

NTIC and the managing of Information in the Globalization

David Cayla

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Economics and the Theory of the Firm

Technological Institute of Soledad ITSA-Atlantic

David Cayla, Univ. Of Angers 11-03-2015

• Why do firms need strategy?

- Strategy is about planning. Developing a strategy aims to achieve a particular objective
- In the military vocabulary, strategy is opposed to tactics. Strategy deals with the long run and global outcomes whereas tactics deals with local and context dependent actions.
 - Strategy is about conceiving, tactics is about implementing
 - Strategy is about creating the environment, tactics is about adapting to the environment.
 - Strategy is about creating resources, tactics is about using efficiently the resources.
- In fact, strategy is planning whereas tactics is adapting.

• Why do we need planning in a free market economy?

- ➤ Hayek (1937, 1945): Since it is impossible to centralize knowledge into one single brain, the market deals better with dispersed knowledge than planning
- Markets are adapting coordination devices. By their ability to create prices, they transmit the whole relevant information to economic agents: it is the Hayekian *Catalactic Order*.
- ➤ But if this is so, why do firms exist? Why capitalism needs systems ruled by planning where transactions occurs without pricing... if the market if the most efficient system?
- Bureaucracy is not just about the government. It also about firms (cf. Galbraith 1967: The New Industrial State)

• Why do firms exist?

- ➤ Neoclassical Economics deals mostly with markets (supply and demand curves...) where agents are supposed to be atomistic. It only recently tried to understand firms.
- R. Coase 1937: The Nature of the firm.
- For Coase, firms exist because market transaction has costs (search for information, bargaining and contract costs, opportunity costs...).
- The firm substitutes a hierarchy to a free contractual relationship between two peer agents. Why? Because it reduce market costs.
- The integration level depends on the ability of agents to access information, the frequency of transactions and the specificity of assets (Willamson 1975)

• The boundaries of firms: to make, to buy or to contract?

Nature of the asset Frequency of transactions	Weak Specificity	Average Specificity	Strong Specificity
Low frequency	Short-term market contracting	Long-terme contracting	Long-terme contracting or integration
High Frequency	Short-term market contracting	Formalized Long-terme contracting (alliance)	Integration

Limits of the Transaction Cost Theory

- Williamson approach explains the choice between integration and outsourcing as a trade-off between two costs: the market costs and the managing costs that increase with the size of the firm.
- ➤ But the TCT is not about strategy, it's about adapting to costs and efficiently use resources. It's not about planning and creating resources. It gives the boundary of the firm, it doesn't explain its **evolution**. It is a **timeless approach**.
- For O. Favreau (1989), the Williamson model is an extension of the neoclassical approach: it is called neo-institutionalism.
- ➤ It is therefore necessary to reintroduce **dynamism** into the theory of the firm in order to understand its strategy.

The "Competency" Approach: A New Question

The question is not only to know why firm exist, but also to understand why they differ:

"The tendency to ignore discretionary firm differences in part reflects that economists are not interested in behavior and performance at the level of firms, but rather in broader aggregates-industry or economy wide performance. It reflects, as well, some strong theoretical views held by most main line economists about what economic activity is all about, and about the role and nature of firms in economic activity. My argument that discretionary firm differences within an industry exist and do matter significantly is part and parcel of my broader argument that neoclassical economic theory is badly limited." Richard R. Nelson 1991 (p. 62).

• Edith Penrose and Alfred Chandler

- For **Edith Penrose** (1959), the differences between firms are due to the **non transferable resources** they own. This resources give firm specific competitive advantages or disadvantages: "integration may appear profitable because the firm believes it can produce some of its requirements... much more cheaply than it can obtain in the market" (Penrose 1959 p. 148). This is the **Resource Based View** (RBV)
- For Alfred Chandler (1962, 1977). Some of these resources can be developed and accumulated by the firm: they are competencies. Firms are not only contractual entities. The "Visible Hand" of hierarchy is a different kind of hand than the "Invisible Hand" of the markets.

The Firm: A Place Where Competencies are Being Developed

- Following Chandler, organizations have a specific advantage: their ability to develop new competencies.
- For that reason, outsourcing is not only a destruction of competencies: it is also the destruction of competencies to develop and improve specific competencies (famous ex. of IBM and Microsoft).
- For Chandler, competencies are *static* in the fact they characterize the specificities of organizations, but they also are *dynamic* because they make the organization evolve.
- ➤ The Firm is a *Knowledge Processor* rather than a mere *Information Manager*. It does not only deals with costs: it creates competitive advantages (*cf.* M. Porter)

An Evolutionary Approach of the Firm

- Nelson and Winter (1982): The firm is a living system that adapt to its environment by developing new abilities.
- The firm is managed by both the management and routines:
 - Routines create the organizational behavior by developing collective behaviors. They emerge through the resolution of recurring issues by the members of the organization.
 - Routines have a tacit dimension: they are nether intentionally developed nor formalized into organizational procedures. They emerge because of the agents bounded rationality (H. Simon). Routines are a way to simplify choices. They are social and context dependent.
 - Routines are therefore difficult to transfer or to lose. They define the firm specifities. They are resources and competencies.

Routines as Genes

- ➤ Definition: Routines are "an executable capability for repeated performance in some context that has been learned by an organization in response to selective pressures" (Cohen et al., 1996)
- For Nelson and Winter, routines are the genes of organizations:
 - They characterize organizations like genes characterize people.
 - Routines can be imitated and transmitted within an organization and between organizations like genes are being transmitted between individuals
 - Best routines are selected and will be more imitated depending on the advantages they give to the organization.
 - Limits of the analogy: no phenotype / genotype distinction.
 Does not take into account the role of the management. No planning!!

Organizational Learning

- Learning can be define as an evolutionary process that implement a permanent change in behavior.
- Learning has a logic: it is not a random process. It necessitate pedagogy so it implies a **stable reference point** and the maintain of a **coherence**.
- So all routines cannot change together. To learn, an organization need to maintain some routines while other routines evolve. These routines are called "dynamic capabilities" (Nelson 1991): "Dynamic capabilities arise from learning: they constitute the firm's systemic methods for modifying operating routines. To the extent that the learning mechanisms are themselves systematic, they could (following Collis 1994) be regarded as 'second order' dynamic capabilities" (Zollo et Winter 2002, p. 340).

Learning mechanisms - Experience accumulation - Knowledge articulation - Knowledge codification **Dynamic capabilities** - Process R&D - Restructuring , re-engineering - Post-acquisition Integration

EVOLUTION OF OPERATING ROUTINES

Fig. 1: The Hierarchy of Routines (Zollo and Winter 2002, p. 340)

Conclusion: Firms are Rules

- Rules are a way a collectivity of individuals manage to work together. They can be formal (codified) or informal (tacit). They can be general (need interpretation) or specific (need adaptation). Rules define the collective behavior and therefore the organizational behavior.
- They can be decided by the management (organizational rules) or they can emerge from the collectivity of employees (autonomous rules).

Characteristics of the rules	Specific	General	Types of Rules
Controlled	Command	Law	Organizational Rules
Autonomous	Action	Habits	Operating Rules

Conclusion: Rules have a hierarchy

Cognitive Rules (representations)



Organizational Rules



Operating Rules (Behavior)

Management Level

Operational Level

Conclusion: A Firm Learns by Processing Rules

