



Southern African Association for Institutional Research

## **SAAIR 2015 Conference 2015**

How mature is BI in your institution ....  
can we know?

S van Zyl

# Outcomes

BI definition update

Overview of BI models from literature

Cost benefit or ROI

How can you know how mature your institution's BI is

Instrument to monitor maturity progress

## BI definition update

BI is often described as an umbrella term

- BI combines data collection and data storage with analytical tools in order to synthesize information that helps support decision making. It facilitates managerial work and increases the decisions based on relevant information as opposed to decisions based on personal experience and judgment.
- BI is an analytical process that converts disintegrated data into knowledge and action-oriented information. This information is then used in the decision making processes and in the achieving of business goals (Näslund, 2014).

## BI maturity

How mature is BI in your institution ....  
can we know?

## The Data Warehousing Institute

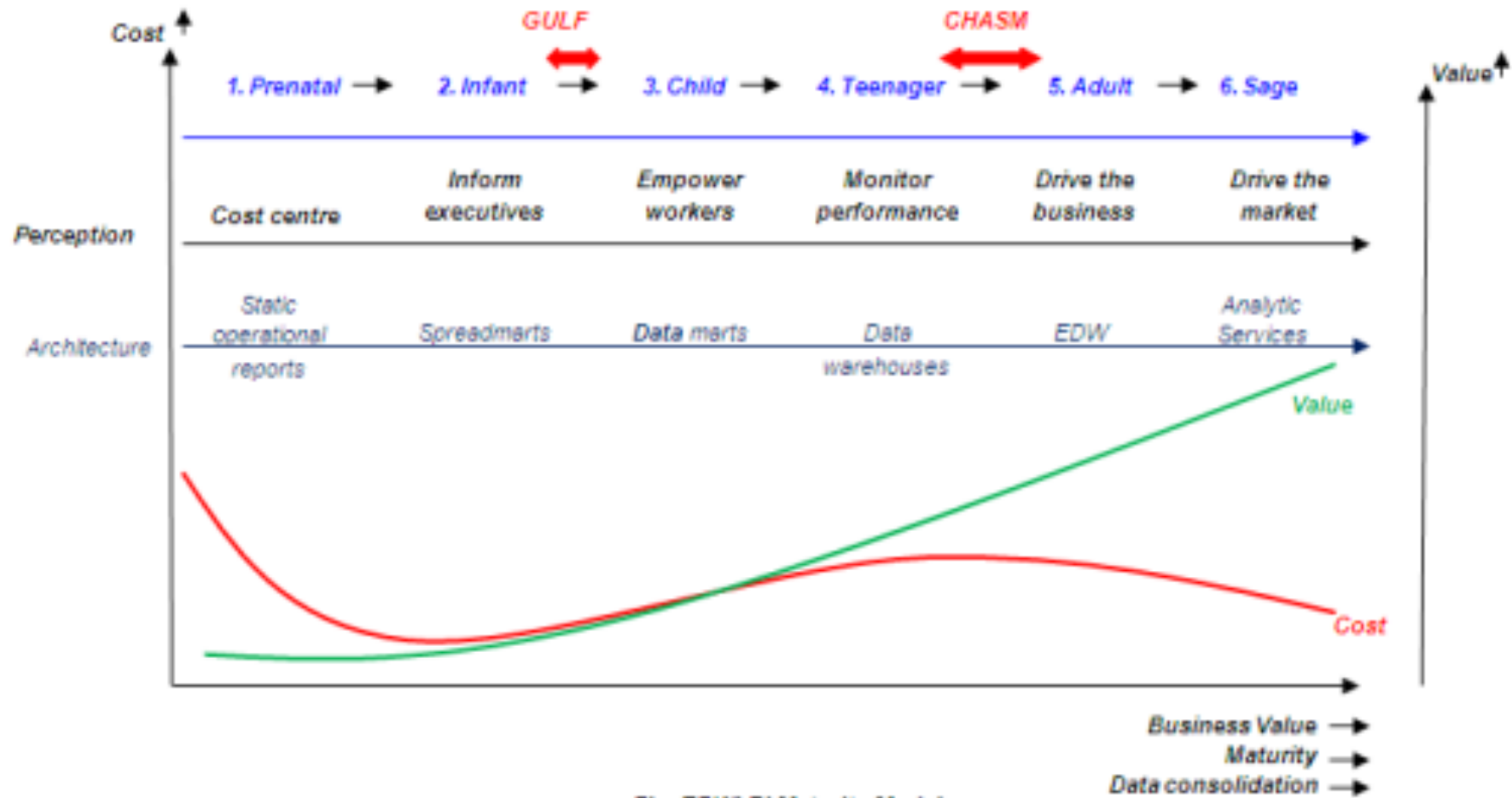
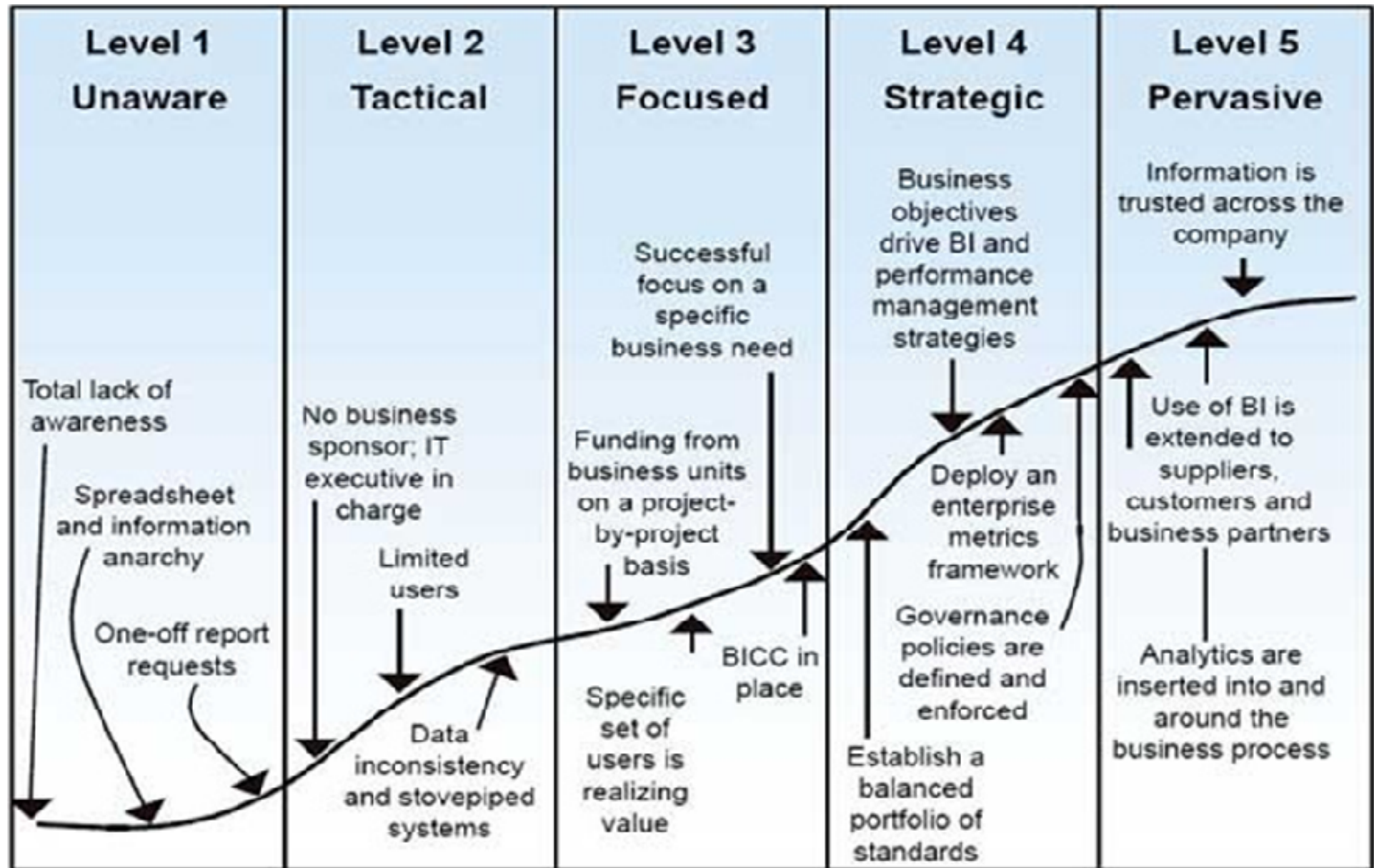


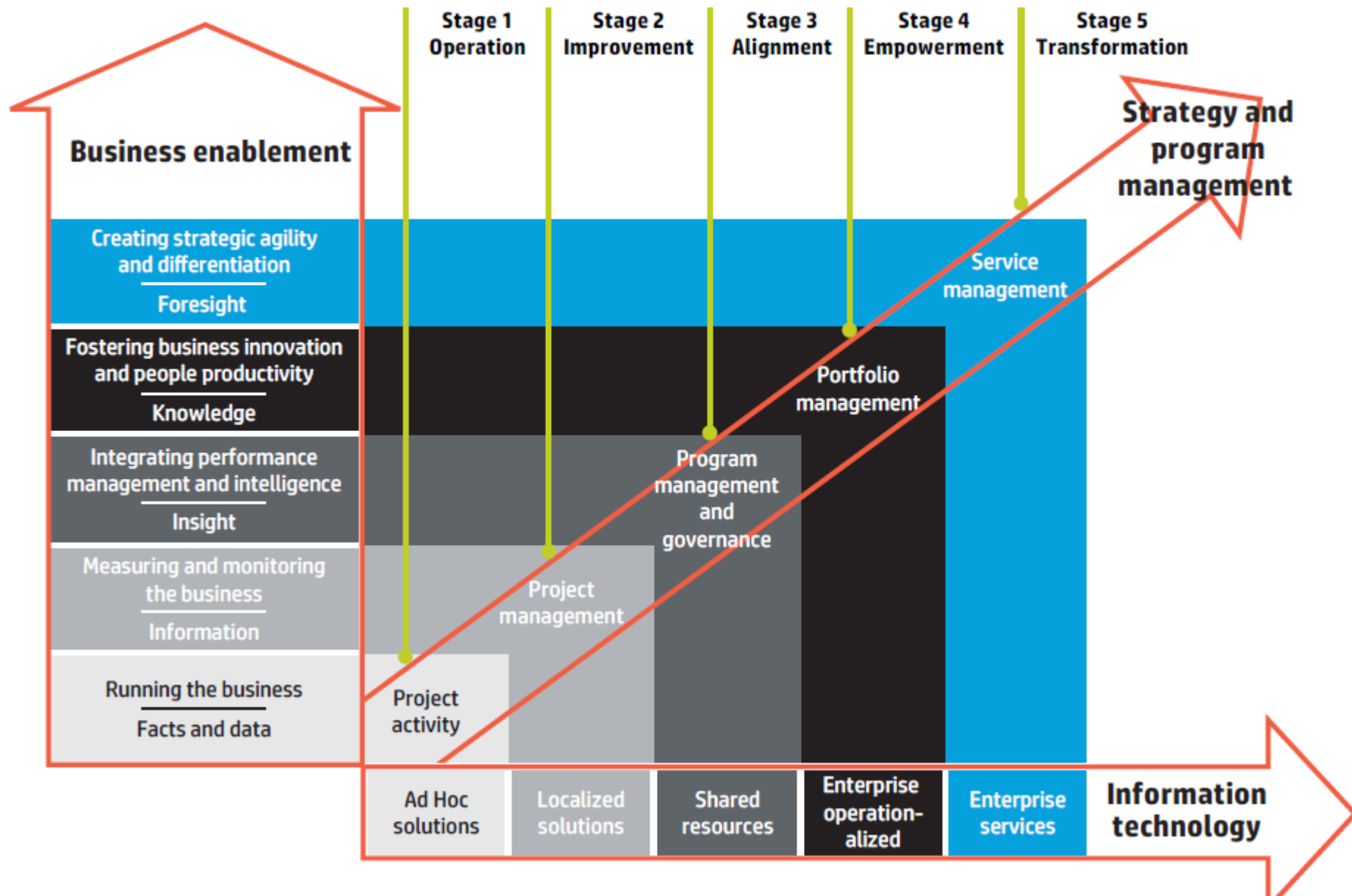
Fig. TDWI BI Maturity Model



BI = business intelligence

BICC = BI competency center

# Hewlett Packard



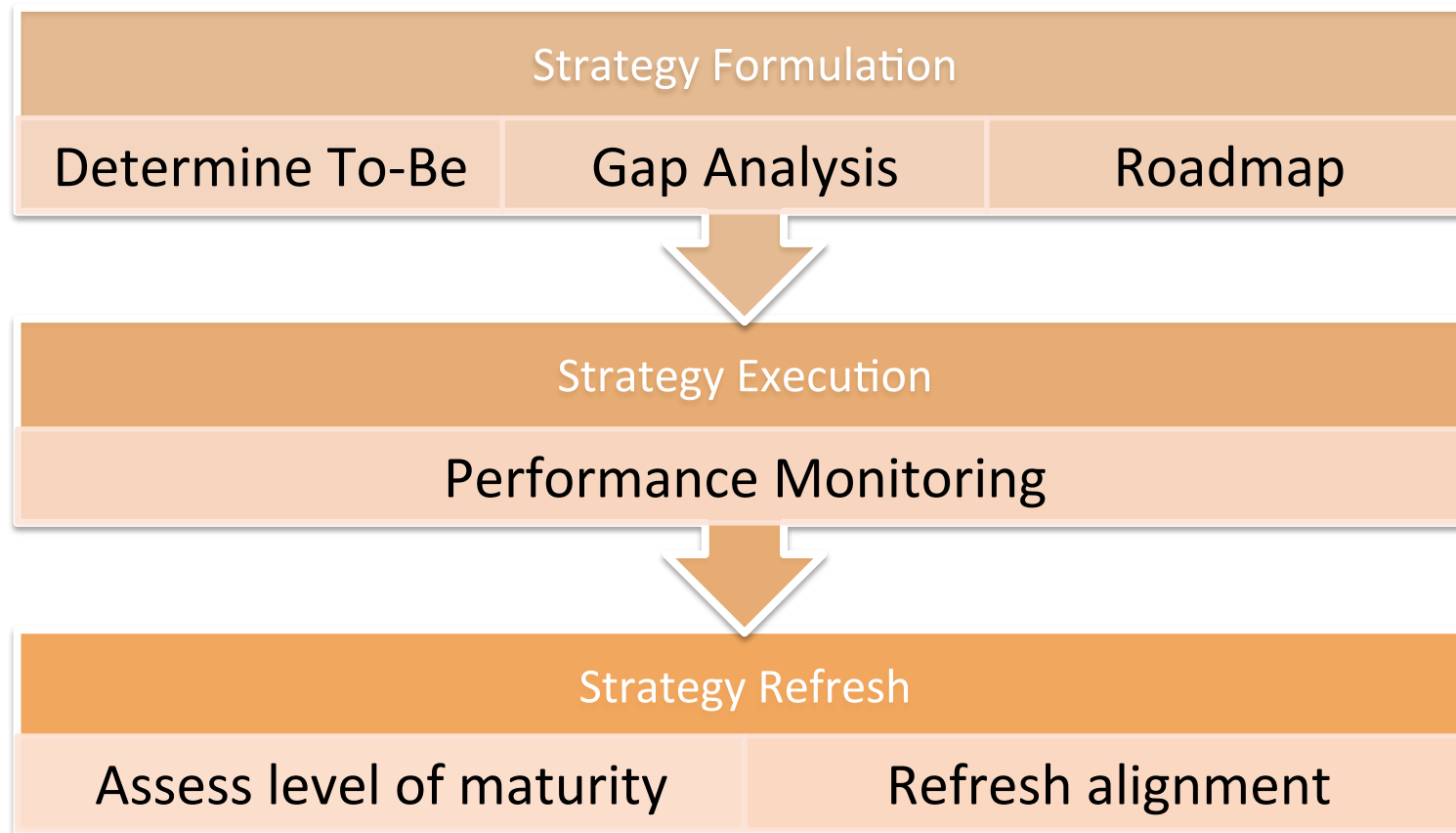
## Financial methods to determine cost benefit

- **Total Cost of Ownership:** Considering direct and indirect costs
- **Payback analysis:** Determines how long it takes for an information system to pay for itself through reduced costs and increased benefits
- **ROI:** %Rate comparing total net benefits to total costs
- **Net Present Value NPV:** Total value of benefits minus total value of costs both reflecting the point in time each occurred

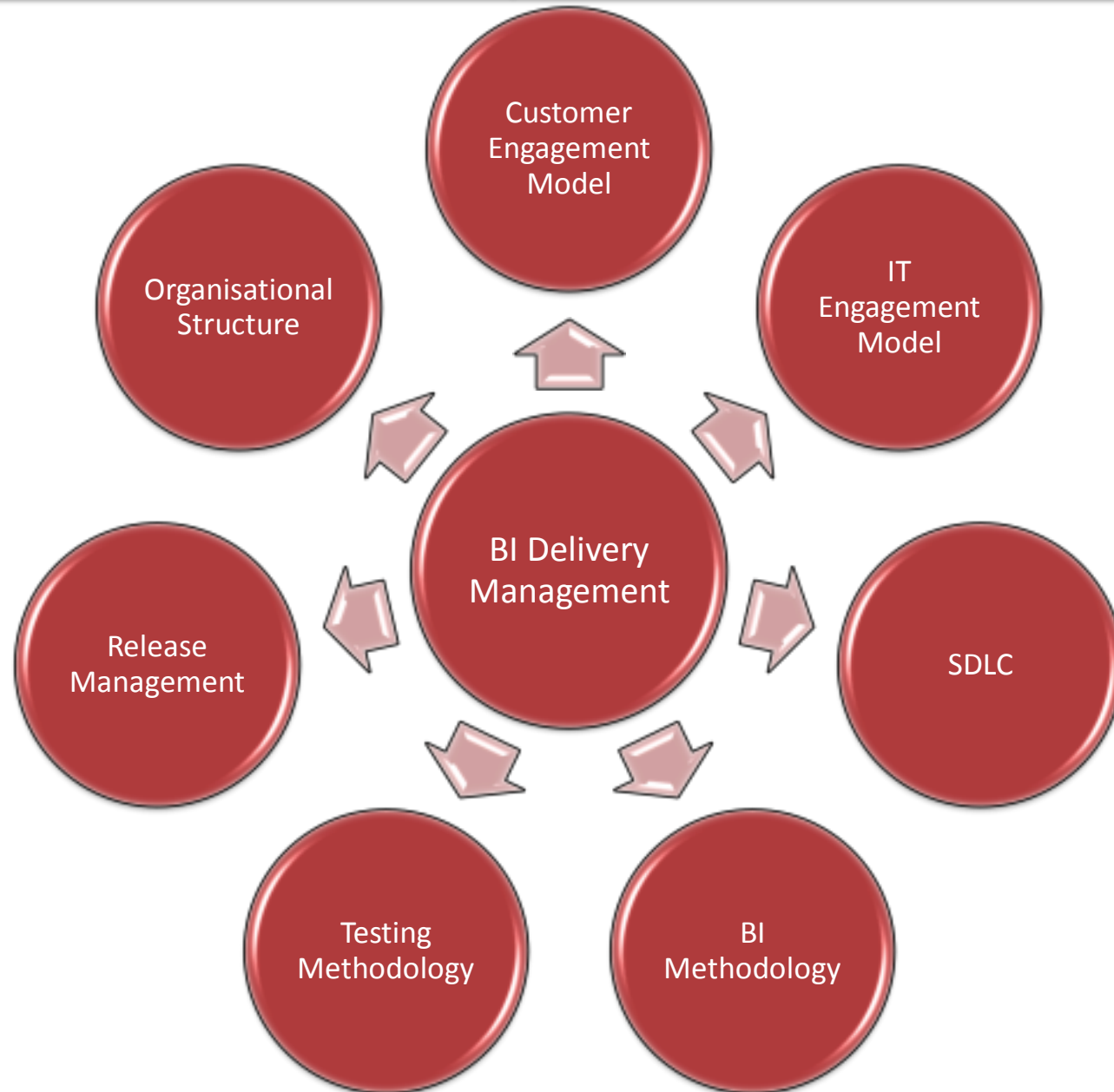
Cost Savings	Additional Business Opportunity
<p>Reduction or elimination:</p> <ul style="list-style-type: none"><li>• consolidating disparate reports</li><li>• waste reviewing multitudes data and reports</li><li>• time in coordinating and monitoring complex processes</li><li>• effort enforcing regulatory compliances</li><li>• redundancies for processing similar data</li></ul>	<p>Better decision making / insight / service:</p> <ul style="list-style-type: none"><li>• current or live information</li><li>• improved data visibility - enhanced visualisation</li><li>• Proactive and timely exception management and alerts</li><li>• customer service enhanced</li></ul> <p>(Malik, 2005)</p>



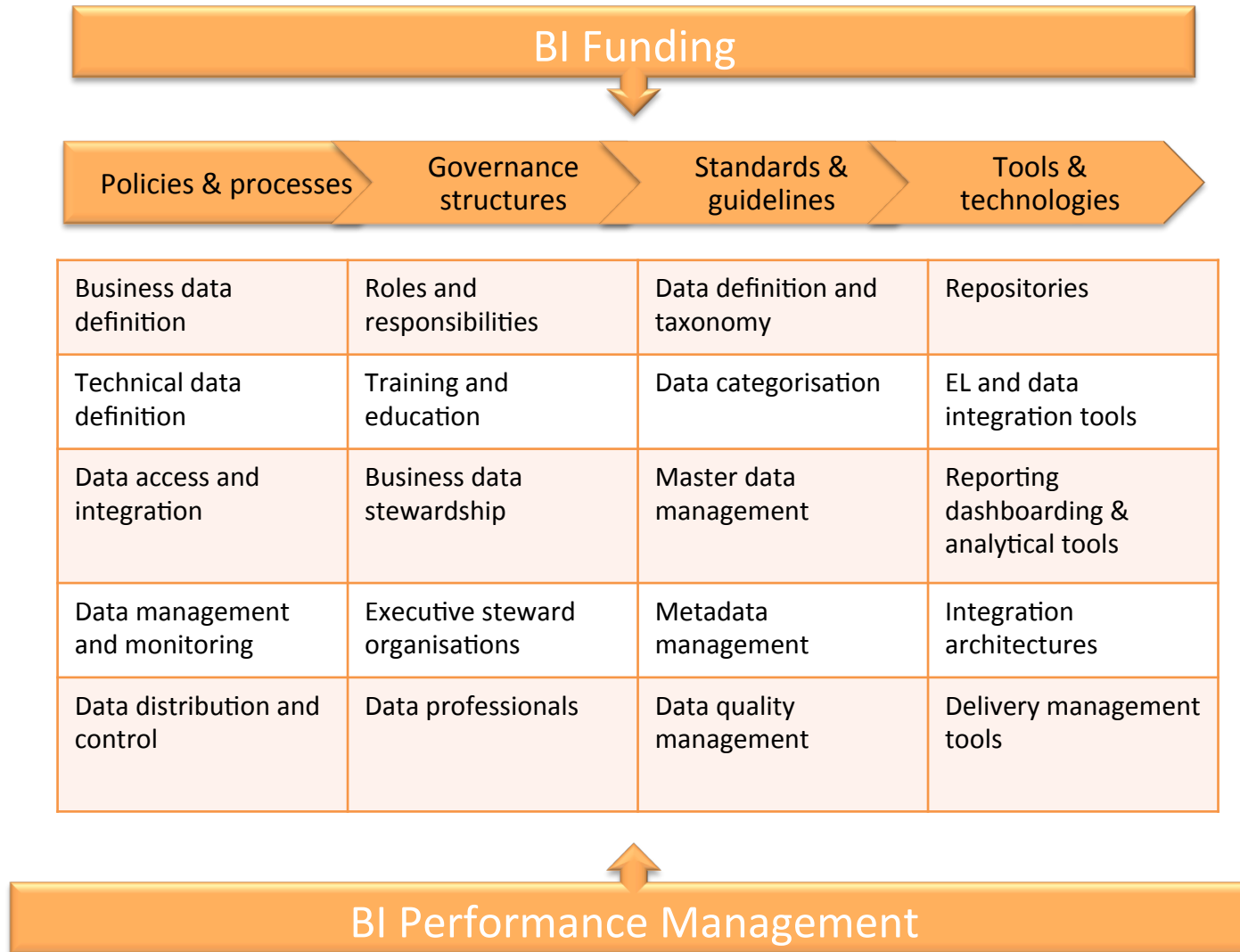
## When to use BI Maturity Assessments



# BI Delivery Architecture



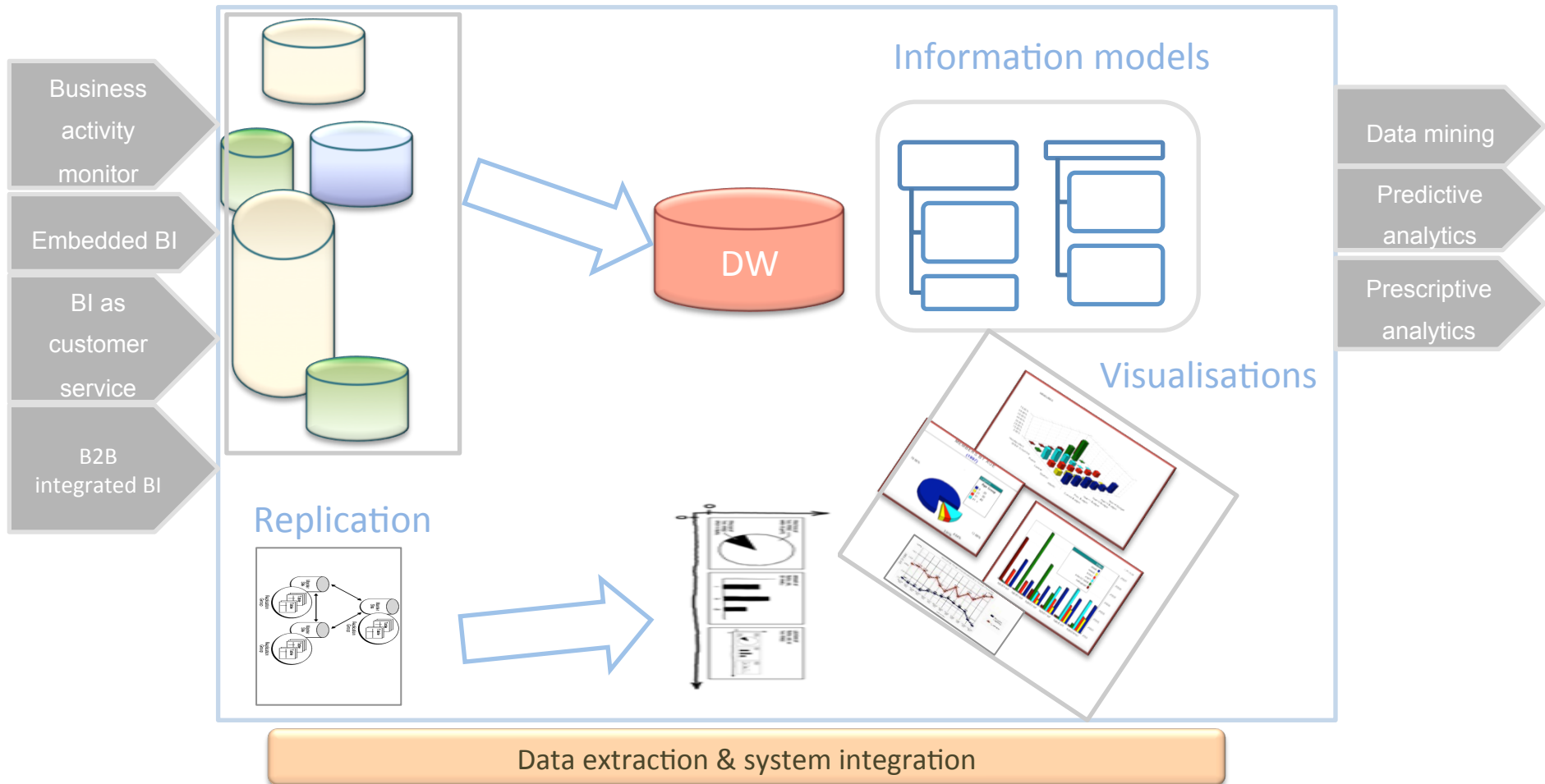
# BI Governance architecture



# BI Information architecture

Information  
Dissemination  
(Reporting, Analytics, Visualisation)

Staging



# BI Technical architecture

## BI TECHNICAL MANAGEMENT LAYER

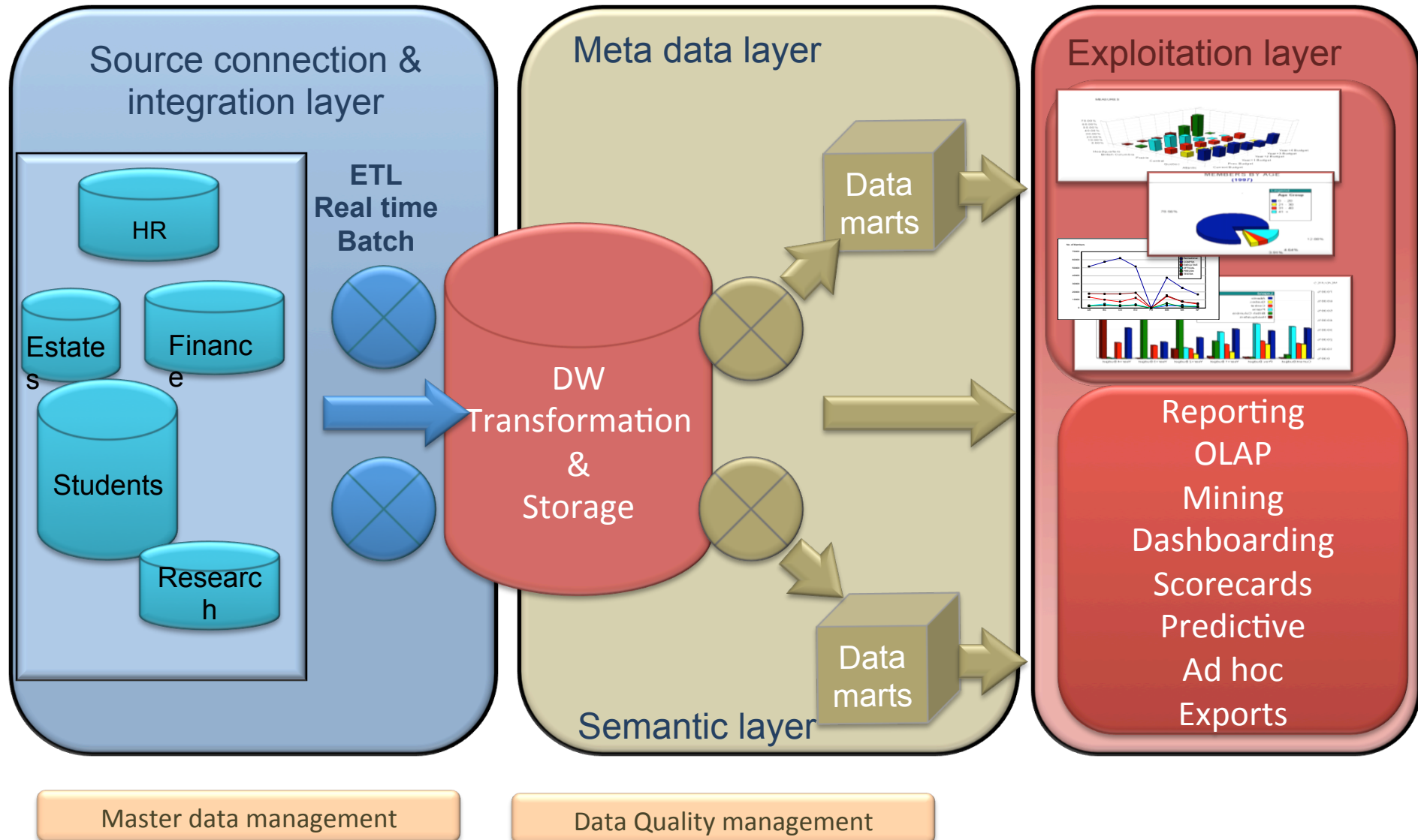
Security

Administration

Job Scheduling

Monitoring

Tuning



# 4 Dimensions of BI Maturity

Organisational Culture  
Business ownership & commitment

## Leading Indicators

### BI Solution

Information  
Architecture

Technical  
Architecture

### BI Management

Delivery  
Architecture

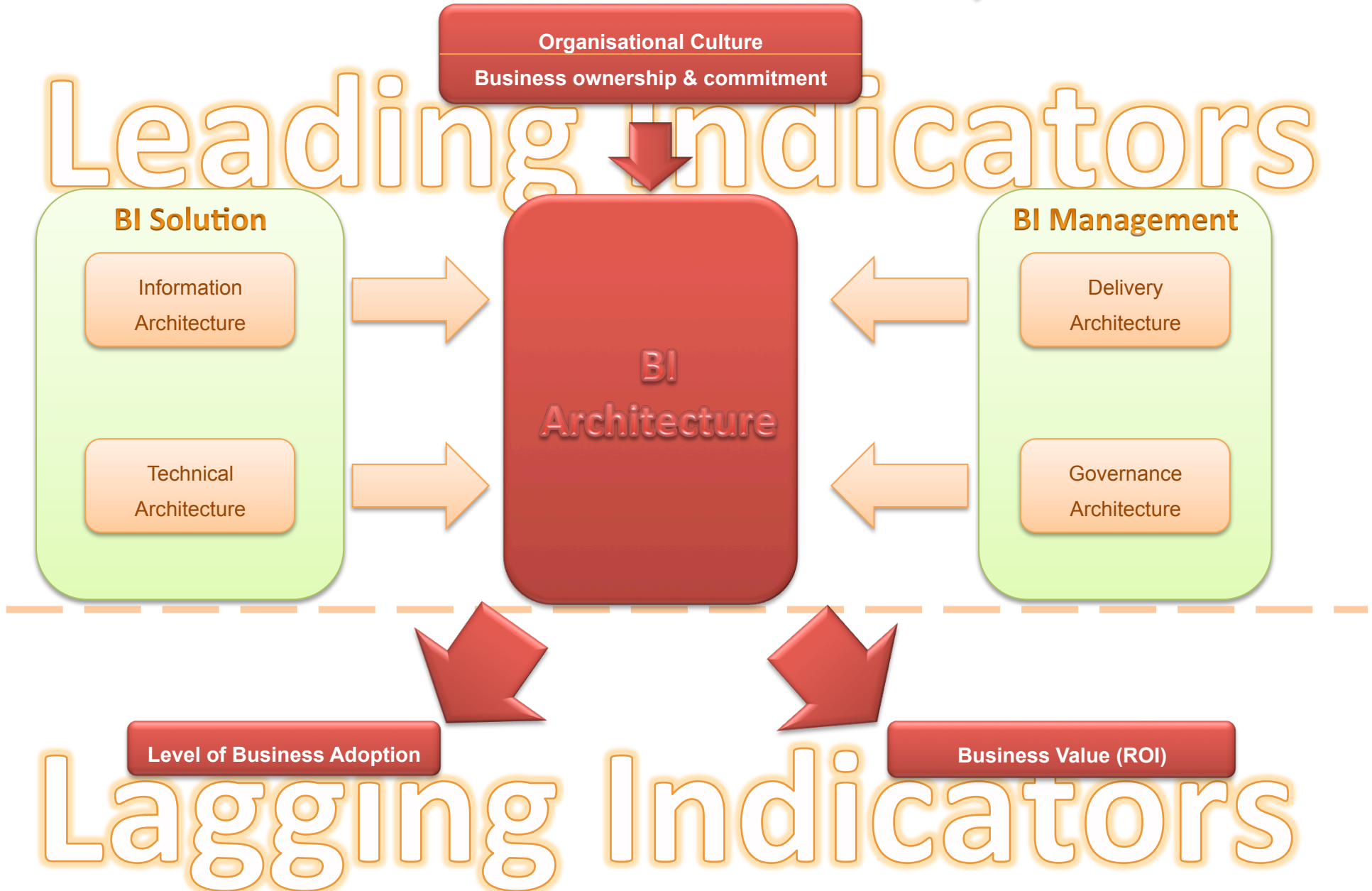
Governance  
Architecture

BI  
Architecture

Level of Business Adoption

Business Value (ROI)

## Lagging Indicators



















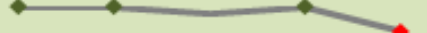















## Scoring a BI Maturity Model

		Weight %	Max score	Weighted Scores 2014	Weighted Scores 2015
<b>BI Technical Architecture</b>		<b>25%</b>	25	14.5	11.5
<b>BI Information Architecture</b>		<b>20%</b>	20	7.8	6.4
<b>BI Delivery Architecture</b>		<b>15%</b>	15	3	3
<b>BI Governance Architecture</b>		<b>40%</b>	40	4	4
<b>TOTAL</b>		<b>100%</b>	<b>100</b>	<b>29.3</b>	<b>24.9</b>
<b>BI Technical Architecture</b>		<b>25%</b>	100	58	46
Integration layer	All= 20,2 per integration,No= 0		20	8	6
Transformation layer	Yes= 10,No= 0		10	10	10
Data storage layer	Yes= 10,No= 0		10	10	10
Exploitation layer	Yes= 10,No= 0		10	10	0
Semantic layer & Meta-data	Yes= 10,No= 0		10	0	0
MDM & DQM	Yes= 10,No= 0		10	0	0
Technical Management layer	Yes= 10,No= 0		10	10	10
ETL Framework	Good= 10,Medium= 5,No= 0		10	5	5
Data architecture	Good= 10,Medium= 5,No= 1		10	5	5
<b>BI Information Architecture</b>		<b>20%</b>	100	39	32
Dissemination frameworks	Yes= 10,No= 0		10	0	0
Visualisation frameworks	All= 10,2 per integration,No= 0		10	4	2
Advanced analytics frameworks	Yes= 20,No= 0		20	0	0
Real-time and embedded BI	Good= 20,Medium= 15		20	5	5
Technical Architecture	Yes= 20,No= 0		20	20	20
Information Architecture	Good= 20,Medium= 10,Poor= 5,No=		20	10	5
<b>BI Delivery Architecture</b>		<b>15%</b>	80	20	20
Organisational structure	Good= 10,Medium= 5,No= 0		10	5	5
Customer engagement model	Yes= 10,No= 0		10	0	0
IT Engagement model	Good= 10,Medium= 5,No= 0		10	5	5
SDLC	Good= 20,Medium= 10,No= 0		20	10	10
BI methodology	Yes= 10,No= 0		10	0	0
Testing methodology	Yes= 10,No= 0		10	0	0
Release management	Yes= 10,No= 0		10	0	0
<b>BI Governance Architecture</b>		<b>40%</b>	100	10	10
Governance structures	Good= 20,Medium= 10,No= 0		20	0	0
Policies and processes	Yes= 10',No= 0		10	0	0
Standards and Guidelines	Yes= 10',No= 0		10	0	0
Technology standards	Yes= 20',No= 0		20	0	0
BI Performance Management	Yes= 20',No= 0		20	0	0
BI Funding	Good= 20,Medium= 10,No= 0		20	10	10
<b>TOTAL</b>		<b>100%</b>	<b>100</b>		

# BI Maturity Scorecard







Leading

Dimension	Component	2010	2011	2013	2014	2015	Trend
<b>BI Technical Architecture</b> 	Integration layer	2	3	2	4	5	
	Transformation layer	2	2	4	4	4	
	Data storage layer	3	3	5	5	2	
	Exploitation layer	4	4	5	5	3	
	Semantic layer & Meta-data	5	5	1	5	4	
	MDM & DQM	5	5	2	5	5	
	Technical Management layer	1	1	3	1	5	
	ETL Framework	2	2	4	2	1	
	Data architecture	3	3	5	3	2	
<b>BI Information Architecture</b> 	Dissemination frameworks	4	4	5	4	3	
	Visualisation frameworks	5	5	1	5	2	
	Advanced analytics frameworks	5	5	2	5	3	
	Real-time and embedded BI	1	1	3	1	4	
	Technical Architecture	2	2	4	2	5	
	Information Architecture	3	3	2	3	5	
<b>BI Delivery Architecture</b> 	Organisational structure	4	4	3	4	1	
	Customer engagement model	5	2	4	2	2	
	IT Engagement model	5	3	5	3	3	
	SDLC	1	4	5	4	2	
	BI methodology	2	5	1	5	3	
	Testing methodology	3	5	2	5	4	
	Release management	4	1	3	1	5	
<b>BI Governance Architecture</b> 	Governance structures	5	2	2	2	5	
	Policies and processes	5	3	3	3	1	
	Standards and Guidelines	1	4	4	2	2	
	Technology standards	1	5	5	3	3	
	BI Performance Management	1	5	5	4	4	
	BI Funding	1	1	1	5	5	



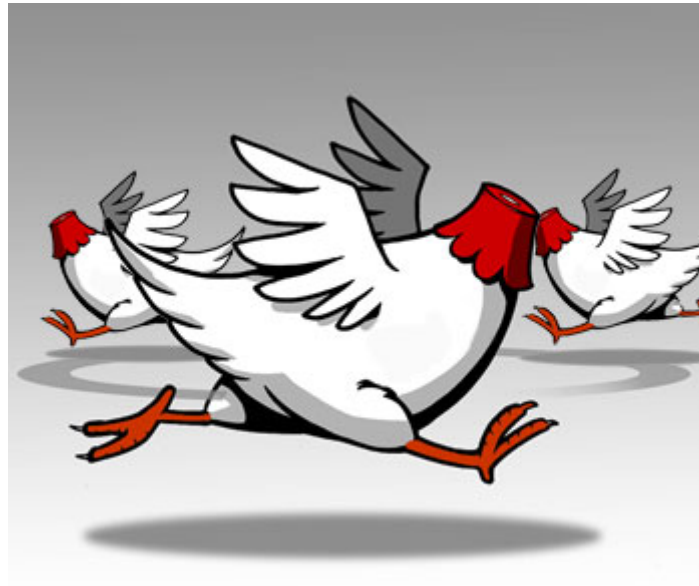
# Organisational outcomes of BI Maturity

## Lagging

Dimension	Component	2010	2011	2013	2014	2015	Trend
Potential to mature 	Organisational culture	2	2	4	3	1	
	Business ownership and commitment	2	3	4	3	0	
Maturity results 	Realised BI business value (ROI)	2	4	3	3	1	
	Level of Business Adoption	2	3	3	3	0	

# The End

Is there any political will to improve the BI maturity and is there planned direction...?



## Thank you