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A methodology and a framework for valuation of IT investment's impact on business results

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IT business value

- The business value of information technology (IT) is defined as the organizational performance impacts of information technology at both the intermediate process level and the organization-wide level (Melville et al. 2004).

- IT business value comprise:
  - **Efficiency** emphasizes an internal perspective employing such metrics as cost reduction and productivity enhancement in the assessment of a given business process, or "doing things right" (Drucker 1966).
  - **Effectiveness** denotes the achievement of organizational objectives in relation to a firm's external environment and may be manifested in the attainment of competitive advantage and unique value-creating strategy with respect to competitors (Barney 1991).

What is known about IT value

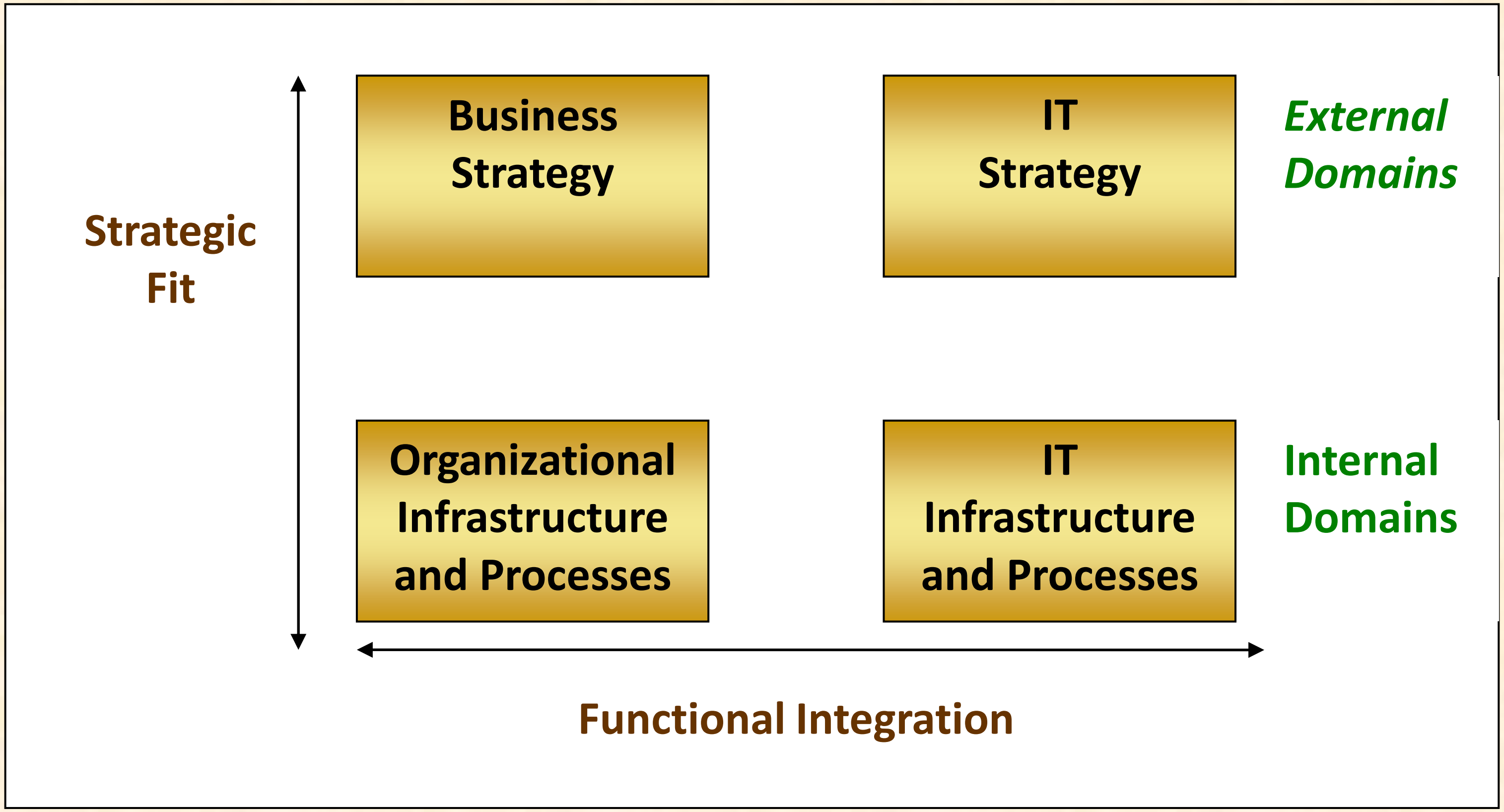
- Some IT statements or assertions (Kohli and Grover 2008):
  - **IT does create value.** There are a critical mass of studies that demonstrate a relationship between IT and some aspect of firm value.
  - **IT Creates Value under Certain Conditions**. IT, as simply hardware and software tools, does not create value in isolation.
  - **IT-Based Value Manifests Itself in Many Ways.**
  - **IT-Based Value Is Not the Same As IT-Based Competitive Advantage**.
  - **IT-Based Value Could Be Latent**. IT-based value creation is not immediate
  - **There are Numerous Factors Mediating IT and Value:** IT Strategy alignment, organizational and process change, process performance, information sharing, and IT usage, among others.
  - **Causality for IT Value is Elusive.** It is difficult to fully capture and properly attribute the value generated by IT investments.

IT value creation

- ***If information technology by itself doesn't create competitive advantage then the key is the synergy between IT and its integration into the organization.***
- A fundamental aspect in generating competitive advantages resides in this process and how IT is combined with tangible and intangible assets of the organization to generate value, to create unique resources and to develop organizational capabilities.

Strategic alignment

Firms that have aligned IT and business strategies can invest in additional IT resources with some assurance that they will be leveraged substantially.



IT Strategic Alignment Model (Henderson and Venkatraman 1993)

IT as Intangible Resource

- The research on the role of information technology in organizations and their relationship to competitive advantage has evolved from:
  - Classical approach.
  - Economic perspective.
  - Resource Based View (RBV): the most widely accepted approach to address IT. and organizational competitive advantages.
- Strategy researchers have applied RBV to analyze the implications of IT with the creation of competitive advantages, to assess empirically the complementarities between IT and other firm resources.

IT as Intangible Resource

- In the knowledge economy, the role of intangible assets in wealth creation has become fundamental (Viedma 2001).
- The maximum value is created when all intangible assets of the company are in line with each other, with tangible assets and with the strategy. (Kaplan & Norton 2004).
- Kaplan and Norton assertions:
  - **Value creation is indirect**. Intangible assets affect through chains of cause - effect.
  - **The value is contextual**. The value of an intangible asset depends on its alignment with the strategy.
  - **The value is potential**. The internal processes transform the potential value of intangible assets in tangible values.
  - **The assets are grouped.** Intangible assets do not create value for themselves. They do not have a value that can be isolated from the context and business strategy.

IT as Intangible Resource

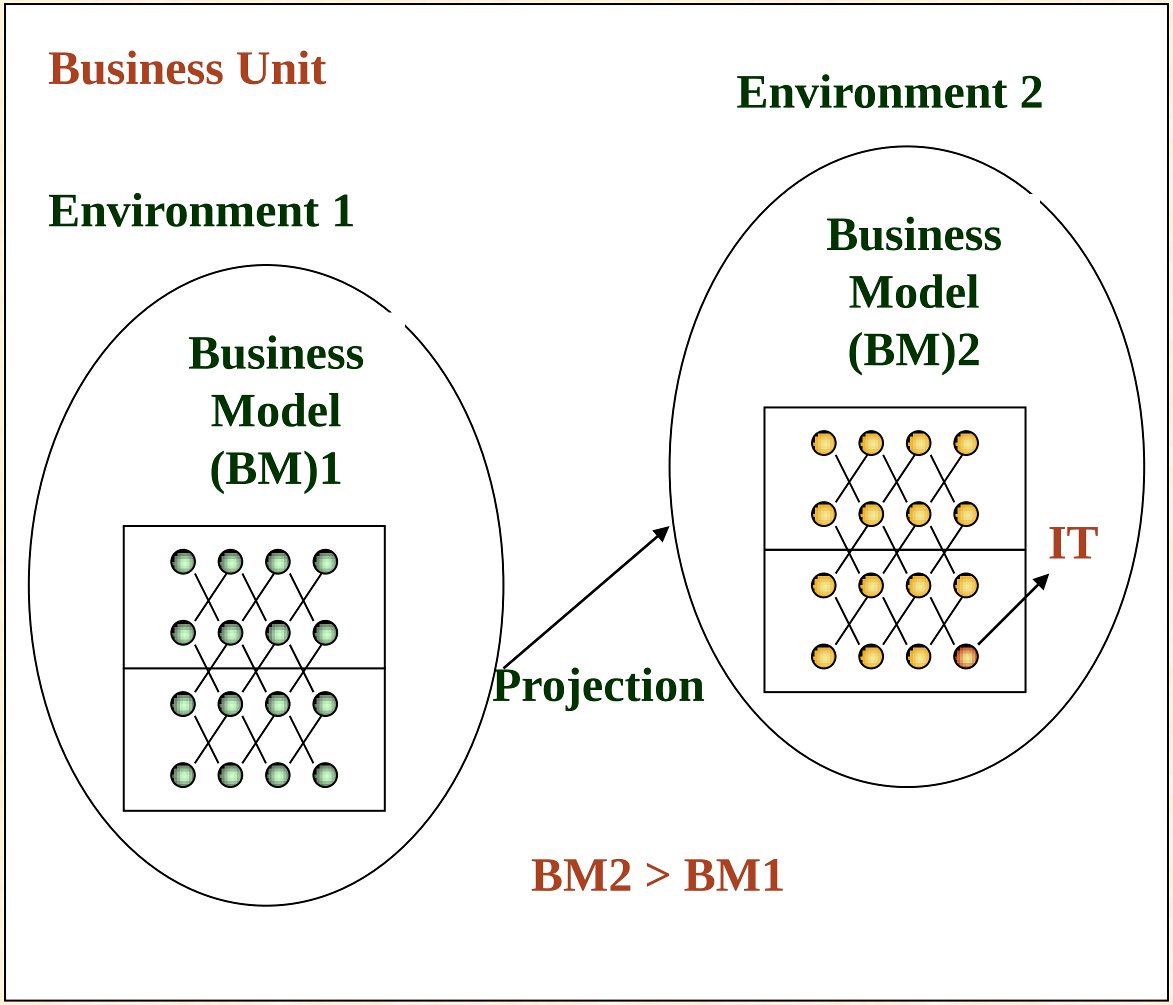
- The motivation to address the research through Strategic Management and the Intellectual Capital Perspective is summarized in the following conclusions:
  - Business Strategy articulates the value creation process for all the elements of business unit. IT supports Business Strategy as well as all tangible and intangible assets.
  - The business value generated by IT is indirect and difficult to capture directly.
  - IT does not create value in isolation and the IT value generation process is not immediate.
  - There are factors mediating IT value, the IT alignment with business strategy is one of the most important factor.
  - IT value creation is part of a maturation process where the synergies between IT and the business process evolve.
  - IT contributes on the creation of key success factor on business through the development of core competences and capabilities based on IT.

Proposed Framework

- We propose to build a methodology and a framework for assessing IT impact on business strategy from the perspective of intellectual capital.

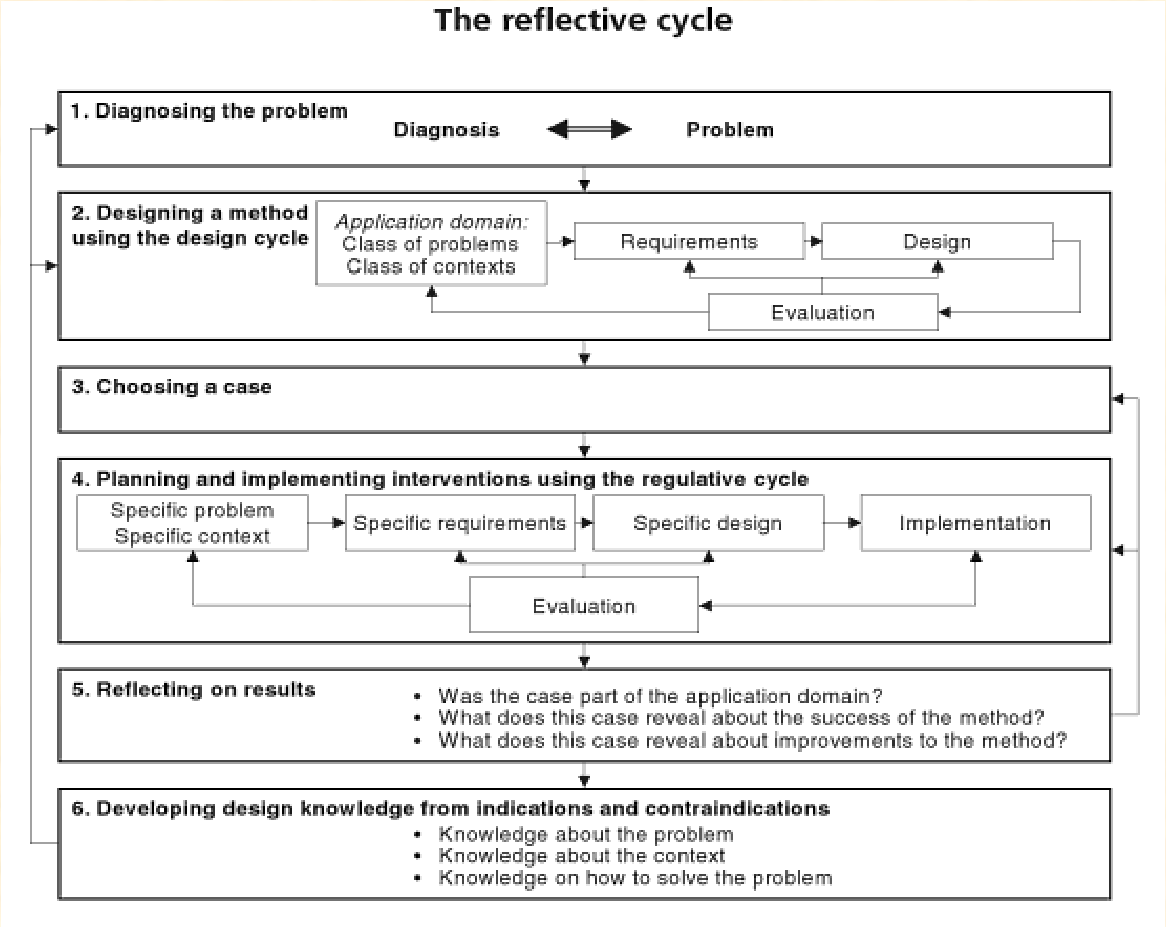
- At the beginning the framework is based on the models ICBS, INCAS and BSC; these models have been selected from all intellectual capital models mentioned in the scientific literature because are those with more practical applications.

Proposed Framework



Methodology:

Design science research diagnoses a situation, define the problem, and design practical methods to solve the problem or to improve the situation



Andriessen, D. (2004).

Thank you...

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