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DEGLI STUDI
DI PADOVA

QUESTO PROGETTO È SOSTENUTO DALLA  **Fondazione**
Cassa di Risparmio di Padova e Rovigo

PROGETTI DI
Eccellenza
2007/2008

CHE LO HA SELEZIONATO TRA I MIGLIORI PROGETTI DI RICERCA
PRESENTATI NELL'EDIZIONE 2007/2008 DEL BANDO

Knowledge dynamics of third-party logistics: balancing exploitation and exploration through service architectures

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WHAT WE FOCUS ON: THE TPLs

Third Party Logistics provider (TPL)

- ✓ External provider that manages, controls, and delivers logistics activities on behalf of a shipper (Hertz and Alfredsson, 2003)
- ✓ Transportation and warehousing (at least)
- ✓ Other services (distribution planning, packaging, quality controls, orders management, track and trace, ...)

Are TPL KIBS?

- ✓ Business services
- ✓ Service content
 - TPL-client relationship
- ✓ ICT
- ✓ Project-based organization



RESEARCH QUESTION: THE TPLs TRADE-OFF

TPLs are KIBS firms with the capabilities to offer sophisticated logistics solutions

Balance high adaptation to individual customers and coordination of several customers

- ✓ Service customization (exploration) vs service standardization (exploitation)

How do TPLs solve the trade-off between service customization (exploration) and standardization (exploitation)?



THEORETICAL BACKGROUND

Service project architecture

- ✓ Modular architecture (Simon, 1962; Baldwin and Clark, 2001)
- ✓ Customization through mix-and-match of standard modules (Sanchez and Mahoney, 1996)

KIBS literature

- ✓ Definition (Muller and Doloreux, 2009)
- ✓ Development and spatial agglomeration (Doloreux et al., 2008)
- ✓ Innovation (Den Hertog, 2000)
- ✓ Regional development (Muller and Zenker, 2001; Simmie and Strambach, 2006)
- ✓ Service configuration
 - Customized (Bettencourt et al., 2002)
 - Modular (Miozzo and Grimshaw, 2005)



THEORETICAL BACKGROUND

TPL literature

- ✓ Limited empirical evidence on service development (Pekkarinen and Ulkuniemi, 2008)

Modularity literature

- ✓ product architecture (Ulrich, 1995; Baldwin and Clark, 1997)
- ✓ Service architecture (Voss and Hsuan, 2010)

What is service modularity?

- ✓ Standard modules that contain standard sub-modules that can be mixed and matched (Voss and Hsuan, 2009)
- ✓ Standard contracts that share the same structure, content and KPIs in the form of SLA (Miozzo and Grimshaw, 2005)

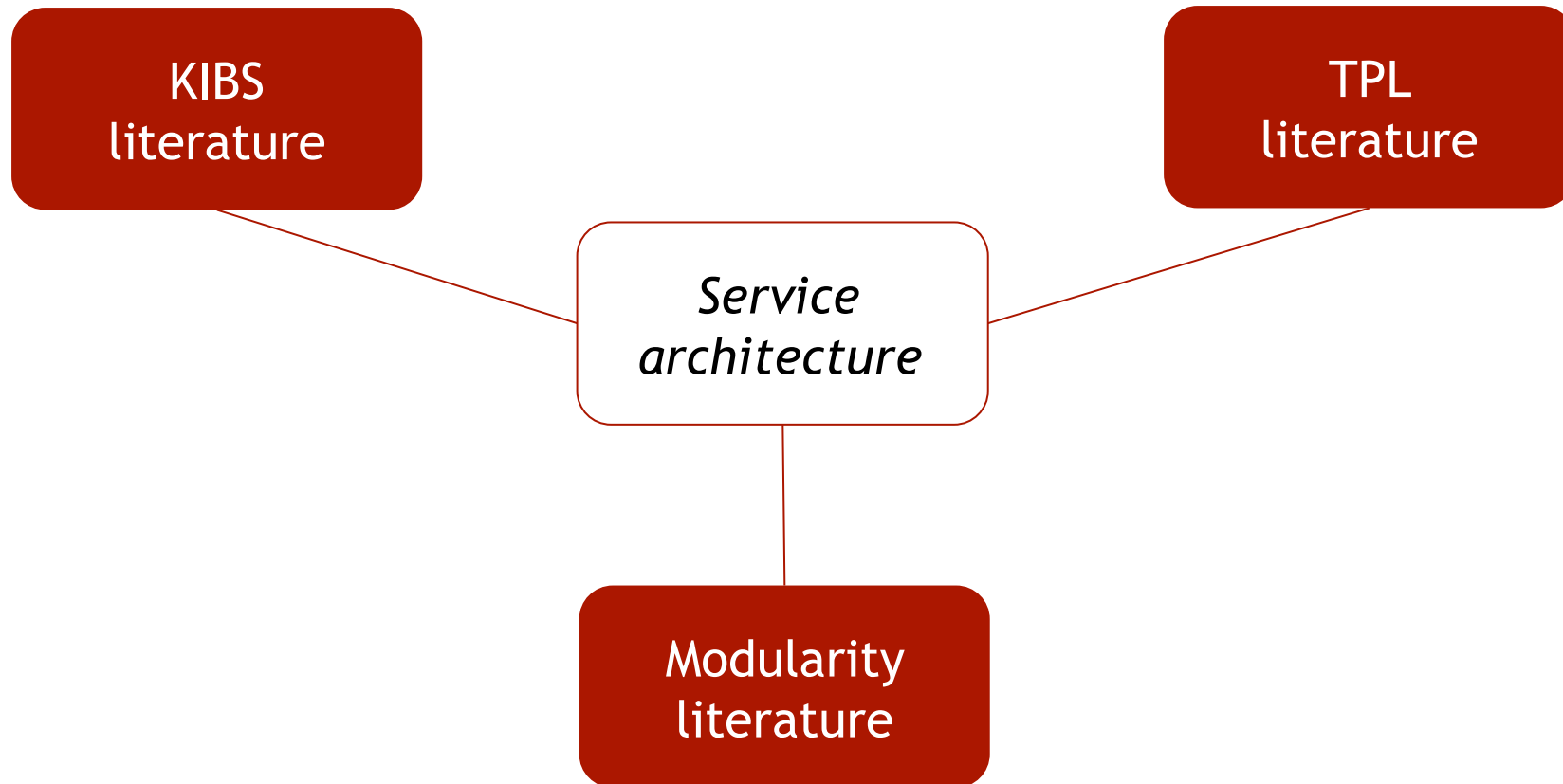


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THEORETICAL BACKGROUND





DIMENSIONS OF ANALYSIS

3 dimensions of analysis

- ✓ Project service architecture
- ✓ The extent of knowledge sharing between the TPL and the client
- ✓ Contract standardization



Case-study methodology (Eisenhardt, 1989; Yin, 1984)

- ✓ Within-case and cross-case analysis
- 2 TPL located in the Northeast of Italy
 - ✓ First, we selected a sample of logistic service providers located in the Veneto region from AIDA
 - ✓ Second, surfing Internet websites, we distinguished TPLs from LSPs
 - ✓ Third, we selected two independent and multi-customers TPLs (Cablog and Solaris)
 - Both TPLs operate in the food-industry
 - Both TPLs show performances above the industry average



Interviews

- ✓ 4 rounds of 3 hours each
- ✓ CEOs and key informants
- ✓ Team of 3 investigators

Common research protocol based on:

- ✓ project service architecture;
- ✓ the extent of knowledge sharing between the TPL and the client;
- ✓ the contract standardization.

Other sources

- ✓ Websites, archival sources, internal documentation and sites visits



FIRMS BACKGROUND

	Cablog	Solaris
<i>Operation</i>	Italy	Northern Italy
<i>Revenues</i>	72 millions euro in 2009	39 millions euro in 2009
<i>Employees</i>	323 employees	533 employees
<i>Industries</i>	packaged and canned food sector (97%)	Canned food and beverage (54%), manufacturing (24%), shop stores (11%)
<i>Resources</i>	5 central warehouses, 14 TP	5 warehouses (and customers' sites)
<i>Services</i>	transportation, warehousing, and distribution	Warehousing and transportation (80%), janitorial and security services
<i>Customers</i>	Nestlè-Purina, Bauli, Pepsi Cola, Melegatti, Colussi, InBev (30%)	Despar, Rana, Bauli, SanBenedetto, Vetri Speciali, Mondadori (64%)
<i>Suppliers</i>	Worker cooperatives, transporters, suppliers of transportation equipments, ICT provider	Consorters, transporters, suppliers of transportation and logistics equipments, ICT provider



CROSS-CASE ANALYSIS SERVICE ARCHITECTURES

CABLOG	SOLARIS
<ul style="list-style-type: none">• Combinable services (distribution, warehousing, and transportation) made of standard procedures• Shared or client-dedicated transforming resources• Interfaces customization. Ex. forms	<ul style="list-style-type: none">• Combinable services (warehousing, security, janitorial, etc.) made of standard procedures at the industry level• Shared or client-dedicated transforming resources• Interfaces customization. Ex. ICT tools



PROPOSITIONS 1- SERVICE ARCHITECTURES

Proposition 1. TPLs deliver both standard and customized modular services. Standard modular services use standard procedures and rely on transforming resources shared by several clients. Customized modular services use standard procedures but rely on client-dedicated transforming resources.

Proposition 2. The use of standard procedures allows the possibility to combine (mix and match) service modules and sub-modules both in standard and customized modular services.

Proposition 3. Since TPLs have to integrate their services into the client operations both the standard and the customized modular services use standard and client-specific interfaces to manage the information flow.



CROSS CASE ANALYSIS KNOWLEDGE SHARING WITH CLIENTS

CABLOG	SOLARIS
<ul style="list-style-type: none">• Knowledge exploration with competent clients. Ex. Nestlé Purina, Traceability technology.• Explicit knowledge transfers.• Procedures standardization and repetition.	<ul style="list-style-type: none">• Knowledge exploration with clients in a new for Solaris industry. Ex. Deroma, plant pots industry.• Tacit knowledge transfers.• Procedures standardization and repetition.



PROPOSITIONS 2 - KNOWLEDGE SHARING

Proposition 4. Exploration refers to the development of new procedures for TPL services. Exploitation refers to the repetition of the same procedures to perform TPL services.

Proposition 5. TPL knowledge exploration with clients occurs a) whenever the TPL is not competent enough to meet the client requirements and b) mainly through knowledge transfer from competent clients to the TPL.



PROPOSITIONS 2 - KNOWLEDGE SHARING

Proposition 6. The knowledge exploration related to the development of new services is likely to be pursued through the transfer of explicit knowledge from competent clients to TPL.

The knowledge exploration related to the extension of existing services to new markets is likely to be pursued through the transfer of tacit knowledge from clients to TPL.

Proposition 7. TPL combines knowledge exploration and knowledge exploitation strategies: knowledge exploration (the development of new services or the extension of existing services to new markets) precedes knowledge exploitation (the replication of standard services).



CROSS CASE ANALYSIS CONTRACT STANDARDIZATION

CABLOG	SOLARIS
<p>Contracts are “standard”.</p> <p>KPIs related to the warehouse management and distribution.</p> <p>KPIs levels and price are negotiated.</p> <p>New services rely on open book cost-plus contracts.</p>	<p>Contracts are “standard”.</p> <p>KPIs related to the warehouse management.</p> <p>KPIs levels and price are negotiated.</p> <p>New services relies on time cost contracts.</p>



PROPOSITIONS 3 - CONTRACTS STANDARDIZATION

Proposition 8. TPLs contracts share the same structure having information about service content, price, KPIs, responsibilities, penalties, and duration. The parties negotiate KPIs levels and price.

Proposition 9. Exploration of procedures for new TPL services is likely to be related to the use of legal safeguards (e.g. cost-plus contracts, long-terms contracts) to protect TPL from client opportunism.



MAIN FINDINGS 1 TPLs SERVICE TYPOLOGIES

TPLs do not trade off customization for standardization

Procedures	New	?	Services exploration and customization
	Existing	Services exploitation and standardization	Services exploitation and customization
		Shared	Dedicated
Transforming resources			



TPLs modular service architectures are integrated into clients operations and often require TPL-client customized interfaces.

Service modularity and inter-organizational modularity do not go hand in hand.

TPLs exploration with clients occurs rarely, when clients have valuable competences in logistics. Exploration is normally associated with knowledge transfers from the client to the TPL.



TPLs balance exploration and exploitation. TPLs manage temporal separation relying on an integrated approach.

Exploration of new procedures becomes a fundamental dynamic capability since it allows the TPL to adapt to an ever changing environment.

Contracts “standardization” is coupled with some levels of service modularity.



FUTURE DEVELOPMENTS

Futures study may:

- ✓ Investigate a larger number of firms in different geographical areas comparing high- and poor-performing firms
- ✓ Quantitative test our propositions
- ✓ Study the procedures used by TPLs to transit from exploration to the exploitation phases



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THANK YOU!