about the principles?
Principle 1

- Do not lose focus of the objective!
  - In IS case this is Systems Alignment
  - Single page encapsulates business
  - Conceptual model of the business & systems
  - Communicate, communicate, communicate
  - Creates a business focus showing role of systems
Principle 2

- Do not get lost in trying to do it all!!
  - IS Focus on high level Conceptual Architecture
  - Secondary focus on Process end to end
  - Tool used is Systems Architect
  - Only Conceptual Architecture and Process models are shared with the business
  - Focus tightly maintained
Principle 3

- If it doesn’t have Business value, don’t share it.
  - High level Conceptual model shared widely
  - Process models (BPMN) approved by Process Owners, available to all on intranet.
  - Other models (Data, Data Flow etc used within systems departments.
  - High level models have remained constant
Principle 4

- High Level Conceptual Architecture remains relatively stable over time (Years)
  - IS Conceptual has now been unchanged for 2 years
  - Specific systems have changed, priorities have evolved, but the Conceptual Architecture is stable
  - As time goes by Business Understanding of the model increases and is used as a common reference
Principle 5

• Success is when the Conceptual Architecture becomes the Lingua Franca
  ▫ It has become the basis of shared understanding and terminology across IS
  ▫ Often used at Exec level to position problems and issues.
 Principle 6

- Conceptual Architecture can be the basis for Business / IT Alignment
  - If not then what is?
  - Systems Roadmap is the balancing act between IT and Business
  - Provides the basis for managing Capacity of IT to deliver to meet business needs
  - Managed through SYSMANCO
Principle 7

- People are important
  - Not all people are good conceptually, but can learn
  - Constant evangelism is required
  - Benefits of conceptual architecture are slow to start but gain momentum
  - This has been invaluable for IS
Conclusion

• Architecture has been a great benefit to IS
• Business value will keep increasing as we evolve
• A common understanding and language is indispensable
• Architecture as a discipline in a mature org is difficult.
• Architecture in an immature fast growing org is more difficult, but more essential