

SELECTING BOARDS MEMBERS: IT IS BETTER IF I SEE YOU?

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ABSTRACT

Why women are not in boards of directors? Glass ceiling? Not being relevant? Non applying/not signaling? This paper reports the results of an experiment run using AR visualizations to select an “ideal” composition of members of a Board of Directors. We believe that the adopted methodology allows to highlight and understand the most frequent stereotypes that could affect the process. We framed 3 different sectors: a neutral sector (our baseline), a finance and a CSR sector to capture if the selection process is framing dependent. The methodology permits abstract the decision problem from the reality since it presents it as a “building a team” game and therefore to catch the “psychological thinking” behind the decision of our sample abstracted from the moral or legal constraints that characterize this choice in the real world¹. The comparison between the Italian and the French sample allows us to capture the cultural aspects of the decision problem.

1. INTRODUCTION

The complexity of the board selection process (Peterson and Philpot, 2007), in addition to many gender stereotypes, still makes more difficult for a woman to be nominated on boards (Brière and Rinfret, 2010). This could depend on the existence of the well-known “glass ceiling” but also refer to the attitude of women not to consider themselves “ready for breaking this ceiling”. Social role theory (Eagly, 1987) suggests that men and women behave according to gender stereotypes associated with the social role they occupy, and they have occupied in the centuries. The perceptions surrounding decisions for board members selection is an issue for board diversity (Terjesen et al., 2009), such as beliefs that women have a “woman's agenda” or are unqualified (Burke, 1997), or a fear to appoint women not currently holding a directorship that is less obvious for men in the same situation (Peterson and Philpot, 2007).

Individuals are likely to follow a “regular behavior”, conforming to it and expecting that everyone else will conform to it. In the terms of Lewis (2008), a fact is defined as “common knowledge” if everyone has a reason to believe in that fact, and everyone has a reason to believe everyone has a reason to believe in it, and everyone has a reason to believe that everyone has a

¹ The use of experimental and game settings in managerial decision making has been increasing during the last two decades since they enable scholars to test causality hypotheses in a way that is not possible with correlational data (Weiwen et al. 2016, Bigelow et al. 2014, Cain et al. 2015, Krause et al. 2014). Moreover, they allow to elicit the process behind decisions as in Battiston et al. (2024) that utilized data from actual “escape room games” to understand the process of leadership building of teams.

reason to believe everyone has a reason to believe in it, and so on, and individuals act upon these reasons.

Therefore, it is important to analyze the impact of common knowledge of diversity on this selection process when diversity is a selection criterion for board composition. Epley and Dunning (2000) and Krupka and Weber (2013) state that individuals are better performers at predicting preferences of other individuals than theirs; Erkut et al. (2014), show that individuals have an incentive to reveal what they perceive to be the collectively shared judgment of appropriateness of the actions they evaluate, and not their own personal judgment.

In the traditional shareholders-oriented vision of the board's role - the main responsibility of the directors is to discipline and monitor managers (Huse, 2007). More recently it has been remarked the need to pay more attention to board roles, board members' background and characteristics, beyond the traditional monitoring and control role (Van Ees et al., 2009; Ruigrok et al., 2007) to make able directors to play their crucial role in providing resources to the firm, strategic advice, knowledge, innovation and networking for the company, (Hillman et al., 2000; Andres et al. 2012; Huse, 2007; Pfeffer, 1972; Mizruchi, 1996; Burt, 1992). The issue of selection criteria became especially prominent as many countries introduced new legislations, quotas and recommendations focusing on the notion of board diversity, including especially gender diversity and age diversity (European Commission, 2011).

Board diversity can be categorized in many directly observable aspects (e.g., gender, age, nationality, race, size and so on) but also in less visible ones (education, previous work experience, competencies ...) (Kang et al., 2007; Mahadeao et al., 2012; Galia and Zenou, 2012).

The most visible illustration of diversity pressure on board members' selection criteria is probably on gender diversity. As everyone should know this and take it into account, this quota, together with the current practices, functions as to be common knowledge and concentrates attention and decision, holding the role of a focal point.

However, as pointed by Fiske and al. (2002), such focal points can be bi-dimensional and activate opposite stereotypes about gender diversity. Nekhili and Gatfaoui (2013) noted that the use of diversity criteria, among which gender diversity, in the selection of board members, faces several obstacles: the selection of women on boards faces the problem of glass-ceiling (Terjesen, 2009); board roles are different for men and women (Bilimoria and Piderit, 1994; Kesner, 1988; Peterson and Philpot, 2007); the board selection process is often analyzed as a "male club" or "old boy's network" (Burke, 1997).

The issue of selection criteria became especially prominent as many countries introduced new legislations, quotas and recommendations focusing on the notion of board diversity, including especially gender diversity and age diversity (European Commission, 2011). Are they substantially effective in including females and their different approach in problem solving in Boards?

Even if the presence of women in Boards of Directors (covering from the 20 to the 30 per cent of participants) is nowadays diffused this does not mean that they were able to realize the objective of getting fundamentally different people into boards, with significantly different

characteristics than their counterparts (Rosenblum and Roithmayr, 2015). Looking at real data and characteristics of Boards members, there is very little difference in the profiles of women and men recruited into boards: education, experience... their dominant characteristics are the same. Most of them belong to the family of main shareholders. Moreover, most of women tend to adopt the “male decision model” to contribute to the Board work or, even worse are relegated to ancillary tasks.

This renders the effects of gender diversity on the performance of organizations highly controversial (Carter et al. 2010; Rose 2007). Many studies show that imposing pink quotas to firms is not able to manage successfully that diversity and to work out its possible benefits. Doldor et al. (2012) have emphasized that the board appointment process is often characterized by subjective and exclusionary nature, and it can generate obstacles for diversity. These criticisms include unclear selection criteria and unconscious bias in the selection process, excessive importance of social capital and personal reputations, or selection practices emphasizing fit with existing (typically male-dominated) board cultures, rather than actual skills.

To better investigate how much common knowledge about diversity and group decision making impact the board diversity criteria for board composition Sutan et al.(2024) use an experimental approach (Gonzalès et al., 2006; O'Donoghue, 2004) in which they introduce a beauty contest scoring rule: “what average opinion expects the average opinion to be” (Keynes,1936) to capture the effect of social norms in board composition task. With that aim that made participants must select 11 individual members for the board, one by one, following popular criteria as gender and age (Kang et al. (2007), Mahadeao et al. (2012), educational background and nationality (Nekhili and Gatfaoui, 2013; Ruigrok et al., 2007; Mahadeao et al., 2012), previous experience (Terjesen et al., 2009; Ben Amar et al., 2013) receiving monetary compensation only when their choices correspond to average choices, i.e., cardinal distance between individual’s choices and average choices is minimized. The experiment was interactive, and participants could see in real time the evolution of their board in graphical pie charts terms for each characteristic. They found that participants’ boards favor male more than a random decider in all framed sectors; that framing the experiment for the Luxe sector reduces the average Education (this means that on average participants favor boards with more CEA with a Business education than Engineering or Self-Taught in the Luxe sector); that participants who faced the Automobile sector did not compose significantly different boards on average; that female participants are more likely to favors non-foreign CEO in their board; and that making the decision as a Group of 3 instead of alone significantly reduce the likelihood to favor younger and non-business CEO.

Overall, they show that gender is an important focal point but that other persistent biases exist, which are not yet addressed by quotas and legislation. Their results highlight that prompting individuals to consider common knowledge about diversity decreases the selection of women on boards. Moreover, they find the existence of an “order effect” that makes the selection of men on boards likelier for the first chosen members. Confronting the two treatments with and without

social norm constraint they found that in presence of the common knowledge constraint - when participants anticipate the choices of the others - participants select more men into boards.

Therefore, when we want to analyze the board composition process, we need to pay more attention to board roles, board members' background and characteristics, beyond the traditional monitoring and control role (Van Ees et al., 2009; Ruigrok et al., 2007) and the relevance of stereotypes and social norms on those characteristics' relevance.

This paper reports the results of an experiment that use AR visualizations to try to highlight, and therefore avoid that, stereotypes affect the process of board members' selection framing it in 3 different sectors: a neutral sector (our baseline), finance and CSR sectors through a real decision task.

2. The methodology

There have been a few attempts at using virtual representations to influence the salience of the consequences of participants' decisions.

These experiments have used two classes of “virtual” humans: those controlled by algorithms (agents) and those controlled by other humans (avatars), and two classes of virtual environments: low-immersive virtual environments such as desktop renderings and (online) virtual worlds and high-immersive 3D virtual environments (Innocenti, 2017 and references therein). The use of VR/AR in behavioral economic experiments is mainly justified by the need for ecological validity. There is no research on using AR/VR to reduce the psychological distance between boards' members, the selection process itself, and the impact of such a process.

Our work relates to a recent stream of research called “situated visualization” (Willett et al., 2017), where data is visualized close to the physical spaces, objects, or people to which the data refers, often using augmented reality technology.

Our project is a concrete application of situated visualization that has not been studied in this area as far as we know.

3. The Hypotheses

Our experimental setting allows us to set some main hypotheses on our research question.

I - *We hypothesize that, by properly making decisions salient through visualizations, we can create effective tools and reduce the influence of gender stereotypes and redesign competitive workplaces such that they align with heterogeneous preferences to reach gender equality.*

II - *We hypothesize that our AR and VR experiments can not only reduce psychological distance but also help decision-makers understand the consequences of multiple (un)coordinated actions.*

We expect that AR/VR will:

- i) augment the self and embeds it in the perceived outcomes, rather than leaving users as external observers of a simulation.
- ii) reduce the cognitive load of participants by superposing *credence* (what I am told, and I need to believe) and *experience* (what I test and experience) attributes of the body and environment.

From the main research view point we are able to assess the validity of the following hypotheses:

I - *Women prefer to hide or not to be taken in account their gender characteristics in competition or selection processes.*

II- *Both women and men still look at the Board of Directors activities as a prevalent “male task”.*

III- *The presence of women in Board of Directors is linked to the assumption that women are more efficient in coping with nurturing and social tasks.*

4. *The Methodology*

We hypothesize that, by properly making decisions salient through visualizations, we can create effective tools and reduce the influence of gender stereotypes and redesign competitive workplaces such that they align with heterogeneous preferences to reach gender equality.

This methodology in fact allows for:

- Less cognitive load spent on reading information
- Unobservable characteristics rapidly “seen”
- More cognitive space to take decisions

Moreover, visualizations augment the self and embeds it in the perceived outcomes, rather than leaving users as external observers of a simulation; reduce the cognitive load of participants by

superposing *credence* (what I am told and I need to believe) and *experience* (what I test and experience) attributes of the body and environment.

This work relates to a recent stream of research called “situated visualization” (Willett et al., 2017), where data is visualized close to the physical spaces, objects, or people to which the data refers, often using augmented reality technology.

We hypothesize that our immersive experiments can not only reduce psychological distance but also help decision-makers understand the consequences of multiple (un)coordinated actions.

Psychological distance is reduced between boards’ members, the selection process itself, and the impact of such a process.

Procedures

The experiment is completely computerized. It involves 3 treatments: GEN, FIN, CSR.

It involved 320 people in France and Italy in Sessions of 24 people

Participants played repeatedly the basic task for 15 rounds. The payment for the experiment was a flat rate of 8 euros plus a bonus for some boards.

The experimental design is composed by two tasks: a ID portfolio construction task and a board selection task.

4.1 The ID portfolio task

Participants to the experiment first introduce their actual demographics (gender, age, size, etc.).

Then, looking on their screen at a group of 30 different Avatars, each participant chose its own ID basic representation (male/female, casual or formally dressed, tall or small, Caucasian or other) (see Fig.1). The chosen Avatar will wave to her (see Figure 2) to confirm to be the one chosen.

Participants have to construct their own portfolio that represent 4 characteristics they could show in the Board of Directors: they set themselves (in a range from 1 to 7) respect to the 4 different dimensions (Trust, Self-esteem, Risk, Giving) that could characterize them and after decide the 2 out of the 4 that they want to show in order to be selected as a member of the Board of Directors of a given firm whose characteristics (neutral, finance or CSR) as it has been presented in the Instructions.



FIG. 1

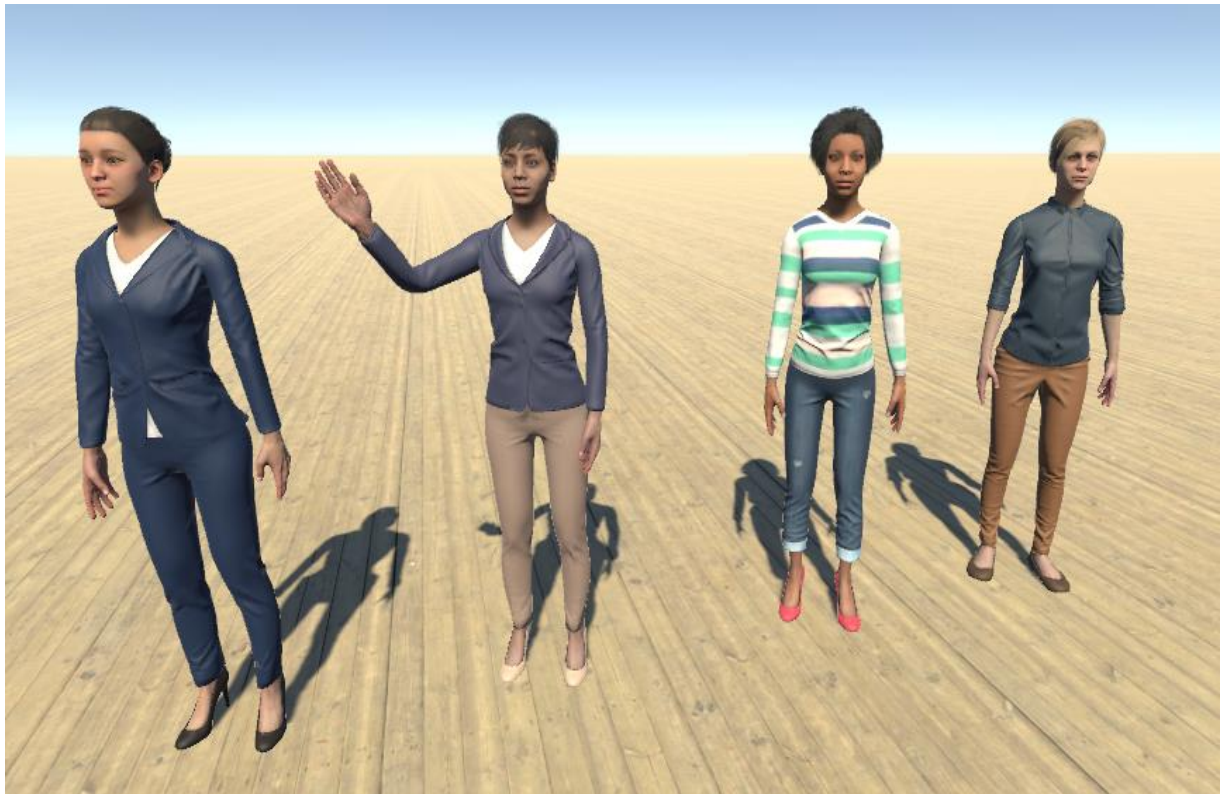


FIG.2

4.2- The Board Composition Task

All participants play the role of Board makers not board takers (not a choice experiment).

In particular, they perform a board composition task in which they have to select individual members for their own board, one by one, following popular criteria:

- Kang et al. (2007), Mahadeao et al. (2012): gender and age
- Nekhili and Gatfaoui, 2013; Ruigrok et al., 2007; Mahadeao et al., 2012 educational background and nationality
- Terjesen et al., 2009; Ben Amar et al., 2013: the role of a director's previous experience.

The experiment was interactive, and participants could see in real time the evolution of their board.

The board composition task that consists in selecting among the other participants and based on the characteristics that they decided to show, 10 individual members for the board, one by one. They will have access to the ID card composed with the 2 dimensions they choose to show (see Fig.3). It is interesting to note that Italian students were less confident than French students to be selected in a Board of Directors (showing a chance of 67.25%, 67.5% and 64% the previous and of 69%, 64%, 76% the latter, respectively for generic firm, finance and CSR).

After building the larger Board (11 members including themselves) they will be asked to form a restricted Board of 5 members starting from the previous one.



6. Results

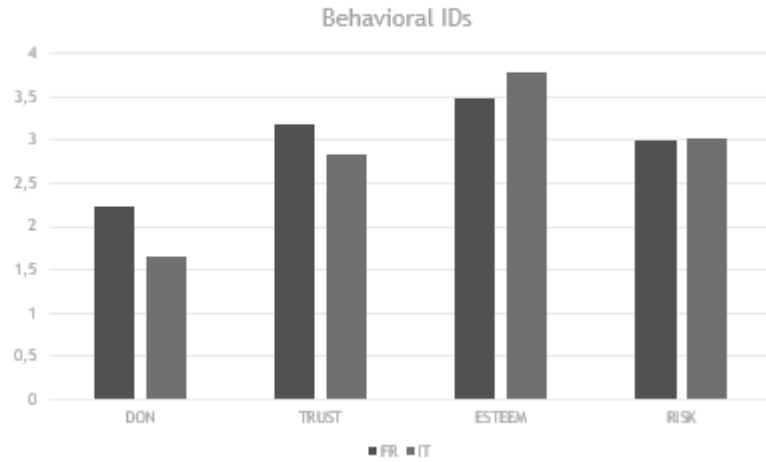
Results from the experiment both in Italian and French sessions show the following.

Referring to the choice of the Avatar characteristics: 6% of the women in Italy and 12% in France do not want to signal themselves as women and choose a male avatar (no men in both samples did the same), men choosing bigger avatars while 8% in France and 7% in Italy of women choose a smaller avatar than themselves².

When choosing what main own characteristic to show in their ID Italian participants preferred the combination of trust/Generosity and Self Esteem (apparently the last is the main characteristic they evaluate worth for leadership) while French participants seems prefer the combination of trust and generosity, even if risk and trust and trust and self-esteem are highly evaluated. Obviously, risk matters more when finance activity is the business and trust and generosity in Corporate Social Responsibility, in both samples.

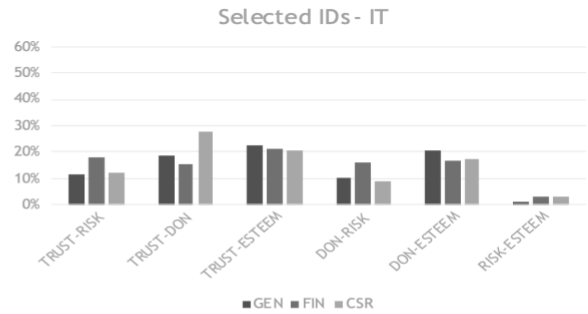
² There exists evidence from Augmented reality that people tend to consider more powerful big men and small women.

What is the profile of participants?

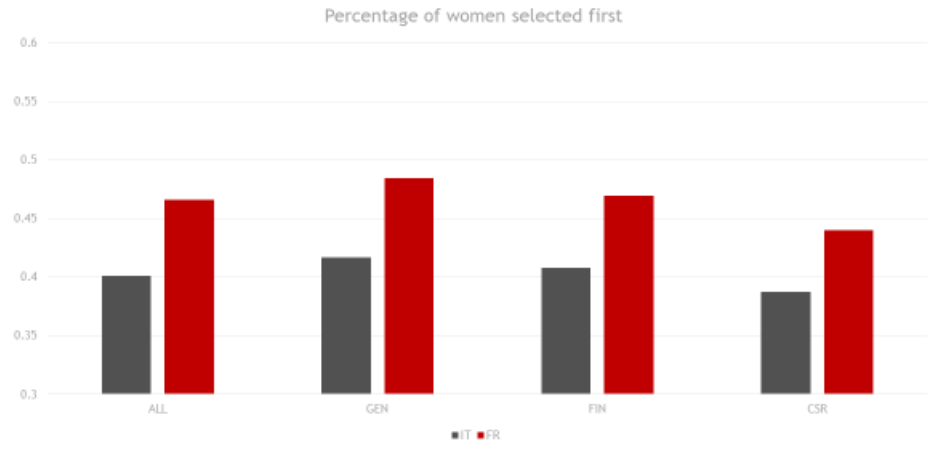


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WHAT ARE THE BEHAVIORAL TRAITS DISPLAYED IN THE ID?



WHAT BOARDS ARE FORMED?

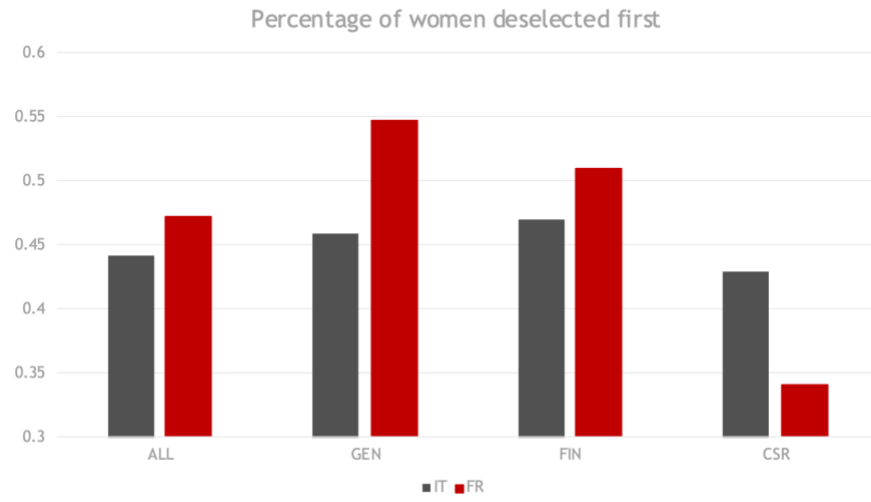


Looking at the Board composition task women are selected first more in France than in Italy and more in generic firms followed by in finance and in CSR in both samples.

When the task become to deselect some of the previous participants to form the Restricted Board of Directors the percentage of women in higher in France than in Italy apart from CSR, the higher percentage of women deselection is in general business in France and in Finance in Italy.

Overall, it accounts for the 50% apart for CSR in France where women are less deselected first (35%).

Those patterns present some variation through time with an increase of women selected at the end of the experiment in the CSR sector in Italy, while in France deselecting women shows a similar behavior in the different sectors with a predominance in the Generic sector followed by Finance and Corporate Social Responsibility.



OVER TIME

