

منتدى دبي العالمي
لإدارة المشاريع

DUBAI INTERNATIONAL
PROJECT MANAGEMENT FORUM

6th EDITION الدورة السادسة

7 - 10 ديسمبر 2019 • مدينة جميرا • دبي

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Design Thinking and Agile Project Management
**Beyond Lean & Agile: Sustainable Project
Management**

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CULTURAL DIVERSITY

Presentation Outlines

Brief overview of relevant theoretical Frameworks.

Lean: A Design Thinking perspective

The evolution of Lean in Project Management context.

Is Agile Project Management rooted in the Lean philosophy?

Agile Project Management beyond IT projects

PM in the era of Sustainability and Digital Transformation.

Sustainable Project Management Model



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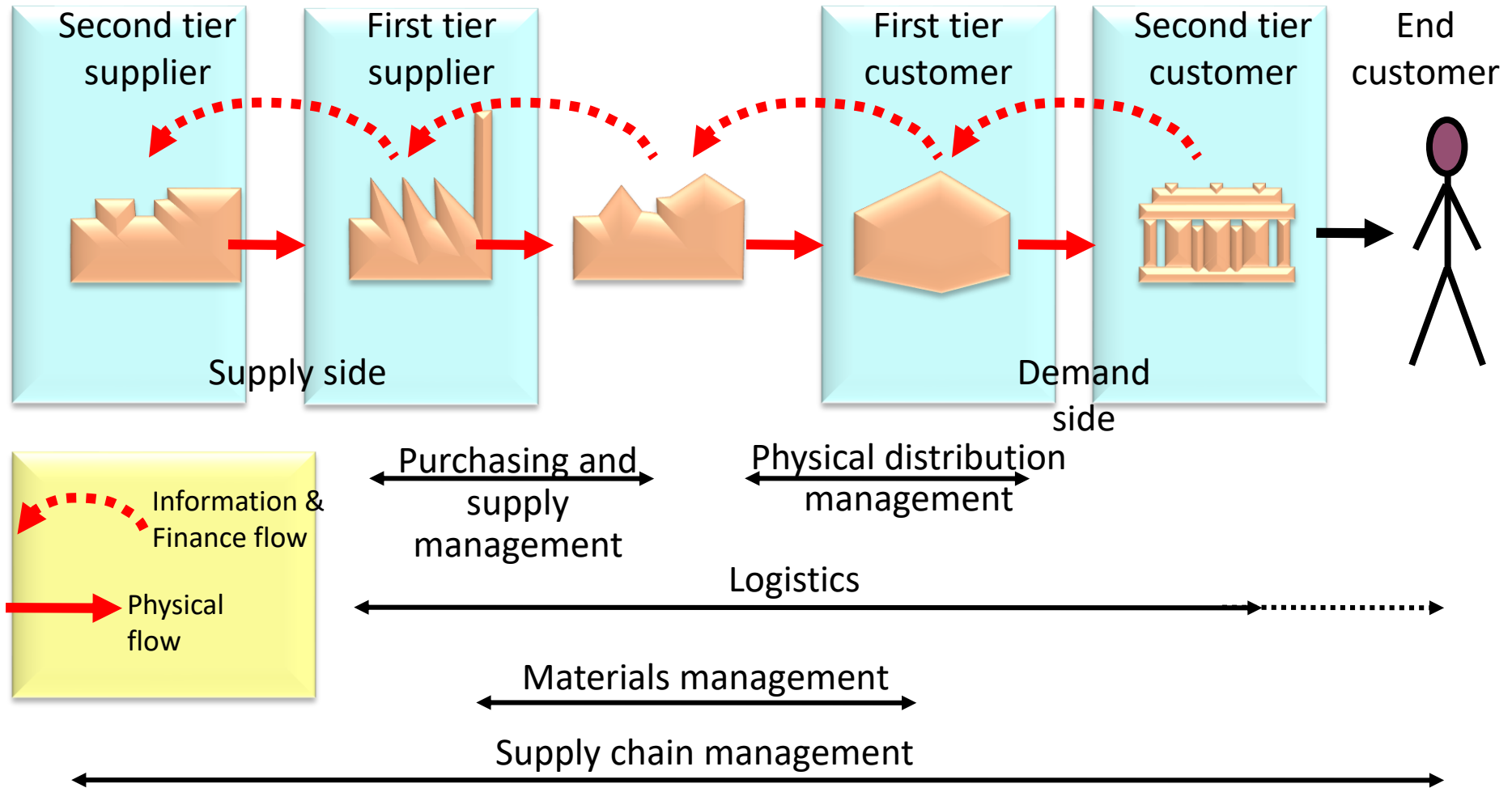


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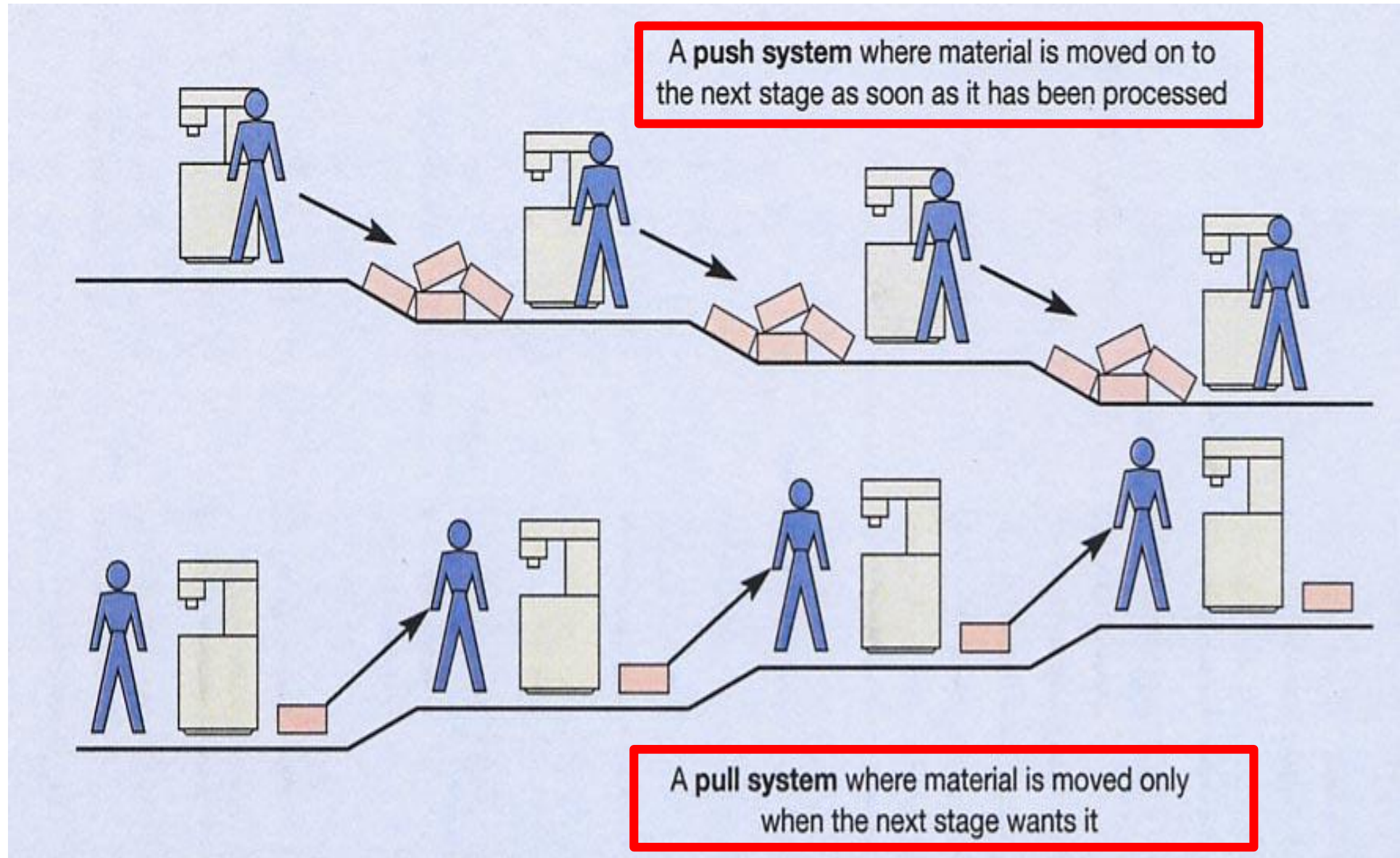
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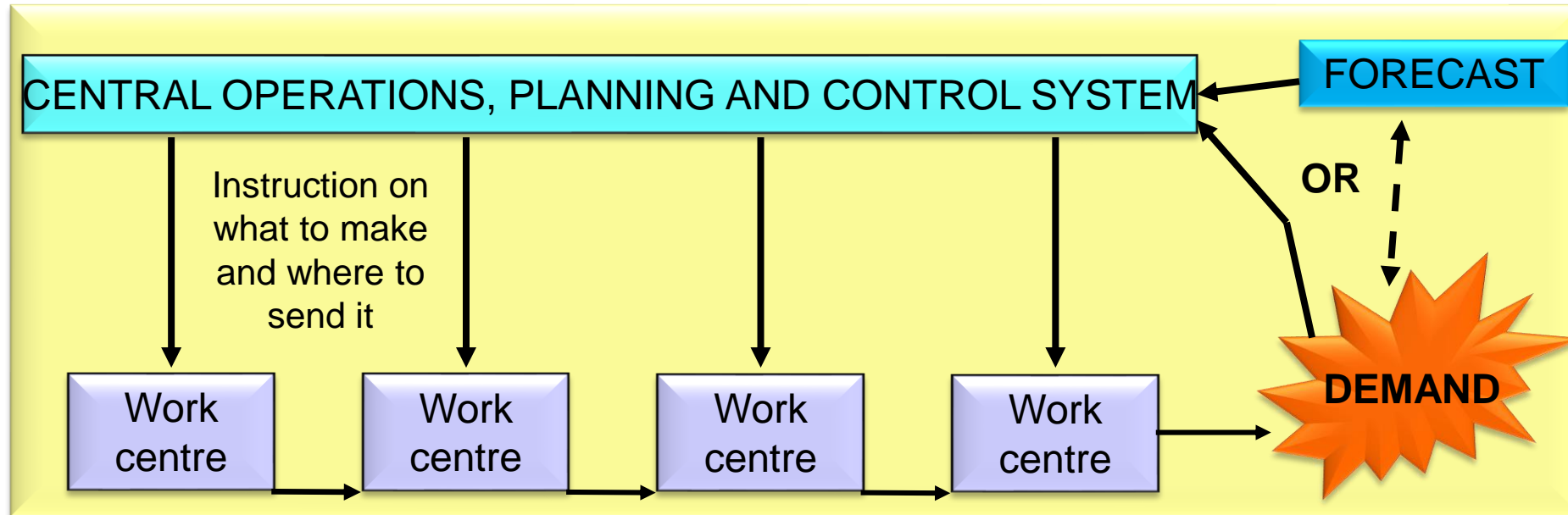


Pull and push philosophies of planning and control



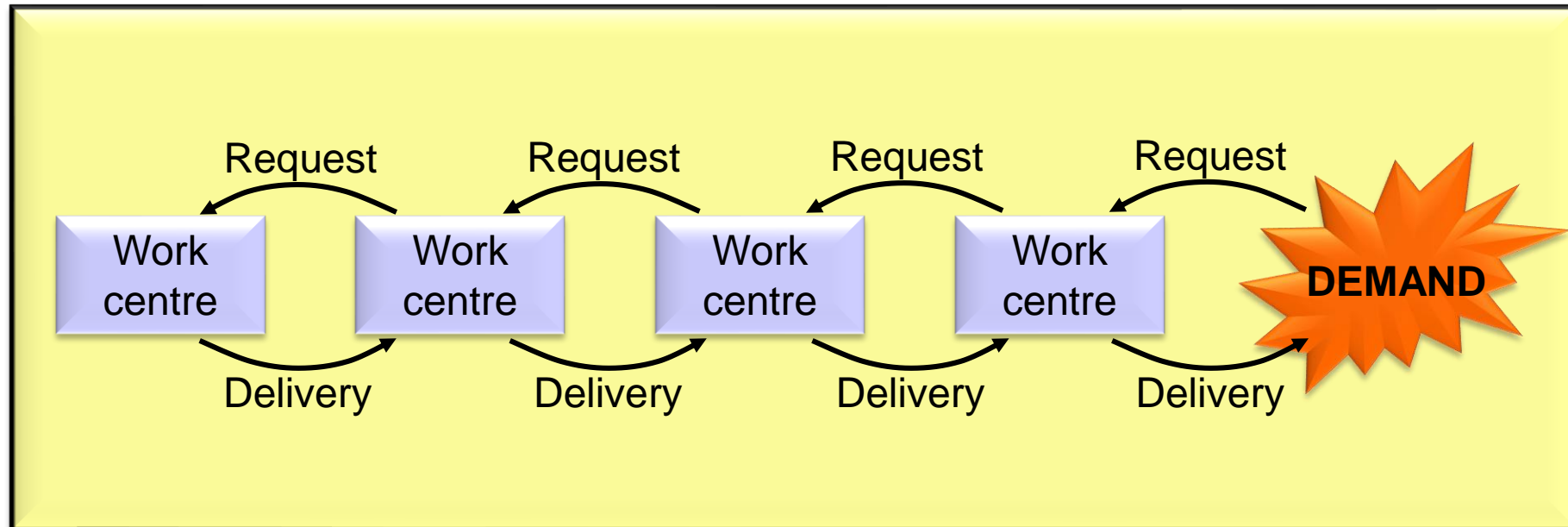
Pull and push philosophies of planning and control

Push control

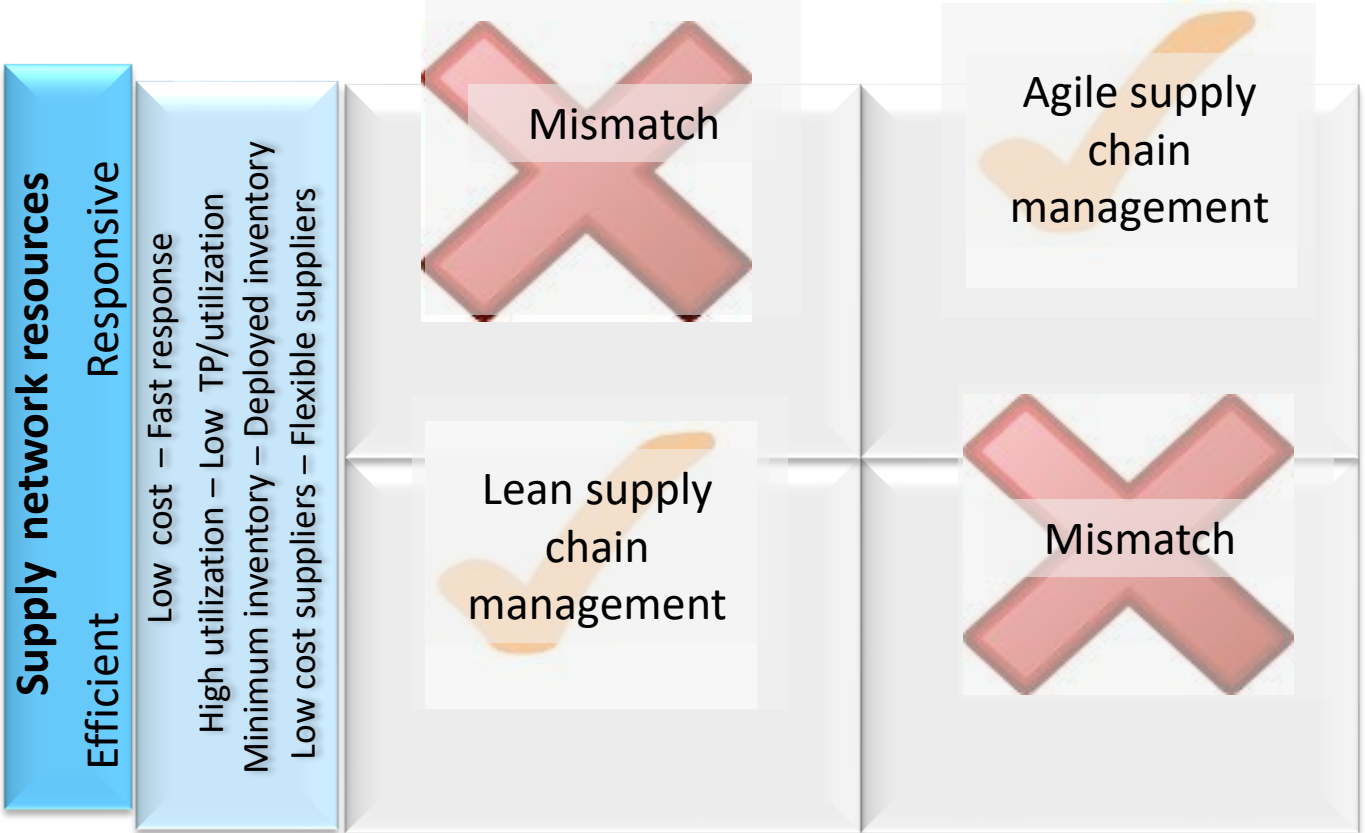


Pull and push philosophies of planning and control (Continued)

Pull control



Supply Network Alignment



Nature of demand/Market requirement	
Functional products	Innovative products
Predictable	– Unpredictable
Few changes	– Many changes
Low variety	– High variety
Price stable	– Price markdowns
Long lead-times	– Short lead-times
Low margin	– High margins

What is Lean?

*The key principle of **lean synchronisation** is relatively straightforward to understand, it means*

*moving towards **the elimination of all waste***

which in turn leads to an operation that is faster, more dependable, produces higher quality products and services and, above all, operates at low cost.



Lean Philosophy: Eliminate the 7 Wastes

1- Overproduction

2- Waiting time

3- Transport of goods

4- Process

5- Inventory

6- Motion: movement by people

7- Defects/Faults

The lean philosophy of operations

Eliminate waste

Involve everyone

Continuous improvement

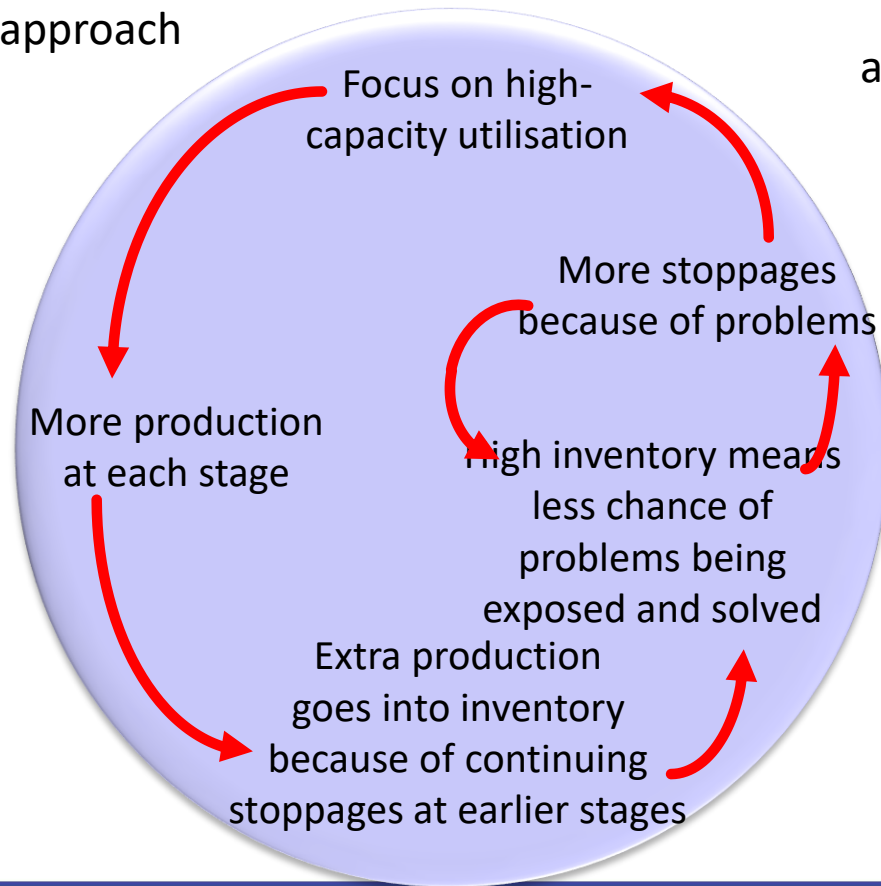


Lean as a set of techniques for managing operations

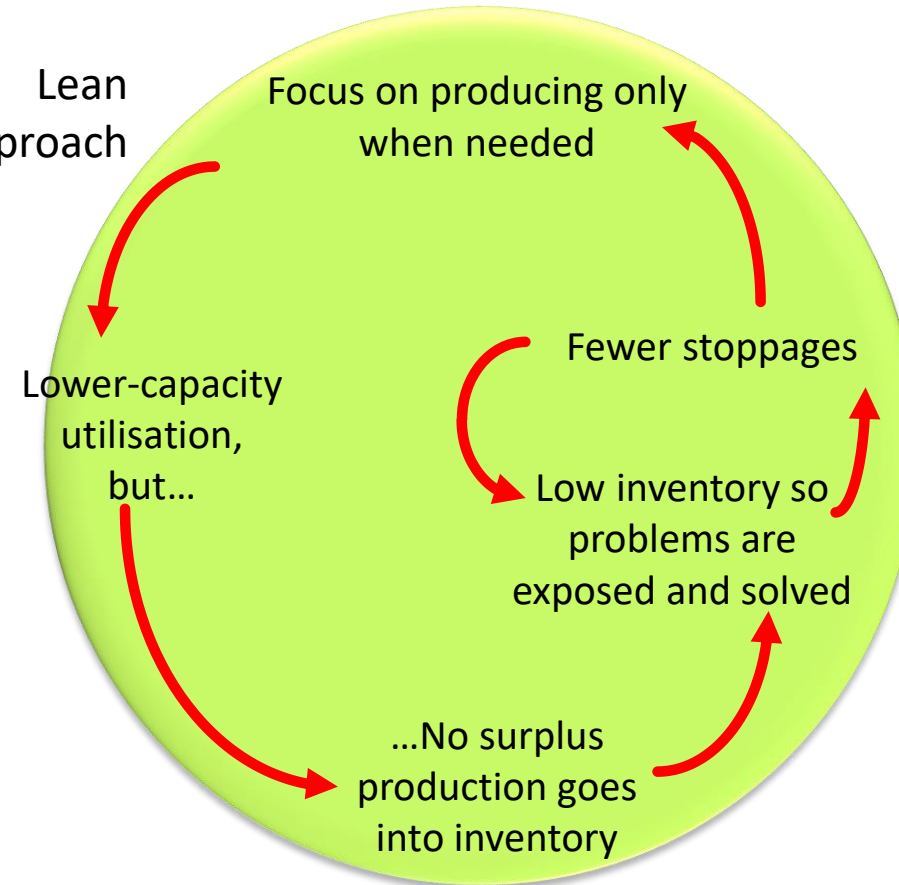
- Basic working practices
- Total Product Management
- Design for manufacture
- Set-up reduction
- Operations focus
- Total people involvement
- Small, simple machines
- Visibility
- Flow layout
- JIT supply

Lean operations versus Traditional approach

Traditional approach



Lean approach



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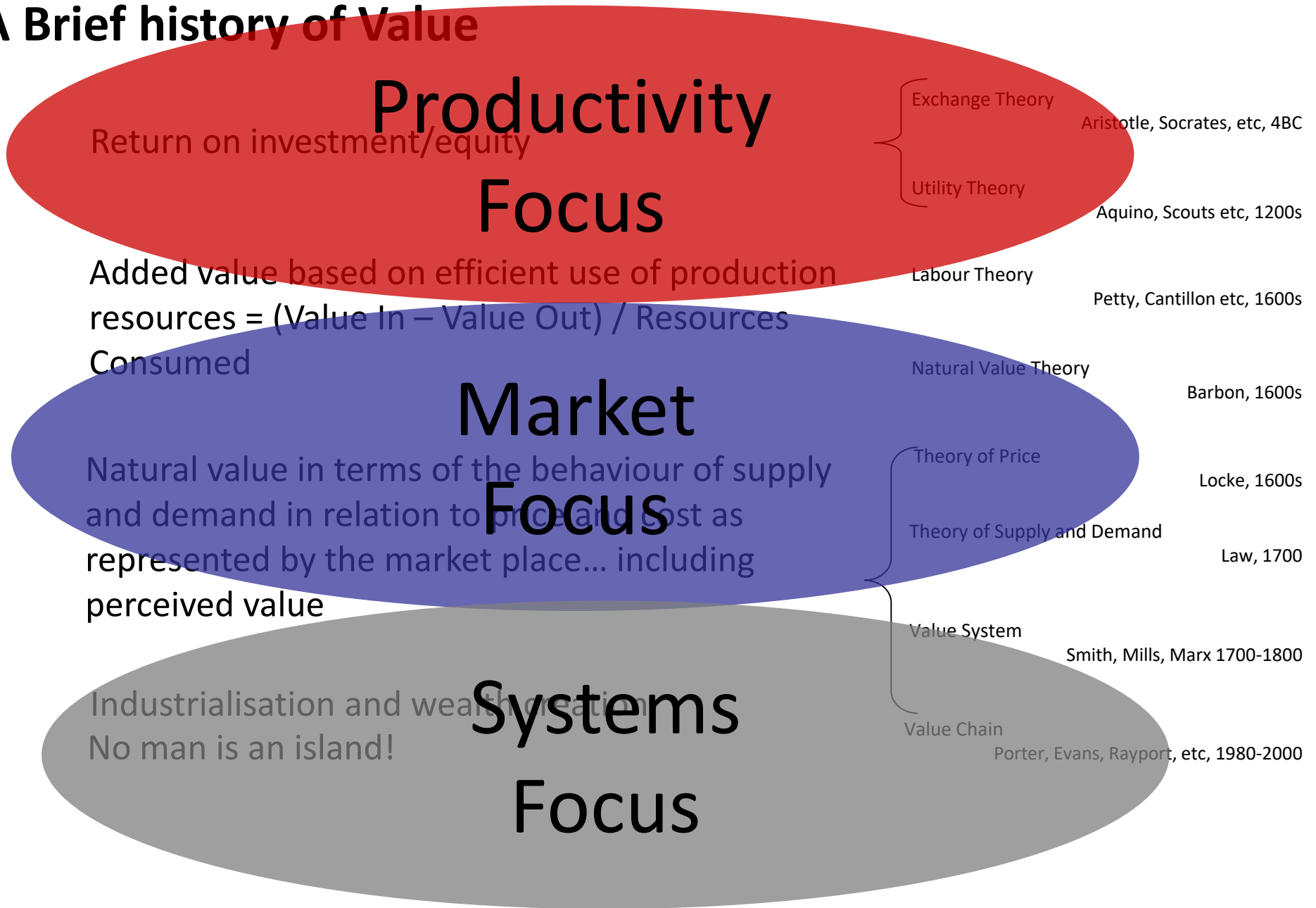
Overview of approaches to eliminate waste

- 1. Design embracing lean philosophy**
- 2. Through streamlining the flow**
- 3. Through matching supply and demand**
- 4. Through flexible processes**
- 5. Through minimising variability**

What is value?



A Brief history of Value



High Value Organisations

Adapted from Livesay

	Financial Value	Strategic Value	Social Value
Country	GDP impact	Sustainable employment Intellectual capital development Employee capability development	Min. environmental impact
Investor	Return adjusted for risk Long term growth	Adaptability Sustainability	Ethical action
Employees	Using people at the highest level Pay, wages Funding of retirement	Life long learning Opportunities for growth	Personal development Social interaction Work-life balance
Customer	Value proposition		

Competitive Maturity

- Quality
- Price
- Functional performance
- Delivery speed
- Delivery reliability
- Product support
- Styling/design
- Image
- Customer support
- Responsiveness
- Innovative product

Differentiation & Focus

Customer Value Propositions

2020+ Value Creating Agile Connected Enterprise

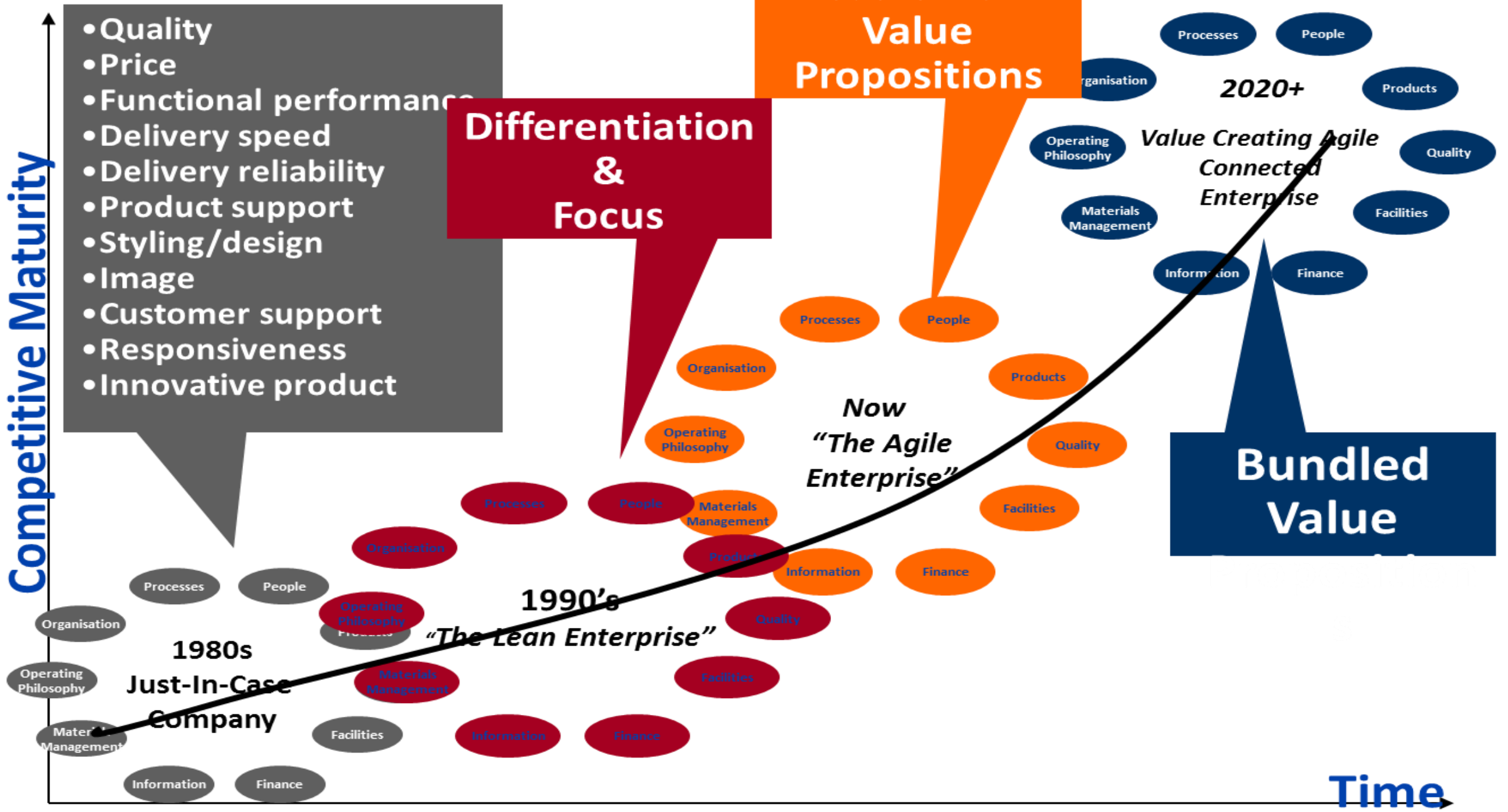
Now "The Agile Enterprise"

Bundled Value

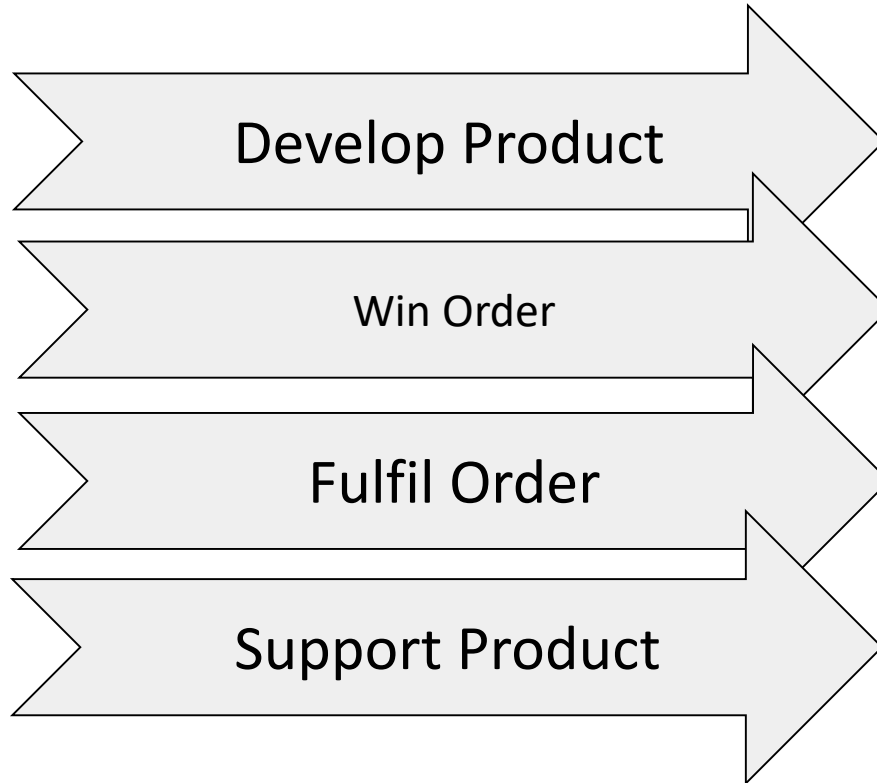
1990's "The Lean Enterprise"

1980s Just-In-Case Company

Time



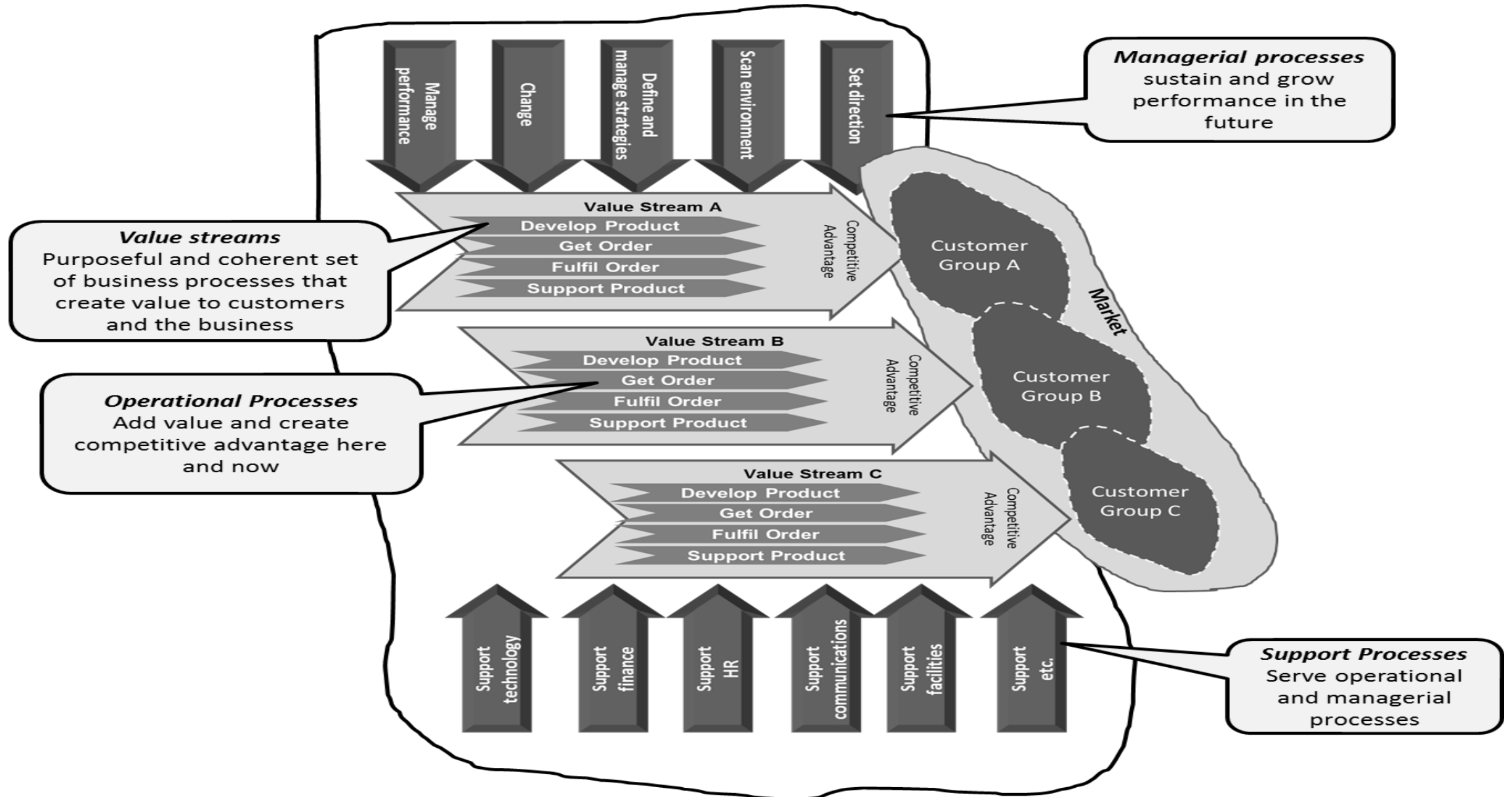
Things that *each value stream* needs to be good at...



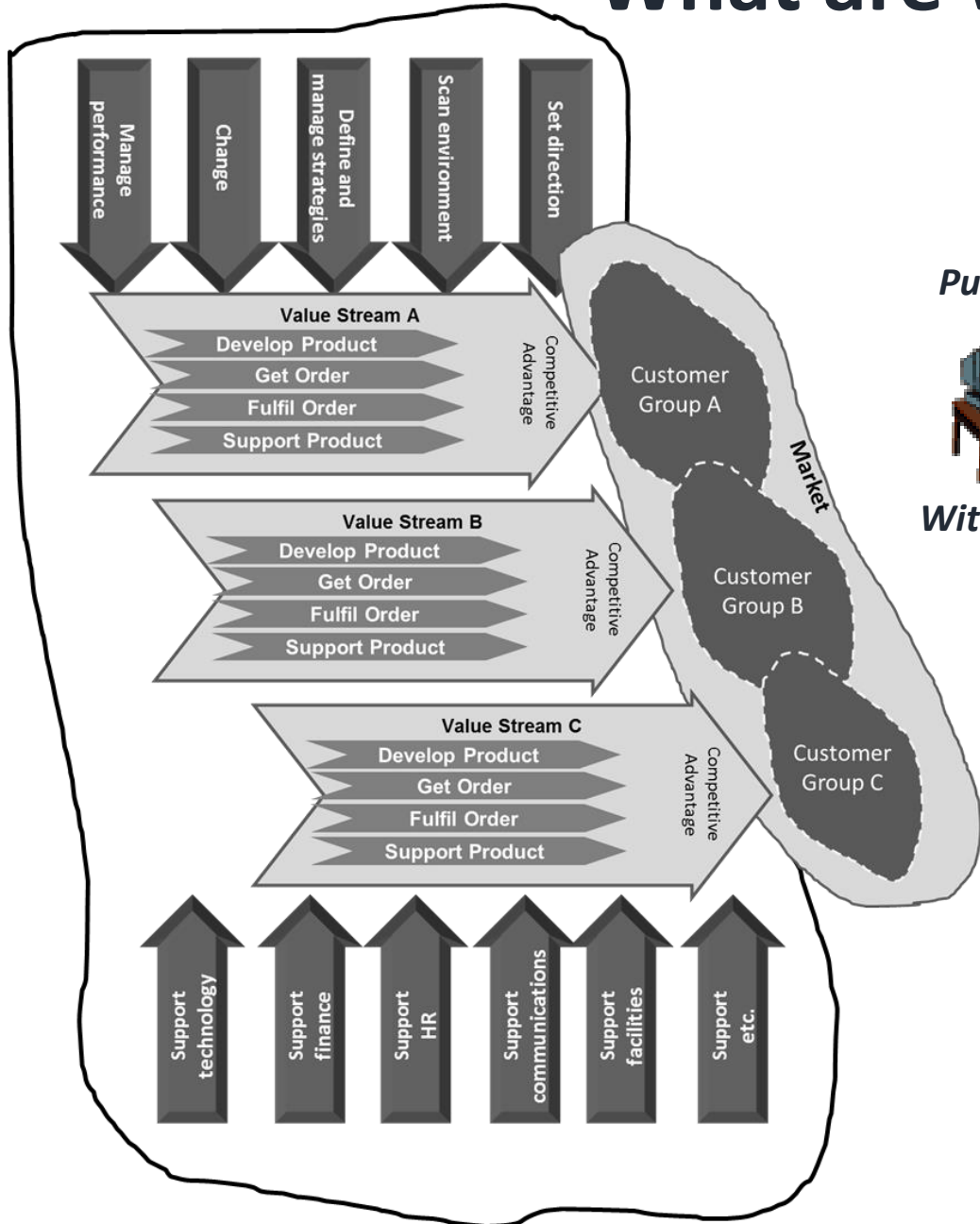
These are the four *generic processes* that underpin organisational *competitiveness here and now* for *any organisation*

Anatomy of an organisation

aka the competitive business structure



What are we managing?



In organisations



Public, Private, Commercial, Industrial, Charitable and so on...

people do things



With computers, machines, materials, information, paper, other people and so on...

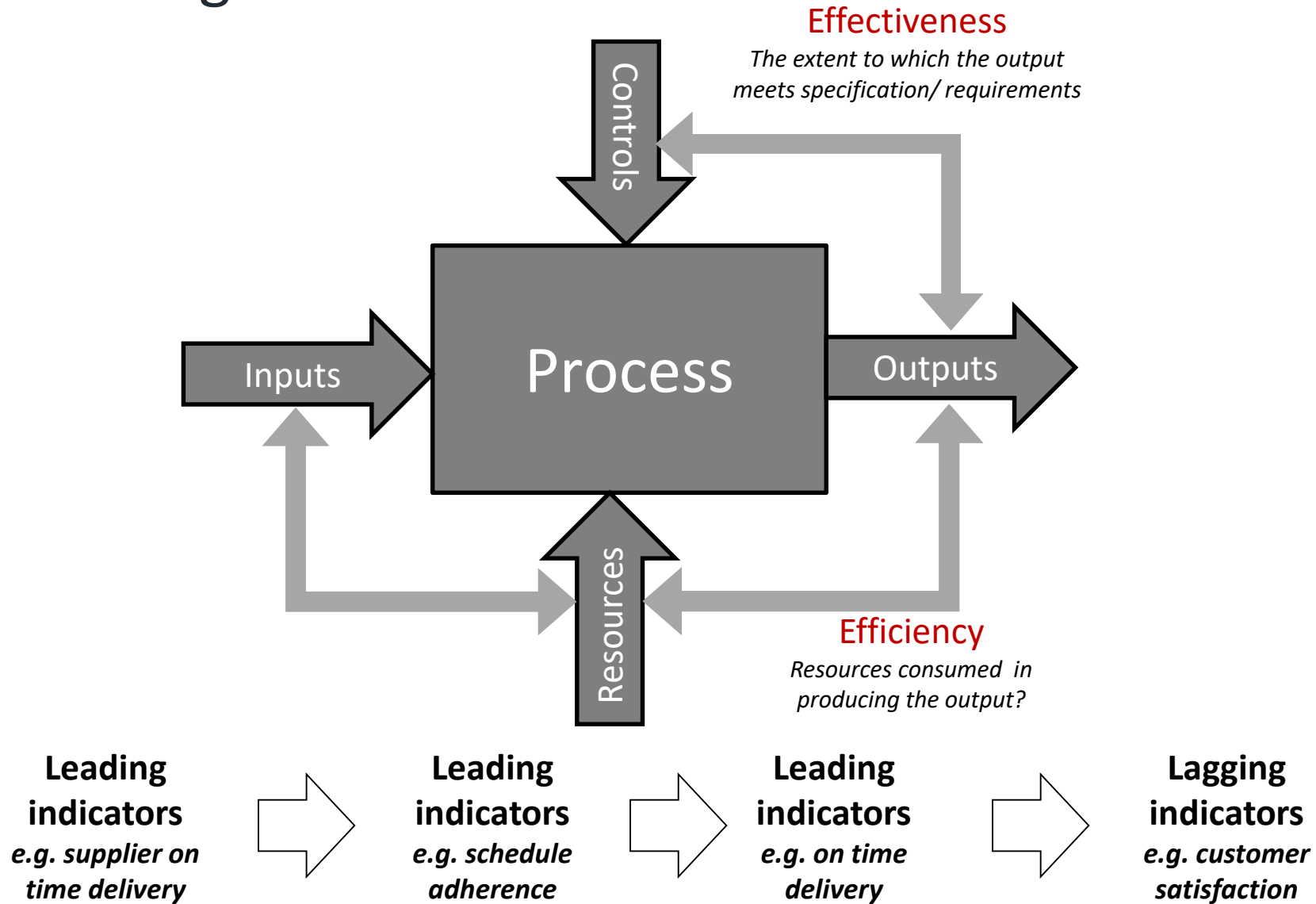
that lead to results



Good or bad

We are managing a series of value streams and processes...!

Measuring Process Performance



What is Lean Project Management

<https://www.youtube.com/watch?v=Eptywqps6lw>

Agile Project Management - 12 Principles of Agile Manifesto

01 Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

04 Business people and developers must work together daily throughout the project.

07 Working software is the primary measure of progress.

10 Simplicity—the art of maximizing the amount of work not done—is essential.

02 Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

05 Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

08 The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

11 The best architectures, requirements, and designs emerge from self-organizing teams.

03 Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

06 Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

09 Continuous attention to technical excellence and good design enhances agility.

12 At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.



Aspect	Traditional	Agile
Project goals	Concentrate on finishing the project in time, quality and cost requirements.	Concentrate on business outcomes, and realize many goals productively.
Project Strategy	Several activities to be carried out as intended to meet the triple limitation (time, quality and cost).	A business and a procedure to realize the anticipated outcomes and goals for the business.
Planning	Executed once at the start of the assignment.	Completed at starting point and reviewed when required.
Managerial tactic	Rigid, concentrating on the initial strategy.	Flexible, adaptive, variable.
Implementation	Predictable, linear, measurable, simple.	Unpredictable, non-linear, non-measurable, complex.
Organization Impact	Minimum, unbiased from the development takeoff.	Impacts the project implementation.
Project control	Recognize deviances from the initial strategy, and rectify work to adhere to the strategy.	Recognize variations in the surroundings and change the plan in view of that.
Method Use	Universal and equal use across all developments	Method variation contingent on the kind of development.

What is the difference between Lean and Agile

<https://www.youtube.com/watch?v=aUd3xTdtXqI>

What is the difference between Scrum and Kanban?

<https://www.youtube.com/watch?v=9Jgu1BITIsc>

Case Studies Based on Our Research Output

Agile Project Management Beyond Software Development Projects (SPD)

Strategic Change Management: O&G PM in Nigeria

The current business environment can be described as turbulent and unstable as a result of constant changes in business development activities and efforts made by organizations to maintain competitive advantage and increase market share (Hauc and Kovac, 2000).

Organizations are compelled to formulate and implement strategies to survive (Price and Chahal, 2006).

Strategy formulation is described to be much easier than strategy implementation (Woolridge and Floyd, 1993).

Many authors have reported that most change initiatives fail (Beer and Nohria, 2000; Burnes, 2011; Kotter 1996)

According to Beer and Nohria (2000a, p.133) “about seventy percent of change initiatives fail.



BACKGROUND

The current dwindling oil price has had significant impact on the sector.

Oil and gas exploration and construction organizations are beginning to cut down on expenditures and carrying out redundancy exercises.

According to Zillman (2015), Schlumberger laid 9000 staff in 2015; Baker Hughes, 7000; Haliburton, 3800).

World's leading oil and gas organizations are to undertake ambitious strategic projects in their quest for surviving in the unstable business environment (Cibin and Grant, 1996).



Gap Identification

Ideally, organizations should adopt effective project management methodologies to enable a successful change management process and to ensure strategy alignment (Asrilhant et al., 2006).

Many authors have argued that the traditional project management practices are no longer effective in managing change projects (Beach, 2016; Henrie and Sousa-Poza, 2005; Sense, 2011).

It has been argued that the underlying theory of the traditional project management has become obsolete and outdated (Koskela and Howell, 2002).

According to (Williams, 2005), traditional project management might be inappropriate for uncertain, structurally complex and time-constrained projects, thus new methods such as agile are more likely to manage these projects better.

However, there is no evidence from the literature that this has been verified in the context of the Oil and Gas sector, particularly in Nigeria.



Objectives

1. To investigate the applicability of lean and agile project management practices in the management of change (strategy implementation) in the oil and gas sector in Nigeria.
2. To identify the key enablers and the main constraints facing the change from traditional project management to the Agile methodologies in Oil and Gas projects in Nigeria.
3. To verify the suitability of the Agile methodology tools and techniques to managing Oil and Gas projects in Nigeria.



Data Analysis and Interpretation of findings

The majority of the new project management processes were found to be highly correlated to project success

Visual tools and aids, concurrent engineering, collocated high performing teams, last planner systems, adaptive control, feature driven development, daily project meetings, highly participative client, collocated client and project teams, total quality management, team collaboration, visual inspection and leaders as facilitators rather than control were found to be highly correlated to project success indicating that these practices are applicable in implementing strategy in the oil and gas sector

Self-managed teams and test-driven approach to development were found to be negatively correlated to project success, revealing that these practices are not applicable in implementing strategy in the oil and gas sector



Qualitative data analysis

A thematic analysis was carried out on the interviews data set. The findings from the interviews indicated congruence with the survey findings overall

Participants were positive @ the use of the lean and agile project management for managing change projects.

However, self-managed teams, test driven approach to development and just in time procurement were described as not applicable to managing change projects in the oil and gas sector

Seven of the interviewees stated that the use of self-managed teams will not benefit the project suggesting that, employees will take advantage of a free work environment thus deterring productivity

All the participants: the use of a test-driven approach will be cost and time intensive. Majority commented negatively about just in time procurement, stating that the organization should have a considerable amount of inventory



Main Conclusions

1. visual aids and tools,
2. total quality management,
3. kaban systems,
4. last planner system,
5. daily and weekly progress meetings,
6. high performing cross-functional teams
7. employee development through training

But self organised teams may not work?? 50%?



E- Learning Projects

- Agree on an evaluation criteria,
- strong relationships, (*Approvals*)
- Training,
- managing risk,
- leadership skills,
- maintaining effective communication and flow of information flow,
- managing change effectively.
- *Type of client will determine best method?*



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Customized Manufacturing: A Case Study of an Italian Company

Lean Philosophy and Agile methodologies are being employed intuitively, rather than consciously.

the organization is working in a hybrid model, where it retains suitable practices from conventional and modern project management and manufacturing methodologies.

Is it a spectrum? Positioning decision?



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Customized Manufacturing

Key Findings

- **Identifying the right process owners**
- **Relationships has to be handled very well**
- **Lack of follow through and commitment to deadlines.**
- **Customer's attitude**
- **Reluctance to change the way that they are accustomed to doing things.**
- **Unwillingness to make time to learn a new system or way of working.**
- **Political / power structure**
- **Content and approval gathering.**



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General Reflections on Agile PM Beyond SDP

Type of Project

- Event Management
- Renovation/ Refurbishment
- New Service Development Projects
- New Product development projects
- Construction ***incl. Infra-structure Projects***
- Change Management
- ??



General Reflections *cont.*

Internal Challenges

1. Resistance to Change
2. Awareness
3. Aptitude to learning and development
4. Resources
5. Perceived applicability
6. Org. Culture



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General Reflections *cont.*

External Factors

1. Client involvement
2. Client Org. Structure
3. Industry/ Sector Standards
4. Competitors



Conclusions on Lean & Agile

1. Lean and Agile can be applied beyond SDP
2. Lean / Agile is still in the infant stage
3. Lean / Agile is not a “PANACEA”
4. A hybrid system can be an option
5. Need to move forward building on the Past
6. Universities have a significant role



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PM in the Era of Sustainability and Digital Transformation

Innovation Management is imperative even in PM

Temporary Organisations can still be exponential organisations.

Innovation should be guided by MTP's..... 10x

Disruptive Technologies are essential tools..... means not ends!!

Strategic Project Management Programmes and Portfolios



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Sustainable Project Management Model- SPMM

- The Model Builds on well grounded theoretical framework.
- All Dimensions were highlighted on previous research as critical.
- The model collates these factors in a meaningful matrix
- The model is a strategic conceptual model not a process model



Sustainable Project Management Model

1. Social
2. Environmental
3. Cultural
4. Economic

Success Criteria

Critical Success Factors (CSF)

Life Cycle Costing

Benefit Realization Management

Scope Management

OBS – WBS – TRM (RAM) – Communication Plan

Stakeholder Management

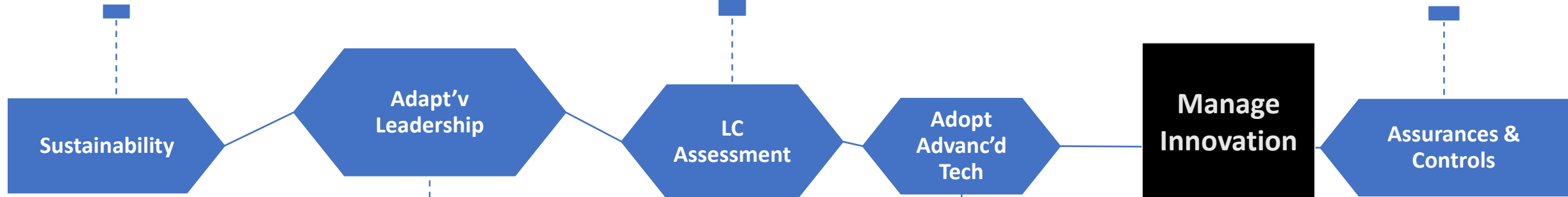
Schedule planning and control

Cost budgeting and Control

Risk Management system

Quality Management System

Configuration



1. Adaptive Leadership
2. Soft Skills for teams
3. Emotional Intelligence
4. Cultural Intelligence

ICT
AI – IOT- ML
BLOCKCHAIN

1. Eco-inv
2. Lean Startup
3. Expo Org
4. Sustainable Business Models
5. Agile Management

	Dimensions	Factors	
S	Sustainability Dimensions – (SECE)	1. Social 2.Environmental 3. Cultural 4. Economic	
A	Adaptive Leadership – AL (ASECC)	1. Adaptive Leadership 2. Soft Skills for teams 3. Emotional Intelligence 4. Cultural Intelligence 5. Corporate Social Responsibility	
L	Life Cycle Assessment - LCA (BLAC)	1. Assessment Criteria – Success Criteria <ul style="list-style-type: none"> ○ Economic Assessment ○ Environmental Assessment ○ Social ○ Cultural 2. Critical Success Factors (CSF) 3. Life Cycle Costing 4. Benefit Realization Management	
A	Adopting Advanced Technology - AI	1. ICT 2. AI 3. IOT 4. BCT (DLT)	
M	Managing Innovation (ELESA)	1. Eco-innovation 2. Lean Startups 3. Exponential Organisation 4. Sustainable Business Models 5. Agile Management	
A	Assurances and Control	1. Scope Management 2. OBS – WBS – TRM (RAM) – Communication Plan 3. Stakeholder Management 4. Schedule planning, monitoring and control 5. Cost budgeting and Control 6. Risk Management system 7. Quality Management System 8. Configuration Management System 1. Project Plan review and feedback	
	Maturity	Continuous Improvement Through Agility, Lean and Sustainable Innovation	

That's all folks....

Questions ?

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*Thank
you*

