

LIPS2015 Barcelona

Lean in Public Sector Construction Conference

Sesión 6 : ¿Cuál es la mejor manera de repartir riesgos y recompensas?

Selection of Third-Party Relationships in Construction:

Lessons from the Mining Industry

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LO QUE SABEMOS DE HACER YA TIEMPO: Distribución del Riesgo en Proyectos

(Conclusiones de estudio Instituto de la Construcción EE.UU. 1984)



- Una adecuada distribución del riesgo en un contrato tiene un impacto positivo en los resultados del proyecto.
- Cada riesgo tiene su precio, visible u oculto. Los costos visibles aparecen como "imprevistos" o seguros. Sin embargo, condiciones onerosas de los contratos promueven costos ocultos, como por ejemplo:
 - a) El costo de restringir la competencia por el contrato (pocos contratistas interesados);
 - b) El costo de enfrentar más reclamos y disputas;
 - c) El costo de reemplazar contratistas de menor calidad, que probablemente están más dispuestos a aceptar condiciones poco equitativas;
 - d) El costo de una relación antagónica con el contratista en términos de calidad del producto final, facilidad para realizar cambios, reputación y relaciones públicas.

Distribución del Riesgo en Proyectos

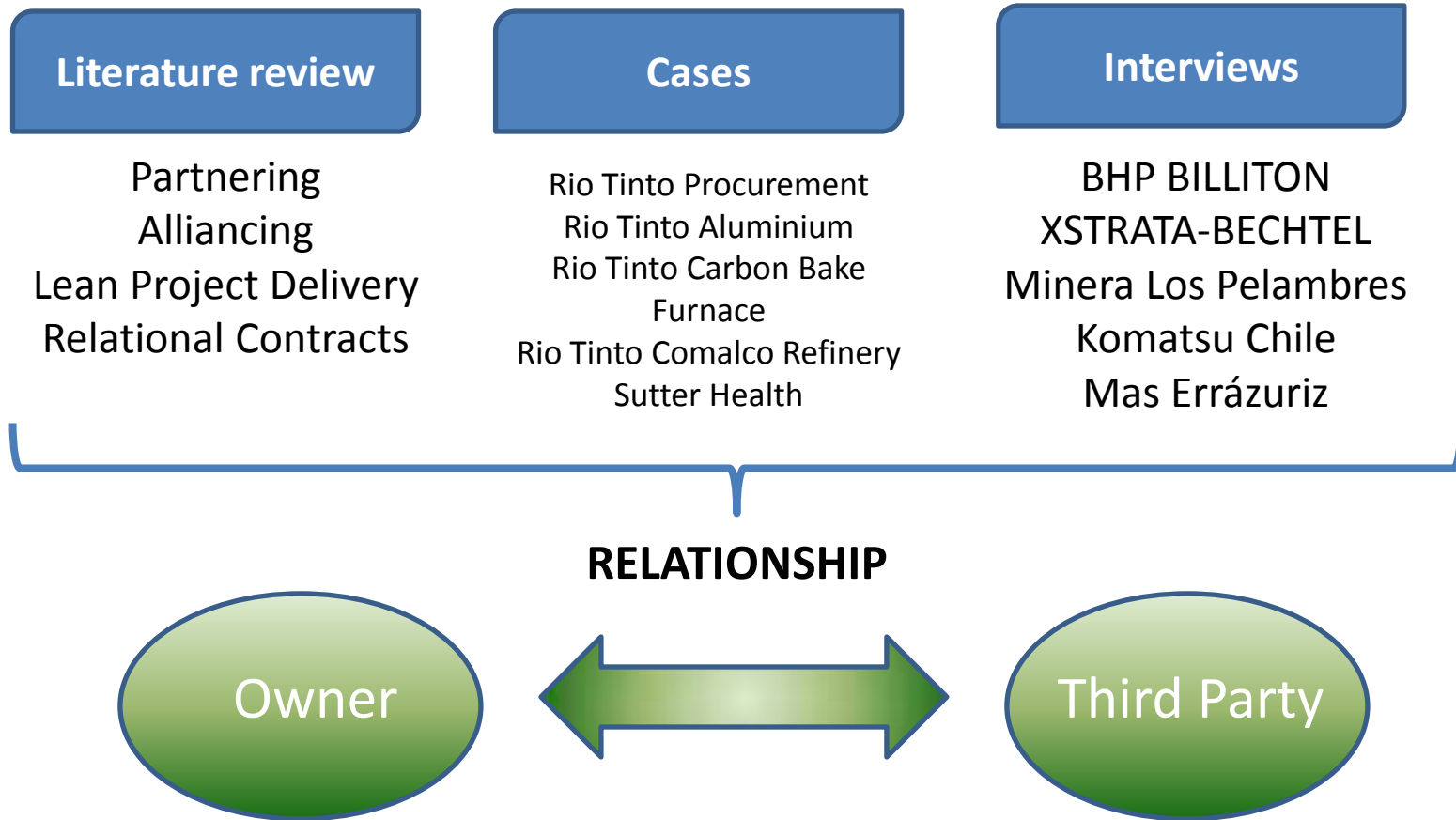
(Continuación)



- Los precios de las propuestas son influenciados por la cantidad y calidad de las experiencias que las instituciones, no los individuos, tienen entre ellos.
- Contratos muy riesgosos restringen el número de proponentes y con ello la competencia por ganarlo.



Selection of Third-Party Relationships in the Mining Industry (Palacios, Alarcón and González 2014)*



(*). Palacios J., Gonzalez V. and Alarcón L.F. (2014) Selection of Third-Party Relationships in Construction. Journal of Construction Engineering and Management-ASCE, 140, 4, B4013005-1-10.



Evolution of Contract Forms

Traditional

Each party has obligations without considering that the relationships in a contract is based on the mutual benefit principle (Ross, 2009)

Partnering

Commitment with the purpose of achieving specific goals of bussiness optimizing effectiveness of each participant´s resources (CII, 1991)

Alliance in a project

It takes key elements of Partnering with a philosophy of shared benefits/losses, with a transparency such that it even includes financial aspects



Evolution of Contract Forms

Lean Project Delivery

LPD is an approach that considers a combination of lean principles in production managing and a focus on project development since its concept definition until its final use, maximizing value

Relational Contracts

Based on the recognition of mutual benefits and win-win scenario through higher cooperative relationships between contracting parties



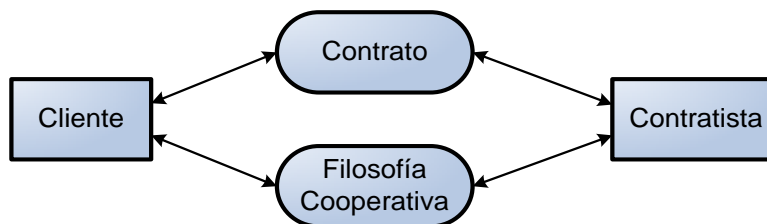
Relational/ Transactional Contracts

Tradicional



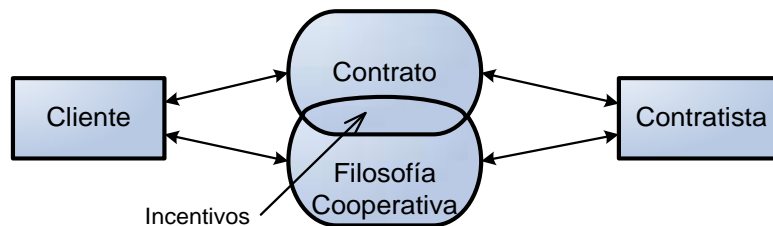
Transaccional

Partnering



Transaccional con Acuerdos

Alliancing



Relacional



Interviews and Cases Studied

COMPANY	EXECUTIVE LEVEL	SECTOR
BHP-BILLITON	Manager	Mining
XSTRATA-BECHTEL	Executive General Manager	Mining
MINERA LOS PELAMBRES	Manager Planning and Development	Mining
KOMATSU CHILE	Research and Development	Service Provider
NORSKE SKOG BIO	Manager	Manufacturing
MASERRÁZURIZ	Gerente General	Construcción



Adoption of Lean manufacturing Philosophy

adds value

Commitment Chains

Periodical reviews to continuously improve projects

Developing trust allows sharing success and failures and learn from them

EMPRESA	DIVISIÓN	SECTOR
RIO TINTO	Procurement	Provisión de servicios
RIO TINTO	Río Tinto Aluminium	Mining
RIO TINTO	Río Tinto Carbon Bake Furnace	Mining
RIO TINTO	Refinería Comalco Alúmina	Mining
SUTTER HEALTH		Construction
VOLSKWAGEN AG		Automobile

Initiative from Executive Levels

Specialized Suppliers

Align objectives to Create Value

Stability to develop innovation

Promote R&D



Actions successfully implemented in mining projects

- Efficient use of resources in a coordinated way and with active collaboration between the parties
- Visual communication that greatly facilitates information transmission between people from different culture and education level
- Coordination that articulates chains of commitment between the participants and ensures its compliance
- Promotion of a project global vision, ensuring systemic improvements instead of local optimization
- Record keeping and revision of lessons learned
- Relation and trust development to share mistakes and learning opportunities



Evolution of Third Party Relationship in Interviewed Companies

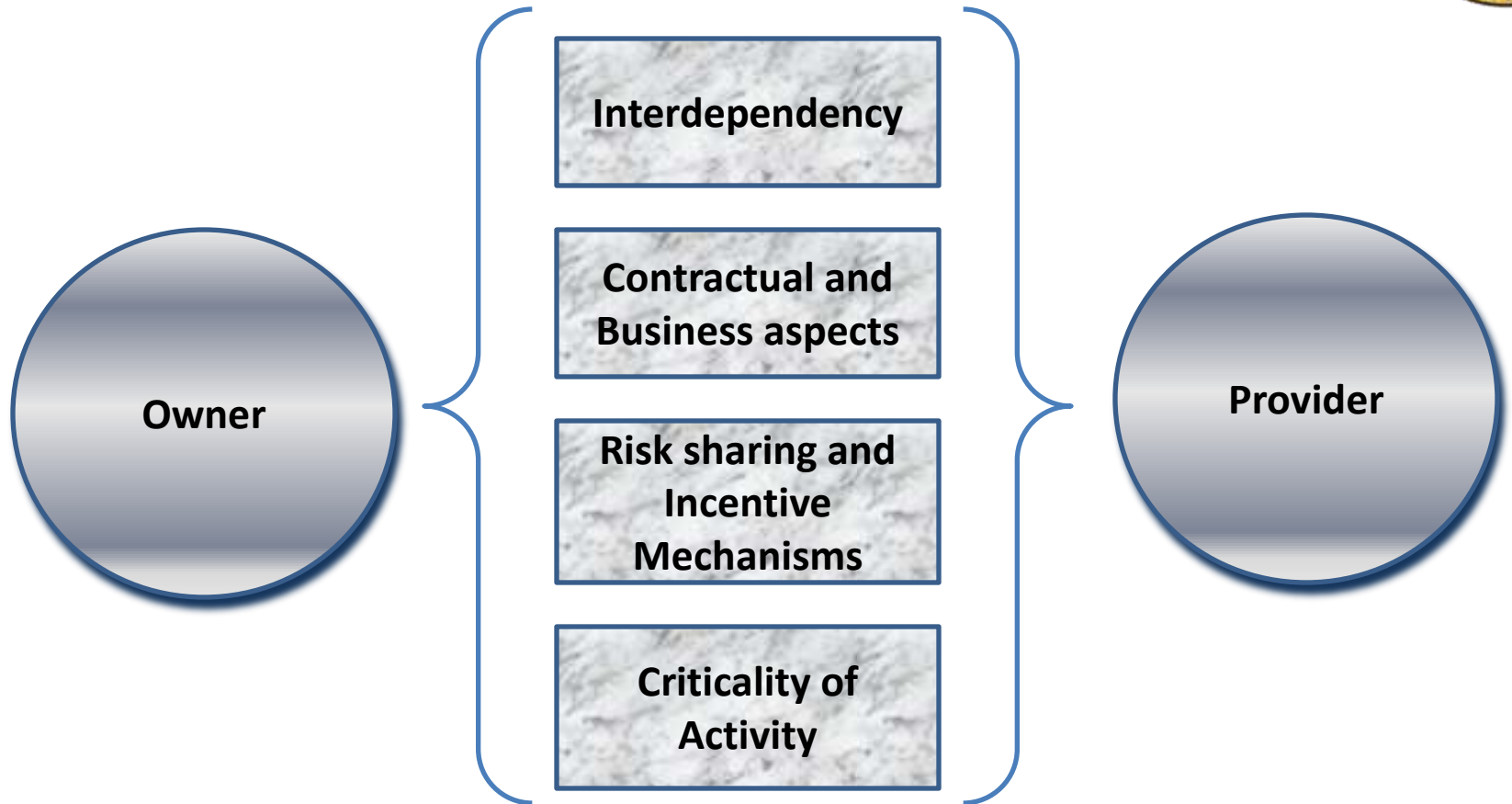


- Simultaneous exchange
- Payment for finished products

- Informal agreement based on collaborative commitments
- Common goals

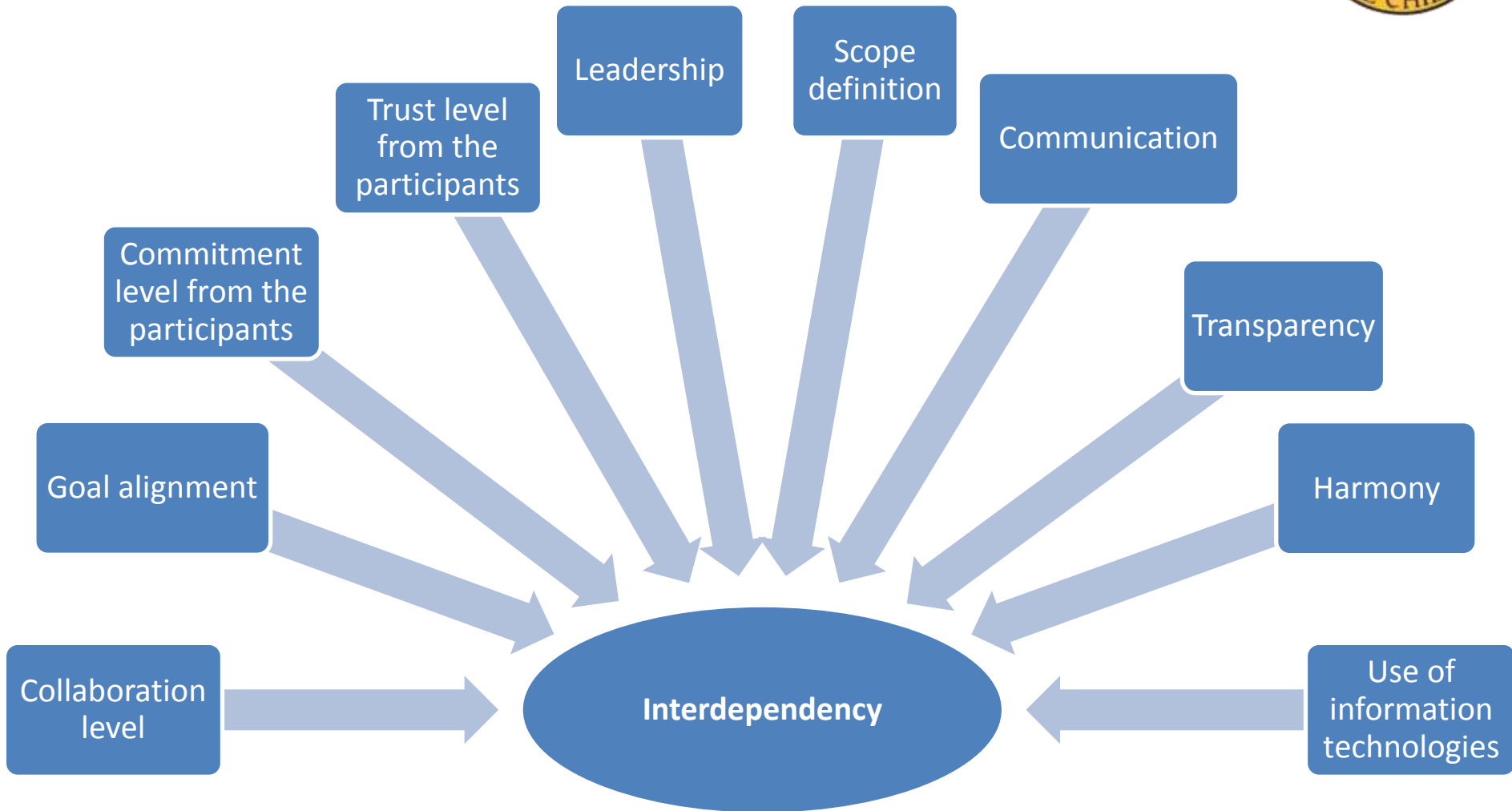
- Formal agreement
- Long term interaction
- Goals alignment

Proposed model to support the Selection of the form of relationship



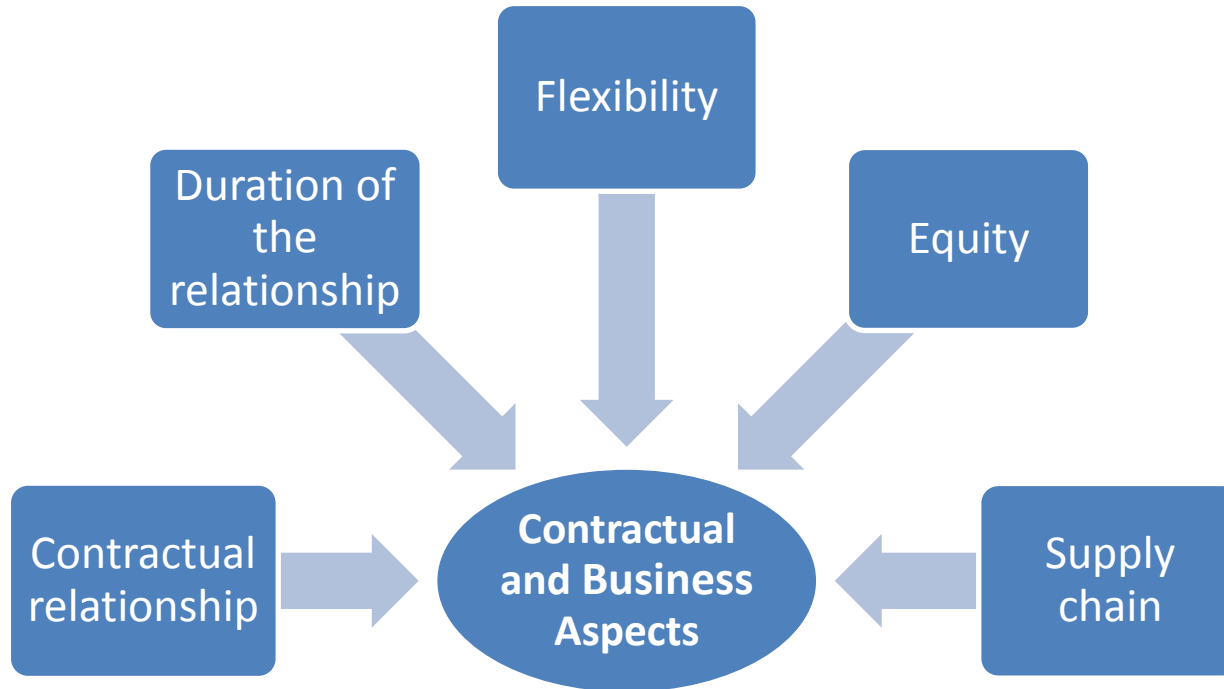


Factors: Interdependency



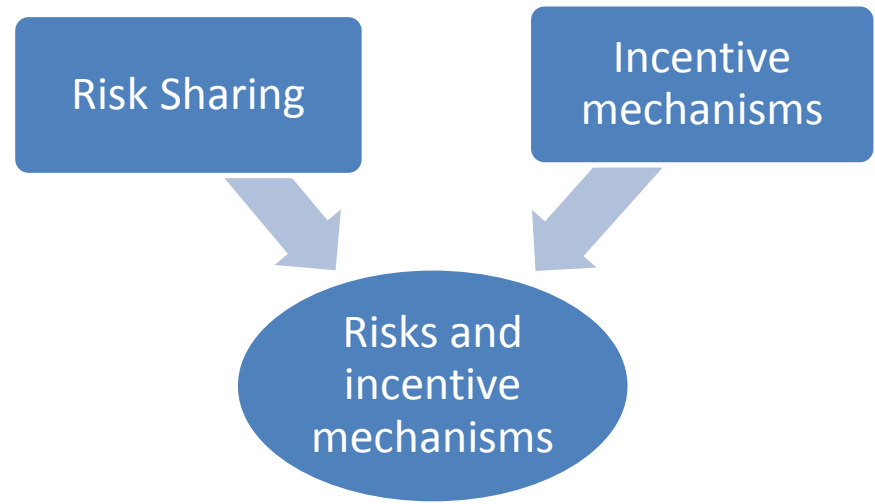


Factors : Contractual and Business Aspects

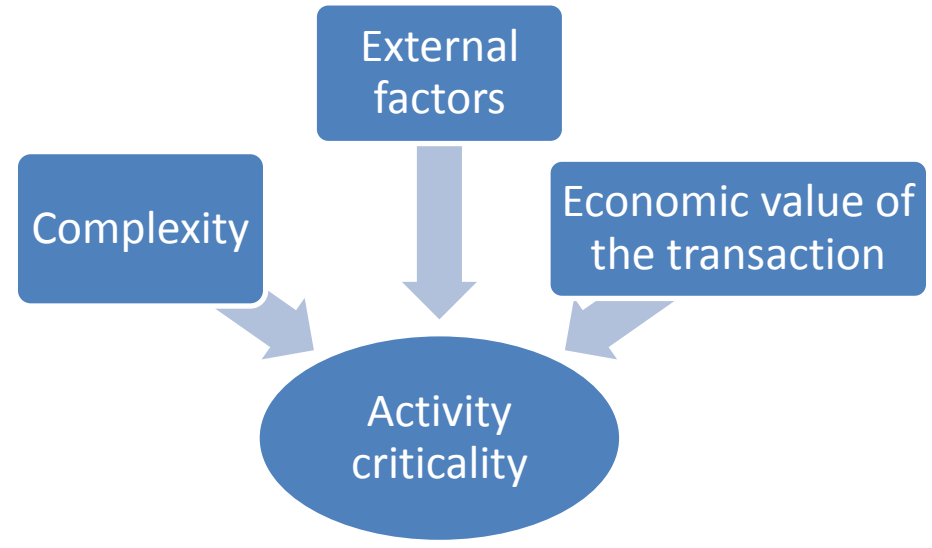




Factors: Risk and reward sharing



Factors: Activity Criticality



Relational/Contractual Model Matrix

DIMENSIONS		FACTORS		Relational/Contractual Managing Strategy		
				Traditional/Transactional	Partnering/Transactional with Agreements	Alliancing/Relational
A	Interdependency	A.1	Collaboration level	Low	Moderate	Very high
		A.2	Goal alignment	Low	Medium	Very high
		A.3	Commitment level from the participants	High	Medium	Very high
		A.4	Trust level from the participants	Low	Medium	Very high
		A.5	Leadership	Low	medium	Very high
		A.6	Scope definition	High	Medium	Low
		A.7	Communication	Limited by contract	Moderate	Very high
		A.8	Transparency	Limited by contract	Moderate	Very high
		A.9	Harmony	Limited by contract	Moderate	Very high
		A.10	Use of information technologies	Limited by contract	Moderate	Very high
B	Contractual and of business	B.1	Contractual relationship	Adverse	Cooperative	Integrated
		B.2	Duration of the relationship	Indifferent	High	Very high
		B.3	Flexibility	None	Moderate	Very high
		B.4	Equity	None	Moderate	Very high
		B.5	Supply chain	None	Medium	High
C	Risks and incentive mechanisms	C.1	Risk distribution	Transferred	Partial and localized	Equal
		C.2	Incentive mechanisms	None	Few	Many
D	Activity criticality	D.1	Complexity	Low	Moderate	Very high
		D.2	External factors	None	Moderate	Very high
		D.3	Economic value of the transaction	Indifferent	Moderate	Very high



Conclusions

- Relationship between owner and providers can be managed in a continuum between three relational/contractual managing models: Traditional/Transactional, Partnering/Transactional with agreements and Alliancing/Relational
- The selection of the managing model should be based on the most convenient model for a project according with the ideas and principles that define the way the organization wants to develop its relationship with third parties
- The matrix can be used as a diagnosis tool for contractual relations with third parties as well as a tool to design a desired relationship