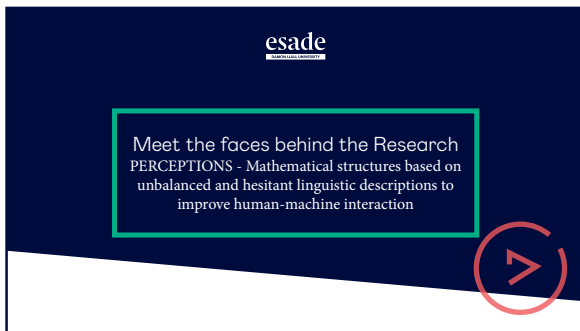


COMPETITIVE PROJECTS

Institute for Data-Driven Decisions (EsadeD3)

PERCEPTIONS



Mathematical structures based on unbalanced and hesitant linguistic descriptions to improve human-machine interaction

PRINCIPAL INVESTIGATORS:



Núria Agell



Mònica Casabayó

PERIOD:

September 2021 – August 2024

FUNDING BODY:

MICINN-MCIU

REFERENCE:

PID2020-114247GB-I00

RESEARCH TEAM:

Monica Sanchez Soler (UPC), Mar Vila Fernandez Cid, Francisco Javier Ruiz Vegas (UPC), Ana Valenzuela

SUMMARY:

Hesitant linguistic assessments involving unbalanced and multi-granular information, are considered appropriate to grasp the uncertainty and imprecision which exists in human reasoning when expressing opinions and preferences. To better process this type of information for easier analysis and interpretation, this project proposes the development of perceptual maps as new mathematic structures to be applied in multiple-criteria systems and social networks frameworks. This will allow us to improve human-machine interaction and revert in a better design of decision-aiding systems and social interaction platforms. In addition, the project will be focusing its attention to design solutions for advanced managerial problems involving human-machine interaction.

First, the project will analyze new perceptual-based maps able to capture differences between unbalanced linguistic assessments. Second, new algebraic structures will be defined to deal with multi-perceptual group decision-making contexts where each decision-maker has his own linguistic descriptions to assess each criterion or alternative. Finally, a methodology to aggregate unbalanced linguistic information based on different perceptual maps will be developed. This will allow us to consider new distances in hesitant and unbalanced linguistic terms sets and be able to measure consensus and consistency measures in decision-making processes.

Our two main goals for this project are to make a strong contribution and advancement in these theoretical approaches in the area of cognitive computation and decision-making, and, in parallel, our second goal is to present real applications in social and business contexts in which the methodological advances presented could be useful. Both objectives will be considered in situations framed in multi-criteria and group-decision systems and situations in which the information comes from users participating in social networks or platforms.

CONSBRANDS



Conscientious corporate brands

PRINCIPAL INVESTIGATORS:



Marco Bertini



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PERIOD:

September 2021 – August 2025

FUNDING BODY:

MICINN-MCIU

REFERENCE:

PID2020-114247GB-I00

SUMMARY:

During the last two decades, many brands have tried to meet some of the societal challenges such as climate change and increasing inequalities among countries and within societies, through Corporate Social Responsibility (CSR) programmes. Undoubtedly, CSR has helped brands to develop a more conscientious approach to business. However, too many organisations have adopted CSR as a reaction to pressure from external stakeholders to behave in a socially-responsible manner and reduce negative externalities, or as a mechanism to manage potential risks and burnish corporate reputations. Moreover, in most cases CSR efforts do not touch on or address two key contemporary challenges debated in the marketing, brand management, and ethics literatures.

Corporate brands face growing pressure to develop new management approaches capable of giving a holistic response to the expectations of diverse stakeholder groups, of creating longer-term benefits beyond those that are purely financial, and of fostering conscientious approaches to value creation for all economic agents. However, the shortcomings that have become evident in the conceptualisation and practice of CSR, coupled with the growing expectation of stakeholders that businesses play a larger role in tackling pressing existential problems, suggest moving beyond taking a more “strategic” approach to CSR. This is the rationale behind the emergence of conscientious corporate brands.

Conscientious corporate brands define and embrace a transformative purpose and a set of guiding principles that drive value creation. This is about understanding and embracing the responsibilities that corporate brands have beyond serving their clients and shareholders, which itself comes from considering the varying needs and expectations of employees, partner businesses and society at large. Additionally, conscientious corporate brands consider our planet

as another stakeholder that they need to preserve and serve. Importantly, this broader, authentic perspective implies not only taking into consideration the different stakeholders of a corporate brand, but also offering them the opportunity to co-create the organization's social and environmental agenda.

There is a clear and pressing need to further the conceptualisation of the phenomenon and conduct rigorous empirical tests, both qualitative and quantitative, to test relevant hypotheses and generate knowledge that can be then transferred to practice via relevant managerial frameworks. This research project aims to achieve three general objectives:

- To study empirically the antecedents and outcomes of conscientious corporate brands, as well as the underlying value (co)creation processes.
- To further our current understanding of the (increasingly common) use of transparency by conscientious corporate brands as a means to engage consumers and manage their expectations. In particular, the focus is on supply chain transparency and the willful, and at times even legislated, communication of cost information by organizations to shape consumers' inferences about product quality and the morality of prices.
- To promote the transfer of knowledge generated by the different research lines among the research community, the business community (including regulators and policy makers), and society in general.

REMISS



Towards a methodology to Reduce Misinformation Spread about vulnerable and stigmatized groups

PRINCIPAL INVESTIGATOR:



Jordi
Nin

PERIOD:

September 2021 – August 2024

FUNDING BODY:

MICINN-MCIU

REFERENCE:

PLEC2021-007850

COORDINATING INSTITUTION:

Fundación EURECAT

RESEARCH TEAM:

Nuria Agell, Irene Unceta

SUMMARY:

The REMISS project proposes to develop a new methodology that allows granting a trust and credibility score to both social media accounts and messages that may not be truthful. To this end, it proposes the combination of several techniques that, until now, have been developed in independent silos, producing powerful results in terms of detection, although little interpretable. The project proposes a methodology based on propagation models developed with Deep Learning techniques, entering deeply into the characterization of the message. To do this, a multimodal analysis approach is adopted that allows the extraction of a representation that combines the text and image information, and the embedding of the message in a joint multimodal space.

The methodology is complemented with a characterization of the text derived from metrics obtained through a laboratory study carried out using sensorics and a specific design of exposure to various messages to a population sample. This analysis will allow us to understand the motivations behind the sharing of information (and misinformation) and the types of characteristics that make a text credible and susceptible of being propagated.

VALUE



Vulnerable Consumers: Behavioral and perceptual data from the laboratory and the field, theory and empirical findings

PRINCIPAL INVESTIGATOR:



Bart de Langhe

PERIOD:

January 2018 – June 2021

FUNDING BODY:

MICINN-MINECO

REFERENCE:

ECO2017-88445-R

RESEARCH TEAM:

Ana Valenzuela, Oriol Iglesias, Andres Cuneo, Maria Galli, Manu Carricano

SUMMARY:

We live in an increasingly global and digital society. Tech companies such as Facebook, Apple, Amazon, and Uber have fundamentally changed communication, shopping, and mobility. These new developments offer consumers unprecedented opportunities to increase their welfare. But the situation is not all rosy. For instance, a subprime mortgage bubble in the United States in 2007 triggered what is considered perhaps the worst financial crisis in modern history. Ten years later, European consumers and countries are still recovering and many feels left behind, as reflected in several recent political developments.

New developments present new opportunities but also new challenges. The consumer’s information environment has changed radically. Choice options have proliferated and information has become more abundant. For new technologies to reach their true potential and truly enhance societal welfare, it is critical to understand how consumers process information and how they make decisions in these new environments. Behavioral science can make an important contribution in this regard.

Most people tend to believe that their choices are the result of a rational, logical analysis of options available to them. However, in reality, our ability to process information is limited. In order to simplify decision-making, we use rules of thumb, mental shortcuts, and various cognitive strategies. But these strategies are not equally successful in all environments.

This project highlights four lines of research:

- a. Financial Decision Making
- b. Responses to Digital Change
- c. Response of Brands for Social Change
- d. Vulnerability in Experiential Consumption

Judgements and decisions in the marketplace (JUICE)



**PRINCIPAL
INVESTIGATOR:**



Núria
Agell Jané

PERIOD:

January 2017 – September 2021

FUNDING BODY:

AGAUR

REFERENCE:

2017 SGR 947

RESEARCH TEAM:

Marco Bertini, Monica Casabayo Bonàs, Oriol Iglesias Bedós, Xari Rovira Llobera, Andrés Cuneo Zuniga, Maria Galli, Manu Carricano, Skander Esseghaier, Bart De Langhe, Ana Valenzuela Martínez, Marc Torrens Anral, Uri Simonshon

SUMMARY:

The aim of these grants from the Catalan Government is to promote the activities of research groups that allow to strengthen the scientific, economic and social impact of research, as well as promote its international projection.

Institute for Data
Driven Decisions
(Esaded3)

INVITE



Mathematical structures for linguistic assessments in decision processes: Advanced solutions for tourism management in Smart Cities

PRINCIPAL INVESTIGATORS:



Núria
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Mar
Vila

PERIOD:

December 2016 – December 2020

FUNDING BODY:

MICINN-MINECO

REFERENCE:

TIN2016-80049-C2-1-R

RESEARCH TEAM:

Gerard Costa, Xari Rovira, Mònica Casabayó, Josep M^a Sayeras

SUMMARY:

Linguistic assessments involving imprecision are considered appropriate to grasp the hesitance and uncertainty which exists in human reasoning when expressing preferences. In order to process this type of information for easier analysis and interpretation, the coordinated project INVITE proposes the study of new metric spaces and new fusion and analytic techniques. In order to capture differences between non-compatible assessments and preferences, new mathematical structures and metrics for linguistic assessments will be developed. This will allow us to improve classifying, sorting, ranking and consensus models for decision aiding in small groups and social interaction.

An extension of the Optimization Water - Energy Model by means of a Qualitative Multi-Criteria Decision-Making tool



Campus de
Excelencia
Internacional

**PRINCIPAL
INVESTIGATOR:**



Núria
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PERIOD:

March 2015 – March 2016

FUNDING BODY:

ACM

REFERENCE:

ACM2015_03

SUMMARY:

Optimization models to analyze the use of renewable energies and water consumption have received increasing attention not only for the research community but also for the industry and business world. In particular the use of these methods to assess the selection of the most suitable types of renewable energy and water consumption models in a geographical area or for a specific purpose is considered as a complex problem, involving technical, economic, environmental, political, and social criteria. Multi-criteria decision-making (MCDM) approaches are powerful tools used for evaluating problems and tackling decision-making involving multiple objectives. MCDM involves structuring decision processes, defining and selecting alternatives, determining criteria formulations and weights, applying value judgments and, finally, evaluating the results to make decisions. The project applied the results obtained in a real case of a tourist destination, understood as a geographical area of different dimensions focused on tourism activities as one of the main sources of income for the territory, in which renewable energy and water consumption models have to be considered in a decision process. The study helped in the design of a software tool to help tourism destination managers in the assessment of alternatives for energy planning and management.

