The Dynamic Capabilities of Firms: an Introduction

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Agenda

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According to the Author(s)

An expanded paradigm is needed to explain how competitive advantage is gained and held.

This paper argues that the competitive advantage of firms stems from dynamic capabilities rooted in high performance routines operating inside the firm, embedded in the firm’s processes and conditioned by it’s history.
Introduction

- Well-known companies like IBM, have followed a ‘resource-based’ strategy of accumulating valuable technology assets and employ an aggressive intellectual property stance.

- ‘Dynamic capabilities’ emphasizes two aspects:
  - ‘Dynamic’ refers to the shifting character of the environment; and
  - ‘Capabilities’ emphasizes the key role of strategic management

- The notion that competitive advantage requires both the exploitation of existing internal and external firm-specific capabilities and of developing new ones.
Toward a Dynamic Capabilities Framework

- Markets and Strategic Capabilities
- Processes, Positions and Paths
- Organizational and Managerial Processes
Markets and Strategic Capabilities

– The **competitive forces framework** sees the strategic problem in terms of:
  - market entry, entry deterrence and positioning
– **Game-theoretic models** view the strategic problem as:
  - *Interaction* between rivals with certain expectations about how each other will behave
– **Resource-based perspectives** focus on the *exploitation* of firm-specific assets.

To be strategic, a capability must be honed to a *user need, unique and difficult to replicate*. 
What about firms which undergird competitive advantage?

- Fundamental distinctions between markets and internal organization (firms).
- Coase (1937) pointed out the essence of the firm is that it displaces market organization.
- Contrary to Arrow’s (1969) view of firms as quasi markets.
- Existing limits and possible counterproductive results of attempting to fashion firms into clusters of internal markets. In particular, learning and internal technology transfer may be jeopardized.
What about firms which undergird competitive advantage?

– The essence of internal organization is that it is a domain of:
  • Unleveraged or low-powered incentives
  • Organizing activity in a non-market-like fashion
  • Properties of internal organization cannot be replicated by a portfolio of business units amalgamated through formal contracts (i.e. in the market)

– Firm capabilities need to be understood mainly in terms of the organizational structures and managerial processes which support productive activity and **NOT** the balance sheet.
Processes, Positions and Paths

Organizational and Managerial Processes

Positions

Paths
Processes, Positions and Paths

- **Mangerial and organizational processes** refer as its ‘routines’ or patterns of current practice and learning.
- **Position** refer to its current endowment of technology and intellectual property as well as its customer base and upstream relations with suppliers.
- **Paths** refer to the strategic alternatives available to the firm and attractiveness of the opportunities which lie ahead.
Processes, Positions and Paths

- The firm’s **processes** and **positions** collectively encompass its capabilities or competences.
  - E.g. on the factory floor, R&D labs, executive suites and in the way everything is integrated.
- A *difficult-to-replicate/imitate* competence/capability can be considered a distinctive competence.
- There is **NOT** a market for them, except possibly through the market for business units or corporate control.
- Competences and capabilities are intriguing assets. Typically they must be built as they cannot be bought.
- Dynamic capabilities are the subset of competences/capabilities which allow the firm to **create** new products and processes and **respond** to changing market circumstances.
Processes, Positions and Paths

Integration

Learning

Reconfiguration and Transformation
Integration

- Importance of internal and external integration
- Increasingly, strategic advantage requires the integration of external activities and technologies.
  - E.g. strategic alliances, virtual corporation and buyer-supplier relations and technology collaboration
- The way production is organized by management inside the firm is the source of differences in firms’ competence in various domains.
Organizational and Managerial Processes

Field-based Empirical Research

- **Garvin’s (1988) study** of the 18 room air conditioning plants
  - Quality performance was not related to capital investment or degree of automation of the facilities but special organizational routines.

- **Clark and Fujimoto (1991)** Project development in automobile industry illustrates the role played by coordinative routines.

- This suggests that routines related to coordination are **firm-specific** in nature.

- Change can have devastating impacts on incumbent firms’ abilities to compete in a market.
  - E.g. Photolithographic equipment industry (lean production model)
There is a certain rationality or coherence to processes and systems is not quite the same concept as corporate culture.

- Example: An accounting firm
- Recognizing the congruences and complementarities among processes and between processes and incentives is critical to the understanding of organizational capabilities.
  - Example: Architectural and radical innovations are so often introduced by new entrants
- Hence, radical organizational re-engineering may do better in a separate subsidiary.
Organizational and Managerial Processes

Learning

- A process by which repetition and experimentation enable tasks to be performed better and more quickly and new production opportunities to be identified.
- It involves organizational as well as individual skills.
- Organizational knowledge generated by such activity resides in new patterns of activity, in ‘routines’ or a new logic of organization.
- The concept of dynamic capabilities as a coordinative management process opens the door to the potential of inter-organizational learning.
  - E.g. helping firms to recognize dysfunctional routines and preventing strategic blindspots.
Organizational and Managerial Processes

Reconfiguration and Transformation

- To reconfigure the firm's asset structure, requires constant surveillance of markets and technologies and the willingness to adopt best practice.
  - E.g. Benchmarking (Cap, 1989)
- The capacity to reconfigure and transform is itself a learned organizational skill.
- Change is costly so firms must develop processes to minimize low payoff change.
- It depends on the ability to scan the environment, to evaluate markets and competitors and to quickly accomplish reconfiguration and transformation ahead of competition.
- Decentralization and local autonomy assists these processes.
  i.e. High flex
Position

Determined by:

- Learning processes
- Coherence of its internal & external process & incentives
- Location with respect to its business assets which refers to difficult-to-trade knowledge assets & assets complimentary to them as well as reputational & relational assets
- These will determine its market share & profitability
- Type of assets include: technological assets, complementary assets, financial assets and locational assets
Paths

- Firm’s previous investments and its repertoire of routines constraints its future behaviour.
- If many aspects of firm’s learning environment change simultaneously, the ability to ascertain cause-effect relationships is confounded because cognitive structures will not be formed and rates of learning diminish as a result.
- One implication is that many investments are much longer term than is commonly thought.
- Concept of path dependencies considers the industry’s technological opportunities.
- The existence of technological opportunities can be quite firm specific given that it is affected by the organizational structures that link the institutions engaging in basic research to the business enterprise.
Assessment

- Function of the firm’s processes, positions and paths.
- Each component of the capability framework needs to be analyzed in a strategic audit.
- From identifying the components and understanding their interrelationships, performance under various assumptions about changes in the external environment could be at least predicted.
- Benefits of new selected opportunities could also be evaluated and its likely
Replicability and Imitatability of Organisational Processes and Positions

Competitive advantage might be lost with imitation, replication or emulation.
Replicability and Imitatability of Organisational Processes and Positions

- **Replication** – transferring or redeploying competences from one economic setting to another.

- 2 types of strategic value flow from replication:
  - Ability to support geographic and product line expansion. Are capabilities in question relevant to needs elsewhere?
  - Ability to replicate indicates that firm has the foundations in place for learning and improvement. Understanding of process.

- Difficult as sources of competitive advantage are complex and firm-level differences.
Replicability and Imitatability of Organisational Processes and Positions

- **Imitation** – replication performed by a competitor
  - Same factors as replication to make it occur.
- Another barrier is the system of intellectual property rights, such as patents, trade secrets and trademarks.
- Process technology could not be easily obtained through reverse engineering.

- Ease of imitation – appropriability regimes (fig 1 pg 552)
Strategic Issues from a Dynamic Capabilities Perspective

- Firms compete on the basis of product design, product quality, process efficiency and other attributes.

- However, in a Schumpeterian world, firms are constantly seeking to create ‘new combinations’, and rivals are continuously attempting to improve their competences or to imitate the competence of their most qualified competitors.

- Strategic problem facing an innovation firm in Schumpeterian competition is to decide upon and develop difficult-to-imitate processes and paths most likely to support valuable products and services. Also to decide, under significant uncertainty about future states of the world, which long-term paths to commit to and when to change paths is the central strategic problem confronting the firm.
Conclusion

Dynamic capabilities approach places emphasis on the firm’s internal processes, assets and market positions, the path along which it had travelled, and the paths that lie ahead. The framework also explicitly takes into account replicability and imitatability.