Creativity & Innovation

Building capability and a path to Growth

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CONSULT 101

"Imagination is more important than knowledge."

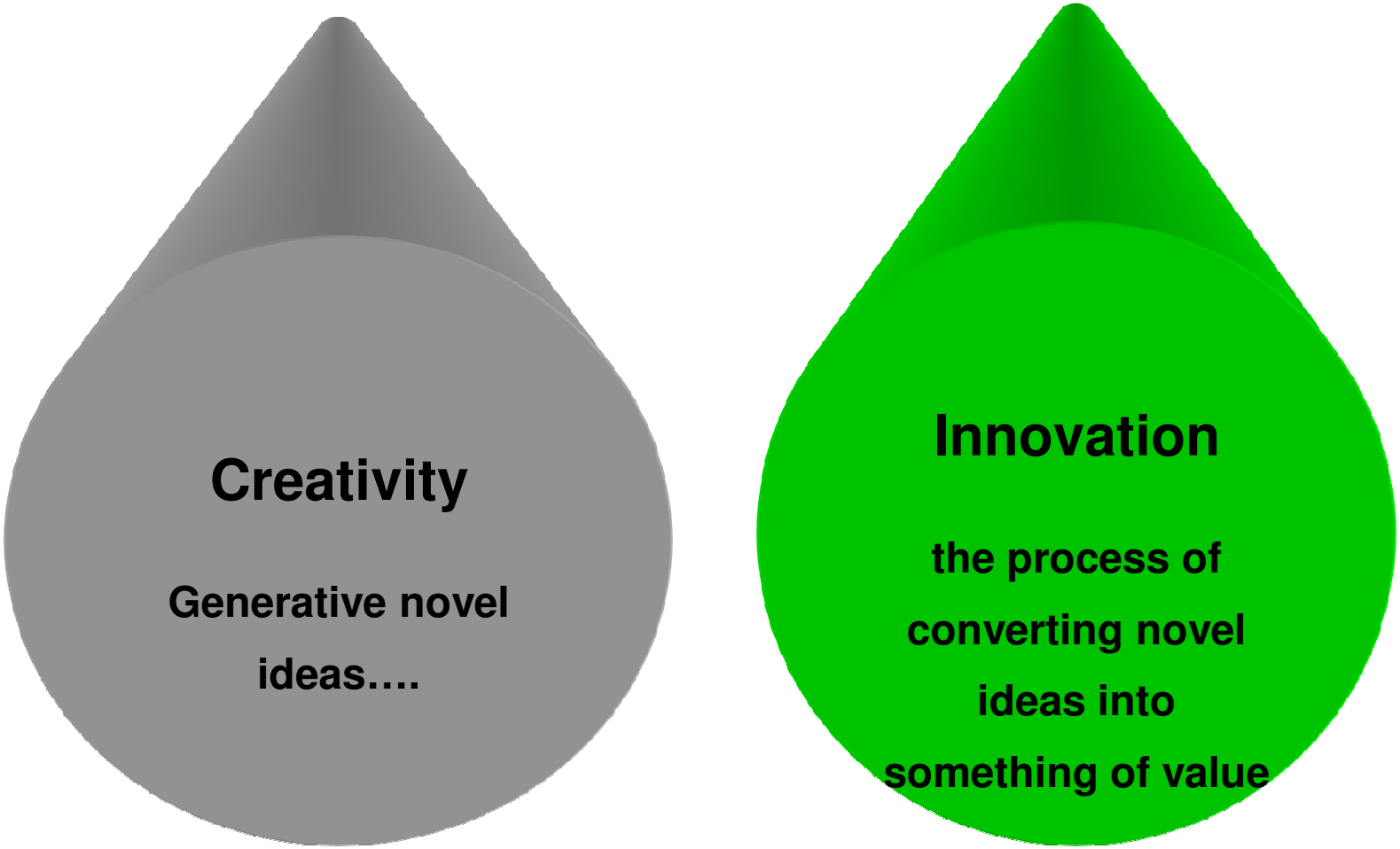
- Albert Einstein

Highlights

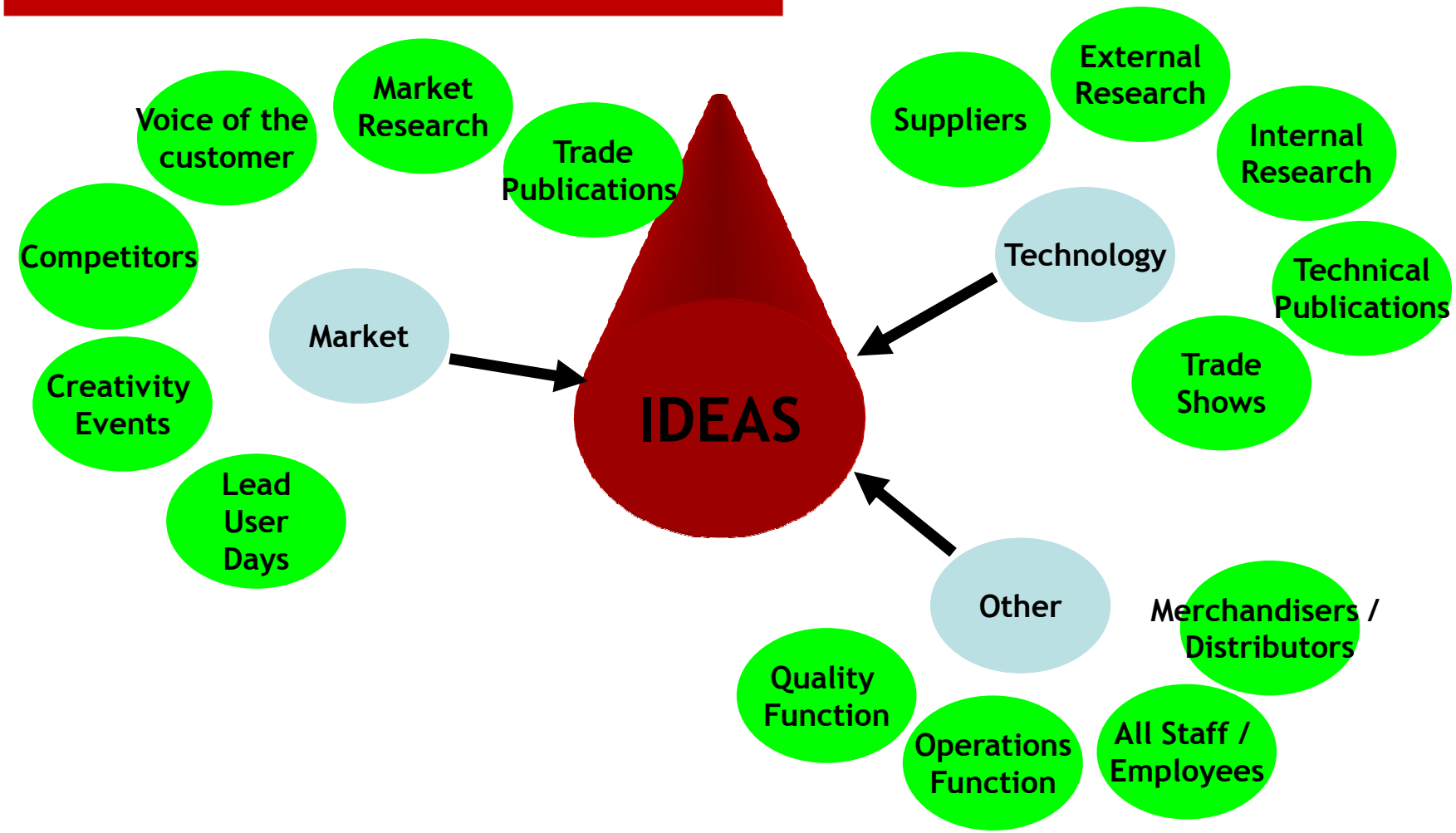
- Creativity & Innovation
- Innovation
- Innovation – Model, Programs & Roadmap
- Innovation - Data Sources / Relationships
- Innovation - Using DMAIC
- Innovation Framework
- Metrics & Measures

Creativity & Innovation

Creativity & Innovation



Ideas


Voice of the customer
Market Research
Trade Publications
Competitors
Market
Creativity Events
Lead User Days
IDEAS
Suppliers
External Research
Internal Research
Technology
Technical Publications
Trade Shows
Other
Merchandisers / Distributors
Quality Function
Operations Function
All Staff / Employees

Innovation

Why Innovate

- The enterprise that doesn't innovate inevitably ages and declines
- New products & innovativeness usually increase company value
- Companies that are doing well today invariably have an enviable stable of new products
- New products represent an increasing % of companies' sales revenues & profits

Critical Success Factors

- Innovation culture within the organisation and led by CEO
- Develop unique products that solves and meets customers' needs better than competitive products
- Define the new products strategy along with the process which has acceptance from all stakeholders
- Follow a disciplined and systematic Innovation process
- Define program and project structure including stage gate reviews
- Do your homework with regard to technical, financial and market assessment
- Use an "Outside In" customer focused perspective

Perspective

- Innovation is a strategic imperative
- Requires innovation functions as a core competency within an organisation
- Incremental or radical innovation
- New Products Innovation Process is a key business process

Challenges

- Change management implication
- Process ambiguity
- Visualisation of vision, goals and progress
- Internal and external stakeholder communication
- Collaboration and communication between cross functional teams
- Learning curve

Minimise Risk Exposure

- Base innovative efforts on your experience.
- Focus on products or services that have been largely overlooked.
- Be sure there is a market for the product or service you are hoping to create.
- Pursue innovation that customers will perceive as adding value to their lives.
- Focus on new ideas that will lead to more than one product or service.
- Raise sufficient capital to launch the new product or service.

Innovation – Model, Programs & Roadmap

Innovation Model

Current Practices – Today			Future Growth
Direction	**Generate innovation**	**Sustainable growth**	**Change competition landscape**
▪ Leadership ▪ Vision ▪ Governance ▪ Focus ▪ Creativity	▪ Operational performance ▪ Technology ▪ Resource capabilities and competencies ▪ Industry partnership ▪ Resource forecast and allocation ▪ Surveys	▪ Outcomes ▪ ROI ▪ IRR / NPV ▪ Client assessments ▪ Intellectual property ▪ Corporate viability ▪ Industry association	▪ Competition ▪ Scenario planning / Game theory ▪ Extrapolated trends ▪ Market consequences ▪ Alliances – partner and third party ▪ National association – Thought leader

Innovation Program

Focus	Strategies
Environment Scan ("Know Why")	▪ Understand the markets, customer, competitors, industry trends, legal & fiscal requirements along with the drivers ▪ Segment the market and identify target in the attractive segments ▪ Determine new customer and their purchasing reasons ▪ Develop a marketing communication strategy
Product / Services ("Know What")	▪ Translate current and future customer needs and preferences (unsatisfied / unstated needs) into product performance requirements ▪ Decide how to differentiate our offerings ▪ Set multi-year (3 ~ 5 years) targets and plan for product / R&D evolution
Process ("know how")	▪ Align resources for product performance ▪ Define capabilities and competencies for differentiation and the value proposition along with investments ▪ Identify and capture potential disruptive strategies including technologies ▪ Align demand and supply chain to fill the gaps
Resources competency ("know who")	▪ Understand and integrate process, procedures, systems and people required to deliver the products and services
Time Lines ("know when")	▪ Define time lines and get acceptance from the senior management along with the business case, blue print and governance

Innovation Roadmap

Area	Inputs	Outputs
Market Roadmap	▪ Customer needs ▪ Competitive threats ▪ Emerging markets and trend analysis	▪ Prioritised customer needs ▪ Opportunities and risks ▪ Key growth area and opportunities to have "first mover advantage"
Product / Services	▪ Window of opportunity ▪ Prioritised customer needs ▪ Existing capabilities	▪ Product / service evolution plans ▪ Desired attributes – products & services ▪ Fix the gaps
Technology / process	▪ Process evolution plans ▪ Existing capabilities ▪ Benchmarking	▪ Process / resources / technology development plans ▪ Scorecards ▪ Gaps ▪ Risks and mitigation
Program office	▪ Program process, transformation change, governance and outcomes	▪ Project process, transition, product outputs and business case management

Innovation - Data Sources / Relationships

Innovation Data Sources

Scope	Data	Customer Connection	Research
▪ Trend analysis ▪ Competitive intelligence ▪ Purchasing scenarios	▪ Customer database & CRM ▪ Benchmarking ▪ Sales Data	▪ Customer immersion techniques ▪ Personal contacts ▪ Observation and shadowing	▪ Quantitative and qualitative research ▪ Ad-hoc research

Use (Six Sigma / Lean / TQM) – PDCA or DMAIC

Innovation Relationship

System	Example 1 = transportation	Example 2 = Health care	Example 3 = Healthy Society
Sub System	Engine Brakes Seats Paint	Equipment Doctor Nurse Records	Hospitals Healthcare Drug companies Doctors
Current System	Car	Doctor's surgery	Healthcare
Super System	Transportation	Healthcare	Healthy Society

Innovation - Using DMAIC

For Idea Generation..

- A vision for change
- Remove fear of change
- Move thinking towards a venture capitalist
- Incorporate dynamic suggestion scheme
- Introduce lateral thinking
- Give everyone 2 jobs
- Collaborate
- Welcome failure
- Environment for calculated risk taking
- Build prototype
- Be PASSIONATE

Using DMAIC - Define

- Realise that there is a decision to be made.
- Define the problem statement
- Form the issue as a single sentence. An issue is the statement about the problem being solved or the question being answered.
- List the stakeholders. The stakeholders include everyone who will be affected by the decision.

Using DMAIC - Measure

- Develop multiple alternatives for resolving the issue.
- Identify necessary and sufficient conditions for the mode of failure
- Work to generate a set of discriminating criteria and their targets.
  - Identify targets as 1) qualitative, 2) quantitative (<, >, =)
- Assign the appropriate criteria to the appropriate stakeholder(s).

Using DMAIC - Analyse

- Study the system to identify conditions present during failure and eliminate potential causes until mode is verified
- Assign cause and create cause and corrective action
- Evaluate the alternatives relative to the criteria by
  - level of evidence,
  - level of certainty
  - rationale.
- Manage and visualise the evaluation uncertainties (using belief maps, for example).
- Fuse the evaluations using a structured method to find
  - alternative satisfaction
  - alternative risk

Using DMAIC - Improve

- Base future activity on a what-to-do-next evaluation.
  - understand the cost and benefit of doing more work to improve the decision.

Using DMAIC - Control

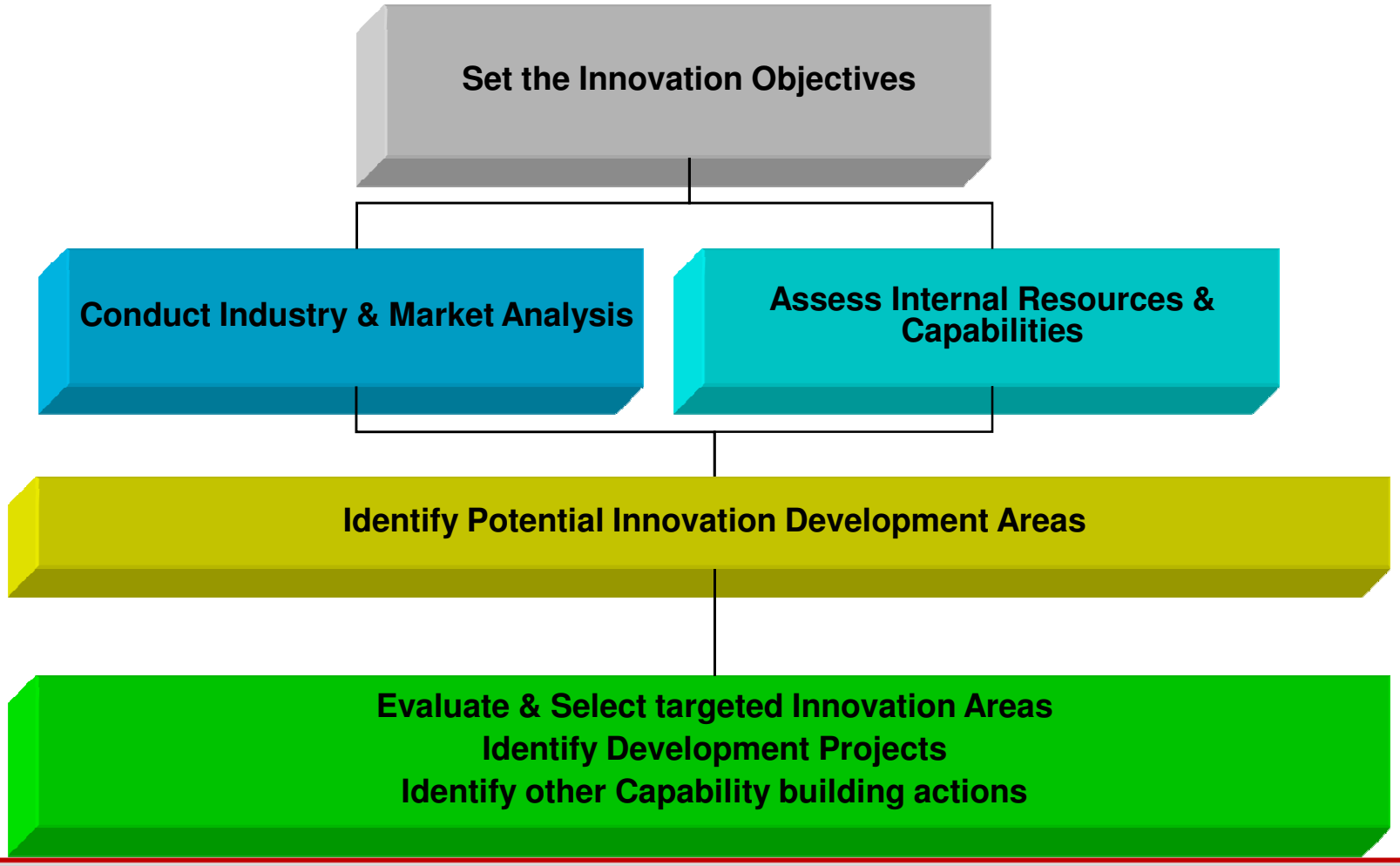
- Document the decision and the reasoning behind it.

Innovation Framework

Need for a Framework

- Framework for cross-functional alignment and integration
- Enables effective decision making in line with the vision
- Align future goals and product plans
- Align R&D spending and product development initiatives
- Aligns product portfolio with corporate and market needs
- Provides visibility into strategic and program direction
- Integrates data, product plans, and goals
- Identifies gaps in product, technology & capability plans
- Provides direction to project teams
- Shared vision of strategy alignment and execution
- Capture knowledge as the effort progresses

Framework


Set the Innovation Objectives
Conduct Industry & Market Analysis
Assess Internal Resources & Capabilities
Identify Potential Innovation Development Areas
Evaluate & Select targeted Innovation Areas
Identify Development Projects
Identify other Capability building actions

Innovation Objectives

- Sales/Profits from new products
  - By product group
  - By market
  - By geographic areas
- Percentage of sales/profits from products that are less that 3/5 years old
- Product strategy objective statements
  - Gain a presence in a new market
  - Exploit new opportunities in an existing market
  - Defend market share

Industry / Market Analysis

- Industry / Market Analysis
  - Understand the industry structure
  - Market segment, sizes and trends
  - Changing customer needs

- Competitor Analysis
  - Outline the market / segment share
  - Understand products offered and how they are differentiated

Resource Capabilities & Competencies

- Core capabilities & Competencies
  - In / Out bound logistics
  - Marketing
  - Research & Development
  - Manufacturing
  - After Sales
  - Finance
  - Operations

Development Areas

- Industry segment / value chain attractiveness
- Changes in customer needs or values & impact on the industry and its key players
- New opportunities that better meet customer needs and / or capitalise on a changing environment
- Opportunities for new product development options

Evaluation & Selection

- Business Strength / Market Opportunity Matrix
  - Business Strength
    - Ability to leverage capabilities (Marketing, R&D, Technical, Manufacturing and Customer Relationships)
    - Potential for gaining product advantage
  - Market Opportunity
    - market attractiveness
    - technological possibilities
- Selection
  - Plot options on strategic map
  - Select preferred options
  - Priorities, scope, project selection

Innovation Metrics & Measures

Metrics / Measures

- Macro
  - Amount of innovation budget
  - Ratio of innovation projects sponsored by senior management
- Volume
  - Number of innovations made
  - Number of patent applications filed
  - Number of trademarks obtained
  - Number of people involved systematic problem solving
  - Number of systematic innovation projects completed
- Speed
  - Amount of time per innovation
  - Research cycle time
  - Product development cycle time
  - Mean time to solve and implement an innovation solution

Metric (Contd.)

- Financial Performance
  - % of Sales from New Products
  - % of Profit from New Products
  - % of Sales invested in NPD
  - Sales Potential of Pipeline
- Project Performance
  - Actual Time Performance vs. plan
  - Actual time taken to complete stage
  - Actual Cost Performance vs. budget
- Process Performance
  - Time to Market (by project type)
  - Market Launch Hit Rate
  - Number of New Product Ideas reviewed

"Every act of creation is first of all an act of destruction."

- Pablo Picasso

Good Luck

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