



# Ismael Rafai

*PhD Student in Economics, Université de Nice*

## Research Area and Skills

Research Area	Economics of Attention, Behavioral Economics, Experimental Economics, (Bounded) Rationality
Scientific Interest	Decision Theory, Game Theory, Social Interactions, Microeconomics, Industrial Organization, Quantum-Like Cognition
Competences	Mathematic modeling, Advanced Econometrics, Data Analysis, Market and Business Strategy, Market and Competition Analysis, Experimental Methodology
Other notions	Marketing, Management, Law, Psychology, Cognitive Sciences
Languages	French (mother tongue), English (advanced), Spanish (intermediate)
Informatics	R, Z-tree, Netlogo, L <sup>A</sup> T <sub>E</sub> X, VBA, Matlab, Python, html, SQL, Pack Office

## PhD Thesis (2014 : )

Title	<i>Implications of Limited Attention in Economics</i>
Supervisor	Professor Pierre Garrouste
Description	This thesis focuses on the implications of limited attention in economics, both from theoretical and empirical perspectives : 1) We propose an axiomatization of limited attention which conducts to a measure of effective attention, 2) We use this measure to investigate experimentaly attention allocation process, 3) We provide competition models with limited attention.

## Education

2013-2014	<b>Master 2 (M.S.) in Behavioral Economics</b> , <i>University of Nice</i> , GREDEG, France.
Dissertation	"Attention and Rationality"
Supervisor	Professor Pierre Garrouste
2012-2013	<b>Master 2 (M.S.) in Economics of Market and Organization</b> , <i>Toulouse School of Economics (TSE) and Ecole des Hautes Etude en Science Sociale (EHESS)</i> .
Dissertation	Efficiency, Economic Stability and Economies of scale of the French Electricity Distribution Network Operator (ERDF)
Supervisors	Professor Farid Gasmi (TSE) and Doctor Dominique Girardot (ERDF)
2011-2012	<b>Master1(M.A.) in Economics and Statistics</b> , <i>Toulouse School of Economics (TSE)</i> .
2008-2011	<b>Licence(B.A.) in Mathematics and Economics</b> , <i>Toulouse School of Economics (TSE)</i> .

GREDEG, 250, rue Albert Einstein – 06560, Valbonne

☎ (+33)(0)6.66.05.59.59 • ✉ ismael.rajai@unice.fr • version : 24 mars 2016 1/3

---

## Summerschool, Conference and Workshop

- January 2016 2<sup>nd</sup> Nice Workshop on "Quantum-Like Model of Cognition ", Nice, France
- July-August 2015 9<sup>th</sup> "International Max Plank Research School (IMPRS) Uncertainty Summer School",  
lena, Germany
- July 2015 4<sup>th</sup> Summer School on "Knowledge Dynamics, Industrial Evolution, Economic Development"  
(KID 2015), Nice, France
- June 2015 6<sup>th</sup> Conference of the "French Experimental Economics Association (ASFEE)", Paris,  
France
- May 2015 "WEHIA - Doctoral Summer School", Nice, France
- March 2015 Workshop on "Historical, Methodological and Philosophical Perspectives on Microeconomics",  
Nice, France

---

## Work in progress

- 2016 **Définition théorique d'une mesure expérimentale de l'attention effective**, with *Dino Borie and Pierre Garrouste*, revised and resubmitted in "Revue Économique".  
Our claim is that Attention should be considered as a whole allocation process, with both input - allocated attention - and output - effective attention. Measures of allocated attention are already well used in experiments - time, oculometry, mouse lab and/or sequential data acquisition - while theoretical literature deals mostly with effective attention, considering attention through an attention filter. We extend Masatlioglu, Nakajima and Ozbay (2012) and Manzini and Mariotti (2014) and show how one can derive stochastic attention filter from stochastic choice and calculate the cardinal of the attention filter as a measure of effective attention.
- 2016 **Reflexivity, Limited (in)Attention and (un)Awareness**, with *Dino Borie and Pierre Garrouste*, GREDEG Working Paper.  
Our contribution in this paper is, by relaxing the reflexivity axiom, to give an axiomatization of preferences which conducts to the existence both of utility function and attention filter. We also show how this axiomatization can be extended to Savage framework, and imply the existence of attention filter for states of the world. Furthermore, random attention filter can be obtained making a probabilistic reflexivity structure in the preferences.
- 2016 **Impact of Incentives and Motivation on Attention allocation**, with *Mira Toumi*, Work in progress (experiments scheduled in april).  
We propose an original set of experiment in order to investigate how self-interest and prosocial incentives can affect the allocation of attention in micro-behaviors. As we measure intrinsic motivation, we can study both direct and indirect - through the effect on motivation - effects of incentives on attention allocation. We also control for risk-aversion and social preferences.
- 2016 **Memory vs Mental Picture : Does Learning Quantum-Like ?**, with *Sebastien Duchêne, Eric Guerci, Ariane Lambert-Mogiliansky and Fabien Mathy*, GREDEG Working Paper.  
In this paper, we propose original experiments to reveal empirical "irregularity" in Learning process. Acquisition of information conducts to the formation of a mental picture which can be incompatible with the stored information. To answer to specific questions, individuals use more easily their mental picture than combine rationally information in memory. We control for cognitive ability, and find that CRT score can be a predictor of such a behavior. Our claim is these irregularities can be explained by Quantum-Like Theory of Cognition.

2015 **Impact of Complexity on Consideration Set Choice, an Experimental Study**, GRE-DEG Working Paper.

Here, I investigate experimentally the impact of complexity on possible 'consideration set limitation'. Subjects face repeated two step choices, 1) choosing the size of a menu 2) choosing an alternative inside the menu. Selecting a menu has a cost which increase with his size and time is valued. Alternatives' payoff are given with calculus or real number depending on treatment. I show that subjects don't select the optimal size of the menu in both treatment, but when payoff is given in a complex form, subjects select smaller menus, as if they integrate the cost of complexity. Furthermore, I control for numerical ability and see that participants with lower capability spend less time to choose and make more mistakes.

2014 **Salop Model with Limited Attention**, Master Thesis.

Here I propose a modified Salop Model with limited-attention consumers. Firms can compete (by investing) to attract attention. I show that, with limited attention, the number of firm on the market decrease total welfare. Limited attention as a negative impact on the total welfare and make collusion more sustainable. When attention is endogenous (with attention cost), we see that the agregate attention level is suboptimal.

---

## Teaching Experience

2015-2016 **Initiation to Experimental Economics**, *Université de Nice*, Teaching Assistant, high-school students.

2015-2016 **Industrial Organisation**, *Université de Nice*, Teaching Assistant, undergraduate students.

2014-2015 **Experimental Economics**, *Université de Nice*, Lecturer, graduate students.

2012-2013 **Microeconomics**, *Toulouse School of Economics*, Teaching Assistant, undergraduate students.

Since 2011 **Mathematics and Economics**, *Free-lance*, Particular Teacher, undergraduate and high-school students.

---

## Organization Experience

June 2015 32<sup>nd</sup> **International Symposium on Money, Banking and Finance**, *annual meeting of the European Research Group (GdRE) on Money Banking and Finance of the French CNRS*, Nice, France.

May 2015 20<sup>th</sup> **Annual Workshop on the Economic Science with Heterogeneous Interacting Agent (WEHIA)**, *head of the Organizing committee of the WEHIA Doctoral Summer School*, Nice, France.

---

## Non Academic Experience

Since 2014 **Sempronius Investment**, *Founding member and Risk Manager*.

2013 **Électricité Réseau Distribution France**, *Economist at the Finance Direction*.

I was in charge of an Economic Study of the relevance of the ERDF monopoly position in the French market of electricity distribution and the estimation of economies of scale and annual costs of a company breakup