SPEs in Megaprojects

by Corrado Io Storto

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The red thread of our research journey

- **Why** do SPEs merit scholars’ attention?
- **What** key points to set to better address research effort?
- **Which** kind of research approach/method/tool should be adopted?
- **Where** did we arrive?
- **Who** might benefit?
Why do SPEs need attention?

- SPEs emerged as a relevant theme to focus on from the analysis of the COST Action portfolio of Megaproject cases
  - social network maps collated for each megaproject case identified particular equity-based organizational actors having high levels of centrality (e.g. the SPEs)
  - findings from statistical analysis and machine learning techniques showed a strong association between the creation of a SPE and the megaproject performance

- Academic literature shortcomings
  - generally concerned about the SPE financial structure and financial risk management, but not on its organization, management, and governing system of the megaproject

- SPEs are commonly used in the implementation of business models
  - i.e. in: a) project financing operations to gain financial advantages for the project shareholders in terms of financial commitment and cost of failure (as an SPE is a self-fenced organization, it is not affected by the corporate risks of parent organizations); b) project partnering to gain synergies among project stakeholders by aligning their interests
Social network map for the A2 Motorway Megaproject, Poland
Social network map for the LNG Rovigo Megaproject, Italy

Foreign investors:
- Own the plant
- Supply the gas
- Sell the gas
Map of the available literature concerning SPEs

<table>
<thead>
<tr>
<th>Disciplines</th>
<th>Topics</th>
<th>Securization and taxes</th>
<th>Strategic Alliances</th>
<th>Knowledge and technology transfer</th>
<th>Risk Management (mostly transfer)</th>
<th>Project procurement and Supply Chain configuration</th>
<th>Project Financing</th>
<th>Project Governance</th>
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source: Sainati, T., Brookes N. and Locatelli G. “Special purpose entities and their role in megaprojects: a new focus for understanding megaproject behavior”. In Proceedings of the EURAM 2014 Annual Conference. 4-7 June, Valencia, Spain, 2014.
## SPE strengths

(Source: Sainati, Brookes, Locatelli, Special Purpose Entities and their role in Megaprojects: a new focus for understanding megaproject behavior, EURAM, 2014)

<table>
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<tr>
<th>Feature</th>
<th>Description</th>
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<tr>
<td>Ability to attract external financial resources</td>
<td>The SPE approach enables to group and share stakeholders capabilities and risks. Therefore, since SPE is an external and self-fenced entity, all risks exogenous to the project are reduced (e.g. bankruptcy of a project stakeholder). This enable SPEs to obtain greater amount of financial resources at lower cost;</td>
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<td>Alignment of actor’s interests</td>
<td>SPEs are designed in order to provide a comprehensive scheme of incentives affecting relevant project stakeholders (i.e. project shareholders, critical contractors, etc.). This complex architecture enable to better align stakeholder interest;</td>
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<td>Stakeholder integration during lifecycle</td>
<td>SPEs are coupled with the infrastructure that design, deliver and operate with. SPE extend the stakeholders commitment in the project to more phases;</td>
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<td>Effective risk sharing</td>
<td>Under SPE approach, project risks are shared depending on the stakeholders’ ability to influence its. This principle enable a better performance in terms of risk sharing;</td>
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<td>Lower taxes</td>
<td>SPE corporate structure enable fiscal advantages in several countries;</td>
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<td>Easier transfer of assets among companies</td>
<td>SPE enables higher flexibility in the transfer of assets between companies. All assets available by the SPE can be transferred by relocating the control of SPE; in other words by transferring SPE shares among companies.</td>
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## SPE weaknesses

(source: Sainati, Brookes, Locatelli, Special Purpose Entities and their role in Megaprojects: a new focus for understanding megaproject behavior, EURAM, 2014)

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<th>Limit flexibility</th>
<th>longer stakeholders’ commitment to the infrastructure has the downside of lower flexibility. Generally, lower flexibility take the forms of: longer contract amortization time, rigid offtake contract conditions, etc.;</th>
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<tr>
<td>Creation of monopoly</td>
<td>PPP Projects exploit SPE approach. In these cases, public party issue special provisions in favour to the private partners (e.g. offtake contracts, special regulations, etc.). This framework increases the barrier of entry into the private business; in most of cases this lead to monopolies;</td>
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<td>Longer negotiation process</td>
<td>SPEs require longer time for due diligence and negotiation process at the beginning of the project. These activities are time and cost consuming and don’t add value to the final outcome;</td>
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<td>Lower/higher transaction cost</td>
<td>treatment of transaction costs in SPE is controversial. In some scenarios SPE enable lower transaction costs (e.g. because of the better cooperation among project stakeholders) in others the opposite (e.g. because of the longer due diligence and negotiation process).</td>
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The key points of the research design

✓ to focus more on organizational and management issues related to SPEs rather than finance and risk ones;

✓ to adopt a dynamic perspective useful to identify changes of the organizational configurations assumed by the SPE as the megaproject evolves;

✓ to take into account and not oversimplify the intrinsic complexity of megaprojects and the SPE governing system;

✓ to preserve the idiosyncratic nature of megaprojects as “specific and unique entities” the evolution of which may be largely influenced by a variety of context factors, i.e. technology complexity, local culture, market dynamics, legislation, etc.
A dynamic - evolutionary perspective

Megaproject evolution

SPE changes over project lifecycle

What?
A multiple-framework/multiple-research approach

✓ 3 research approaches based on the implementation of different methods and tools

  • an SPE ontology generated by cross analysis of literature and cases
  • a cross case study analysis covering different stages of the Megaprojects and SPE lifecycles
  • a Fuzzy Cognitive Map developed in a Knowledge-based Perspective to elicit expert knowledge and simulate the SPE evolution when the environment, project and SPE characteristics change

✓ dataset

  • megaproject cases selected from the COST Action Portfolio
  • selected sources (i.e., academic publications, websites, technical literature)
  • an Italian metro megaproject case
SPE ontology

SPE definition

• It is a fenced entity
SPE is a “Self-Fenced organization” and legal and financial mechanisms to isolate assets, liabilities and risks associated to the SPE.

• It has limited and pre-defined purposes
SPEs are designed to pursue specific objectives and are usually constrained by their lifetime. In legal terms they have ‘Scope limitations’.

• It has a legal personality
SPE is a legally recognized entity, such as: trusts, partnerships, limited liability partnerships, corporations and limited liability companies.

Proxy Characteristics

• Legal Characterization
  1. Limited Liability Company
  2. Limited Liability Partnership
  3. Mutual Fund
  4. Corporation
  5. Trust

• Purposes
  1. Apparent profit-making motive
  2. Tax optimization
  3. Arbitrages
  4. Balance Sheet management
  5. Partnering and alliances
  6. Isolating and homogenizing cash flows and business risk of a specific asset, asset-class
  7. Enhancement of external finances (increase the financial leverage)
  8. Improvement of the liquidability of a non-liquid asset
  9. Risk Sharing and spreading
  10. Easing Asset Transfer
  11. Dealing with legal and regulatory requirements

• Activities Undertaken
  1. Insulation of Risk, Assets, Liabilities or Cash Flows
  2. Risk Transfer, sharing and spreading
  3. Risk Transformation
  4. Securitization (assets & liabilities)
  5. Project Financing
  6. Leasing
  7. Factoring
  8. Commercial or fake transaction
  9. Channelling, retention and exchanging of rights, licenses, permits
  10. Channelling cash Flows
  11. Infrastructure Related Activities (design & delivering, operating, other services)

• Capabilities & Assets
  1. Financial assets and liabilities
  2. Intangible assets (E.g. Rights, licenses, Royalties, patents, etc.)
  3. Human related Assets
  4. Physic Assets

• Venue
  1. Resident in off-shore jurisdictions
  2. SPE has a physical location
Functions of the SPE

ECONOMICS AND FINANCE

Improve credit metrics
- Improve partners credit metrics (off-balance sheet)
- Improve project credit metrics
- Indirect Credit Support

Enhance finance sources
- Expanded Debt Capacity
- Increase the financial Leverage
- Enhance Financial differentiation
- Eases granting security
- Lower Overall Cost of Funds

Reduce Financing Complexity
- Release of Free Cash Flow
- Enhance asset liquidity

Reduce Transaction Cost
- Efficient structuring of contracts
- Lower transaction cost
- Lower agency cost
- Reduced Cost of Resolving Financial Distress
- Reduced Legal or Regulatory Costs

Exploit Economic opportunities
- Capturing an Economic Rent

Achieving Economies of Scale

GOVERNANCE

Accountability
- Enforceability of contracts
- Ability to control and govern the project (independency/ separateness)

Authority
- Delegation
- Protection of Minorities
- Decision-making complexity (decision stages, layers)
- Prescriptiveness of norms and procedures

Alignment
- With corporate governance
- With policy/strategy
- With legislation
- With portfolio priorities
- Among stakeholders
- Of corporate culture and behaviours

Disclosure
- Transparency
- Assurance
- Certainty of decision-making process
- Ability to retain knowledge

Flexibility
- More effective corporate organization and management compensation
- Ability to redesign governance structure
- Active risk management focused on benefits delivery

Decision-making Efficiency
- Decision making process speed
- Smart management of the sponsor/client interface

Predictability/ certainty of decision-making process

TAXATION

Tax Efficiency
- Tax reduction
  - Decrease fixed taxes

Tax Postponement

RISK

Ability to channel the risk to the right counterpart
- To the party that is better able to control the risk
- To the party that is better able to bear the risk

Ability to secure the risk

1. Pooling and isolating assets, liabilities, knowledge and capabilities, risks, etc.
2. Channelling and transferring the previous items according to specific rules and procedures
Megaproject

The Greater Gabbard megaproject SPE life-cycle

Where?
The Andasol megaproject SPE life-cycle
The Fuzzy Cognitive Map of the METRO N-XYZ SpA

- **Project Cost Overrun**
- **Delay of Project Completion Time**
- **Infrastructure Asset Quality**
- **Environment Turbulence**
- **Project Scope Change**
- **Project Unplanned Tasks**
- **Design Changes**
- **Construction Changes**
- **SPE Technical Capability**
- **SPE Project Management and Planning Capability**
- **SPE Additional Technical Capability Acquisition**
- **Unforeseen Technical Problem-Solving**
- **Contractor(s) Technical Capability**
- **Construction Cost Overrun**
- **Complex System Interface Integration**
- **Project or Technology Complexity**
- **Additional Financial Resource Needs**
- **Joint Problem-Solving Between SPE and Contractor(s)**
- **Need for Conflict Management Between SPE and Contractor(s)**
- **Negotiation of Contract Change With Contractor(s)**
- **Cooperation and Trust Between SPE and Contractor(s)**
- **SPE Capability to Adapt to Environment Changes**
- **Complementarity Between SPE Partners Capabilities**
- **Technical Capability of SPE Partners (Considered as Individual Business Entities)**
- **Project Management and Planning Capability of SPE Partners (As Individual Business Entities)**
- **Unexpected Decision-Making Needs**
- **Interaction (i.e., Information Exchange, Joint Decision-Making) Between SPE and Project Sponsor or Project Client**
- **Information Exchange Between SPE and Contractor(s)**

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C_i(t_{k+1}) = S \left( \sum_{j=1}^{n} e_{ij}(t_k) C_j(t_k) \right)
\]
Simulation outcome

1. project cost overrun
2. delay of project completion time
3. infrastructure asset quality
4. environment turbulence
5. project scope change
6. project unplanned tasks
7. design changes
8. construction changes
9. SPE technical capability
10. SPE project management and planning capability
11. SPE additional technical capability acquisition
12. unforeseen technical problem-solving
13. contractor(s) technical capability
14. construction cost overrun
15. complex system interface integration
16. project or technology complexity
17. additional financial resource needs
18. joint problem-solving between SPE and contractor(s)
19. need for conflict management between SPE and contractor(s)
20. negotiation of contract change with contractor(s)
21. cooperation and trust between SPE and contractor(s)
22. SPE capability to adapt to environment changes
23. complementarity between SPE partners capabilities
24. technical capability of SPE partners (considered as individual business entities)
25. project management and planning capability of SPE partners (as individual business entities)
26. unexpected decision-making needs
27. interaction (i.e., information exchange, joint decision-making) between SPE and project sponsor or project client
28. information exchange between SPE and contractor(s)
## Simulation outcome

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<th>Simulation outcome</th>
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Results implications for research

- The ontology and taxonomy provides a more in-depth understanding of the role played by the SPE and its different functions at different stages of the megaproject evolution, and finally to what extent an SPE organizational configurations fit the different stages of the megaproject lifecycle and the strategic goals and environment constraints and opportunities.

- Life-cycle models provide a very useful tool to characterize and model how SPE megaprojects evolve.

- The methodological framework based on the development of fuzzy cognitive maps of the megaproject governing system suggests useful insights about the behavior and decision-making of a Special Purpose Entity in the delivery of an infrastructure megaproject and to what extent the SPE governing system contributes to project performance.
Results implications for practice

- The changing nature of the SPEs during the megaproject lifecycle demonstrates that the governing system in these type of megaprojects is not static and that it would be erroneous (if not dangerous) to regard it as such.

- Results emerging from the simulation of the fuzzy cognitive map of the SPE megaproject governing system showed that technical and management capabilities of the SPE may be an important determinant of project performance.

- SPE megaprojects are characterized by “temporal flipping” where the organization with greater longevity is the “project” based organization which can substantially outlive the “permanent organization” from which it was derived.

- Flexibility and adaptation to the environment are major factors supporting the evolution of an SPE organization along its lifecycle and allowing the adoption of different configurations. The structural rigidity of the SPE that is critical to provide investors with guarantees should be balanced by a certain flexibility and adaptation capability that allow change when either the context or the strategic goals change.

- Policy-makers and managers should consider that some functionalities of the SPEs can be ineffective or even negatively influenced by a stringent set of national regulations and/or prevailing business models that exist in some countries.
Any question?