Utility Coach

Σxperience. Σxcellence. Σminence.

An integrated methodology for Smart Grid implementation

PRESENTED BY: DR WJ DE BEER

JULY 2018, POWER-GEN & DISTRIBUTECH AFRICA

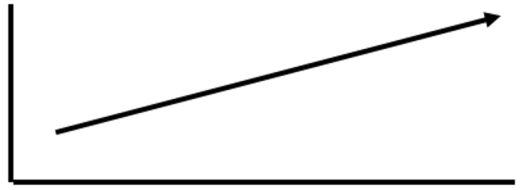
Agenda

- Context
- Electricity Supply Industry - Africa perspective
- Technology as an enabler
- Integrated methodology application
- Value proposition
- Conclusion

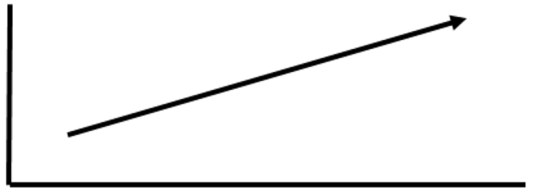
Context

- For many decades the electricity supply industry (ESI) was “shielded” from competition and enjoyed the benefits to be derived from a captive market, however the landscape in which the energy sector is operating is changing at a very rapid rate.
- The impact of these “disruptive forces” has resulted in the decrease in revenue realisation in the classic electricity utility kWh business, change in customer energy consumption profiles, pressure on the business operating model and a need to be more efficient and effective
- The question is therefore how best to respond to the challenges at hand and convert them into opportunities.
- The deployment of smart grids is one solution.

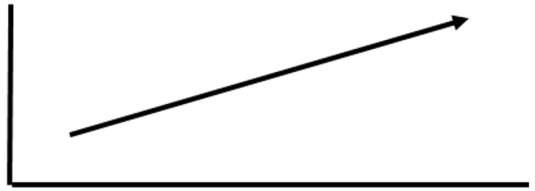
Electricity Supply Industry Reality



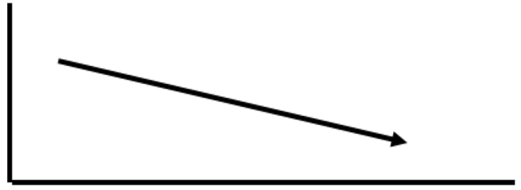
Age of Facilities



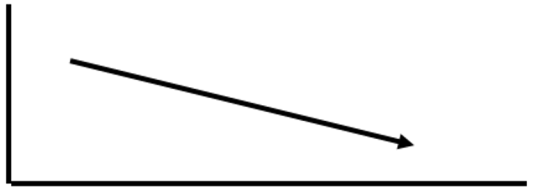
Cost/Revenue



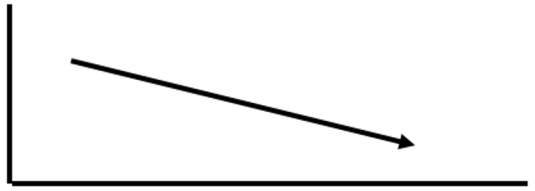
Reliability Demand



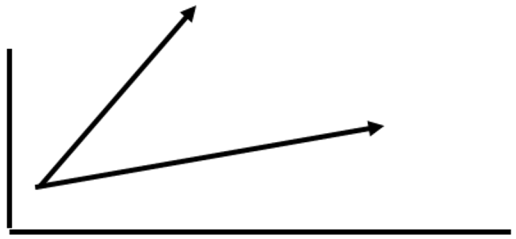
Budget



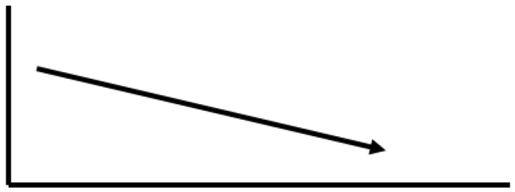
Competent skills



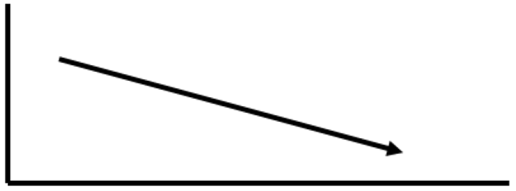
Planning Horizon



Electricity Price



Customer Service



Service delivery

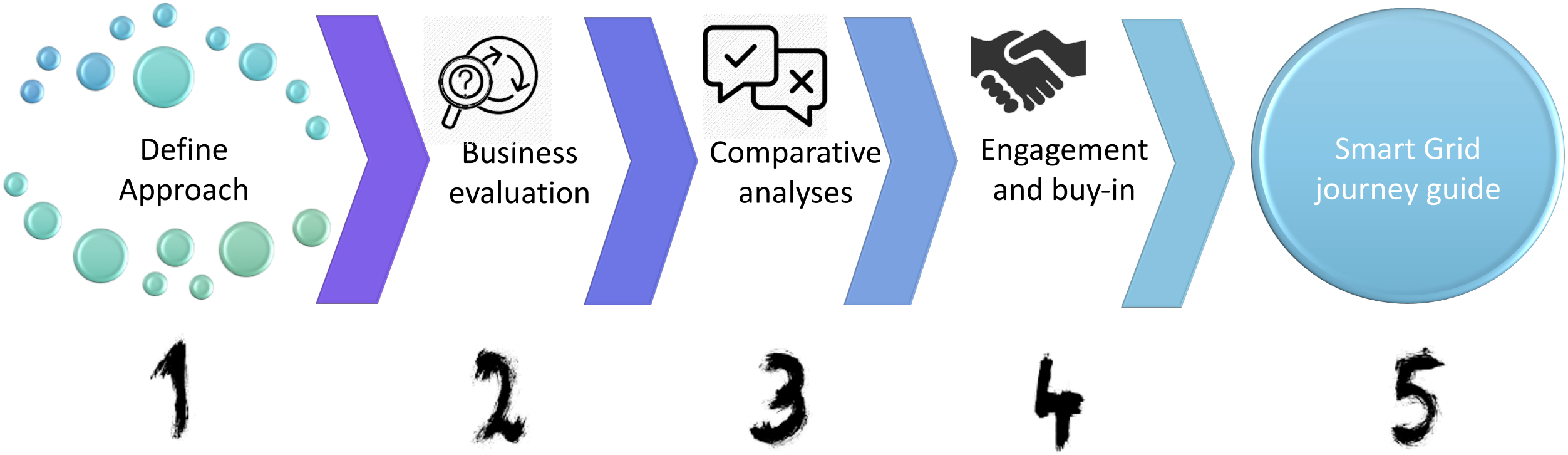
The drivers for Smart Grid deployment varies from country to country

	South Africa's Top 6 Drivers for Smart Grid					
	Generation adequacy	Revenue improvements	Ageing infrastructure	Economic advantages	Reduce costs	System efficiency
Australia						❄
Belgium			❄			❄
Canada		❄	❄			❄
China				❄		
France						❄
Germany						❄
India		❄				❄
Japan	❄					❄
Rep of Korea						❄
Mexico						❄
Russia		❄		❄		❄
Spain				❄	❄	❄
Switzerland	❄		❄		❄	
USA			❄		❄	❄

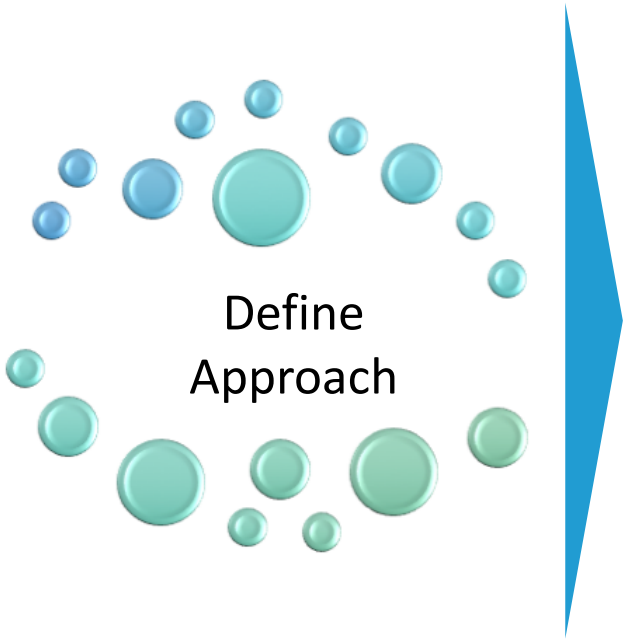
“The lower the grid operating voltage, the lower the grid visibility”

- The changing business landscape requires holistic grid visibility and this includes visibility at customer interface level.
- Without effective grid visibility and real time interface with the infrastructure it will not be possible to respond to the business challenges at hand.
- Services behind the meter is simply not possible without advanced technology.
- While technology deployment cannot be presented as the proverbial “silver bullet”, it is globally regarded as a key enabler to unlock business efficiency, improve business sustainability, enhance customer participation and communication.
- It is however important to select **the relevant and most appropriate** technology applications that will best address the specific business needs.
- Technology selection requires a ***holistic/integrated approach*** and a ***very effective back-office***.

The integrated methodology consists of five phases

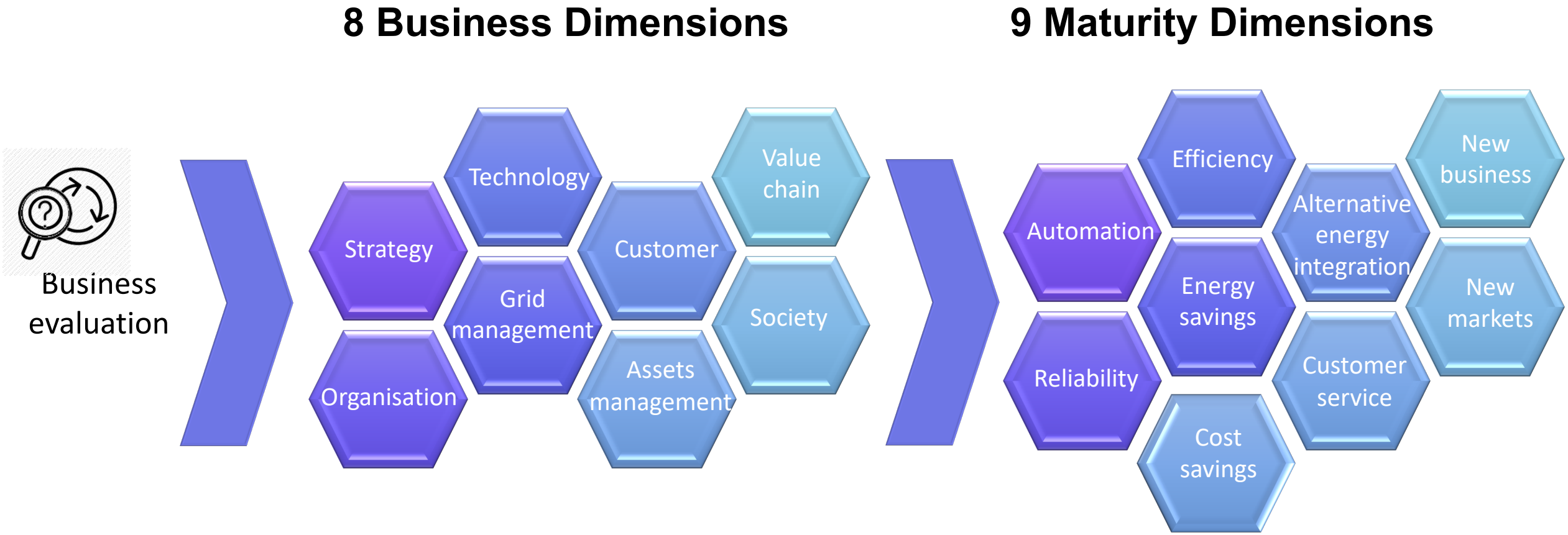


Phase 1 clarify roles and define the approach to technology deployment

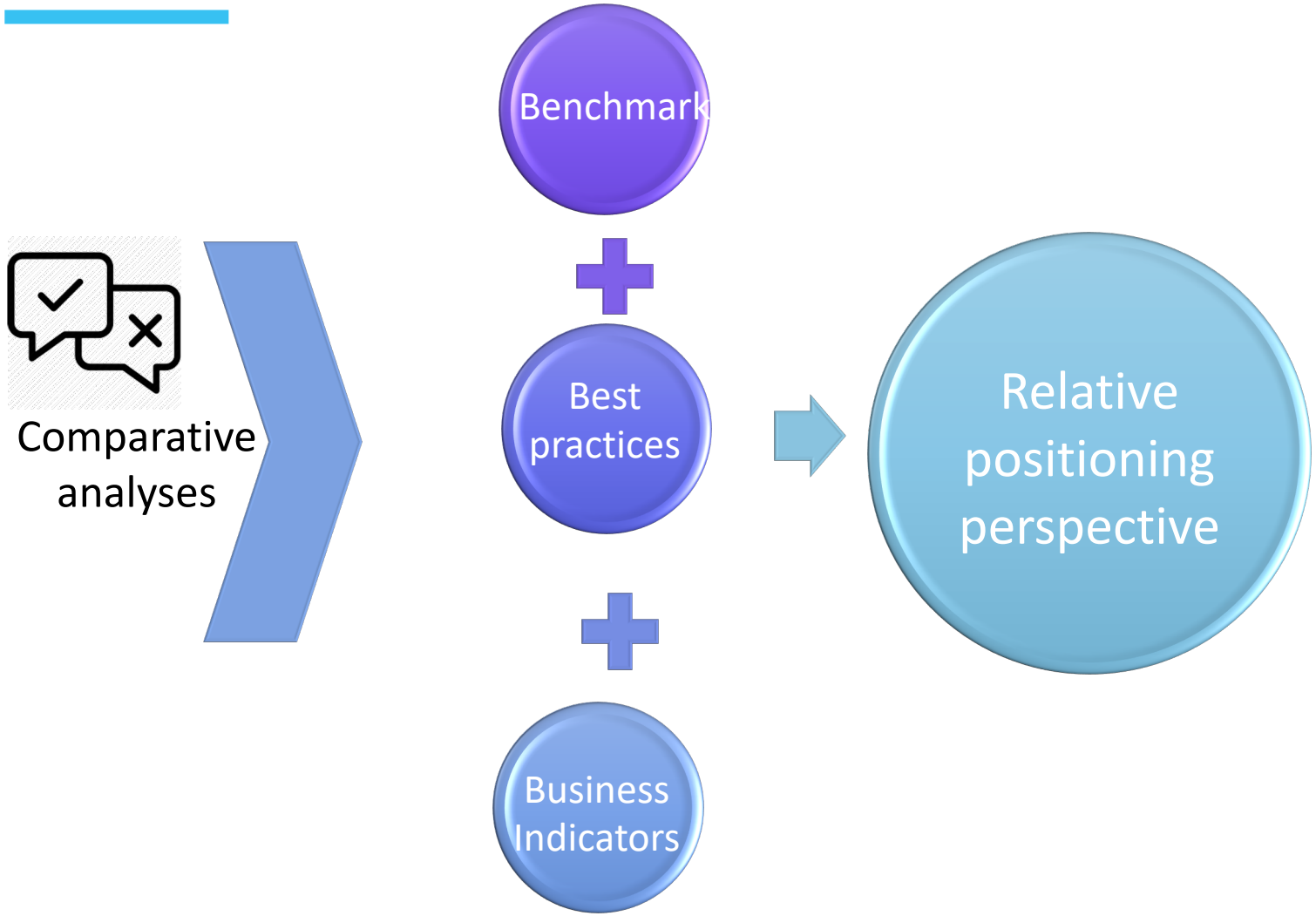


- Who is the designated project sponsor?
- Who is the designated smart grid journey champion?
- Who are the nominated business domain representatives?
- What is the governance model?
- How will business integration be achieved?
- How will relevant documentation & data be collected?
- What are the milestones for the integrated methodology application?

Phase 2 is a comprehensive business evaluation through a set of defined questions



Phase 3 deals with analysing the information provided during the evaluation



The business specific results are presented against a comparable international sample of utilities and highlights areas of improvement

Phase 4 focus on engagement of results with stakeholders

Agreement on:

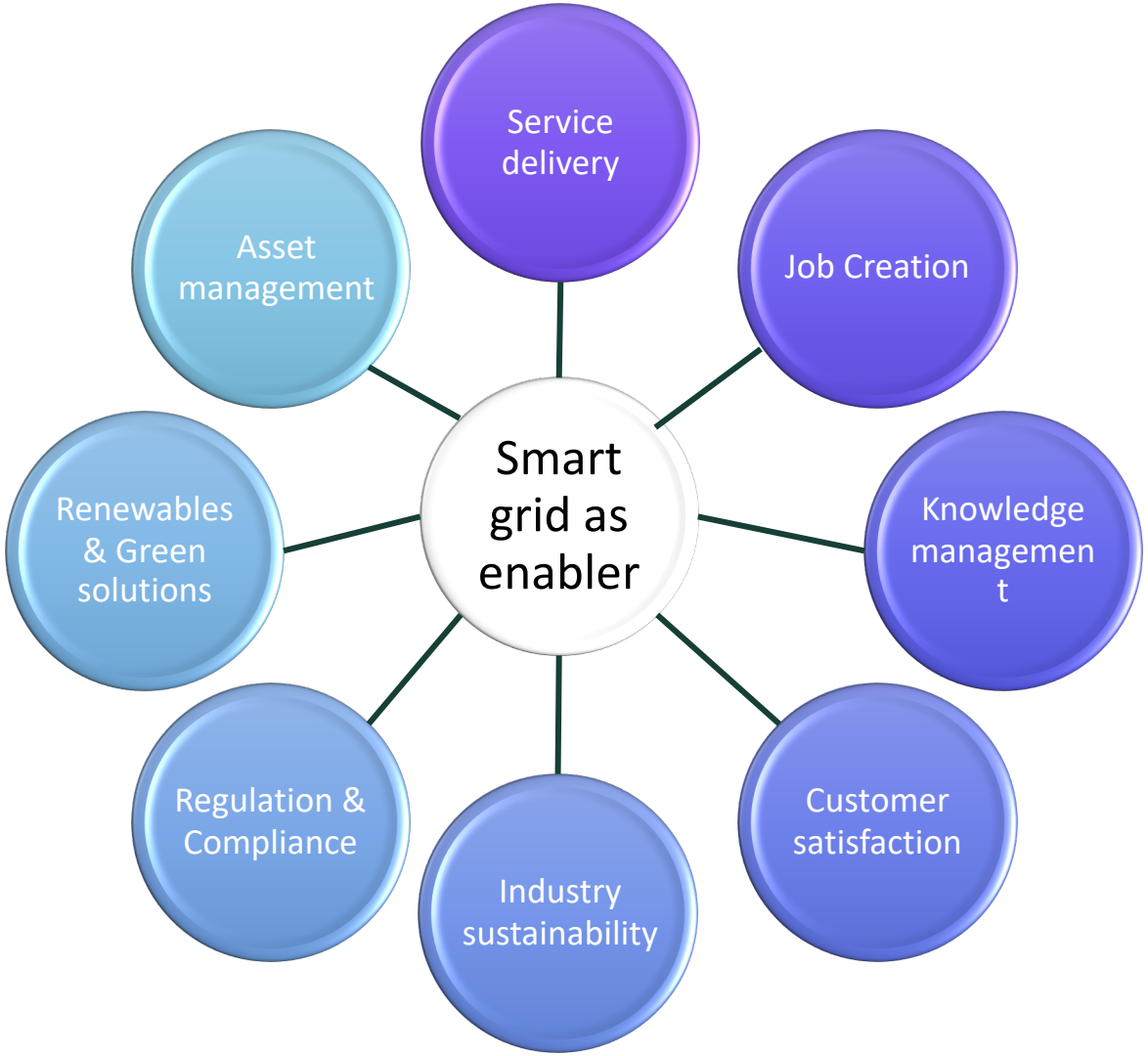
- Agreement on the analyses
- Envisaged smart grid deployment
- Potential risks
- Actions required to mitigate the risks

Results:

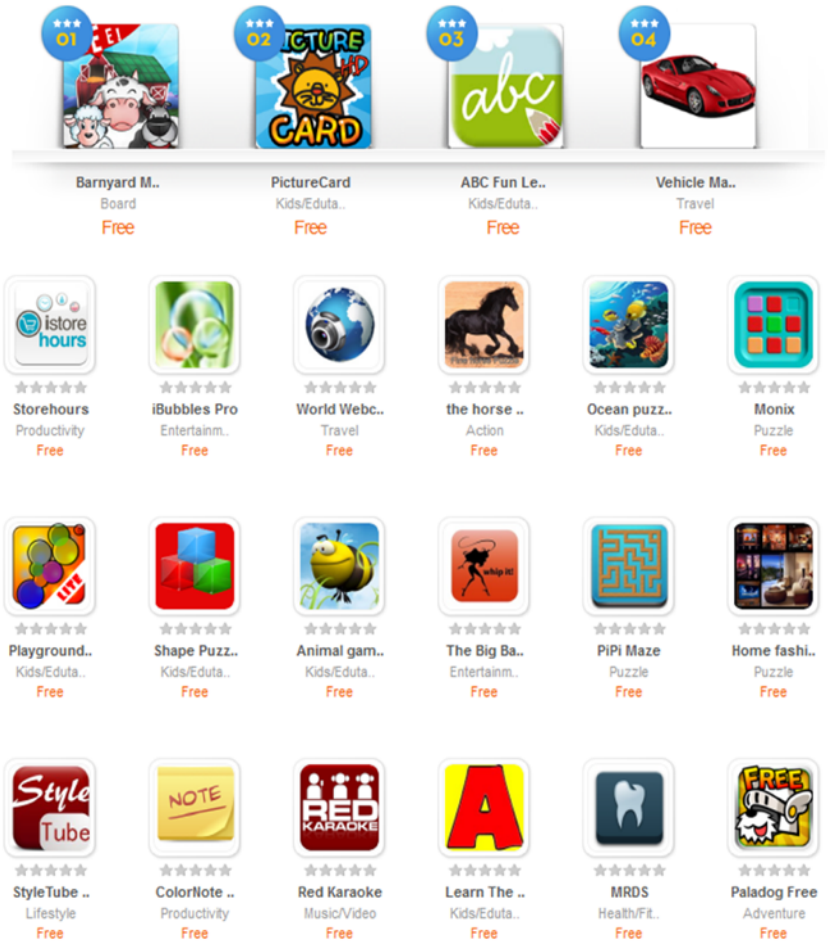
- Clear tasks and accountabilities
- Technology applications that will present the greatest business benefits
- Minimum requirements and critical business interdependencies

The four phases feed into the compilation of the smart grid journey guide

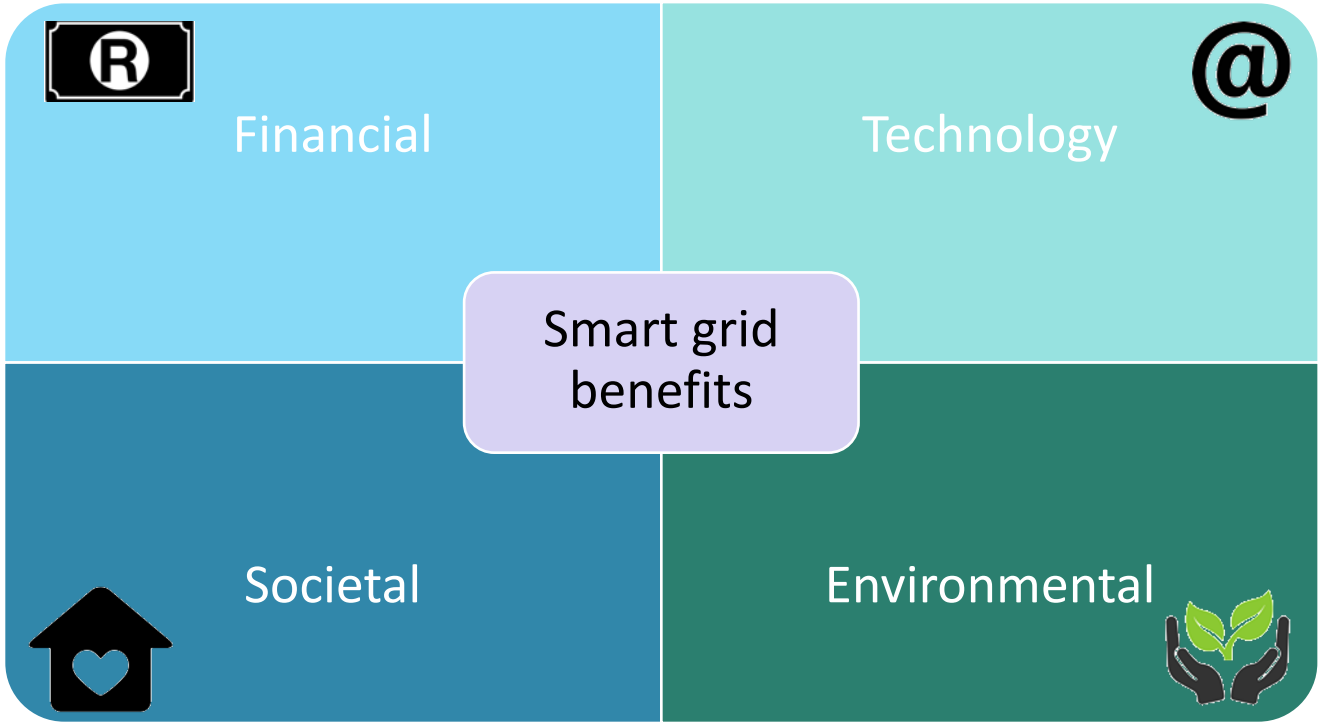
The integrated methodology as a differentiator assessment tool



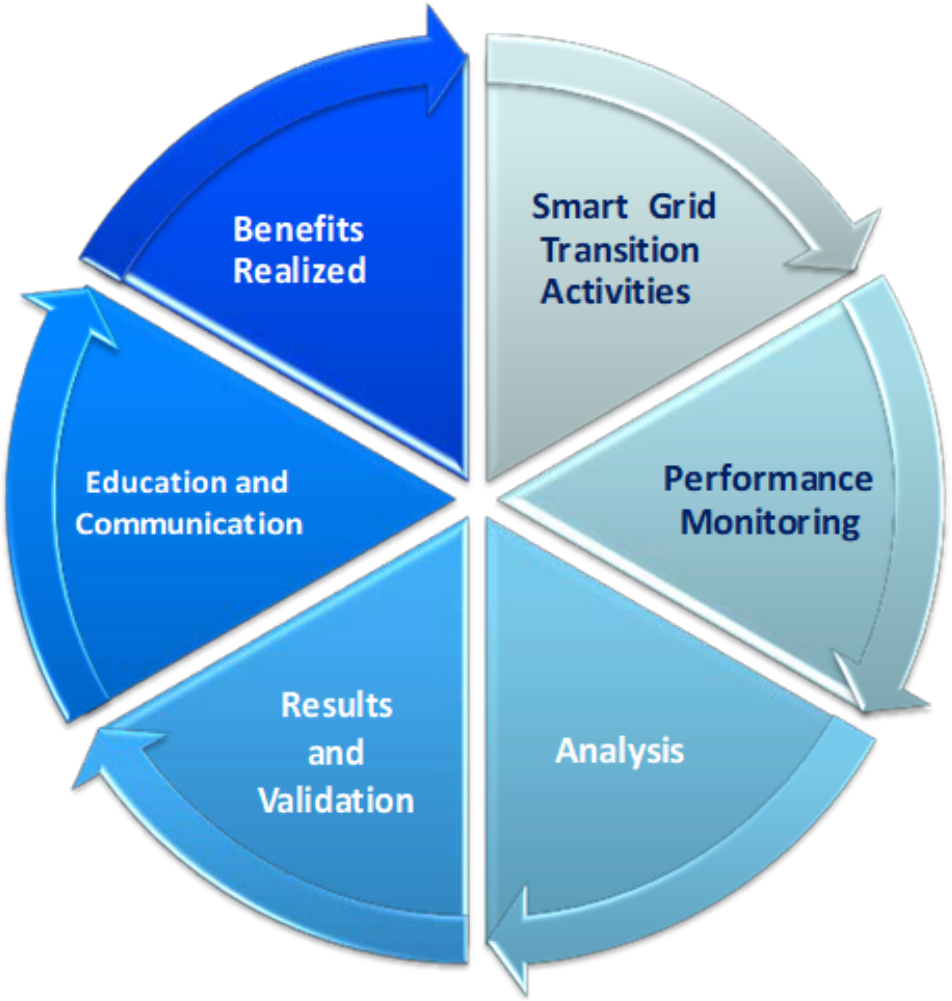
Selecting the most appropriate smart grid applications



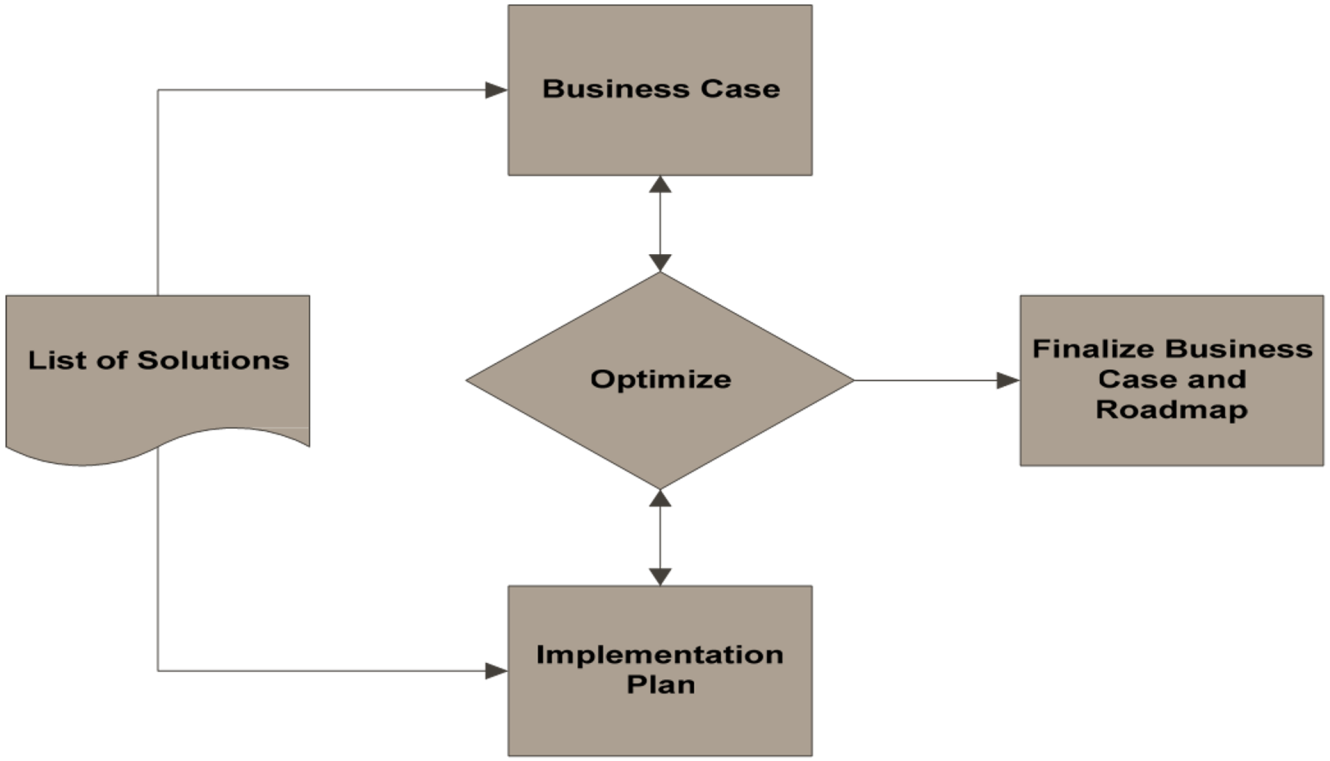
Best option value proposition



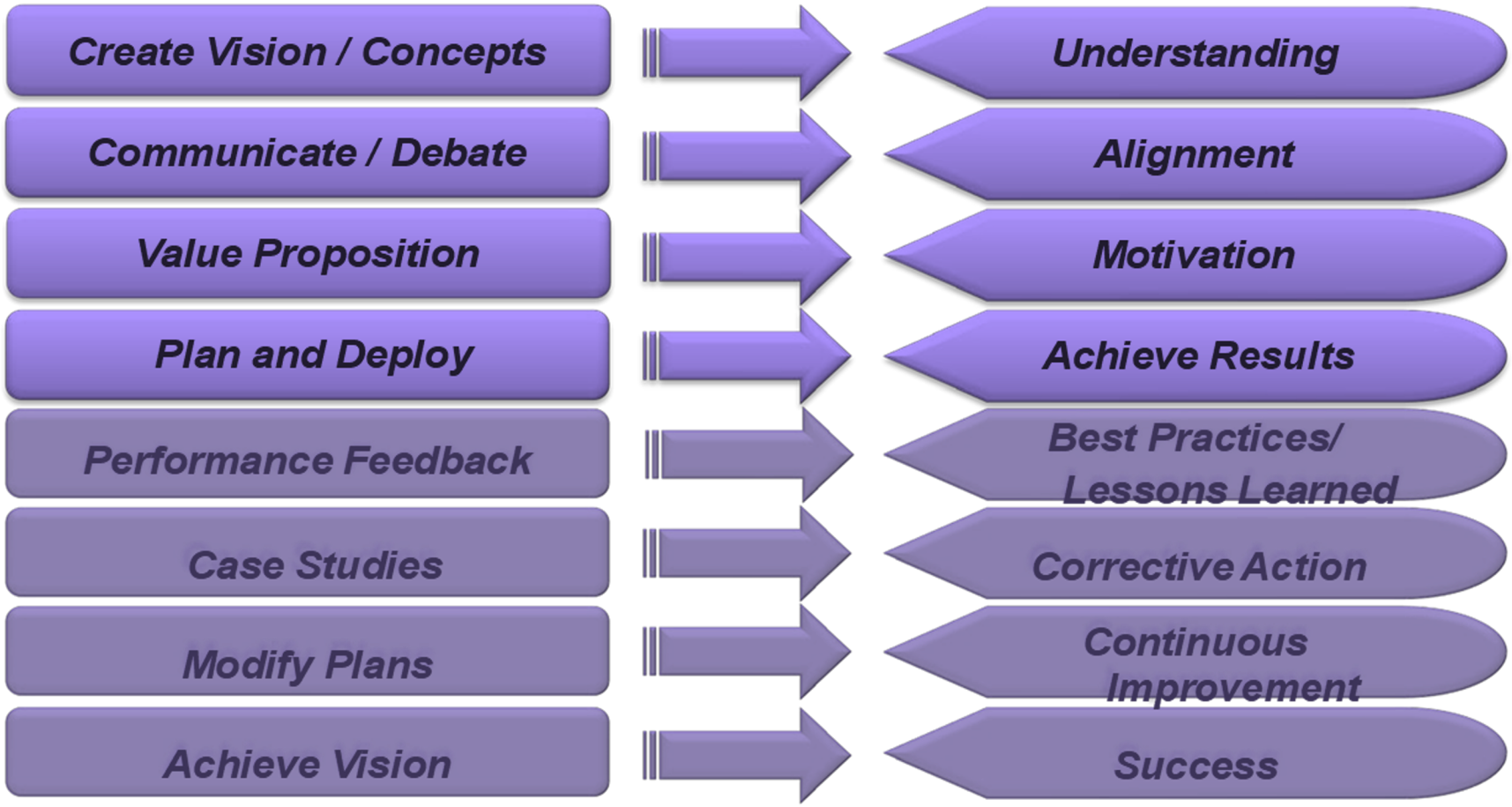
Value Realization



Defining the Smart Grid Journey business case



Transition facilitated through the integrated methodology



The Smarter Approach

Conclusion

- The integrated methodology for Smart Grids is a practical approach with sufficient analyses and forward thinking to provide a sustainable business solution.
- The integrated approach enrich the business participation while addressing the “silo approach”.
- The integrated methodology promotes ownership of the process outcome and assist in resource allocation.
- It assist in opening up new opportunities and remove historical business thinking constraints.
- The integrated methodology is flexible enough to accommodate all sizes of utility businesses and business specific requirements.
- The methodology was applied in a number of utility businesses with success.

Thank You

Contact:

willie@utilitycoach.co.za

Mobile: +27 82 338 0854