

KOSTAS N. DERVITSIOTIS
 Developing Innovation
 for Greater Competitiveness and a Higher Standard of Living

55th EOQ Congress as World Quality Congress
 20 -23 June, 2011, Budapest, Hungary

Forces Creating Waves of Environmental Change

Technology Advances

Social Change

Economic Globalization

Emerging Competitive Landscape:



Increasing interconnectivity

Increasing interdependence

Increased competitive pressures

Increasing Uncertainty and Decreasing ability to forecast

Creating conditions for SHIFT From PUSH- to PULL-paradigm

Changing Demographics

Japan March 11 9.0 R Earthquake 10m Wave Tsunami

Natural Disasters

Evidence of Declining Corporate Lifetime From Intensifying Competition

The average lifetime of the largest enterprises (in Fortune 500) is less than forty (40) years, roughly half the lifetime of a human being!

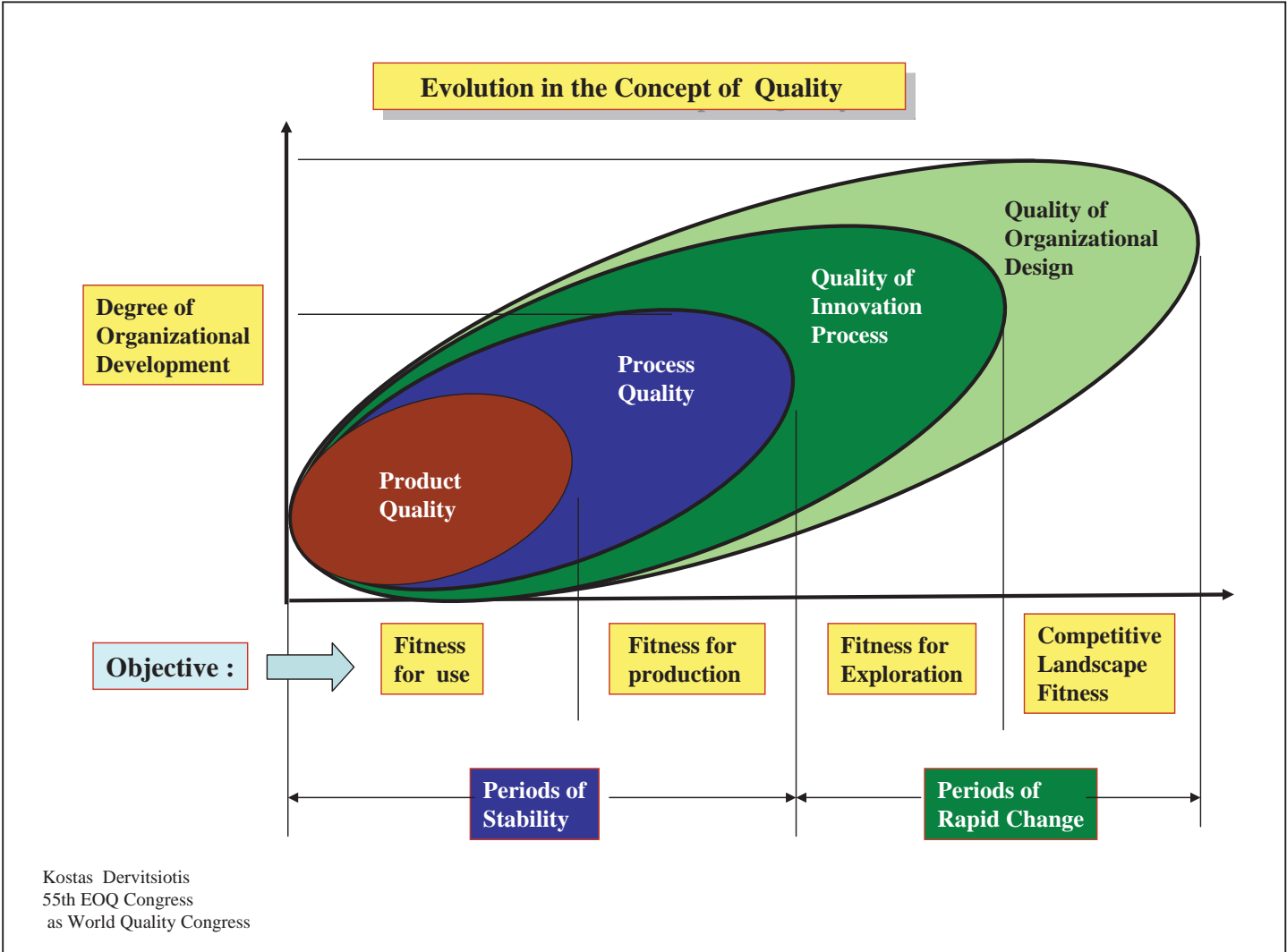
Royal Dutch/Shell Survey, 1970

Over the last sixty years, the average lifetime of companies on the S&P 500 list has declined by 80%, from 75 years to 15 years.

John Hagel III, *Fast Strategy*, 2007

Year	Corporate Lifetime, yrs
1947	75
1970	40
2007	15

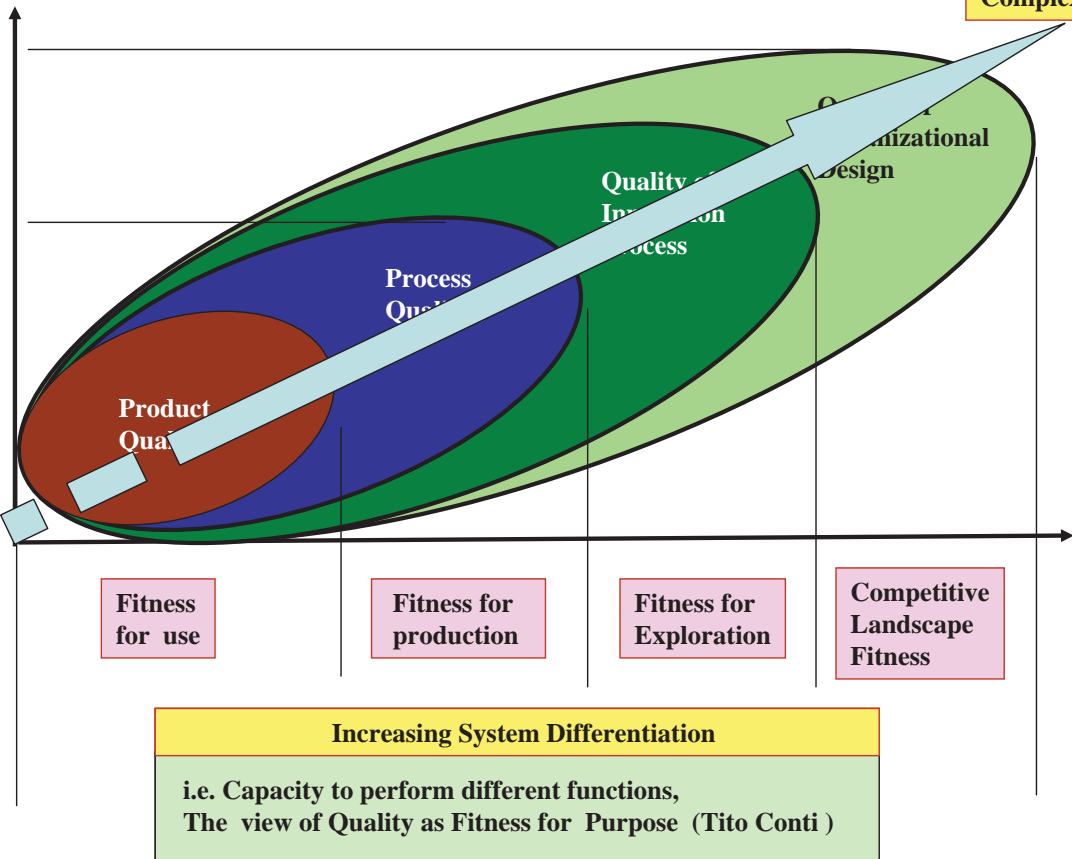
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Excellence as Performance in Managing Greater Complexity

Increasing System Complexity

Increasing System Integration,
i.e. Capacity to coordinate diverse system parts



Fitness for use

Fitness for production

Fitness for Exploration

Competitive Landscape Fitness

Increasing System Differentiation
i.e. Capacity to perform different functions,
The view of Quality as Fitness for Purpose (Tito Conti)

Performance and Evolution in the Concept of Quality

Environmental Conditions

Value added

Existing
• Product
• Process
• Business Model

Periods of Stability



E-commerce

Changing customer preferences

New Innovations :
• Products
• Processes
• Business Models
• Institutional Models

Periods of Rapid Change



Infancy Rapid growth Maturity

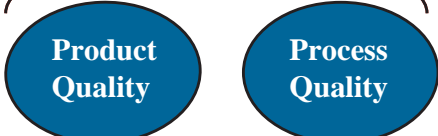
Infancy Rapid growth

Focus

OPERATIONAL EXCELLENCE

ADAPTATION EXCELLENCE

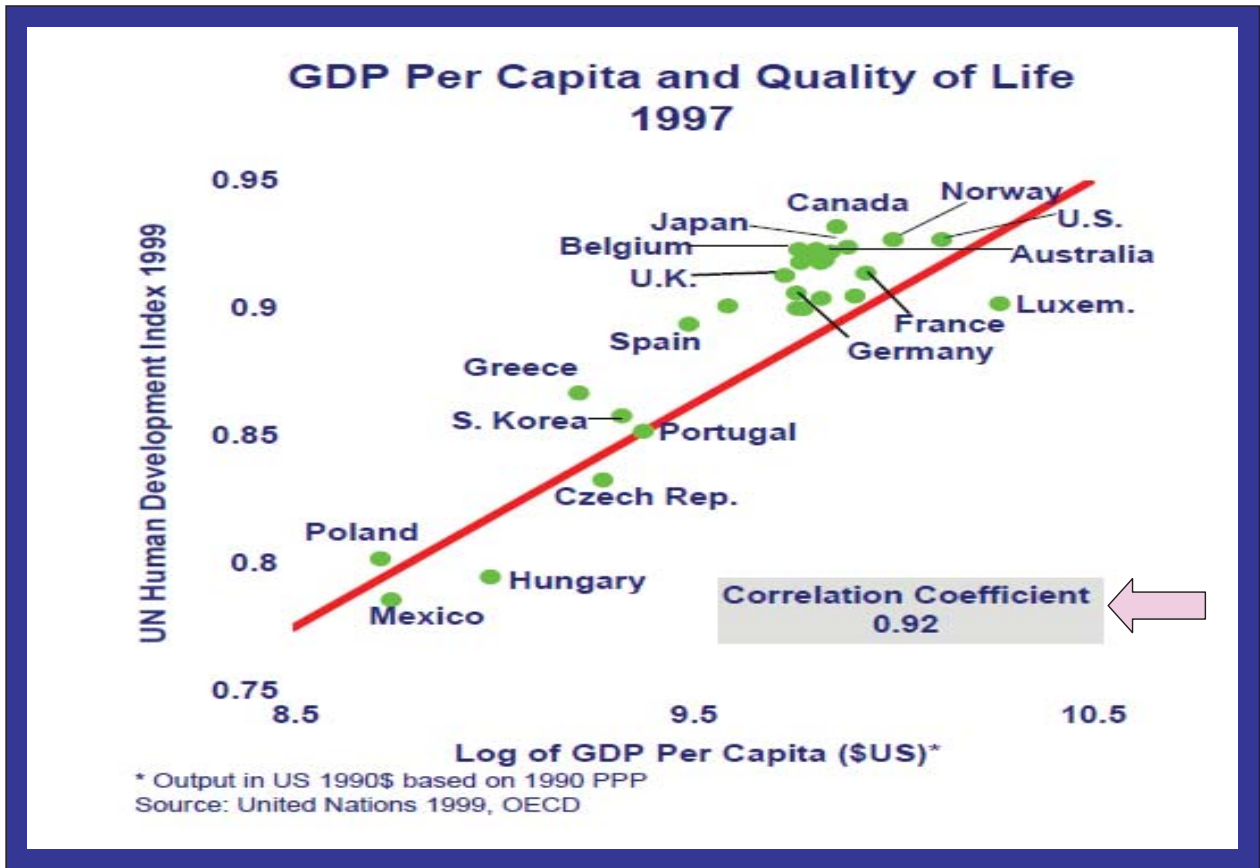
Relevant Dimension of Quality



Time

Increasing fitness

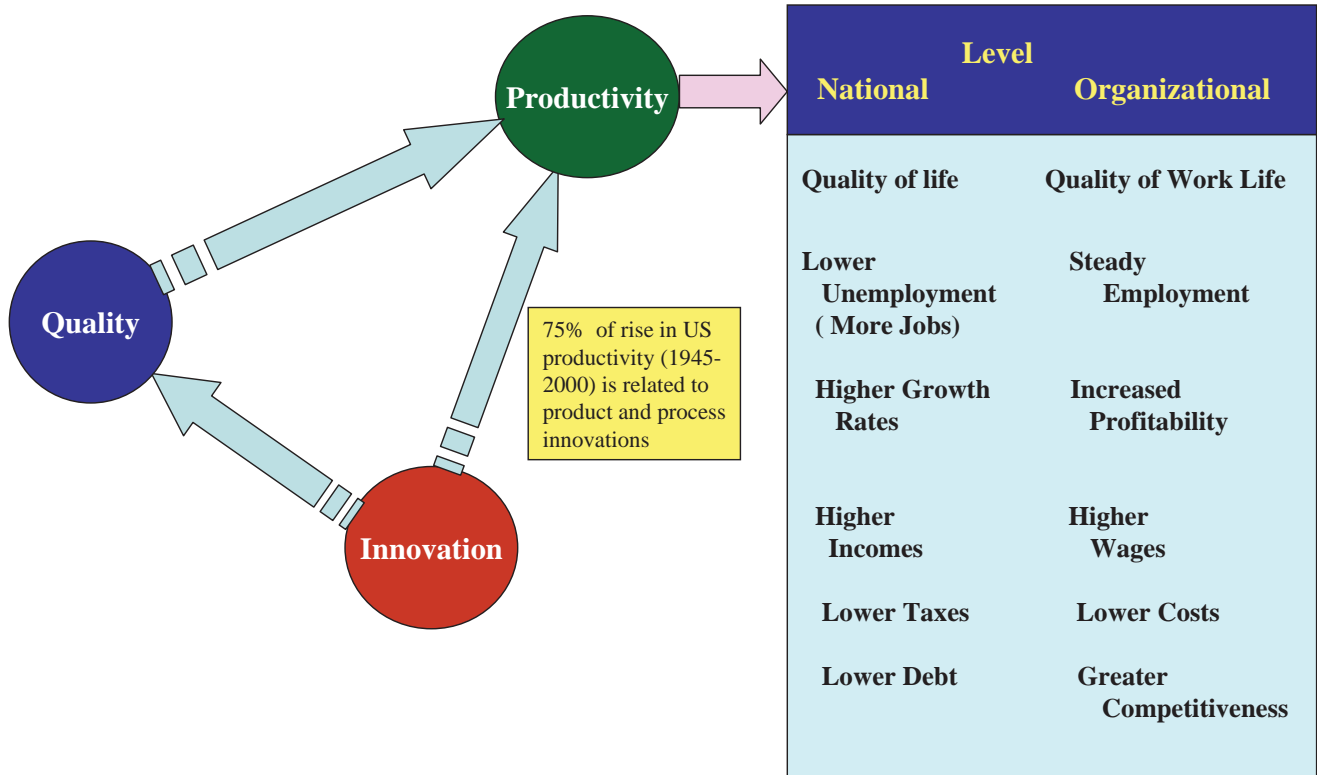
Key Motivation for Innovation: Improving Quality of Life Through Greater Productivity



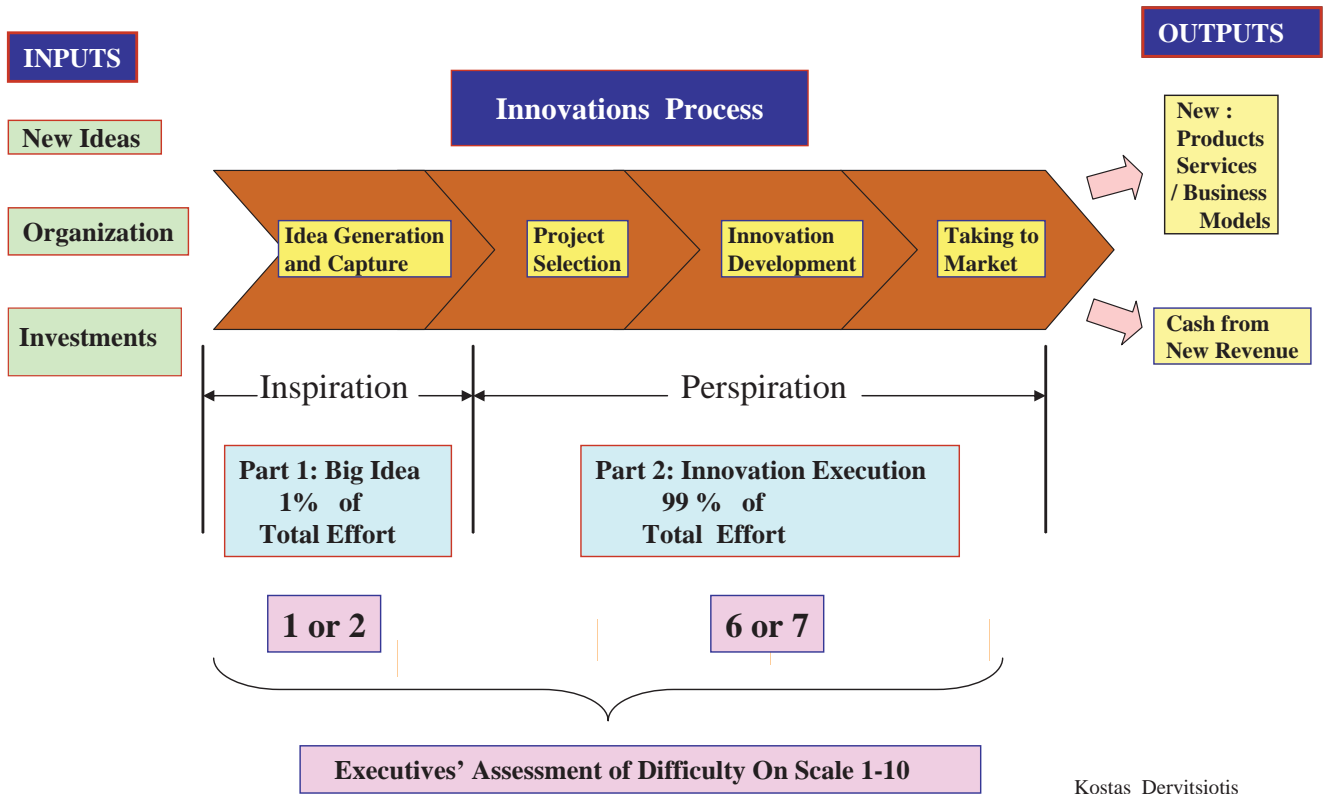
Source: Living Standards and Productivity: Canada and the OECD,

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Higher Standard of Living from Rising Productivity Through Quality and Innovation

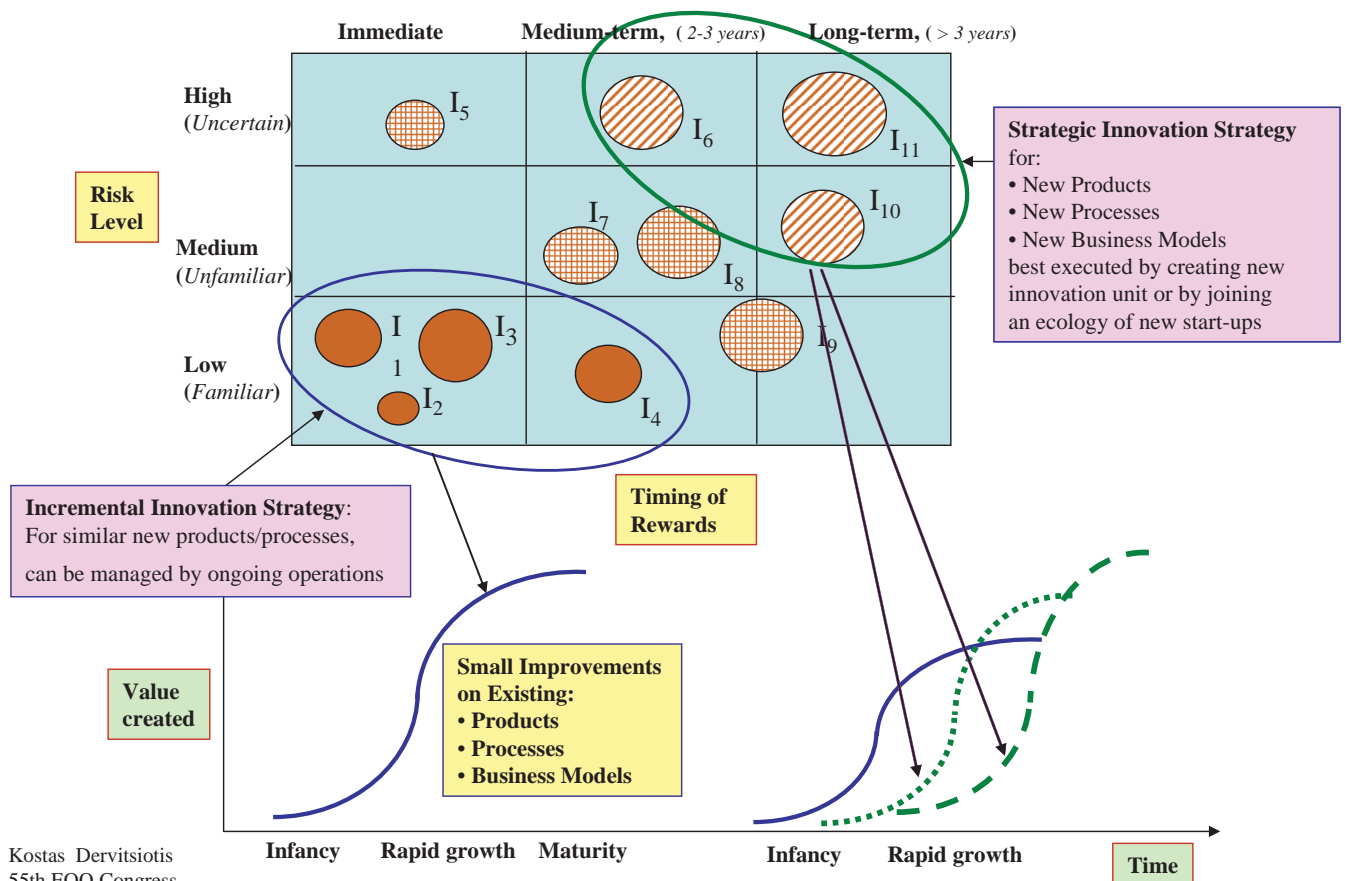


Degree of Difficulty in Stages of Value-Chain of Innovation Process



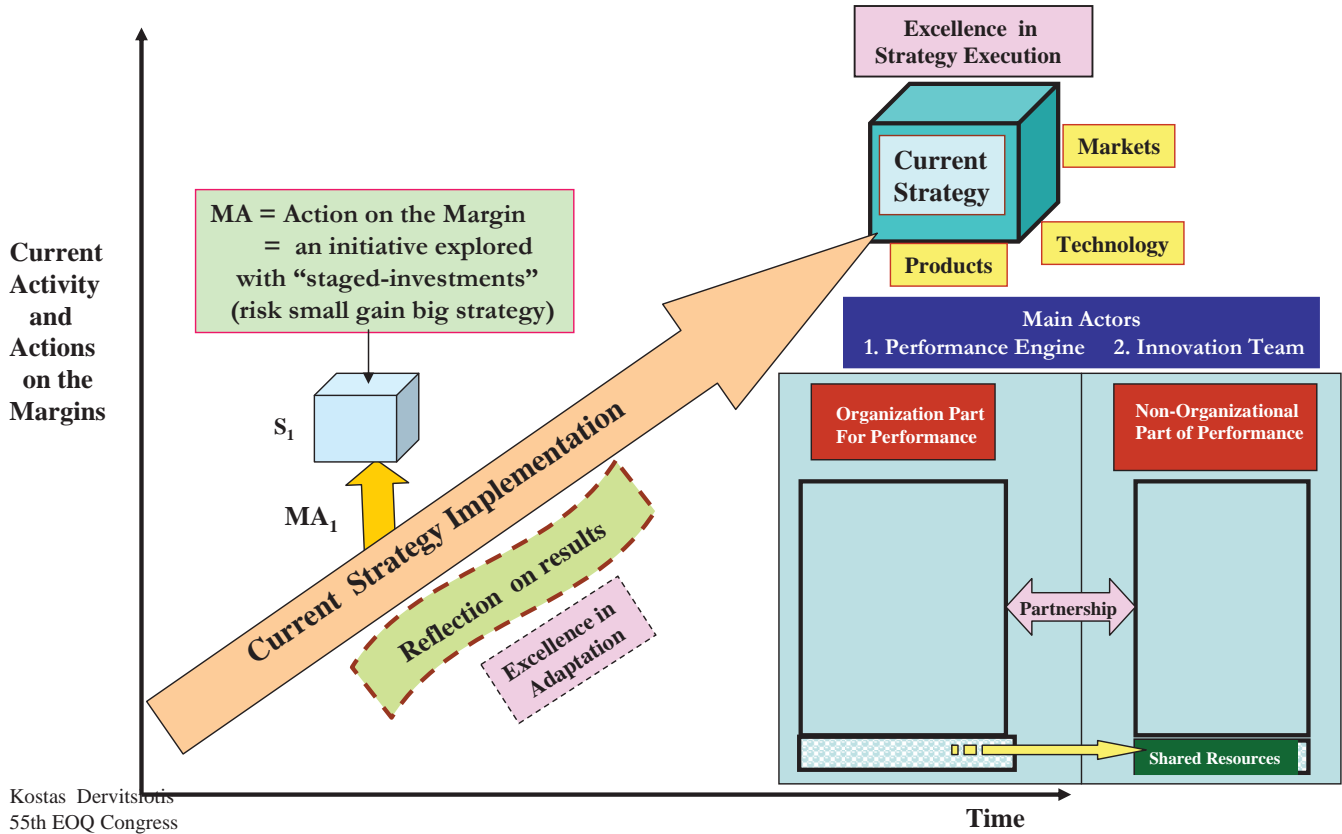
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Innovation Portfolio Strategies for Desired Types of Performance Improvement



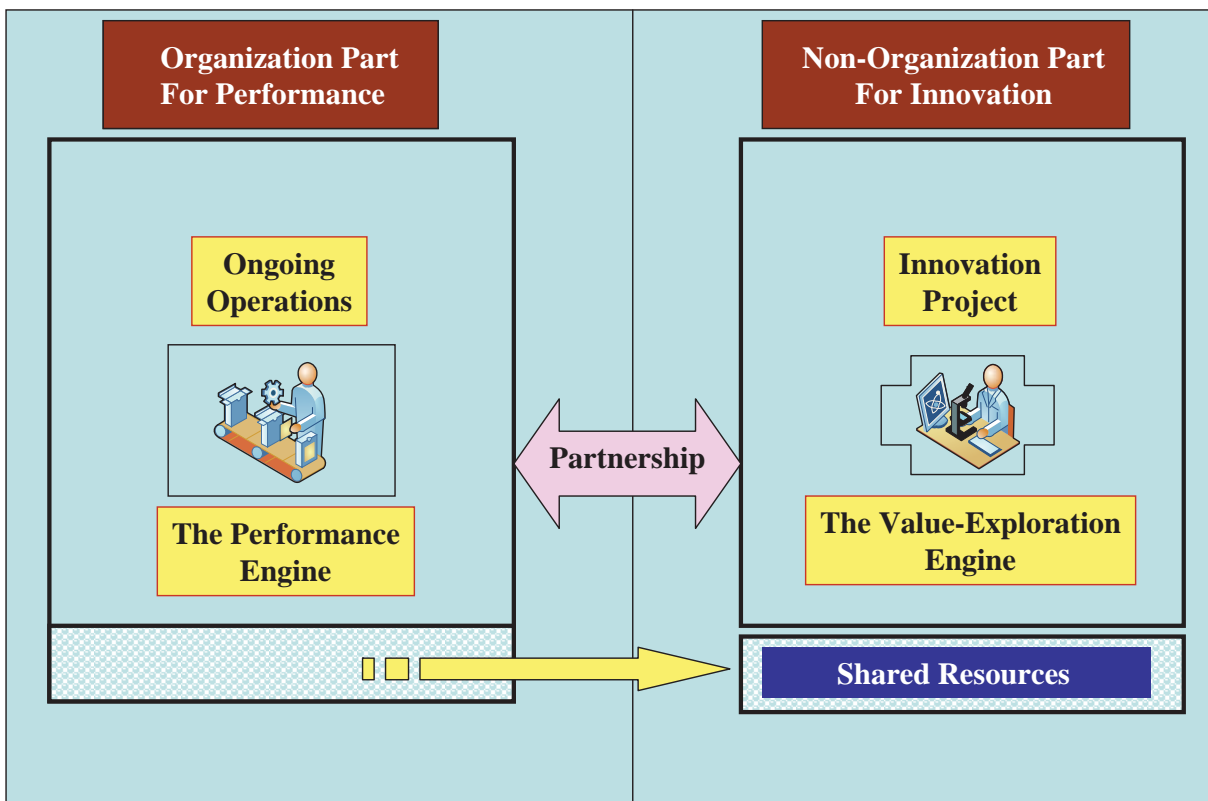
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Need for Low-Cost, Low-Risk Innovation Strategy



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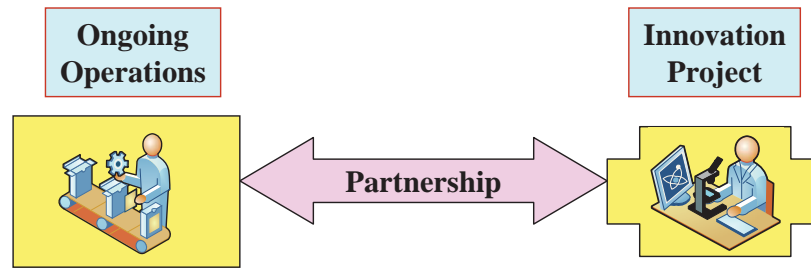
Developing A Unique Organizational Design For Each Innovation Initiative



Each innovation initiative represents a different experiment to explore a new opportunity

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Managing The Critical Partnership Between The Production Core (Performance Engine) and Innovation Initiatives

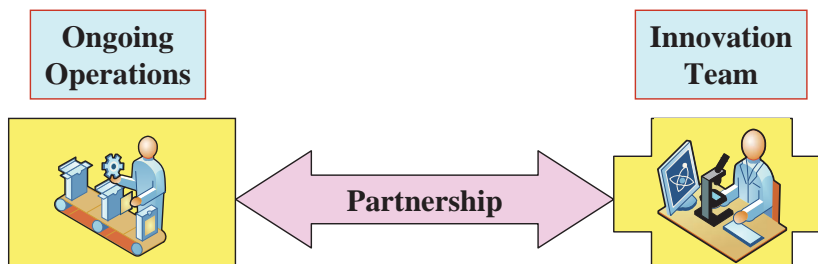


Mission	Optimize Performance	Explore Future Opportunities
Assumption	Future will be like the past Conditions of certainty	Future will be departure from the past Conditions of uncertainty
Horizon	Planning for Short-term	Planning for long-term
Key Inputs	Based on data	Based on assumptions
Seeking	Goals: • Efficiency • Quality • Speed	Goals: • Learning • Low-cost , low-risk experiments • Speed

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Source: Vijay Govindarajan, Chris Trimble, *The Other Side of Innovation*, 2010

Sources of Friction and Conflict Between Operations Performance and Innovation Systems



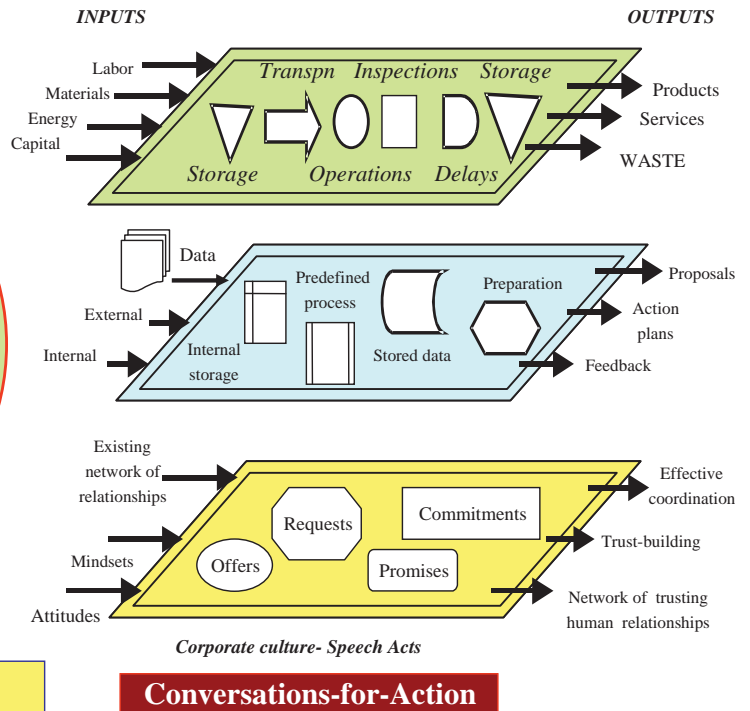
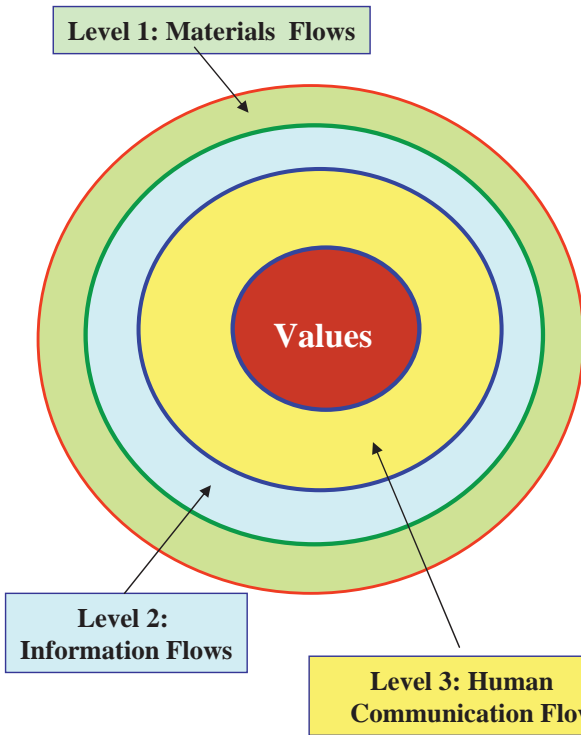
- Based on well-defined processes
- Processes repeatable
- Control scarce resources
- Well-defined roles/responsibilities
- Evaluated on performance
- Can develop only incremental improvements

- Based on experimental processes
- Processes not repeatable
- Borrow needed resources
- Need for new roles
- Evaluated on degree of learning
- Develop disruptive innovations

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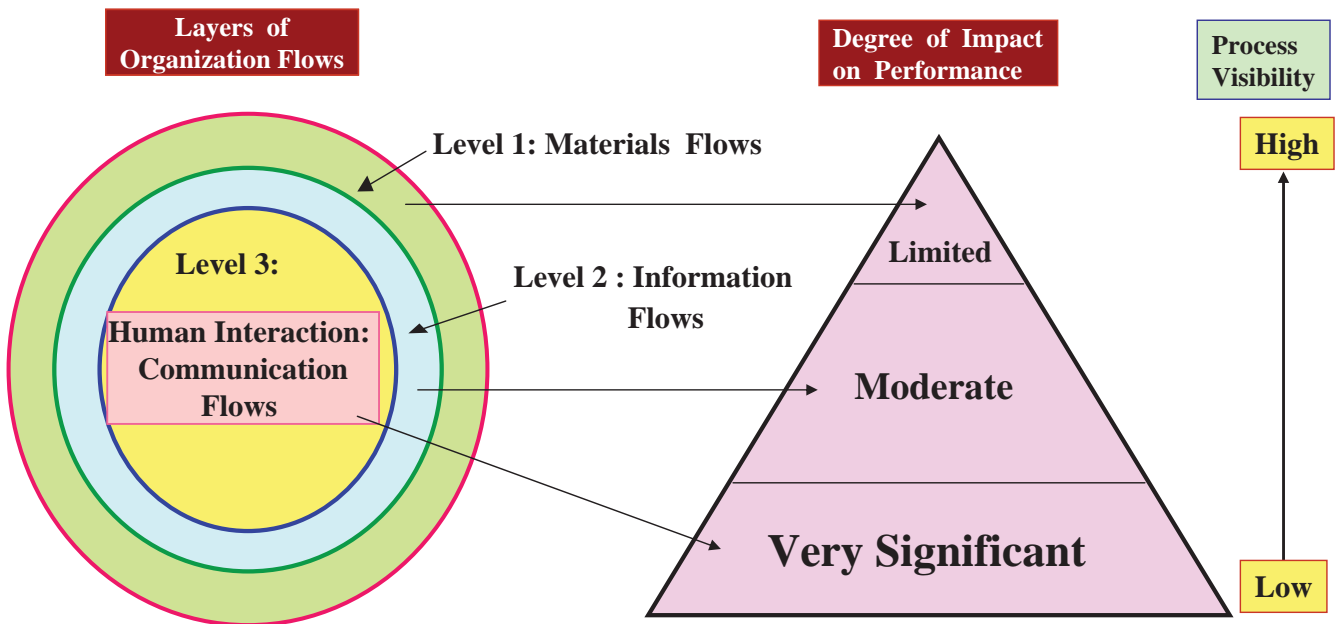
Source: Vijay Govindarajan, Chris Trimble, *The Other Side of Innovation*, 2010

**Getting to the Heart of Innovation Management:
The "Onion View" of Organizations**



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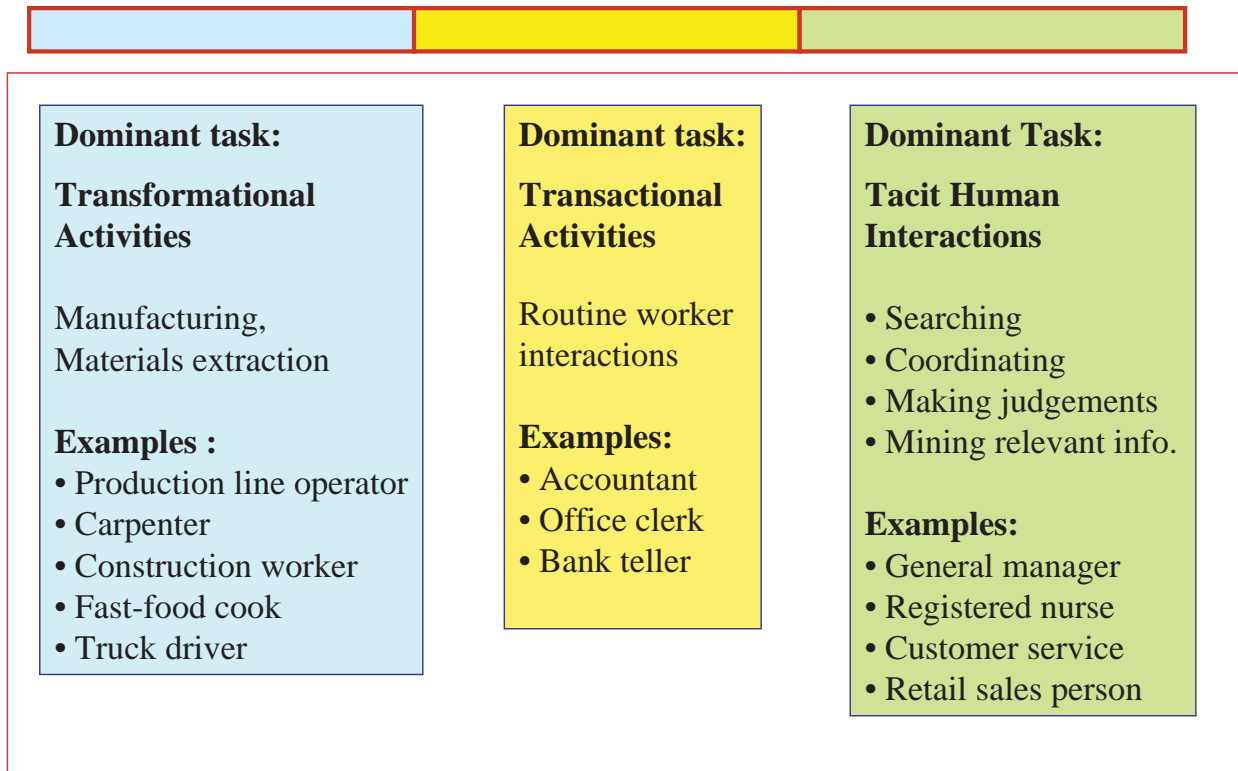
**Innovation Management : A Communication-intensive Process
Demanding High Quality In Tacit Interactions**



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Evolving Composition of Business Activities

Each business activity assigned to a person (a Job) is made up of a collection of tasks



Change In Composition of Business Activities

Source: *McKinsey Quarterly*, 2006

% Change in distribution of tacit workers ('98-'04)

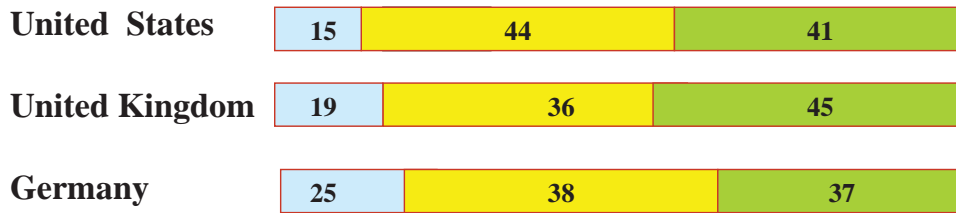
Sector				
Hospitals	4	26	68	2.6
Retail Trade	5	50	45	0.0
Air Transportation		66	44	20.1
Hotel, Motels, etc.	9	70	21	2.4
Computer Mfg	26	48	26	7.3
Mining	33	47	14	-0.5
Paper Mfg	46	38	16	1.4
Textiles	54	32	14	4.0

Transformational
 Transactional
 Tacit

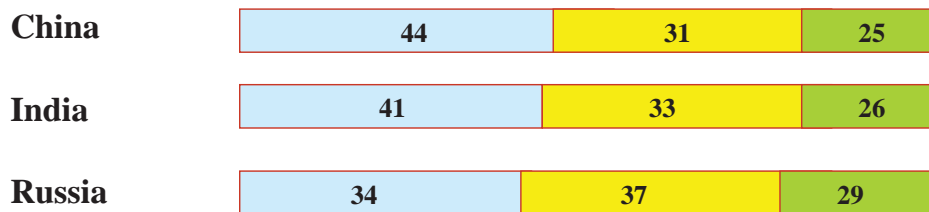
Workforce Composition of National Economies as % of Workforce Type , 2004

Source: *McKinseyQuartely*, 2006

Developed Countries



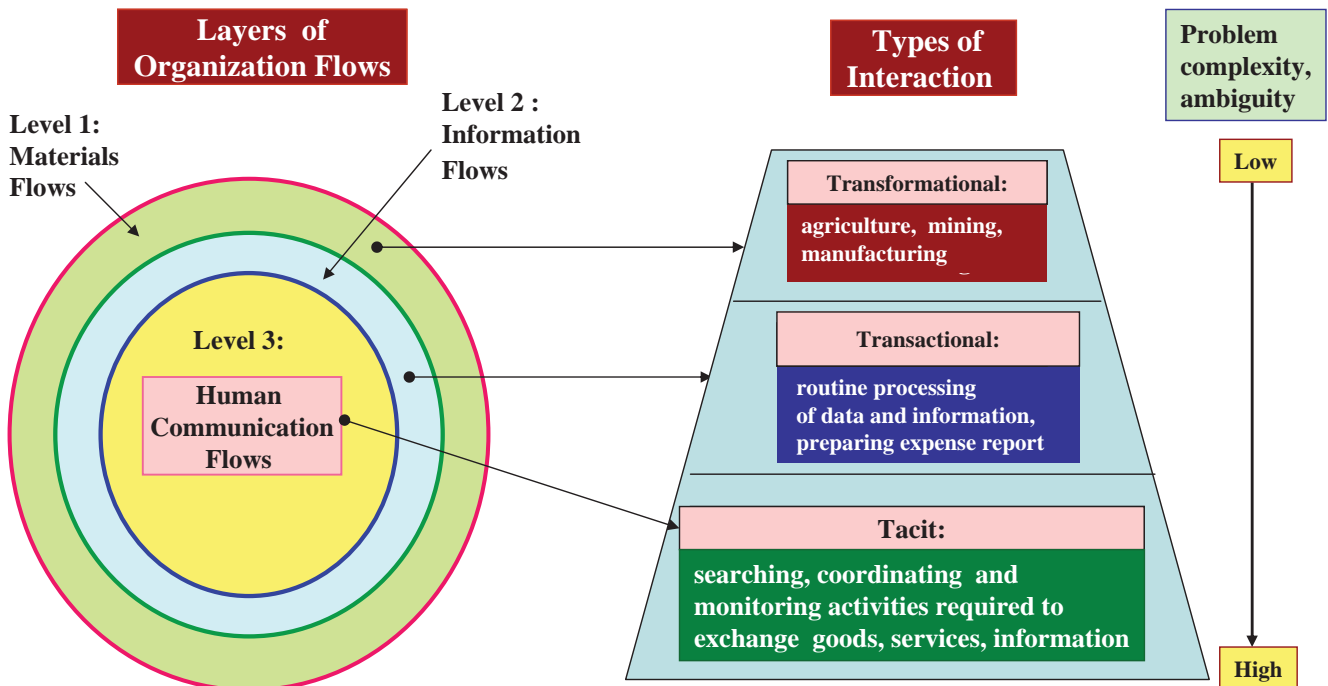
Developing Countries



Transformational
 Transactional
 Tacit

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Innovations Are Often Generated During Tacit Interactions To Address Complex and Ambiguous Organizational Problems



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Leadership Must Aim for Balance Between Short- and Long-Term Goals



INNOVATION COMPONENT FOR ADAPTATION

Communication intensive-
Innovation Mgmt
Domain

OPERATIONS COMPONENT FOR PERFORMANCE

Focus: On creative professionals for long-term creation of wealth based on value innovations. Includes tacit human interaction activities.

1. Survival and success are the key objectives
2. Variation in all processes is to be optimized
3. Quality and quantity of human interactions determine value-adding innovations and adaptation
4. Business landscape fitness is the dominant criterion of performance

Focus: On line-management for execution of current strategy to meet short-term earnings expectations. Includes transformational and transactional activities

1. Cost minimization is the dominant issue, addressed by increasing efficiencies of scale, scope and skills. (traditional economy)
2. Standardization, uniform procedures, substitution of humans by machines, outsourcing (offshoring) can be used to minimize costs.
3. Variation in infrastructure processes is to be minimized.

The TQM-
Six Sigma, Lean
Operations Mgmt
Domain

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The Ongoing War Between Performance Now vs. Innovation for Future Performance and Survival

At every crossroads
on the path
that leads to the future,
tradition has placed 10,000 men
to guard the past.

- Maurice Maeterlinck

The Austerity Policy for Sovereign Debt

	Greece	Ireland	Portugal	Spain	Average (unweighed)
Unemployment Rate (World=7.79%)	11.0%	13.9%	10.7%	20.3%	14.0 %
Gov.t Spending as % of GDP (OECD = 34.8%)	33.5%	34.0%	37.0%	37.3%	35.5%
Public Debt as % of GDP (World=58.3%)	144.0%	98.5%	83.2%	63.4%	97.3%
Growth Rate	-4.5%	-7.6%	-2.6%	0.2%	-3.6%

The Growth Policy for Sovereign Debt

	Indonesia	China	Malaysia	Singapore	Average (unweighed)
Unemployment Rate (World=7.79%)	7.1%	4.1 %	3.2 %	2.2 %	4.2 %
Gov.t Spending as % of GDP (OECD = 34.8%)	11.0 %	17.0 %	15.5 %	13.2 %	14.1%
Public Debt as % of GDP (World=58.3%)	26.4 %	17.5 %	52.6 %	102.4%	49.7 %
Growth Rate	5.8 %	9.8 %	5.3 %	12.5%	8.4%