

Risk and innovation in big projects.

Application to a European project in the aeronautics field.

Keywords: partnership, alliance, project, innovation, decision making, risk.

Topic: The more complex the deliverable of a project, the less a single firm has all the skills or the means to carry out its development alone. A major consequence is that alliances must be formed to continue the project.

Among the things put in place to support these alliances, quality and risk management plans are implemented to maximize the chances of success of the projects.

However, despite this, alliances face difficulties in achieving their goals. More than 60% of NPD alliances fail (Bruner and Spekman 1998) due to difficulties of communication between partners, hidden objectives or missing skills...

This work will focus on the most common causes of failure. The contribution of the thesis will be to establish a repository of causes and to propose solutions to help avoid them. The student will have to:

1) Characterize and model the dimensions to watch with relative vigilance:

- Activities: innovative tasks, link of antecedence...
- Actors: ability to communicate partners, complementarity...
- Risks: dependencies between risks, management strategies...

Create a taxonomy of sources of risk, considering the nature of the project itself, links among partners, and the actors involved. The taxonomy will related different types of risk to different sources of risk

2) Develop tools / models / methods to:

- simulate / evaluate the project, its network of stakeholders and the level of risk.
- help in the decision making (choice of the best strategies of treatment of the risks, the actors...).

This thesis work will take place in the context of the Erasmus+ project Knowledge Alliance in Air Transport (KAAT), No 588060-EPP-1-2017-1-RO-EPPKA2-KA (www.kaat.upb.ro).

Other details: The working time will be shared between Albi and Strasbourg (in France) and it is expected that the research will involve travel in Europe to meet with collaborators, members of the Erasmus+ team, and for interviewing members of the industry.

Competence is required in programming and simulation. Fluency in English is mandatory.

Expected starting time: October, 1st 2018.

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Application: First contact with François Marmier (CV, cover letter and at least one letter of recommandation): marmier@mines-albi.fr

References:

Baum, J.A.C., R. Cowan, N. Jonard, "Network-independent partner selection and the evolution of innovation networks," Management Science, vol. 56(11), pp. 2094-2110, 2010.

Bruner, R. et R. Spekman, « The dark side of alliances: Lessons from Volvo–Renault », European Management Journal, vol. 16 (2), pp. 136-150, 1998.

Marmier, F., I. Filipas Deniaud, D. Gourc, « Strategic decision-making in NPD projects according to risk: application to satellites design project », Computers in Industry, 2014, vol. 65, n°8. - p.1107–1114.