Real Option Theory and Application to the Fishery Industry: A survey of the literature[1]

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ABSTRACT: This paper would be a review of the literature of the main and innovative methodologies of evaluation of real investments: the real option approach (ROA). In particular, the aim of this work is to define an optimal methodology and to select the main drivers that permit to make a more accurate evaluation of the investments in the fishery market. ROA methodology comes from the need to overtake the traditional theory of the net present value (NPV) and from the need for the management of a fishery enterprise to adapt to the future market conditions and to the competitive behavior in the changes of the fishery techniques.

ROA was born from the theory of Dixit & Pyndick (1994) that started to use the models of the financial option theories in order to evaluate investments in other sectors like oil, energy, ICT, manufacturing. From a theoretical point of view, indeed, real investments are characterized by "irreversibility" and "possibility of delay" since a manager can defer, expand, abandon an initial project in different years of its own operational life. In this context, despite of the financial option models ROA has a real investment as underlying asset. If the enterprise decides to invest in a real investment it means that the enterprise exercises an option and this decision is irreversible. In the context of the Ritmare project, we would use the same methodological approach by using the evaluation of the investments in the fishery market. Our first step is to provide a review of the main papers that focus on ROA in the fishery with some empirical applications. Finally, we also try to underline the main drivers or variables of the literature that permits to use the ROA and to present a possible scheme of work to apply to the fishery market, by using data at regional or municipal level.

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