



Disciplined Innovation

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Agenda



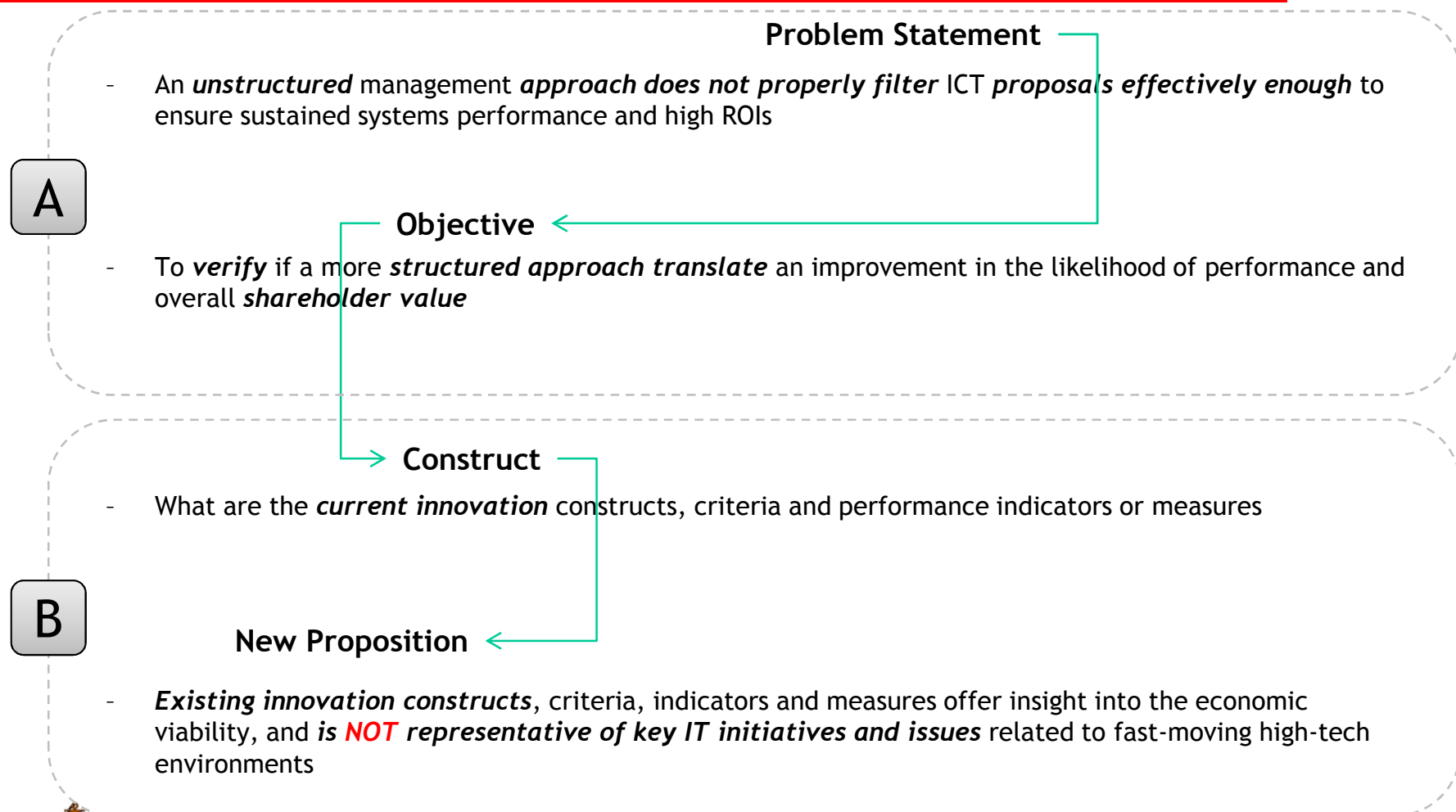
Introduction: In the search to find the winning formula, managing innovation is based on **hard work and reliable data**, not entirely on the practice, recognizing necessary but sufficient conditions and context. A set of propositions potentially lay the foundation for a **review of the existing basis for measuring performance and success** in delivering towards shareholder expectations in today's knowledge era - however, how **does existing concepts, methods, approaches, models, practices and theoretical constructs support investment decision-making** for achieving maximum shareholder value and sustained business success, recognizing your specific **business context**, whether starting up, growing, mature or in turn-around.

Approximate Time Allocation (±20 slides) (40 minutes)

- Introduction, expectations of, and hopes for innovation (5 minutes)
- Presentation and interactive dialogue on innovation (20 minutes)
- Positioning exercise (5 minutes)
- Conclusion on disciplined innovation and measures (5 minutes)
- Disciplined Innovation in practice (5 minutes)



To find answers, we raise questions and set the scene ...



Technology is more complex to manage



Technology **evolutions** are moving through shorter cycles

Economic cycles are putting **major pressure** on available resources

Skills shortage are adding to your **frustrations**

Ever-changing Business strategies and imperatives are **constantly moving goal-posts**

Technology **acquisition** is proving to be more complex



All-round, *demands on management* remain very high



The more things change, the more they stay the same

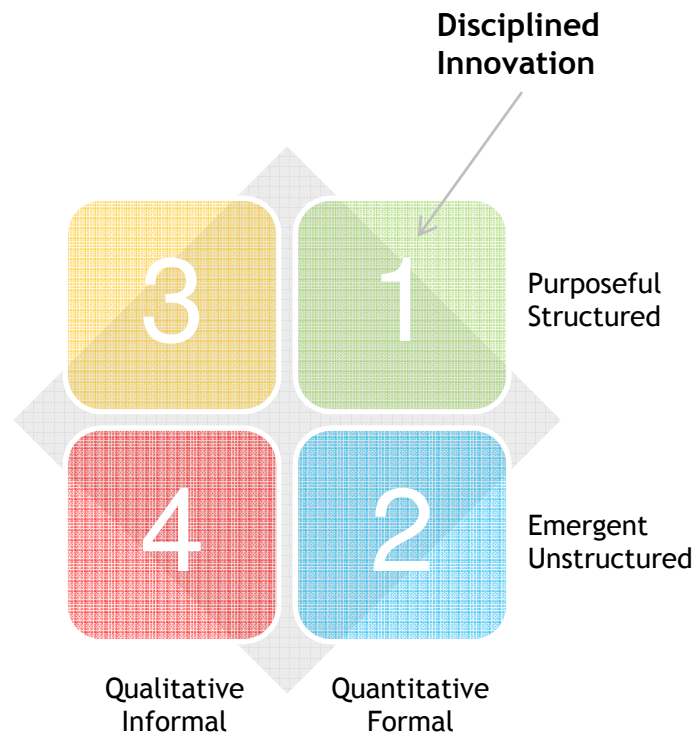


- Tough economic times raise **shareholder demands** where investments must follow returns.
- Modern businesses have to display **good governance and practice** which requires structure that is interwoven in their **decision-making fibre**.
- ICT Managers are always searching for **practical guidelines** on **ICT investment decision-making**.
- Some believe that **innovation through disciplined** efforts can have far reaching benefits.
- The need to find **appropriate** concepts, models, methods, approaches and theories are greater than ever.

Is 'discipline' relevant in fast-moving high-tech ICT businesses?



'Disciplined Innovation' is structured and is supported by formalized investment decision-making



Quadrant 3: The innovation process is institutionalized however, analytics and data collection happen in an ad-hoc fashion with investment decision-making based on some future benefit aligned to immediate business needs

Quadrant 1: The innovation process is institutionalized and diligence exist in analytics and data collection with formalized investment decision-making methods offering insight into realistic investment returns

Quadrant 4: Innovation is driven by need and happens from necessity coupled to intuitive decision-making based on future benefits timed to match business needs that may exist at the time

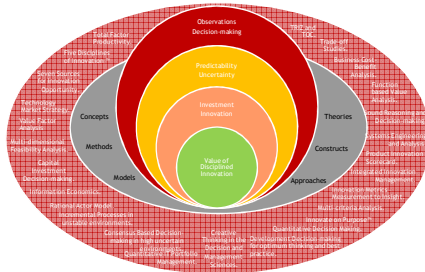
Quadrant 2: Innovation is driven by need and happens from necessity coupled to decision-making based on analytics and data collection with formalized investment decision-making methods offering insight into realistic investment returns

Source: Innovation Approach Investment Decision-making Matrix Quadrants (Author, 2010)

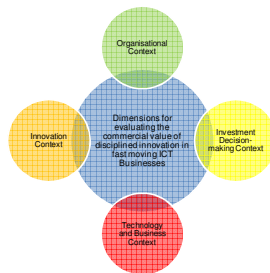
Does structure and formality offer better results?



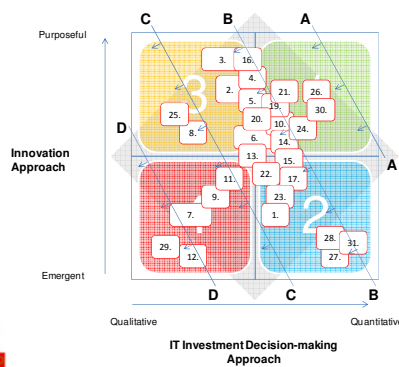
... and find a trail of evidence to conclude on the matter



Literature reviews reveal a plethora of innovation and decision-making methods, concepts, theoretical constructs and more, inherited from a previous era.



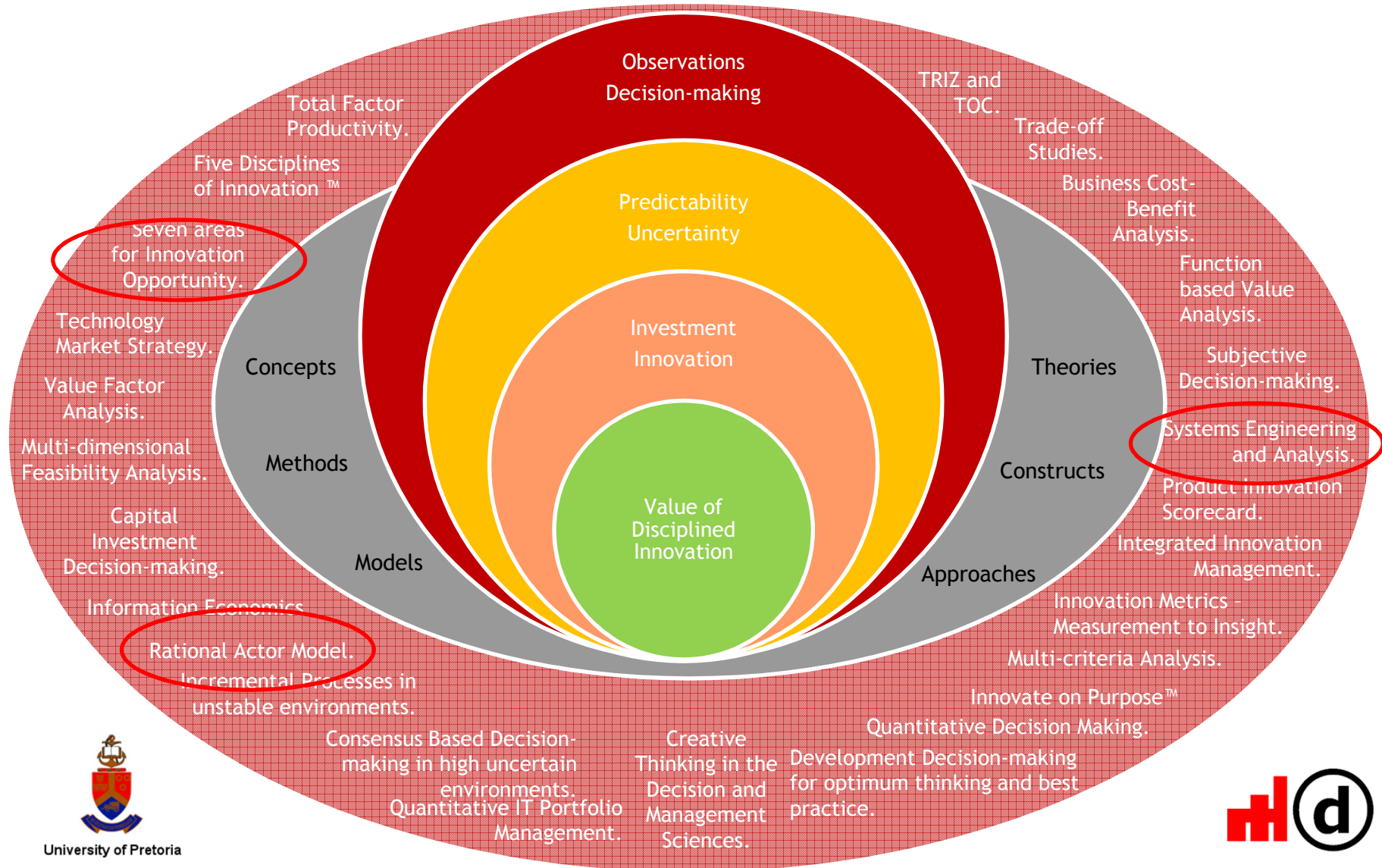
A mini-survey captures high level insights into organisational behavior related to innovation to unravel correlations.



Using the 'lens' to position and profile concepts and the first step towards developing a tool that recognize context and tolerances for disciplined innovation.



What have the guru's and legends created to support innovation



Seven areas for Innovation Opportunity - promoting a structured approach (process)

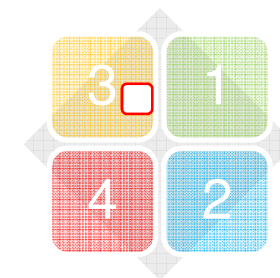


Drucker argues that innovative business ideas require the **purposeful** evaluation and assessment through a **repeatable process or method**, specifically, insisting on consistency including clear focus on seven areas of opportunity.

According to Drucker, successful innovation result from a conscious purposeful search for innovation opportunities, found only in limited situations - four exist within but three outside the company. The opportunity areas are:-

1. Unexpected occurrences;
2. Incongruities;
3. Process needs;
4. Industry and Market changes;
5. Demographic changes;
6. Changes in perception;
7. New knowledge;

Drucker has recorded classic examples on how innovations have emerged in successful commercialisation. The purposeful, systematic innovation process begins with the analysis of sources of , however, he maintains that it is difficult to foretell whether a given innovation will end up as big business or modest achievement.



Rational Analysis - towards a qualitative (decision-making) approach



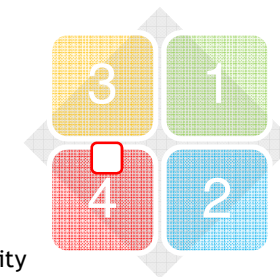
The Rational Actor model (Allison 1971) suggests that strategic success depends on careful analysis and planning before action is taken. In his book on "groupthink," Janis (1982) argues that extensive consideration of goals and a wide range of alternatives is a prerequisite to sound decision making. Where these studies focus on crisis and time-constrained decision making, one might conclude that "rational" processes are appropriate for high velocity environments.

This early study recognize the directing of company resources towards effecting greater returns resting with top management through a process of decision-making, based primarily on rational analysis or made piecemeal, adaptively, and in small increments, rather than comprehensively and in large, purposeful chunks.

Their findings conclude that in high velocity environments, :-

1. the more analytic the strategic decision making process,
2. the more comprehensive the search for strategic alternatives,
3. the clearer and more explicitly articulated the institutional goal, the better the performance of the firm - however, in high velocity environments, political behaviour is associated with poor performance.

The overall lessons are a series of apparent paradoxes: Plan carefully and analytically, but move quickly and boldly. CEOs should be decisive, but also delegate. Choose and articulate an overall strategy quickly, but put it in place only as it becomes necessary - viability of the rational model is seen as contingent upon a stable environment and a bureaucratic organization.



Systems Engineering - a structured (decision-making and process) systems approach is promoted

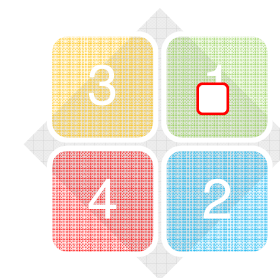


According to Blanchard and Fabrycky, when evaluating past experiences regarding the development of technical systems, most of the problems noted could be contributed to **not applying a disciplined top-down 'systems approach'**. Less effort applied early on or upstream in the systems development or innovation life cycle process, consistently leads to poor results down-stream, highlighting the effect of the absence of a complete and methodical manner.

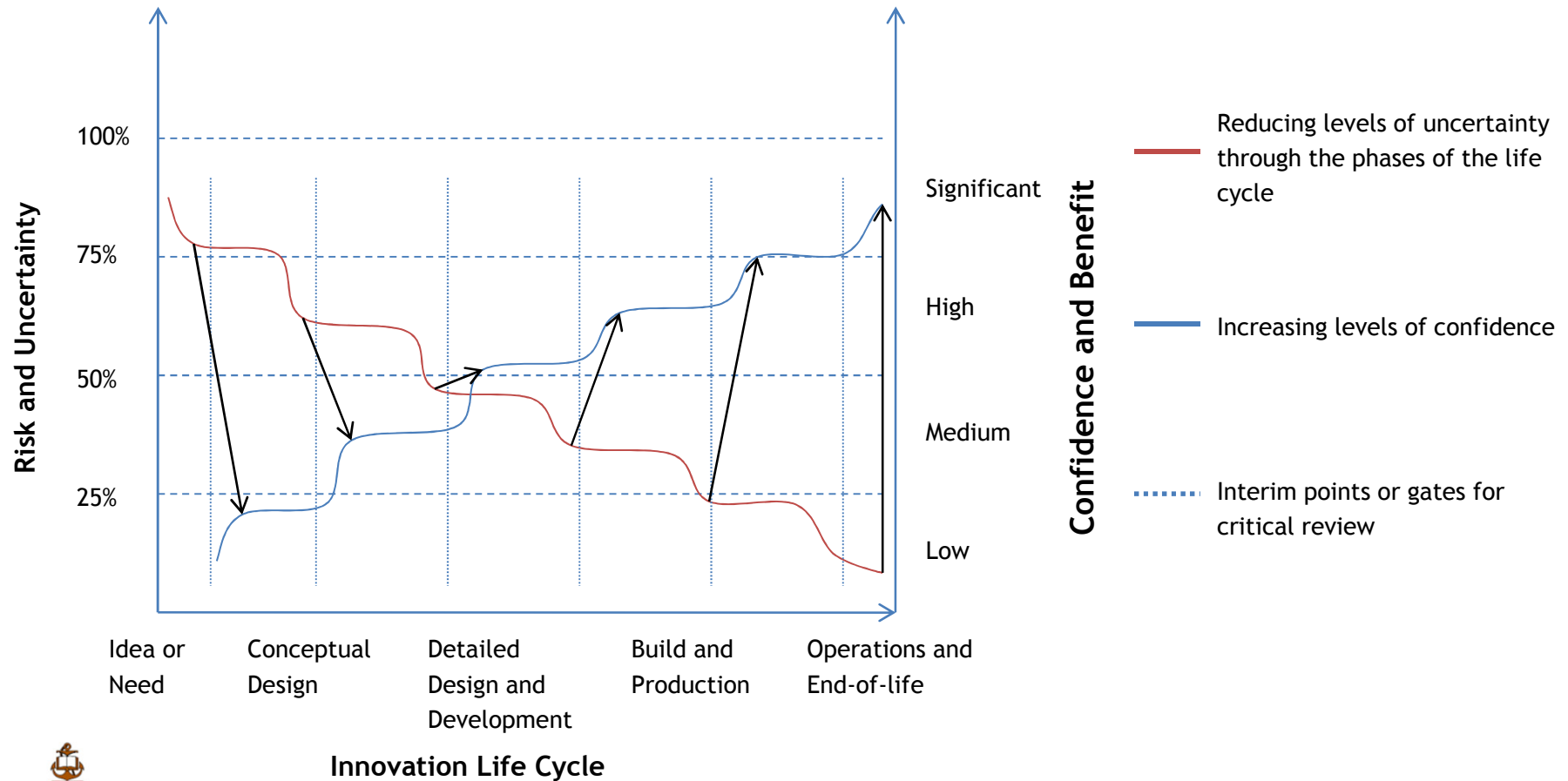
Some of the benefits associated with the application of concepts and principles of a disciplined approach can be best described as follows ¹:-

1. **Reduction in cost** of systems design and development, production and/or implementation, systems operations and maintenance and support, retirement and final decommissioning and disposal.
2. **Reduction in system acquisition time** (or the time it takes from the initial identification of customer need to the delivery of the system).
3. **More visibility and a reduction in the risks** associated with the design decision-making process.

A large percentage of the total cost for many systems is a direct result of the downstream activities associated with the operations and support of systems, with the commitment of investments based on engineering and management decisions made upstream - To address economic issues, one must look at total cost in the context of the overall life cycle, and particularly during the early stages of advanced planning and conceptual design.



Dealing with risk and uncertainty with confidence



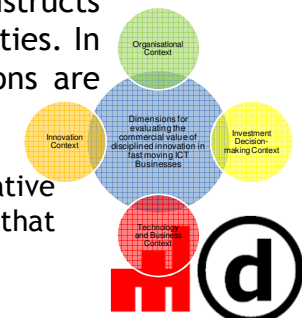
Respondents are unable to explicitly connect disciplined innovation to measureable improvements in performance



- Technology and Business: The distributed results for understanding the impact on the organisation's IT landscape following outcome of innovation efforts show that **44% have at least started an innovation initiative.**
- These all **encompassing and broad initiatives** include establishing standardisation, consolidation, and rationalisation across the organisation's heterogeneous IT landscape, systems renewals and the ability to leverage existing platforms through the implementation of modern architecture patterns such as SOA.
- **IT investments and budget distribution** remains largely focused on operational spending with average 50.6% of budgets allocated. An average of 31.6% of total IT budgets are being allocated to IT projects that are aimed at growing the business and the balance average of a fairly high 20.3% towards projects of a transformational nature.
- Innovation: With the aim of maintaining or sustaining business growth and development, respondents were asked to classify both the organisations position towards IT investment as well as the approach.
- Results show an even distribution when rated against the industry, but distribution show that they prefer a more **gradual evolutionary** path regarding their IT strategies, almost typical of large global organisations in tough economic times, as apposed to **radical and in leaps.**
- Decision-making: Organisations in general following a diligent **process to manage their innovation** efforts specifically related to IT investment and portfolio management.
- Respondents are unanimous that quantifiable concepts, models, methods and theoretical constructs are being applied when decision-making is required on allocating investment towards IT activities. In contrast, consistently, 62.5% agree that no proper evidence can be presented why decisions are made regarding investments that effect the organisation as a whole.



With the majority of the respondents indicating that they follow both quantitative and qualitative decision practices and that they follow some kind of process, the results remain inconclusive that disciplined innovation offer commercial benefits or measurable improvement in performance.



Supporting evidence exist but in practice it's not clear¹



Key Questions	Survey	Literature Review
Is 'discipline' relevant in fast-moving high-tech ICT businesses?	Inconclusive:- No strong correlation between outcome and 'discipline' in high velocity environments	Conclusive:- Correlation exist between discipline and mention of performance in high velocity environments
Does structure and formality offer better results?	Inconclusive:- Both structure and unstructured process and formal and informal mechanisms for decision-making exist offering no specific correlation to better results	Conclusive:- Correlation exist between structured (process) and formal decision-making for better results with some exceptions in formality
Does discipline constitute successful innovation?	Inconclusive	Conclusive

¹ It is practically difficult to derive a strong correlation between innovation behavior in today's high velocity environment and performance for a number of reasons i.e. innovation is strategic hence confidential and managers don't always have a simple measure to support correlation. A survey seems inadequate to offer conclusive results - an approach involving case studies will offer better insight but would require more time and resources to complete.



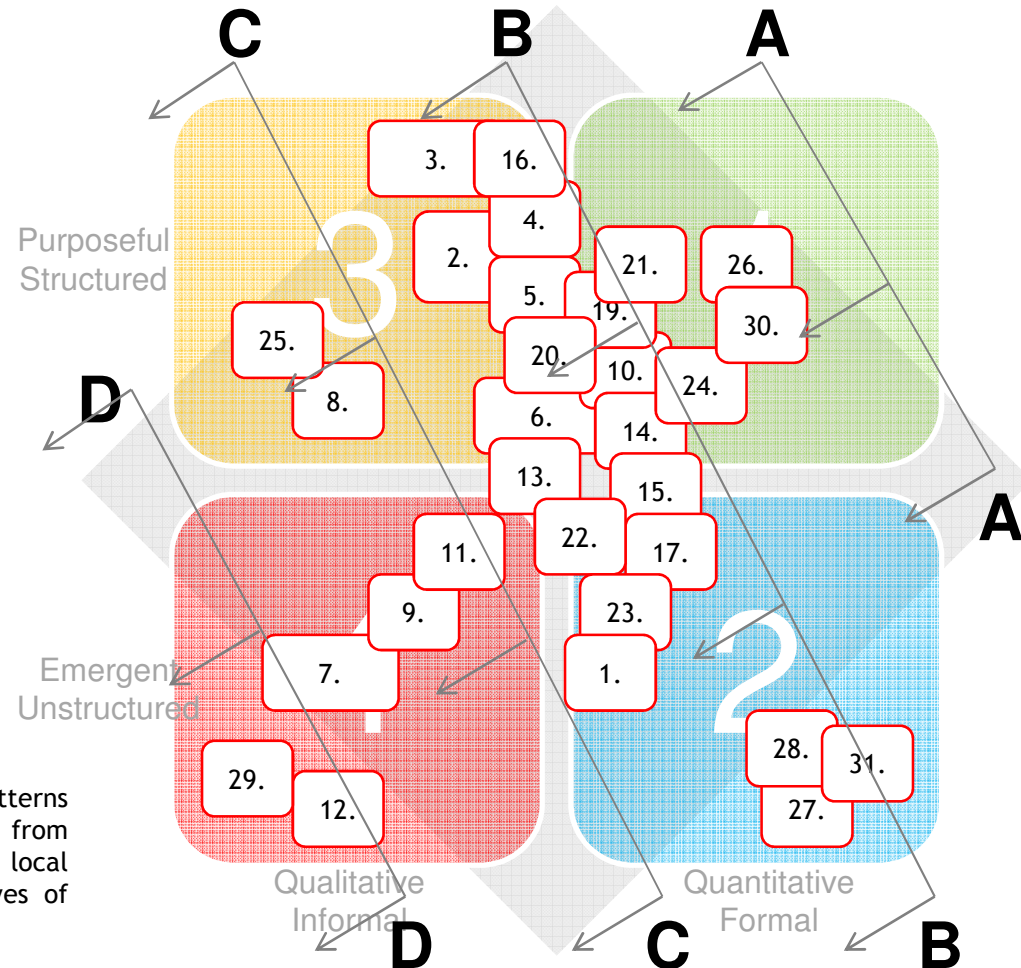


Creating a profile associated with Business Phases

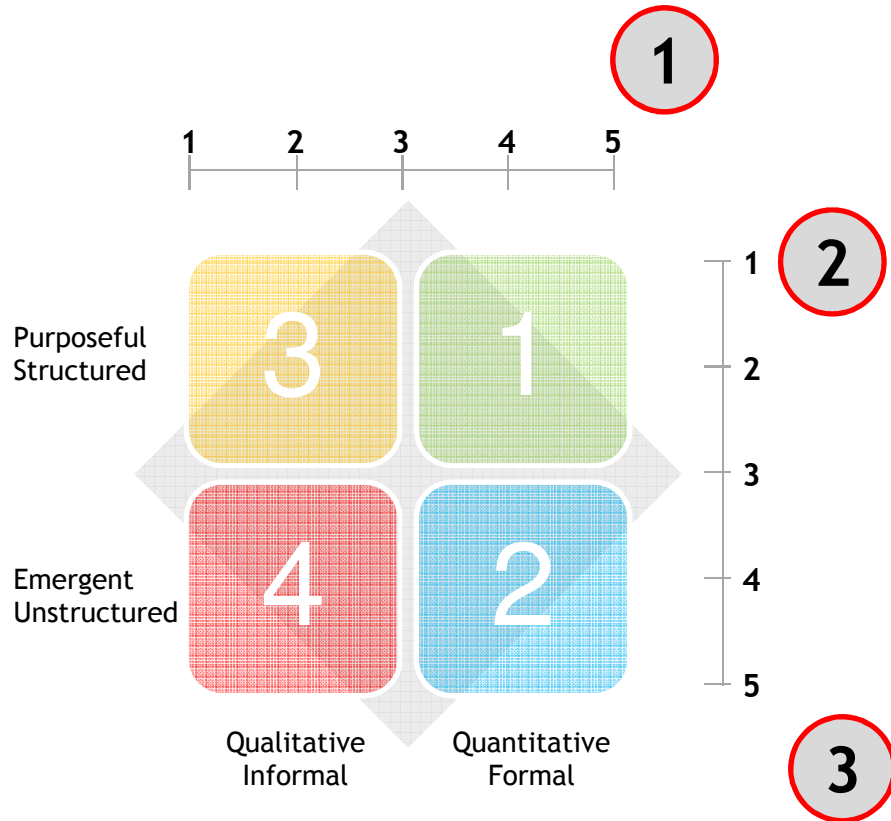
Considering your specific business phase i.e. start-up, Stable, or Turn-around, there may be a profile of innovation and decision-making constructs suited to your context¹:-

- **Profile A-A:** SMME or/and Large Enterprise or Corporate in Turn-around;
- **Profile B-B:** Large Enterprise or Corporate with complex heterogeneous environments;
- **Profile C-C:** Business Unit Level with experienced people and traditional processes;
- **Profile D-D:** Start-up and Early Stage Development within a niche market and low or proven technology space;

¹This construct is based on generalisation and formulating patterns from the limited number of case study material and insight from the innovation behaviour and performance survey across local corporate industry predominantly perceived through the eyes of middle and senior management in IT.



Exercise - Position your organisation or self, and where you want to be



Step 1 - Scoring between 1 and 5 (0.5 increments):

Where would you place your organisation or preference related to decision-making?

- 1 - Intuitive and informal
- 2 - Intuitive but more formalised
- 3 - Structure but not repetitive
- 4 - Structured and repetitive
- 5 - Structure engrained

Step 2 - Scoring between 1 and 5 (0.5 increments)

Where would you place your organisation or preference related to following process?

- 1 - Unstructured and emergent
- 2 - Some structure but still emergent
- 3 - Structure but not repetitive
- 4 - Structured and repetitive
- 5 - Structure engrained

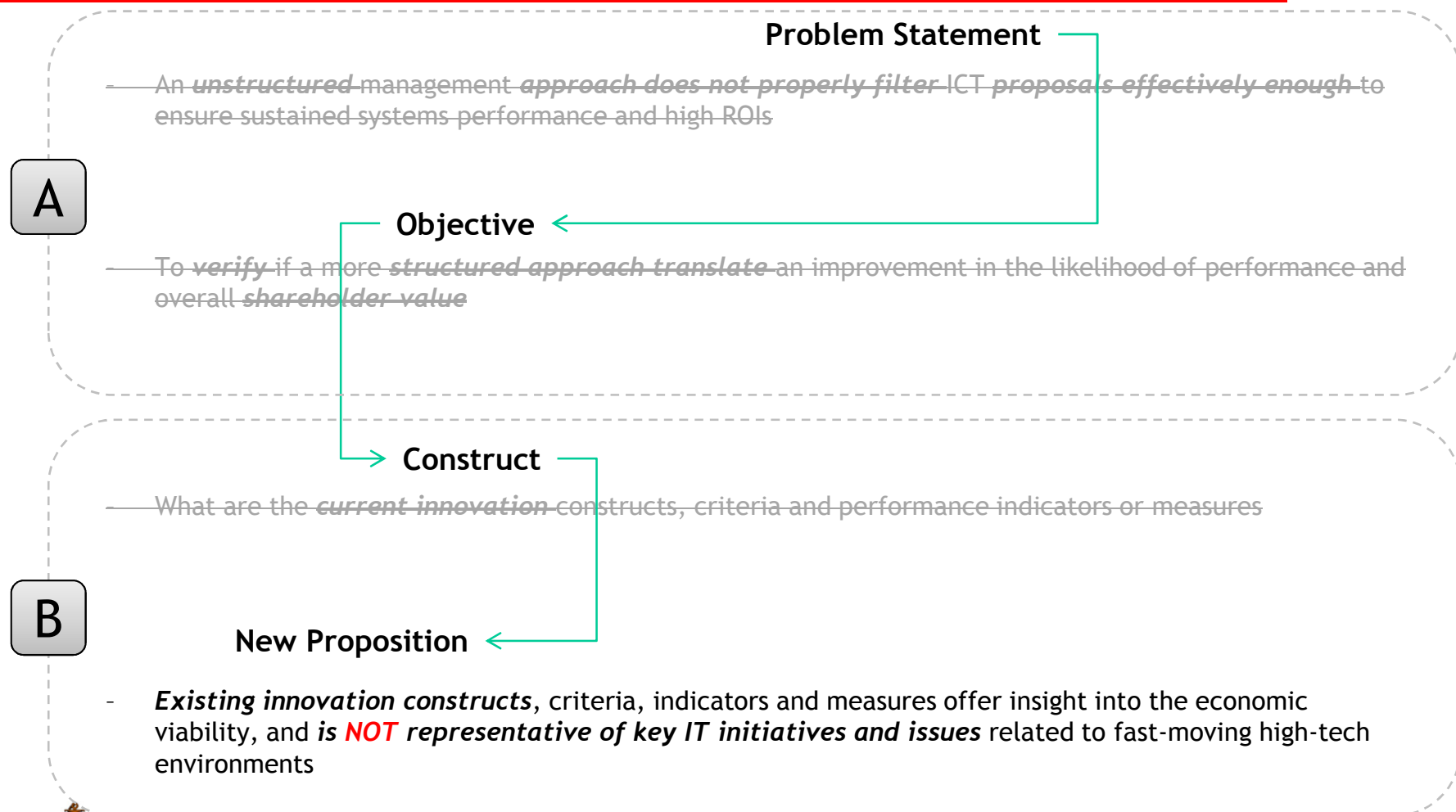
Step 3 - Following steps 1 and 2 again, identify where would you like to be and list innovation inhibitors i.t.o.:-

- People
- Technology
- Process

Source: Innovation Approach Investment Decision-making Matrix Quadrants (Author, 2010)



To find answers, we raise questions and set the scene ...



Current Innovation measures are inadequate and outdated¹



Opposing Environments ²	Linear Environments	Non-Linear Environments
Characteristics and nature	<p>Industrial era</p> <ul style="list-style-type: none"> ▪ Manufacturing and production ▪ Process oriented rigor ▪ Disciplined engineering approach ▪ Measurable ▪ Benchmarked ▪ Predictable ▪ Manageable and simple ▪ Repeatable ▪ General and broad application ▪ Fixed period project portfolios ▪ Commoditised ▪ High levels of liquidity i.e. low entry and exit barriers 	<p>Knowledge era</p> <ul style="list-style-type: none"> ▪ Service and software development ▪ Process maturity ▪ Flexible and adaptive approach ▪ Measurable ▪ Benchmarked based in available data ▪ Unpredictable and fluid ▪ Highly uncertain ▪ Intuitive and future orientated ▪ Fuzzy and complex ▪ Highly contextual and narrow application ▪ Variant period project portfolios ▪ Disruptive ▪ Low levels of liquidity i.e. low entry barriers and high exit barriers

¹ Industrial era decision practices do not necessarily fit modern knowledge era innovation efforts and require a review of the performance measures especially due to the overall uncertain nature of ICT investments.

² These concepts are not clearly defined and is being used in the general sense related to potential but specific characteristics and nature in a pure descriptive manner





Measuring indirect benefit of the investment in IT

Investment type	Notes	Benefit	Probability of return (margin)	Evaluation
Infrastructure	Support the business - may include future investments	Allows new initiatives	0.2 - 1.0 (0.5)	Option for future applications Initial investment cost
Required Managerial Control (No return)	Cost of doing business	Stay in business	0 - 0.5 (0.2)	Lowest-cost route to enable features of the application
No alternative	Enabling new task or process	Improves customer experience	0.5 - 1.0 (0.75)	Cost reduction against potential benefits realisation
Direct return from IT	Structure, cost-benefit, NPV and IRR	Marginal if IT investment not leveraged	0.7 - 1.0 (0.9)	Linear quantitative plus real OPM (non-linear evaluation)
Indirect returns from IT	Potential return but qualitative benefits	Substantial but not easily quantifiable	0 - 1.0 (0.5)	Evaluate non-linear
Competitive necessity	Ticket to the match - cost of not investing?	Follower / Reactive model offer marginal benefit	0 - 1.0 (0.2)	Business value vs cost benefit analysis
Strategic application	Return or benefits realization after implementation	High potential Leader model high risk	0 - 1.0 (0.5)	Future benefit non-linear investment evaluation (OPM)
Transformational IT	Combined with changes in company philosophy	High potential Innovator model high risk	0 - 1.0 (0.5)	Change impact cost-benefit non-linear evaluation



In practice, maintain a focus on and ‘Innovate by numbers’



- **Budget** for Innovation i.e. make it part of you daily routine and create a portfolio, **start with the end in mind** - how, what, why, who, when ... make it part of the **business fabric** - but it has to be economical and justifiable and above all, **identify the problem first**
- **Monitor spending** and work within sound business cases i.e. know your numbers and apply diligent thinking at least, whatever you measure must be **measurable** or ‘SMART’, demarcate and scope
- At the same time, **track progress** through a process of elimination and (re)prioritisation i.e. adopt a process that works for your business context, remember at each stage, step or phase, you have a different ‘market’ or audience to convince, no matter what the speed of the business - **discipline** is required
- Remember to **structure for innovation** i.e. start with your capital investment decision-makers to enable federated agility but control led centrally, someone is accountable for setting and achieving the numbers, there must be some **authority**
- Do not forget the **shareholders**, even if you are driving political agendas i.e. someone will have to answer to them and offer traceability and a level of **transparency of operations**
- Make decisions on **reliable verifiable data**, remember, ‘garbage in, garbage out’ i.e. trust your gut but the devil is in the details, identify and **recognize the ‘animal’** you are dealing with and act accordingly



Innovation is not magic, it takes work and discipline ...





'Disciplined Innovation' in practice, is a relative concept

From experience, tailoring up or down, depending on your relative position:-

Ideation Toolkit:-



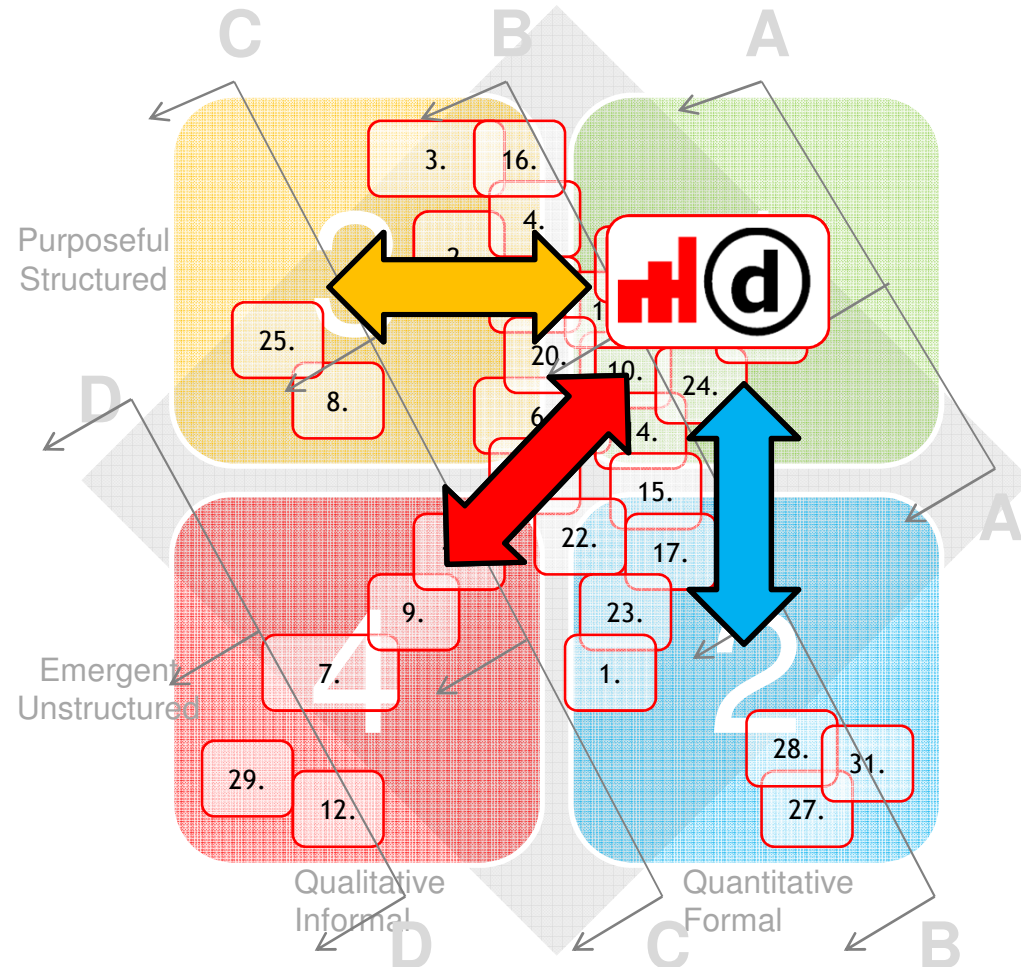
- Finding Opportunities and Competitive Position;
- Porter's 5 Force Model;

Strategy Analysis and Choice¹:-

- Formulating Competitive Edge
- SWOT Analysis and Strategies Selection

Systems Architecture and Design:-

- Creating the Competitive Capability
- Architected Solution Definition



¹Source: Generic and Grand Strategies - John A Pearce II and Richard B. Robinson, Jr., Strategic Management: Formulation, Implementation, and Control, McGraw-Hill, 2007

²Source: Adopted from the Featured Practice: BT Group's Innovation Hothouses, Council Research



Business and Technology Landscaping - 'Ideation Toolkit'¹



Competitor Analysis in a Box

Competitor: **First National Bank** Position: Existing Competitors

Competitor Information

Edcon has once again demonstrated its ability to lead the market, completing a significant project conducted over a period of eight months to become SA's first major retailer to have all the elements in place for the roll-out of a complete Europay-MasterCard/Visa (EMV) certified payment environment. First National Bank (FNB), which was integral in the compliance process, has demonstrated its experience and

Division: SpeedPoint and Cash product DivisionHead: Kestell Laurie, Head of FNB's SpeedPoint and

Partnership: Prism Holdings, Accenture, Edcon's in-house IT dep PartnershipHead: Andrew Tupin, Director of Prism's PayPoint B

RelatedProduct: Credit Cards Investment: n/a

ITLandscape: Application Direction

IT Detail

The Edcon EMV project - undertaken jointly by JSE-listed trusted transactions company Prism Holdings, consulting group Accenture, Edcon's in-house IT department, Mosaic Software and FNB's technical and business teams - involves the upgrade and integration of no fewer than 11 000 PINpads at Edgars, Boardmans, CNA, Jet and Legit stores around the country, the solution encompasses every part of the Edcon payment chain: from the customer-facing transaction terminals through the in-store server to the back-end switch. The switch is

Advantage

FNB's own infrastructure of more than 30 000 free-standing point-of-sale (POS) devices has been upgraded to EMV standards over the past two years, but this was the first major integrated solution to achieve Visa and MasterCard certification. Utilisation of leading-edge technology, coupled with EMV compliance, will provide customers with enhanced service and greater levels of security. This solution is the first Visa and MasterCard certification of a fully integrated solution, both for SA and for FNB.

Implications

Source: IT Web SourceType: Internet and reports*
 Date: 05092004 ConfidenceLevel: Reputable Source

Record: 1 of 52 Unfiltered Search

Competitor Information

Competitor information heading includes the name and Porter's Force categorization for later analysis and positioning. The body includes information on the division, related product, IT landscape, people involved and investment made, providing us background and context.

Details on Benefits and Implications

A thorough description about the competitors provide us with the necessary detail that is required for positioning as well as strategy formulation thru analysis. Detail on the competitors advantage also provides insight into a course of action.

Information Source

Information is collected from internal, primary and secondary sources. These sources have various degrees of accuracy and levels of confidence. When formulating a response, it is important not to act on every detail, but to act on the right information.

Reports

The database provides flexible report generation capabilities. The database has been designed to increase this flexibility in order to produce meaningful reports that are easily customised to user requirements. Draft reports on each competitor is already available.

¹Source: Featured Practice: BT Group's Innovation Hothouses, Council Research



Questions





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