

Hello Tomorrow



Reflecting Stakeholder Perspectives in Architecture Reviews

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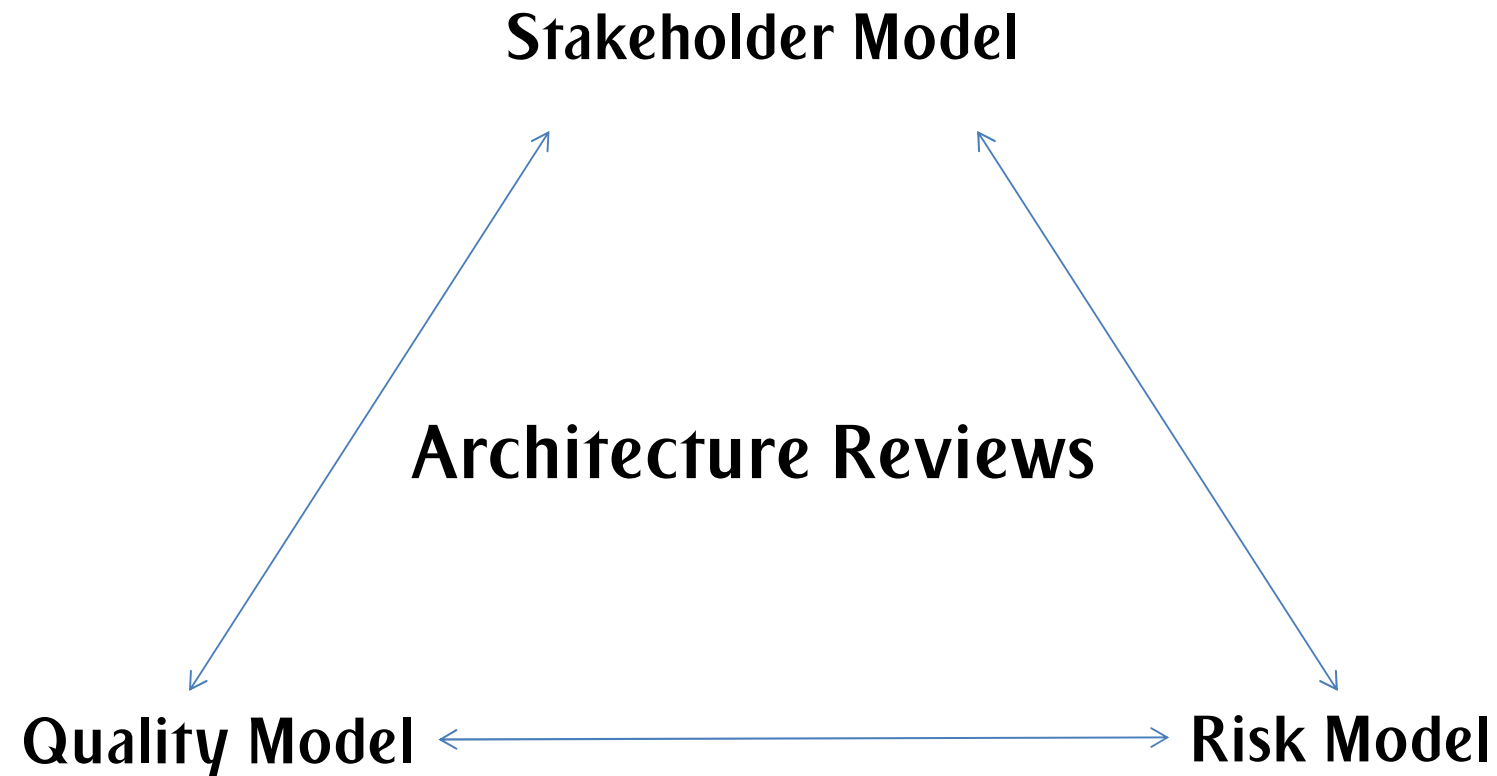


About Emirates Group



The Emirates Group's extensive and diverse international portfolio includes Emirates airline, Dubai's 52 year-old household name dnata, Emirates SkyCargo, Emirates Destination and Leisure Management and Skywards. Together with a number of joint venture businesses, the Group comprises more than 50 brands, employing 57,000 people.

- In 2010/11 financial year, the Emirates Group announced record net profits of US\$ 1.5 billion



Risk



$$\text{Impact} \times \text{Likelihood} = \text{Exposure}$$

David van Dantzig
Delta Works Project 1953

Likelihood	Almost Certain	5	5	10	15	25	30
	Likely	4	4	8	12	20	24
	Possible	3	3	6	9	15	18
	Unlikely	2	2	4	6	10	12
	Rare	1	1	2	3	5	6
			1	2	3	5	6
			Negligible	Minor	Moderate	Major	Catastrophic
			Impact				

Why risk?

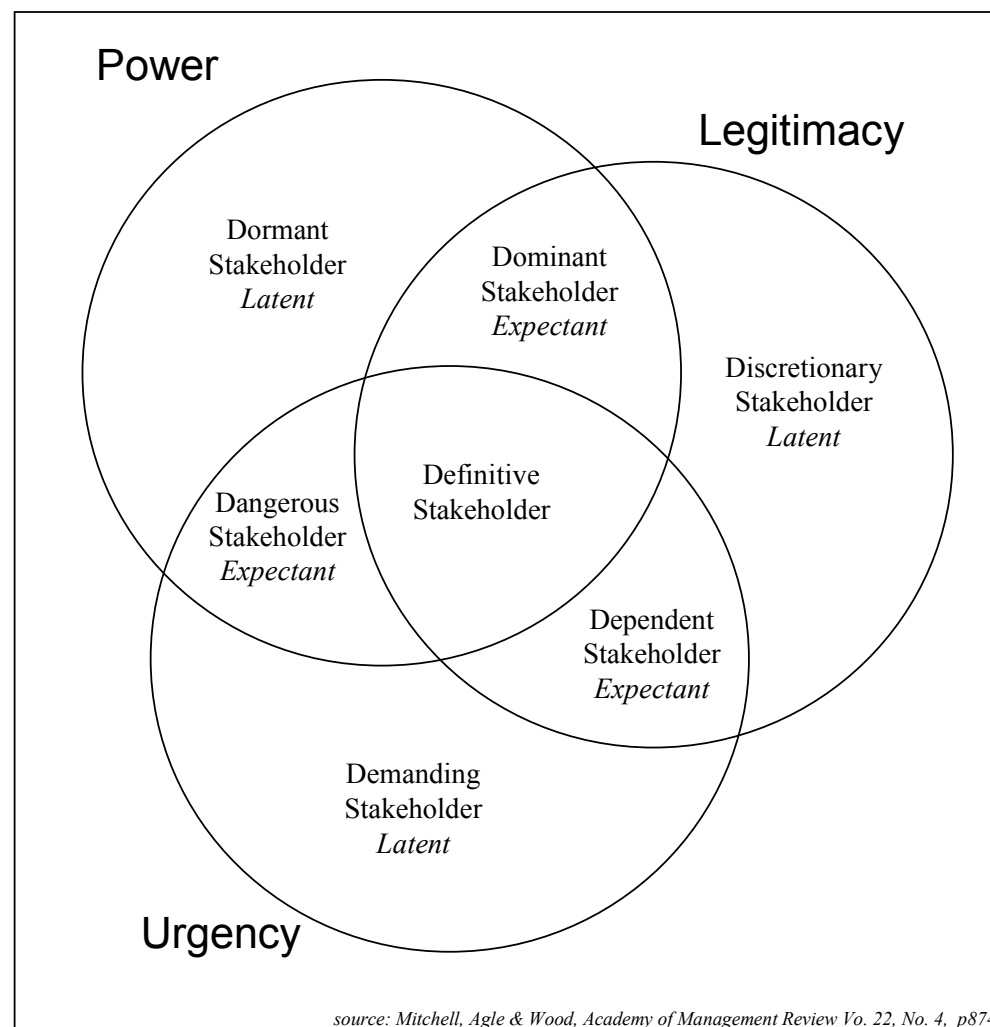
- A common business language
- Impact
 - of failing to achieve a scenario
- Likelihood
 - of a solution option failing to achieve a scenario
- Stakeholders can consider mitigation options

Quality



source: ISO/IEC 9126-1

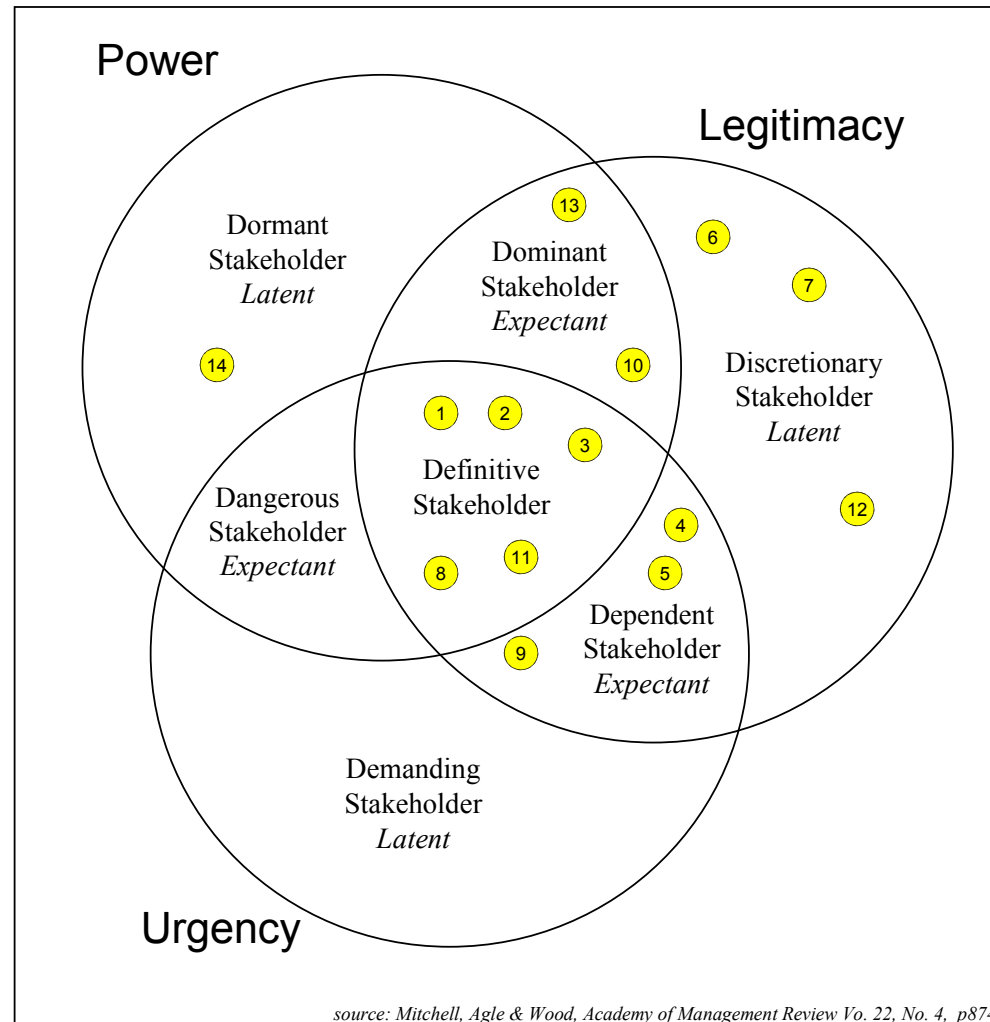
Stakeholders



Architecture Reviews at Emirates

- Stakeholder Analysis
- Scenario Development
 - Classify according to Quality Model
 - For each scenario:
 - Agree Impact for each Scenario
 - Assess level of stakeholder interest
 - Validate using 'heat map'
- Tradeoff Analysis
 - By Quality Characteristic
 - By Stakeholder
 - Explore by Scenario
- Cost Benefit Analysis

Stakeholders





Scenarios

[illegible]

Does it look right?

	Functionality	Reliability	Usability	Efficiency	Maintainability	Adaptability	Overall Average	Rank
Number of scenarios ->	31	2	9	5	2	3	52	
NCC Cmd & Ctrl	0.50	0.25	0.28	0.50	0.25	0.33	0.43	4
NCC Ops	0.71	0.25	0.33	0.40	0.25	0.33	0.56	1
Govt Cmd & Cntrl	0.18	0.25	0.00	0.20	0.00	0.00	0.13	9
DOCC Cmd & Ctrl	0.61	0.25	0.28	0.40	0.25	0.33	0.49	3
DOCC Ops	0.65	0.25	0.39	0.40	0.50	0.33	0.54	2
External suppliers	0.11	0.25	0.00	0.20	0.00	0.00	0.10	11
Govt Ops	0.06	0.25	0.00	0.20	0.25	0.00	0.08	12
Front line service	0.32	0.25	0.39	0.40	0.50	0.33	0.35	5
Front line service (mob)	0.27	0.25	0.50	0.40	0.50	0.33	0.34	6
Application Owners	0.10	0.25	0.00	0.40	0.00	0.00	0.11	10
EG-IT	0.15	1.00	0.11	0.70	0.25	0.17	0.23	8
Steering Group	0.42	0.00	0.17	0.10	0.00	0.00	0.29	7

Now we know what we want

- Reuse, Buy, Build?
 - How?
- Define competing solution options
 - A sufficiency of architecture

Risk Tradeoff Analysis

By characteristic:

Functionality	✗	13.50	✓	4.50		7.50	✓	4.50
Reliability	✗	6.00	✗	6.00	✓	3.00		4.50
Usability	✓	3.00	✗	15.00		9.00		13.50
Efficiency	✓	6.50	✗	12.00		8.00		8.50
Maintainability	✓	3.00	✗	9.00		6.00	✗	9.00
Adaptability								
Aggregate Risk Burden		32.00		46.50		33.50		40.00

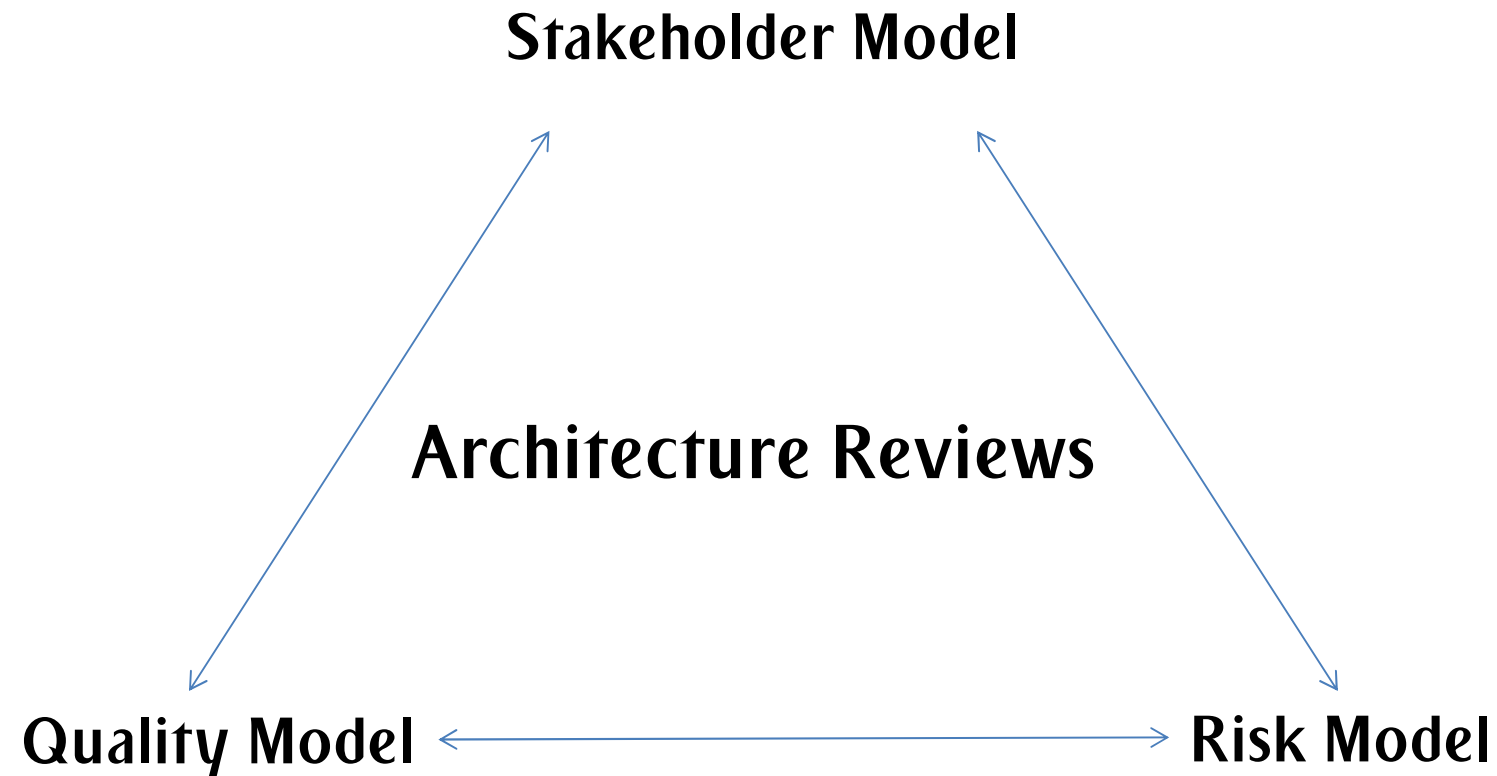
By stakeholder type:

Definitive	✓	6.86	✗	9.57		6.93		8.20
Dependent								
Dangerous								
Dominant	✗	6.75	✗	6.75	✓	4.50		5.25
Demanding								
Discretionary	✓	6.00	✗	10.50		6.75		8.25
Dormant								

By individual scenario:

op stateless no state the servers side plication	Major	Almost certain	5	Almost certain	5	Almost certain	5	Almost certain	5
ort Externalization ports	Major	Almost certain	5	Almost certain	5	Possible	15	Possible	15
ort user ut of the box	Major	Almost certain	5	Almost certain	5	Possible	15	Possible	15
ort chat kind of uirements	Moderate	Almost certain	3	Almost certain	3	Possible	9	Likely	6
ort code master	Major	Almost certain	5	Almost certain	5	Possible	15	Possible	15
ort list of values	Major	Almost certain	5	Almost certain	5	Possible	15	Possible	15
lown, start , stop	Major	Possible	15	Likely	10	Likely	10	Possible	15
ate , use or tring, Date	Moderate	Almost certain	3	Almost certain	3	Almost certain	3	Almost certain	3
ort procedures, ef cursors	Moderate	Almost certain	3	Almost certain	3	Almost certain	3	Almost certain	3
lown functions, io on. Ability to of the system	Moderate	Almost certain	3	Almost certain	3	Possible	9	Possible	9
ort contract ed development. ate interfaces tation	Major	Almost certain	5	Almost certain	5	Almost certain	5	Almost certain	5
ort two factor	Moderate	Possible	9	Possible	9	Possible	9	Possible	9
ck client	Major	Possible	15	Almost certain	5	Almost certain	5	Possible	15
urity policies	Catastrophic	Almost certain	6	Almost certain	6	Likely	12	Likely	12
	Major	Almost certain	5	Almost certain	5	Possible	15	Possible	15
ort java standalone	Moderate	Almost certain	3	Likely	6	Unlikely	12	Almost certain	3

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Questions

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