

Decisioning

An Executive Perspective

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Presentation originally given to a CxO breakfast event, Wellington NZ
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Meeting the Challenge: The Gartner 2009 CIO Agenda

Business Priority	2008	2009	2012	
Improving business processes	1	1	2	Strategic focus
Reducing enterprise costs	5	2	7	Short term focus
Improving enterprise workforce effectiveness	6	3	6	Short term focus
Attracting and retaining new customers	2	4	3	Strategic focus
Increasing the use of information/analytics	8	5	8	Short term focus
Creating new products or services (innovation)	3	6	1	Strategic focus
Targeting customers and markets more effectively	9	7	9	Short term focus
Managing change initiatives	12	8	12	Short term focus
Expanding current customer relationships	7	9	11	Increasing irrelevance
Expanding into new markets or geographies	4	10	4	Strategic focus
Consolidating business operations	13	11	15	Short term focus
Supporting regulation, reporting and compliance	14	12	16	Short term focus
Creating new sources of competitive advantage	11	13	5	Long term focus

http://www.insidegartner.com/download/2009_CIO_Agenda_ExecSum.pdf

We appreciate that you all have your own focus and priorities, and that it is presumptuous of us to assume what your problems are, but being here, we guess you have some empathy with the 1526 CIOs who responded to this year's Gartner CIO survey, representing more than \$USD138 billion in corporate and public sector IT spending.

We have highlighted the shift in priorities which indicates that 2009 is a recession induced break in the prevailing priorities. We could summarize this short term focus as being around "improving efficiency", while the strategic focus is around building "new capability".

Meeting the Challenge: The Gartner 2009 CIO Agenda

Business Priority	2008	2009	2012	
Creating new products or services (Innovation)	3	6	1	Strategic focus
Improving (new) business processes	1	1	2	Strategic focus
Attracting and retaining new customers	2	4	3	Strategic focus
Expanding into new markets or geographies	4	10	4	Strategic focus
Creating new sources of competitive advantage	11	13	5	Long term focus
Improving enterprise workforce effectiveness	6	3	6	Short term focus
Reducing enterprise costs	5	2	7	Short term focus
Increasing the use of information/analytics	8	5	8	Short term focus
Targeting customers and markets more effectively	9	7	9	Short term focus
Expanding current customer relationships	7	9	11	Increasing irrelevance
Managing change initiatives	12	8	12	Short term focus
Consolidating business operations	13	11	15	Short term focus
Supporting regulation, reporting and compliance	14	12	16	Short term focus

With admirable symmetry, by 2012 the items of strategic focus are back in play, not only important prior to the recession, but firmly in focus as we come out of it.



And all include that important word 'new' (minor editorial license exercised in adding the implied '(new)' in the second item). New products, services, processes, customers, markets, geographies, advantages.

:: Are you agile enough to deliver to this demand?

POSITIONING FOR INNOVATION AND AGILITY

"7% of respondents said that their IT organizations were **both highly aligned with business strategy and highly effective in delivering** what was asked of them. But those companies as a group recorded a compound annual **growth rate over three years that was 35% higher** than the survey average. More surprising still, they were **spending 6% less on IT** than other respondents"

Avoiding the Alignment Trap in Information Technology from the [MIT Sloan Management Review](#)."

-  Business strategy alignment
-  Effective delivery

The ultimate goal is to meet the strategic objectives with increased efficiency, thereby achieving 'more for less' as the Sloan review suggests? As we will see, Decisioning can help deliver alignment to business strategy and significant improvements in IT effectiveness.

:: Maybe it is no coincidence that all 3 NZ 'CIO of the Year' finalists last month were Idiom users (Air New Zealand, IAG, Manukau City Council).

4 Levels of Decisioning Maturity

Level 3 – Policy sourced decisioning drives the SDLC

Policy exists as decision models, which drive the SDLC by implicitly prescribing core process and data requirements

Level 2 – Business users drive operational decision making

Decision components are externalized and managed by the business using purpose-built decision management tools

Level 1 – Enhanced SDLC recognizes business policy

Decision logic implementing business policy is sequestered in discrete 'black box' components within operational systems

Level 0 – Traditional development methodology

Business rules are implemented as properties of data and/or process using the same language as the rest of the system

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:: Each level improves strategic alignment and development and operational effectiveness

Decisioning Aligns IT and Business Strategy

Decisioning is a critical link between strategy + operations

- Strategy translated into decision models drives Projects
- Strategy translated into decision models drives Operational Systems

Decisioning drives top-down

- Data and process techniques are bottom up

Decisioning provides policy driven context that binds

- Business strategy
- Data
- Processes
- External events and organizations

Decisioning is an enduring implementation of strategy

- Projects are temporal

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We will emphasize four themes as listed that underpin the decisioning discussion:

[Discussion: First decision model example at NZ's largest insurer]

Thought experiment:

Given a Decision model can you infer the data or process?

Given data and process can you infer the decision model?

:: Decisioning is the corporate DNA within the strategy 'egg'

What is Decisioning?

Decisioning:

The discrete and systematic discovery, definition, assembly and execution of decisions

Decision:

A proprietary datum derived by interpreting relevant facts according to structured business knowledge

Decision Model:

An ordered assembly of decisions that provides new and proprietary information to definitively determine an optimal course of action for the business

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:: How do we define this DNA? We hope these are some useful definitions . . .

[POINT1] 'discrete' highlights first order role of decisioning – it is not dependent on other design artifacts

[POINT2] Decisions cannot be multi-valued, ambiguous, or tentative. Facts interpreted through 'structured business knowledge' = the essence of proprietary behavior.

[POINT3] The decision model is a key point of difference (cf the BR Manifesto)

Compare the roles of decision model / data model at the level of decision / attribute respectively

Changing the course of business requires a series of complex interrelated decisions – a single decision in isolation simply doesn't exist, hence the importance of the model.

:: Decisioning is now defined

The Fundamentals

A strategic requirement is one which creates value for the sponsor

Something must change state to create value - a 'decision made' is always the proximate cause of state change

The technology and approach for automating decision-making is 'decisioning'

Decision models describe the act of creating value in the organization (however value is defined)

Understanding and implementing decisioning improves business agility for less cost, less risk, less time - more effective IT!

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:: Why do we make this 'outrageous' DNA claim regarding the importance of decisioning? Because it is the ultimate specification of the act of creating corporate value!

There must be a change of state for value to be created

There must be a decision for there to be a change of state

A decision model = specification of state change = definition of value = achievement of strategic objective = fundamental driver of corporate behavior

Strategy → Policy Manual [Discussion: Property Mortgage Insurance example]

:: We should not under-estimate the potential benefits of applying decisioning

Decisioning means decision making . .

. . . that can be automated and updated independently of systems development priorities

. . . that is defined and managed by the functional unit implementing the policy

. . . that can be audited - and shown to be aligned with and arising from corporate policy

. . . that can be tested for the 3 'C's
correctness
completeness
consistency

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These are what you should be looking for in your decisioning solutions

Decisioning means agility at lower cost

Decisioning aligns processes, resources and activities with corporate policy

Decision automation means faster, more accurate, more consistent transactions at lower cost

Decision enabling new or existing processes drives process re-engineering and process improvement

The business is more agile when system behavior is driven directly by business defined decisions without translation through the 'SDLC'

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Decisioning means business empowerment

Business owners are empowered and in more direct control of the available system and organizational resources

The relationship between business owners and IT becomes more structured with more predictable outcomes

Separation of concerns – decisioning lives in the business, not IT

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Decisioning Provides IT Benefits

Systems development is de-risked, with lower cost, more reliable systems delivery

Commoditized processes are more viable when the corporate IP is external to the process and cannot be compromised

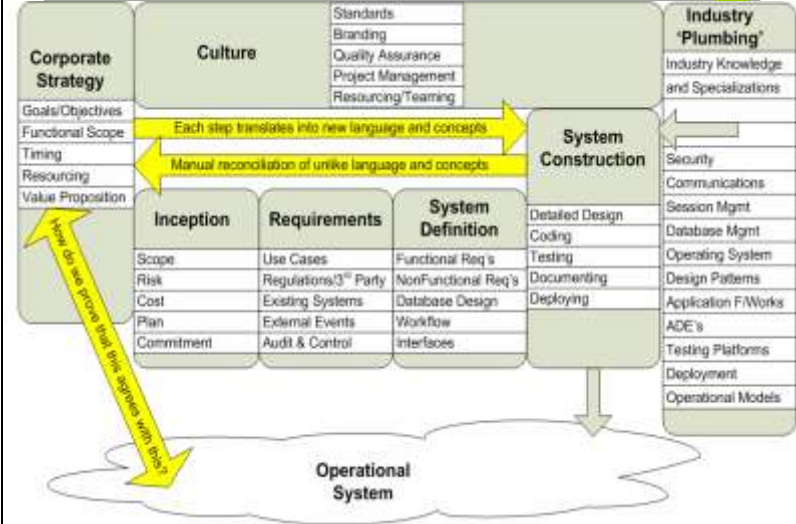
IT ceases to have implied responsibility for business outcomes - can focus on higher quality process engineering and capacity management

There need never be another legacy system – legacy processes can be replaced with migration of the embedded decisioning

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Standard Development Methodology



:: Where does decisioning fit in our current day approaches? The short answer – nowhere!! There is no artifact within UML or any other mainstream SDLC that describes decisioning

Typically narrative requirements are translated multiple times through a perfect chain of ‘Chinese whispers’

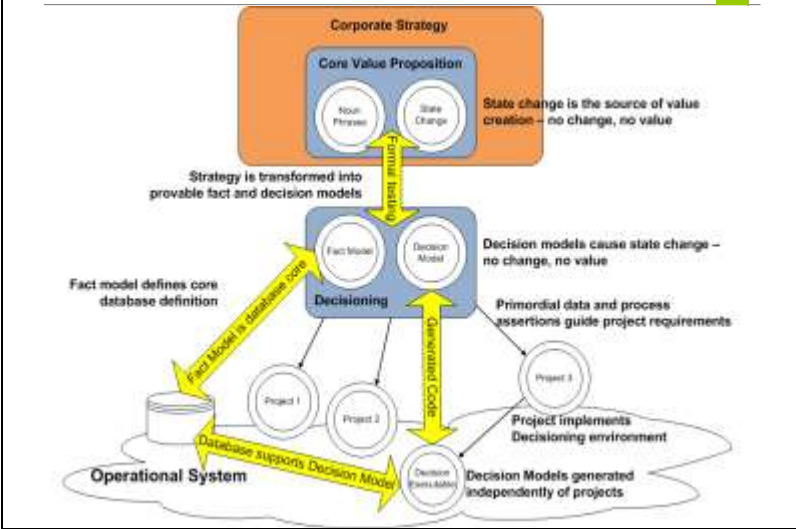
Cant test 3 Cs at any stage except for the last – what is tested can not logically be proven to be what was required.

Business requirements and ‘Plumbing’ are comingled

BUT Decisioning should not be plumbing – decisioning is the only truly proprietary artifact – and it is not here

:: How do we prove that what we have built is consistent with what the strategy requires?

Decisioning is Provable Regardless of Project



:: We can actually prove it before we even start the project, preferably even before we have a project!

[Discussion: Logistics rating example]

Decisioning models overleaf precede and are independent of development

Projects provide plumbing – they contain and service decisioning – decisioning is business managed content

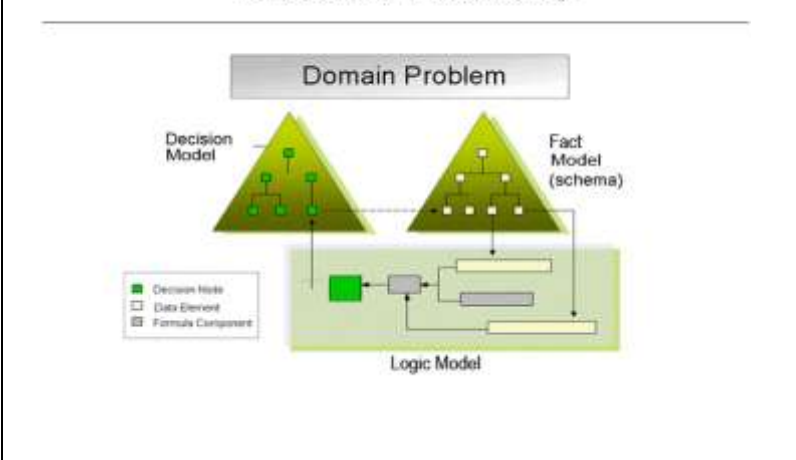
BPM - generic commodity systems, become viable

Leads to ‘next generation processes’ – multi-party, cross domain processes, unleashing radical process improvement

Also reduces project size, therefore cost, risk and time – ref T Capers Jones

:: Decisioning is outside of project and process – it exists before, during, and after both – it is an enduring manifestation of strategy.

The 3 Models that Define Business Knowledge



The 3 essential models: Fact, Decision, and Logic, form a coherent, complete, independent and testable manifestation of policy.

The Fact Model is the description of the domain problem ‘at rest’

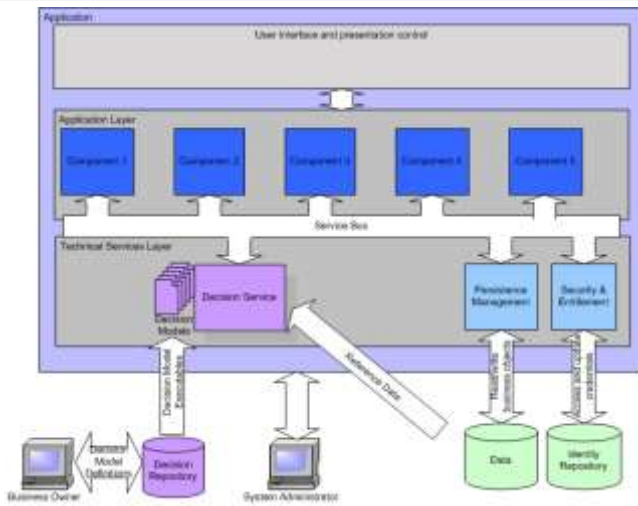
The Decision Model is the description of the valid transitions between the Fact Model resting states

The Logic Model describes the consumption of ‘facts’ that is required to derive each decision

The difference in the states of the fact model (ie before and after the decision model transition) is the value contributed by the decision model

- That is, the value created by applying the corporate knowledge to the problem domain as described by the Fact Model

The Solution Uses the Decision Service



:: And where does decisioning fit into what we traditionally think of as the system?

The traditional view sees the decisioning [purple bits] as components (or worse, coded attributes) of the system [the rest]

The new view sees the system as a container for the decisioning

Does the business care what the blue bits look like – provided it works well at the lowest possible cost – it is commodity, like the telephone system

Anyone can provide the blue stuff; only the organization itself can provide the purple stuff

:: This is the secret of decisioning – commoditize the process, own and prioritize the decisioning

100 Person Year Project

Developer Productivity

- All 'plumbing' development, including reporting and forms
- Developer Hours 40,484
- SLOC (Java) 240,000
- SLOC per Dev Hour 5.93

IDIOM Productivity

- Decision Models 89
- Decisions 6624
- RAD Release Cycles 3
- Decision Designer Hours 8,731
- Total SLOC (Java) 1,046,618
- SLOC per Designer Hour 119.87
- Largest Decision Model 60,000
- Execution Time (Java) <5ms

A large, successful and reference-able project – 100 person years in requirements, development and QA

3 distinct release iterations, all rules developed by an internal business branch team in parallel with underlying development, and now ongoing!

Idiom code does not have bugs – so this differential increases as a proportion of the total project lifetime cost

And we didn't even mention this as a core benefit!

Largest decision model executes in 5ms on low end desktop machine, using commercial XML documents (4 totaling ~200k).

The IDIOM Decision Suite

IDIOM Decision Manager

A proven business tool for automating decision-making within computer systems - fast, easy, dependable

IDIOM Forms Builder

A visual tool for building complex intelligent forms, widely deployed in the NZ public and health sectors

IDIOM IQ Workbench

A Visual tool for building BPEL like processes that include rules, forms, documents within complex standalone transactions

Ready now to deliver the promise of Decisioning

A Suite of tools you can trust:

Idiom Decision Manager – A robust and easy to use ('more fun than playing golf') drag and drop decision design tool that has generated 100's millions of lines of production code since 2001

Idiom Forms Builder – Alpha release of the builder released this month. The underlying generator and engine has been in production for >2 years, currently on more than 3000 servers serving 3 Government Ministries, many departments and agencies, soon to be a majority of NZ Life insurance companies

Idiom IQ WorkBench – Beta scheduled this year; all underlying runtime components are already in production use with selected customers

See www.idiomsoftware.com for more details