

CMMI

Enabling Competitive Advantage

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Overview

- Business Context
- Resource Based View of Strategy
- Knowledge Based View of Strategy
- How CMMI supports Strategy



Business Strategy

Some Strategy Definitions

‘a process of analysis which is designed to achieve the competitive advantage of one organisation over another in the long term’

(Porter, 1985)

Strategy enables ‘an organisation to identify, build and deploy resources most effectively towards the attainment of its objectives’

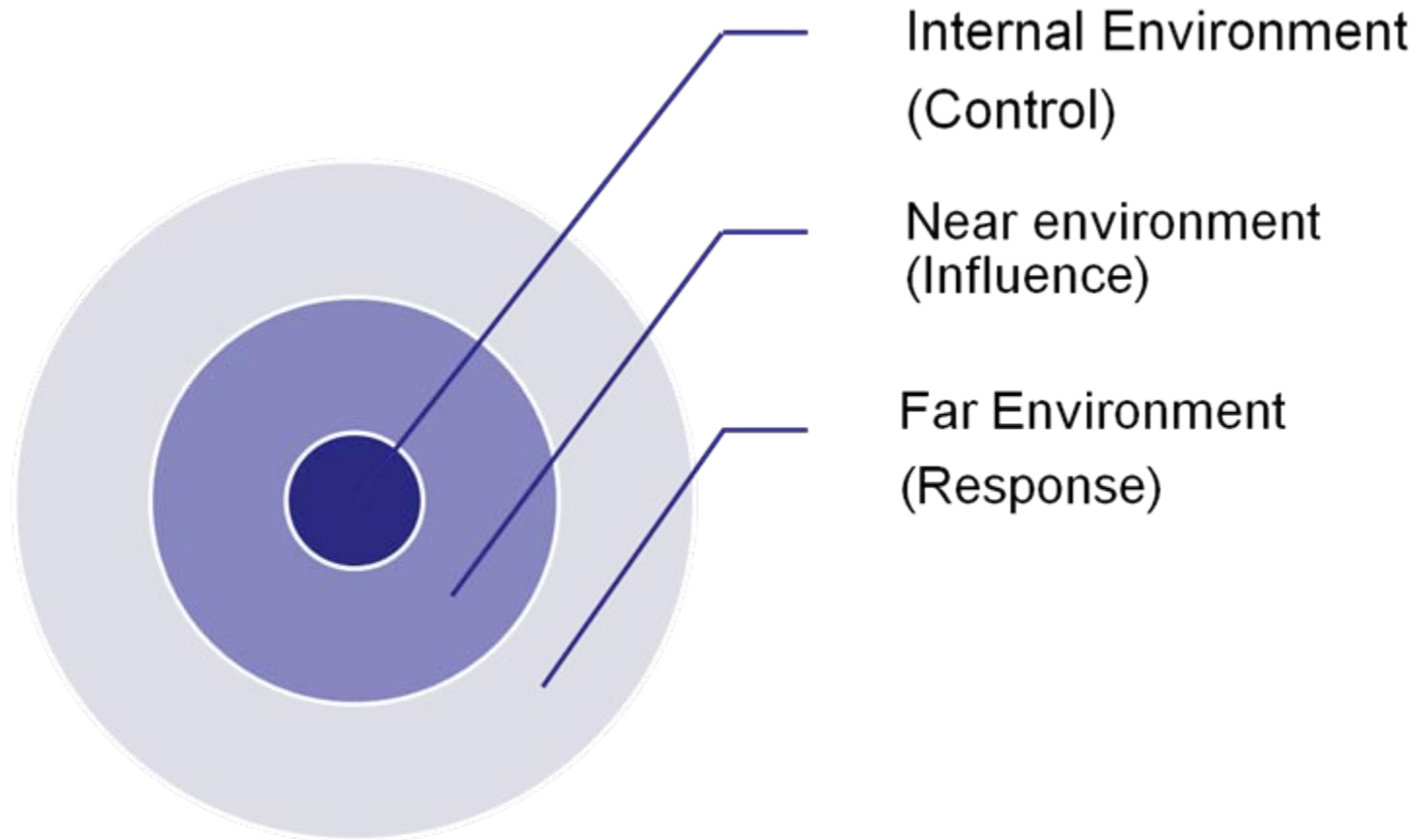
(Henderson, 1984).

‘**Competitive advantage** grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm’s cost of creating it.’

(Porter, 1985)



Business Context: The Three Environments



Business Context: The Internal Environment

The Internal Environment

refers to the staff, resources, facilities, processes and technologies of the organization. The internal environment is nominally one that managers can control.

- Improvement focuses strongly on these factors in an organization
- CMMI based improvement seeks to improve performance in the this environment but that improvement needs to be understood, designed and implemented in the context of the Near and Far environments of each particular organization
- Improvement needs to be externally focused
- Therefore understanding the ***particular context*** is critical to successful performance improvement



Business Context: The Near Environment

The Near Environment

includes customers, suppliers, competitors and collaborators. An organization cannot control the near environment, but can influence it.

- The interactions an organization has with the near environment and how it shapes and reshapes those interactions in the context of changes in or changes it wishes to effect in the near environment, is critical to an organizations ability to achieve competitive advantage in its particular context
- Improvement in this context addresses the relationships we have with those in the near environment e.g. supply chain management
- The relationships are largely governed by the **processes** we use to interact and influence the actors in this environment



Business Context: The Far Environments

The Far Environment (also macro-environment)

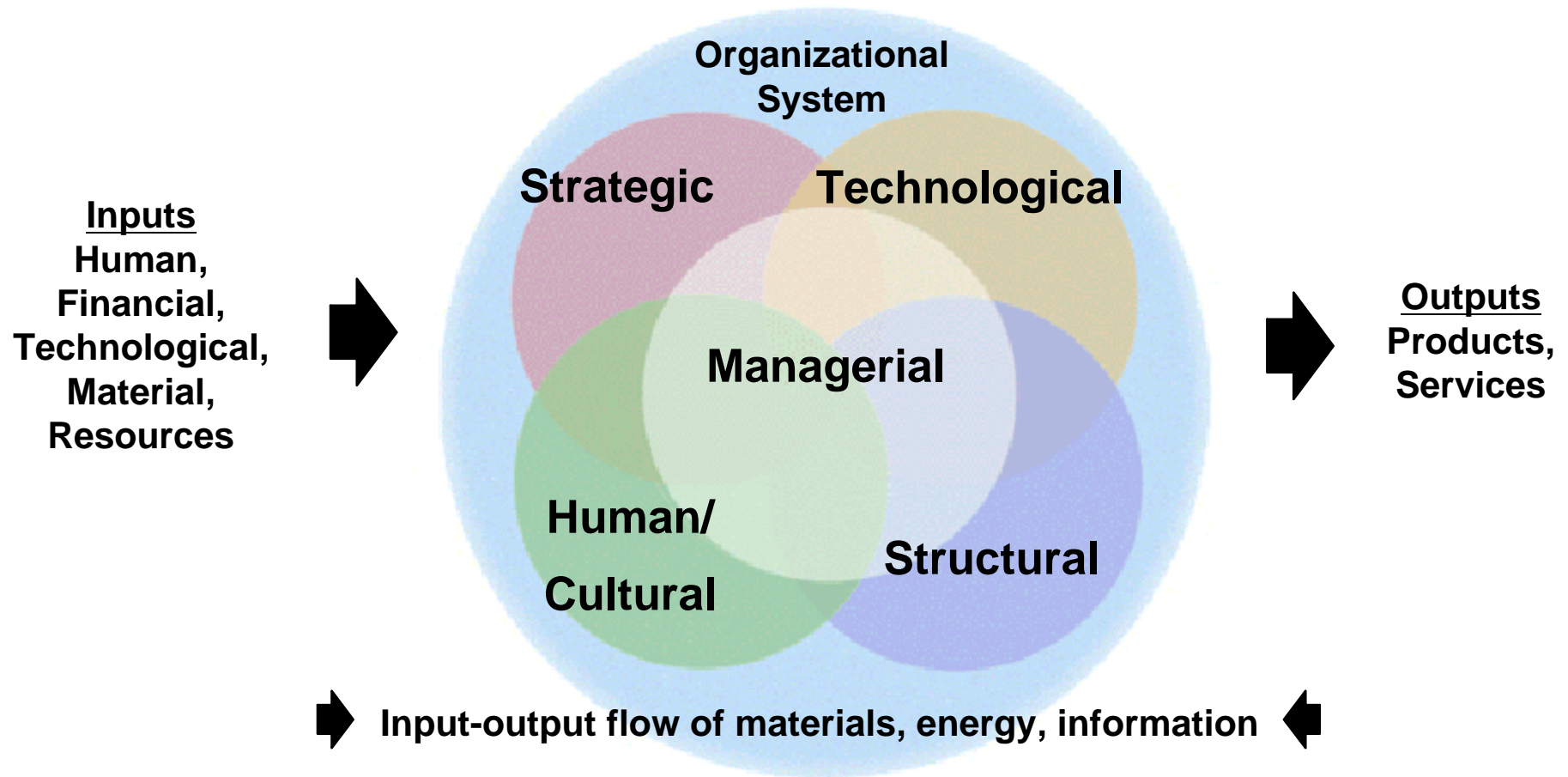
Includes factors that can be neither controlled nor influenced from within the organization. This includes factors of a

- Social
- Technological
- Economic
- Environmental and
- Political nature.

These are forces to which an organization can only respond. A clear understanding of these factors is a critical prerequisite for strategy formulation in the organization and is a major driver of process improvement (i.e. the response)



Organizations Are Complex Open Systems



Adapted from Kast and Rosenzweig, 1972.



Conceptual Frameworks in Turbulent Times

- In our contemporary world we are experiencing change at high rates across a series of macro-environment factors simultaneously
- This change is a complex interaction of social, technological, economic, environmental and political factors, the sum total of which we refer to as globalization
- Organizations need to be dynamic in the capability they have to react to or to initiate change in these turbulent environments, if they are to prosper or indeed to just survive
- These **Dynamic Capabilities** (Teece 1997) relate to an organizations ability to reshape it resources and exploit knowledge in the internal and near environments to achieve and **sustain** competitive advantage
- **Resource based (RBV)** and **Knowledge based views (KBV)** of strategy help us understand the basis of dynamic capabilities and their implementation is supported by the advanced CMMI practices

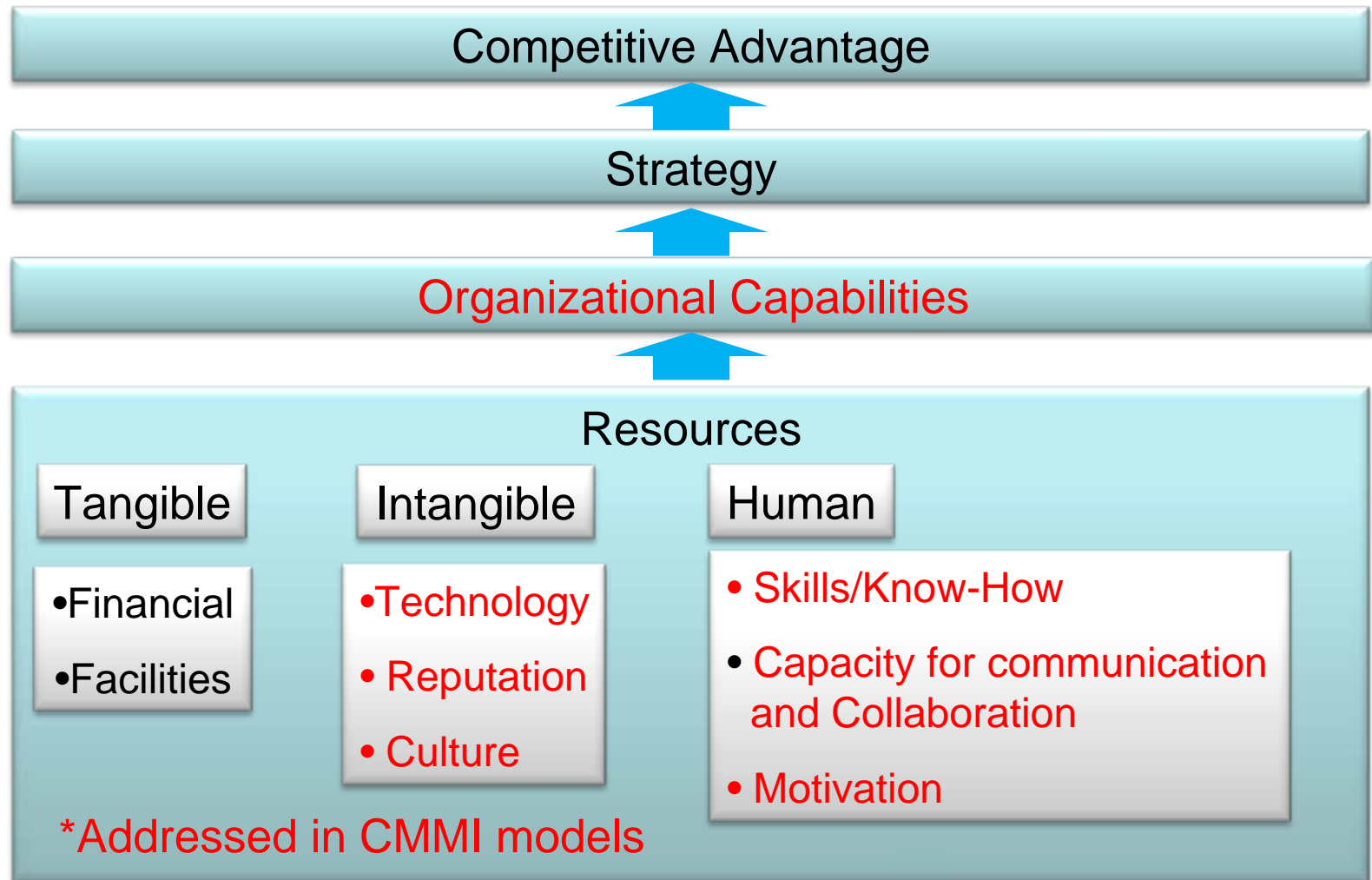


Resource Based View (1)

- At the core of RBV (Grant 2005) is the assumption that the critical difference between organizations is based upon the collection of **assets** they possess and the manner in which they combine and use those assets
- Thus resources (assets) are the basis of the achievement and sustainment of competitive advantage
- RBV assumes that organizations are intrinsically different from one another. This difference or **heterogeneity** derives from the unique collection of resources an organization possesses and its ability to coordinate and manage and configure them (dynamic capabilities).
- The CMMI addresses the management of the critical classes of resources referenced in RBV and the development of dynamic capabilities in its process management category process areas and in the high maturity process areas



Resourced Based View (2)



Which Resources are most important?

Valuable Resources

A resource must be **valuable** if it is to contribute to competitive advantage. Barney (1991) has shown that valuable resources must be:

- Rare
- Imperfectly imitable
- non-substitutable

Thus tangible resources and facilities do not offer the basis of long-term competitive advantage

- The resources CMMI works on are those that enable long-term competitive advantage

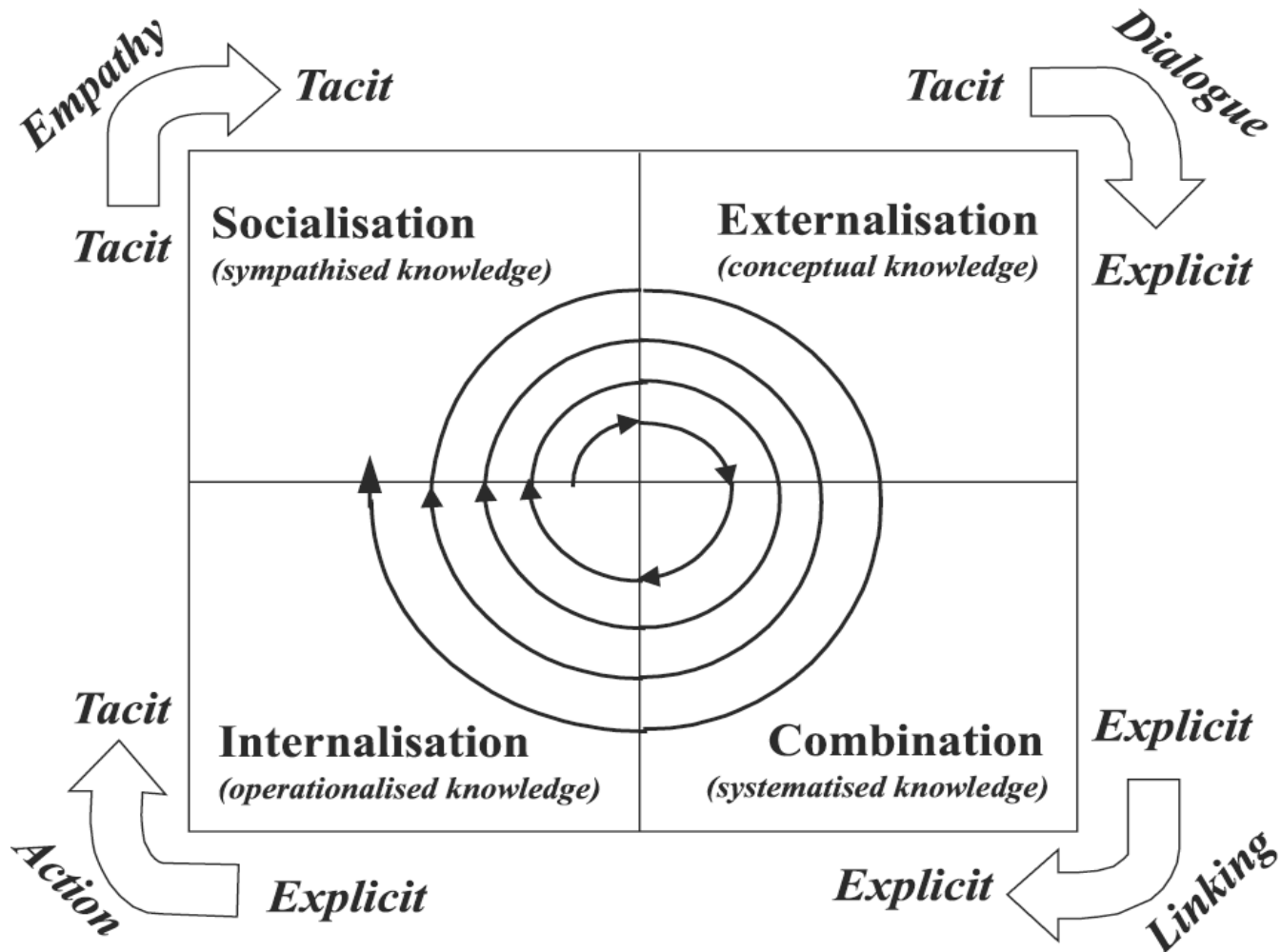


Knowledge Based View (1)

- Extends RBV of strategy
- Knowledge is the basis of heterogeneity between organizations
- Knowledge may be tacit or explicit
- Efficiency in knowledge production requires that individuals specialize in a particular area of knowledge.
- The essential task of the organization is knowledge integration, i.e. to codify and co-ordinate the application of knowledge and skills of specialists (Grant 1996). Processes are the mechanism to do this.
- Processes embody the explicit knowledge of organizations and make it available and re-usable for the organisation.
- Processes allow the tacit knowledge to be applied during implementation and to be transformed to explicit knowledge over time.



Nonaka and Takeuchi – Knowledge Management



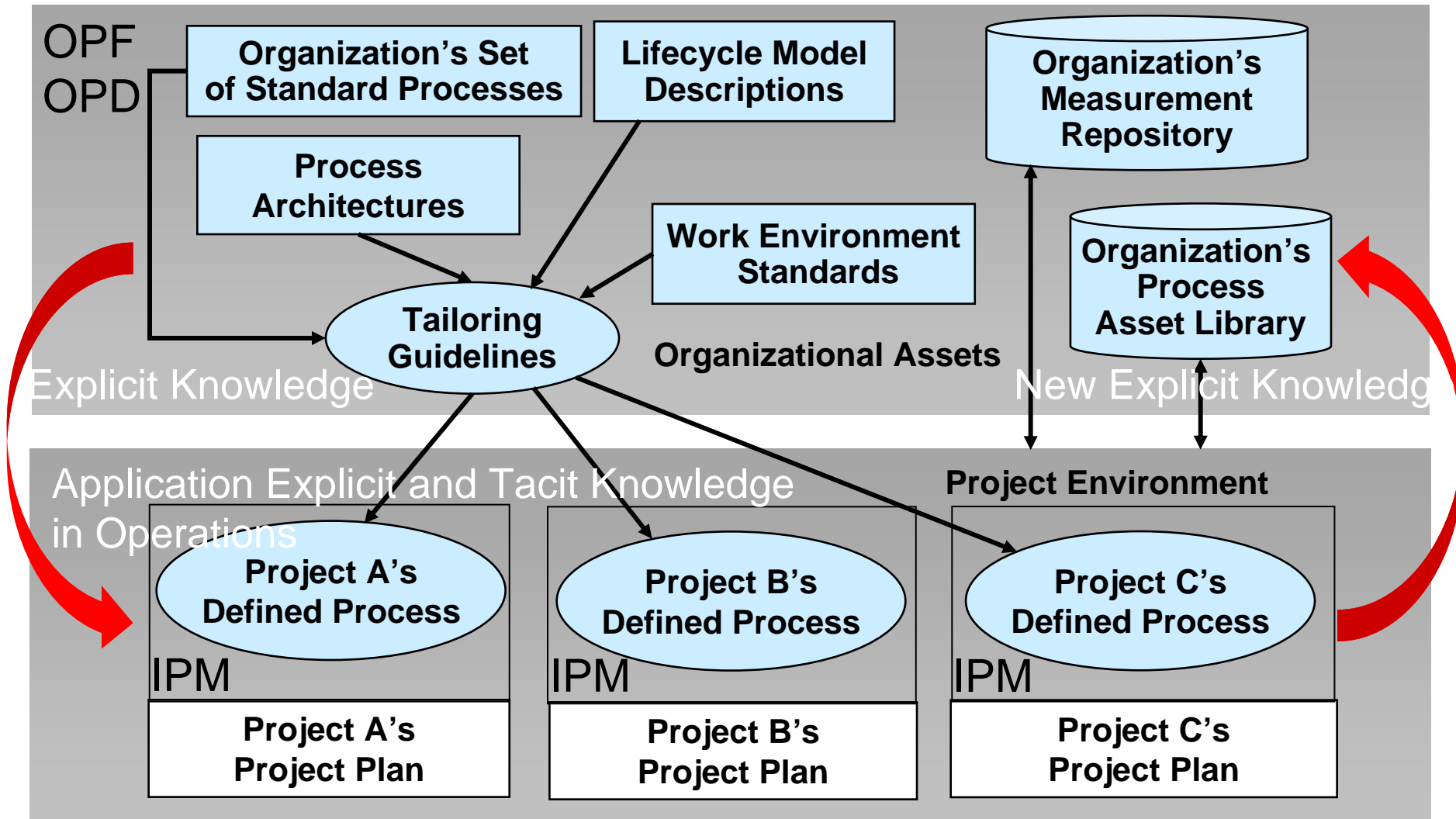
Achieving Agility in Turbulent Environments

Key RBV and KBV takeaways

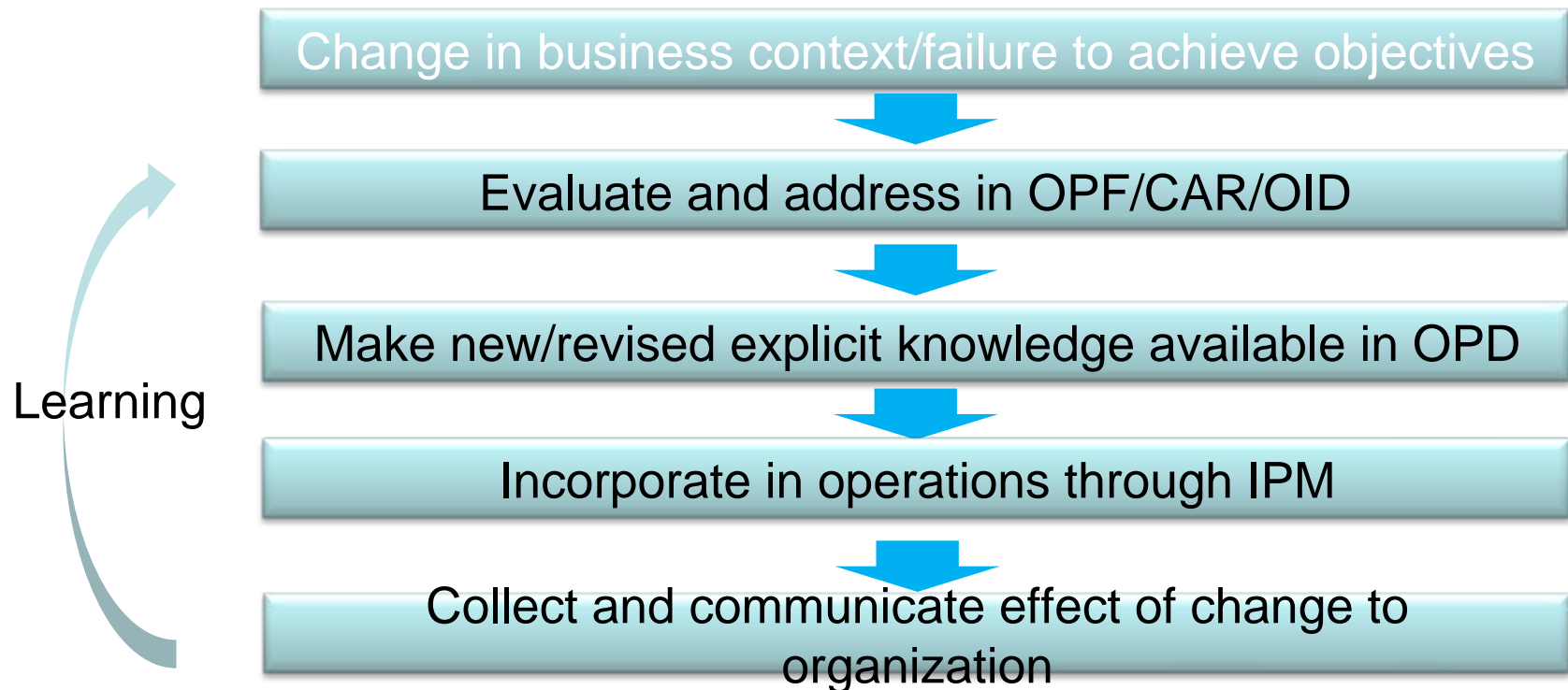
- Competitive advantage is based on intangible and human resources that are integrated and made available to the organization through the organizations processes
- The way in which an organization integrates and co-ordinates these intangible and human resources leads to heterogeneity between firms which is the basis of competitive advantage between organizations
- The ability of an organization to dynamically rearrange its resources in response to changes in the near and far environment is critical to success in today's turbulent environments
- CMMI enables the development of dynamic capabilities



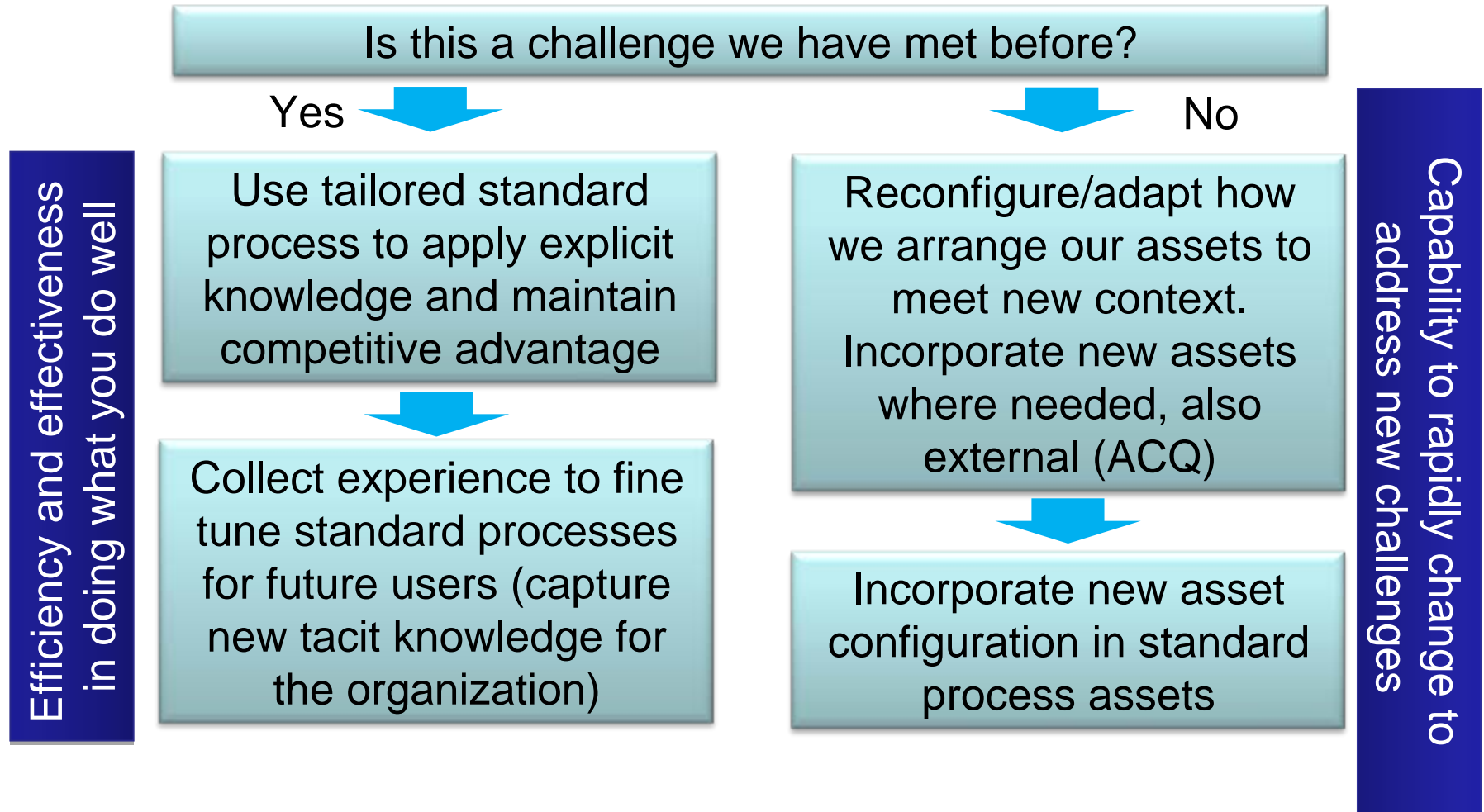
CMMI Organisational Processes



CMMI and Success in Turbulent Environments (1)



CMMI and Success in Turbulent Environments (1)



ML5	OPM	Driving Business Performance
ML4	OPP, QPM, CAR	Quantitative Process Improvement
ML3	OPF, OPD, IBM (IBM – Integrated Business Management – turning Organizational Assets into integrated solutions to process needs (reworded IPM))	A learning Organization and Knowledge Management System, supporting strategy implementation
ML2	Support PA's, ENG PAs, ACQ PA's, SVC PA's, PSP/TSP, Architecture, PLS, RMM, SmartGrid, ITIL, Security, Marketing, Sales, maintenance, operations,.....	Business Domain specific best practice level of model

