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# **Organizational Culture in Mergers & Acquisitions**

A Preliminary Study of Two Merging Research Institutes in Portugal

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## Abbreviations & Definitions

**AB** = Advisory Board

**CFO** = Chief Operations Officer / **COO** = Chief Operations Officer

**Core Facility** = Research laboratory dedicated to the provision of scientific services

**DEI** = Diversity, Equity and Inclusion

**FCG** = Fundação Calouste Gulbenkian

**GIMM** = Gulbenkian Inst. of Molecular Medicine = Resulting from the merger of IGC & iMM

**HR** = Human Resources

**IGC** = Instituto Gulbenkian de Ciência; **IGC'er** = IGC staff member

**iMM** = Inst. Medicina Molecular Prof João Lobo Antunes; **iMM'er** = iMM staff member

**IP** = Intellectual property

**KPI** = Key performance indicators

**M&A** = Mergers & Acquisitions

**MSc** = Master in Science

**N/A** = “Not available”

**OC** = Organizational culture

**OCAI** = Organizational Culture Assessment Instrument

**OECD** = Organization for Economic Cooperation and Development

**Papers** = Peer-reviewed scientific publications

$p$  =  $p$ -value (measure of statistical significance)

**PhD** = Doctorate graduate, derived from the Latin “*Philosophiae Doctor*”

**PI** = Principal Investigator

**Post-doc** = Post-doctoral researcher = a researcher with a PhD

**R&D** = Research & Development

**SRI** = Scientific Research Institute (in this Thesis, mainly IGC or iMM)

**Supervisor** = A PI, Coordinator or [Core Facility] Head.

**Subordinate** = MSc/PhD students, post-docs, lab managers, Admin & Core Staff and Others.

**Congruent OC** = Dominance of a single OC type.

**Discrepant OC** = Different OC now *vs* preferred.

## Abstract

This study examines the organizational culture (OC) profiles of two Portuguese biomedical research institutes, IGC and iMM, during their ongoing merger. Despite budget increases in 2023, and excellent track-records, both institutes faced challenges from unstable national investment, resulting in reductions in research groups and staff. Using the Competing Values Framework (CVF) and the Organizational Culture Assessment Instrument (OCAI), we analyse their OCs, staff preferences, and satisfaction with HR practices. Both institutes prefer an Adhocratic culture and express general dissatisfaction with job security, communication, and work-life balance, underscoring the need for cultural alignment to facilitate integration. Suggestions for action are provided.

**Keywords:** Organizational Culture, Mergers & Acquisitions, Research Institutes, Values.

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I hope this work may be a source of inspiration for the community of the Gulbenkian Institute of Molecular Medicine on its journey to create the organizational culture(s) that best capture the aspirations of all its current and future members.

And last, thanks to my four best-ever embryology experiments for being my constant source of inspiration and pushing me to strive to become one myself.

*Dedicado ao meu pai*

# 1. Introduction

*“Efficiency is doing the thing right. Effectiveness is doing the right thing”*

*“Culture eats strategy for breakfast”*

Peter Drucker

*“Sem pensamento, sem diálogo estruturado sobre o porquê das coisas, sem controvérsia, sem enigma, sem verdadeira experimentação, não há ciência nem educação científica”*

*"Ninguém sabe o suficiente para fazer tudo sozinho"*

Mariano Gago

Mergers & Acquisitions (M&A) is the designation commonly given to operations that involve fusion of commercial companies or other organizations, often carried out with the intent to increase market share or adopt new technologies or expertise. M&As are typically a risky, lengthy, complex and often traumatic process which can bring both enormous advantages and challenges (Marks & Mirvis 2001). Much like companies operating in the “free market”, Scientific Research Institutes (SRIs) also seek for capital to thrive, competing for access to public and private funding (both national and international), for talent and for public visibility Bradke, Maartens, and Teichmann (2023). The goal of SRIs is not to capture funding *per se*, - most public research institutes operate on a non-profit basis- but funding is essential to sustain research activities and production of publications (peer-reviewed “scientific papers”), of patents and PhD students/theses and conferences, just to name a few of the most highly valued outcomes of SRIs.

It is known that M&As frequently fail to achieve the objectives for which they were initiated, with some authors claiming that it can account to over two thirds (Christensen et al., 2011). During M&As, multiple factors contribute to failure and inadequate or incompatible organizational cultures (OC) of the two merging organizations has been pointed out as one of the most important. Although M&As and OC have been extensively studied in the commercial and financial sectors, fewer studies have addressed OC in academia and SRIs.

The context of the present study is an ongoing merger of two major biomedical/life-sciences SRIs in Portugal: the IGC - Instituto Gulbenkian de Ciência (where the first author has been working for the past 11 years as a Core Facility head), and the IMM – Instituto de Medicina Molecular João Lobo Antunes, in Lisbon. The merger process started in 2023 and is expected to be administratively completed by the end of September 2024.

The merging of IGC and IMM will result in the creation of a new SRI called Gulbenkian Institute for Molecular Medicine (GIMM), which will combine the exceptional track record of the two “legacy institutes”, now with more critical mass, multi-disciplinarity and presumably, diversity. GIMM should also be better equipped to deal with the challenges of the dwindling national public funding, and feature more prominently in a sector where, at least at the international level, bigger is often equated with better and more influential. This is an excellent opportunity to study OC of a large SRI, and the dynamics of integration in the context of an M&A operation. This work and its conclusions hopefully offer data useful for the two merging communities, and provide cues for the development of an OC profile that best captures the aspirations of all its members.

## 2. Literature review

### 2.1 What are M&As? Benefits & pitfalls

Mergers and acquisitions refer to the consolidation of companies through different types of transactions. In mergers, two or more companies/organizations form a new one by combining their assets, liabilities, operations and personnel (Koi-Akrofi 2016). In acquisitions, a company buys and takes control of another often “absorbing” it. Takeovers are sometimes “hostile”, i.e., against the will of the target company's management. After a steady rise since the last decades, M&As reached a record high in 2021 (during the pandemics), followed by a significant decline bringing the volume of M&As back to values seen only last century (Emiru and Weisblatt 2024; Institute for Mergers, Acquisitions and Alliances 2024).

The reasons to undertake M&As typically include rapid expansion to new markets or products, acquisition of new technologies, talent or IP (diversification), market share grab, economies of scale and efficiency, or simply to eliminate competition (Koi-Akrofi 2016). M&As can bring multiple benefits, but also disrupt the affairs of both organizations often leading to painful restructuring of personnel, a clash of cultures or a natural resistance to change which are all detrimental to growth and development. Remarkably, the rates of M&A failures are surprisingly high, as much as 70% to 90% according to some studies (Marks & Mirvis 2001; Cartwright & Schonberg 2006; Christensen et al. 2011; Koi-Akrofi 2016). There are multiple reasons to this “merger syndrome”, namely value destruction, poor communication and integration, or inadequate or clashing cultures (Koi-Akrofi 2016; Shelton, Hall, and Darling 2003; Vaara et al. 2014). Many of the most prominent M&As failed in large part because of culture clash, as exemplified by the AOL-Time Warner and Daimler-Chrysler mergers, the largest at their times (Peterson 2018; Shelton, Hall, and Darling 2003). As Sarala, Vaara, and Junni (2019) put it, there is a clear need for understanding the “human side” of mergers to overcome the merger syndrome.

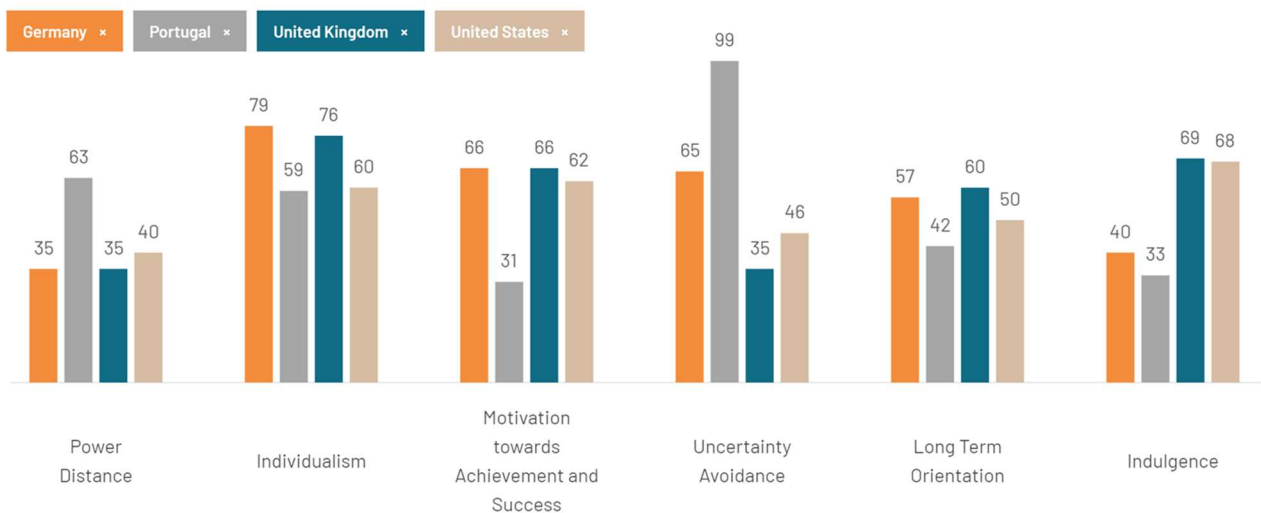
There are several notable examples of recent mergers in SRIs, such as “the Crick” (UK), “the Scripps” (USA) and in France and Germany large SRIs with multiple centers can be found spread throughout the country. In Portugal two notable mergers occurred recently: the i3S institute in Porto, and the U. Lisboa, which resulted in gains of critical mass, diversity and visibility, especially in climbing of the international university rankings. Thus, merging/creating large institutes may be a strategy for gaining visibility, influence, competitive funding and attracting talent.

## 2.2 Cultures and “organizational culture”?

Culture is a defining feature of societies, encompassing their beliefs, knowledge, values, behaviors and artifacts (e.g., arts). It shapes the identity of a community, offering its members a sense of belonging and distinctiveness. Culture passes through generations but also changes over time, internally via forces like innovation, or via external forces like exposure to other societies, which are especially prevalent in this era of global communications and mass media. Although distinct groups in a society may contribute to diversification of its cultures, most societies share some universal values

and beliefs such as those of religious groups or the Universal Declaration of Human Rights (United Nations 1948).

When compared to other OECD countries (e.g., Germany, UK and US; Fig 1), the Portuguese stand out as having higher i) Power Distance and ii) Uncertainty Avoidance, which are more associated with hierarchical and controlling cultures. On the other hand, in iii) Motivation Towards Achievements and Success, iv) Long Term Orientation, v) Indulgence and vi) Individualism - characteristics more typical of entrepreneurs and innovators-, Portugal scores below the other countries (Fig 1; The Culture Factor 2024).



**Fig 1.** Comparison of national cultures (from The Culture Factor 2024; <https://www.hofstede-insights.com/>).

Portuguese are often characterized as collectivist, less prone to individualism, valuing personal and professional relationships and avoiding conflict/ disagreement, which suggest a tendency for a “clan/family” cultural type (see also Robalo, Kainzbauer, and Durão 2015). How are these cultural traits transferrable to the workplace? Sometimes known as corporate/workplace culture (especially in businesses), OC extends to all organization types including small businesses, large companies and non-profit organizations. It has been described as a company's primary competitive advantage (Peters & Waterman 1982; Wilkins & Ouchi 1983), and a critical factor - if not the main one - in the success or failure of implementing organizational change (Kotter 1995; Beer and Nohria 2000; Cameron and Quinn 2006; Gelfand et al. 2018). As such, OC plays a crucial role during M&As (Vaara 1999; Veiga et al. 2000; Vaara et al. 2014), and although OC differences/clashes can lead to difficulties, the

diversity they bring to the table can also offer novel and richer opportunities for growth and development.

Cameron & Quinn (2006) also stress the importance of assessing OC prior and during M&As, claiming it is just as important as the financial & strategic analysis. Assessing OC can help staff and leaders become more aware of their current vs preferred culture (where they want, or have to go) and this can generate momentum for change. It also helps predict the changes more likely to succeed or anticipate resistance to change, and evidence shows that understanding and managing OC changes helps people work more effectively (Husted, Allen 2008; Domańska-Szaruga and Knap-Stefaniuk 2022; Cameron & Quinn 2006).

### *2.2.1 Models, types and assessment of OC*

Several models and typologies of OC have been developed since the term was first coined by Elliot Jacques (1952), most notably those of Schein (2010), of Hofstede (1984) and the Quinn & Rohrbaugh (1983) model of “Competing Values Framework” (CVF; see also Cameron & Quinn 2006). The current study focused on the last model because of its accessibility, easy implementation and extensive validating in the literature (Kalliath, Bluedorn, and Gillespie 1999; Helfrich et al. 2007; Heritage, Pollock, and Roberts 2014). In the CVF model, different cultures emerge as organizations try to balance between different values, for example flexibility vs control, external vs internal focus, and depending on whether they value mostly HR or productivity, or adaptability/innovation vs stability/control. These sets of values and behaviors also align with four different OC archetypes: The “Clan”, the “Adhocratic”, the “Market” and the “Hierarchy” (Table I; Fig 2).

Of the four OC archetypes, Adhocracy came to prominence more recently and is still the least understood (Bennis 1969; Mintzberg & McHugh 1985). Adhocracy culture appears to be particularly advantageous for knowledge sharing, collaboration, and rapid adaptation, which are crucial in today's knowledge-based era (Agile Alliance 2001). Because it relies mainly on self-organization and individual initiative, it is seen as the opposite of Bureaucracy which focuses on rules and hierarchy to meet goals. Adhocracies are informal, organic, and composed of high level experts, with control coming from lateral coordination rather than traditional hierarchy (Mintzberg & McHugh 1985).

Unlike most traditional companies/organizations, which are often characterized by a hierarchical and controlling organizational structure, “Agile organizations” have autonomous teams, sharing a common purpose and an optimal articulation with information technology (Agile Alliance 2001; Fowler & Highsmith 2001) and Adhocracy seems to be the cultural backbone of these Agile organizations (Birkinshaw and Ridderstråle 2010; Hammel and Zanini 2020). Cameron and Quinn (2006) also argue that organizations can (and often do) have more than a single OC type, and the authors introduce the terms dominance, congruence and discrepancy to analyze differences in OC profiles: Congruency means a strong dominating OC type, clearly demarked from the others, while a non-congruent OC has dominance of more than one OC archetype. Discrepancy, on the other hand, refers to marked differences between what people identify as the “now” vs their “preferred” OC. To find these differences the researchers consolidated years of research with thousands of different organizations into the Organizational Culture Assessment Instrument (OCAI).

**Table I.** The four OC archetypes as described in Cameron & Quinn (2006).

| <b>OC archetype<br/>(its keyword)</b> | <b>Characteristics</b>   | <b>OCAI reference</b>  |
|---------------------------------------|--|--|
| <b>A) Clan<br/>(Collaborate)</b>      | Flexible and internally focused. Values relationships and a friendly working environment (e.g., start-ups, family businesses or Google, Apple etc.)<br><br><u>Contrasts with the “Market” culture.</u> | <i>“The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves”</i>                            |
| <b>B) Adhocratic<br/>(Create)</b>     | Flexible but externally focused. Values innovation, creativity risk taking and a dynamic work environment.<br><br><u>Contrasts with the “Control” culture.</u>   | <i>“The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks”</i>                      |
| <b>C) Market<br/>(Compete)</b>        | Controlling behavior and external focus. Values results and work completion. Competitive and goals-orientated, often with demanding and micro-manager supervision (e.g., finance & insurance)          | <i>“The organization is very results-oriented. A major concern is with getting the job done. People are very competitive and achievement-oriented”</i> |
| <b>D) Hierarchical<br/>(Control)</b>  | Controlling behavior and internally focused. Values formal procedures, a structured working environment and management control (e.g., Government).   | <i>“The organization is a very controlled and structured place. Formal procedures generally govern what people do”</i>                                 |

## 2.3 Research Institutes and academic/research culture: state of affairs

SRI are establishments founded for doing scientific R&D, often specializing in either basic or applied research. Private or public SRIs co-exist, and they all typically compete for primacy in discoveries and innovation, for public funding, for the best researchers and graduate students (PhD/MSc), and for influence and public/media attention. International funding is highly competitive, and has been especially important in a context of stagnated/dwindling state-funded R&D investment as seen in Portugal (Rodrigues and da Costa 2023; Gonçalves-Sá 2023) with 0.54% of the GDP in 2010 (nearing the 0.66% of the OECD countries), but decreasing to a mere 0.32% in 2021 (vs 0.74% for OECD). Science in Portugal has survived mostly with European and structural funding, at a time when competition for external funding is at record highs internationally. At the same time, the number of researchers in Portugal has more than doubled this century, having reached 0.9% of PhDs (vs 1.6% in the OECD), a positive evolution that was not supported by the equivalent - and much needed- state-sponsored investment in science (Gonçalves-Sá 2023; Silva and Sarrico 2023; Pordata 2024).

The IGC and IMM are two large SRIs located in Oeiras and Lisbon, respectively, with an excellent track-record of national and international funding and of R&D productivity. The IGC was created in 1961 by the Calouste Gulbenkian Foundation, and is dedicated to biological and biomedical research, graduate training, and promoting science in society. Composed typically of small independent research groups working in a collaborative environment with minimal hierarchical structure, the IGC has ~300 staff members with multiple nationalities (see Table II). The IMM, created in 2002 as a private non-profit research institute, is also a leading biomedical research institute located in Lisbon with ~600 staff members. Its strategy is focused on promoting excellence in basic, clinical and translational biomedical research, leveraged by investment in infrastructure and knowledge transfer to society, and focused on commercialization, industry collaborations, clinical research services and strong partnerships with major local hospitals and the Faculty of Medicine.

SRIs vary, but are generally more horizontally structured than traditional academic institutions, adopting a flatter hierarchy to promote collaboration, innovation, and the free exchange of ideas. The emphasis is often on teamwork and interdisciplinarity, which can lead to a more egalitarian and dynamic culture (Bradke, Maartens, and Teichmann 2023). However, some traditional or large SRIs may retain a vertical structure, with clear lines of authority and decision-making akin to those found

in academia. In SRIs, culture refers to how research staff and trainees interact with one another and other stakeholders, their mission and values, and how they measure success (e.g., discoveries, “papers”, grants, spin-offs, PhD theses or others). Leadership sets the tone and institutional values of the SRI, but junior researchers can (and should) influence the institute’s values and directions. A positive research culture can be supported by infrastructure and by promoting regular scientific and socializing events, which nurture collaboration and creativity, in turn leading to more and innovative scientific discoveries (Hollingsworth 2012, Baer et al. 2023; Bradke, Maartens, and Teichmann 2023). Not surprisingly, most successful SRIs seem to display characteristics of clan/adhocratic cultures with smaller “fluid” groups focusing on specific projects, as seen in Agile organizations, but can at times be more “market-oriented” and focused on publications or funding. Sanderson (2006) argues that Universities may be comprised of “two symbiotic cultures”, the collegial (clan/adhocratic) and the mercantile (market OC), while Cameron (1986) also refers to an apparent paradox, with data showing that effectiveness is highest when innovation and change (= “adhocracy”) are emphasized at the same time as stability and control (= “hierarchy”), two opposing values in the CVF. This “ambidexterity” is common in competitive and Agile organizations (Pina e Cunha et al. 2024).

## 2.4 Objectives and research questions of the current study

Given the known implications of OC clashes on the success of M&As, this preliminary study of the merger of IGC and IMM aimed to assess and compare the OC profiles of both communities and their preferences, to compare supervisors and subordinates, and assess opinions about selected Management & HR values important for the organizational climate. The study also aimed to provide useful ideas to facilitate integration of communities in the newly merged institute. Specifically, the study addresses 4 research questions: (1) Are there differences of OC in the two institutes now?; (2) Are the established OCs aligned with the preferences of their staff?; (3) Are there differences between the OC of Supervisors and Subordinates?; (4) What is the level of satisfaction with current HR practices? The following hypotheses were formulated:

H1) There are differences of OC between IGC and IMM.

H2) There are differences between their “now” and “preferred” OCs.

H3) There are differences of OC between Supervisors and Subordinates.

H4) There are differences of satisfaction on the selected Management & HR values assessed.

## 3. Methods

### 3.1 Experimental design

This study addressed the organizational context of both institutes using key indicators for 2019 and 2023, followed by a more in depth assessment of OC profile(s) “now” and “preferred”, i.e., as the communities envision their ideal institute. The study also addressed possible current Management and HR issues. The data collected and analyzed includes both qualitative and quantitative information available online in the institutes’ public annual reports (secondary documental analysis), and quantitative data from questionnaires distributed amount the population of both institutes. The questionnaires included an implementation of the OCAI (Cameron and Quinn 2006) and a set of eight questions selected to assess satisfaction levels on Management and HR values. Short open-ended questions were also included.

The questionnaire was developed in digital format and distributed via email after authorization from the FCG and directors of IGC and iMM (see in Annex emails sent and details about instruments used). The participants were informed of the objectives, assured of their anonymity, and given the possibility of visualizing the whole questionnaire without completing it. By following the link shared on the email, the participants explicitly accepted to enter the study (as explained in the email which also introduced the study).

### 3.2 The sample

The questionnaire data was collected from May 22<sup>nd</sup> to June 14<sup>th</sup>, 2024, with 179 responses, of which 115 were valid for OCAI, 104 for the “Management & HR values” survey, and 76 respondents contributed words for the “best of” or what “to improve” about their institutes.

To encourage collection of responses we avoided asking for personal information or making the questionnaire too lengthy, and the only demographics collected were the “legacy institute” of the participant and their job profile from a list of seven options, which are presented in Table I. Documental analysis gave a complementary picture of the two institutes for preliminary analysis.

Despite the largest population of the iMM, the responses were equilibrated between the two institutes (1:1; see Table I), with 32% from IGC and 32% from iMM, and the remainder 36%

(distributed equally between both SRIs) were invalid responses and were not included in the analysis. The number of valid responses was not sufficient for a deeper analysis of the different communities, so a subgroup of “Subordinates” was created by aggregating all non-PI/Coordinators/Heads.

**Table I.** Sample distribution of valid OCAI responses, among the different communities.

| <b>Staff category</b> | <b>Staff profile(s)</b>   | <b>% Valid responses</b> | <b>IGC (valid)</b> | <b>iMM (valid)</b> | <b>IGC+iMM (valid)</b> | <b>Sample distribution</b> |
|-----------------------|---|--------------------------|--------------------|--------------------|------------------------|----------------------------|
| <b>Supervisors</b>    | Coordinators, Principal Investigators (PIs) and [Core Facility] Heads | <b>73%</b>               | 11                 | <b>12</b>          | 23                     | 20%                        |
|                       |   |                          |                    |                    |                        |                            |
| <b>Subordinates</b>   |   | <b>58%</b>               | <b>47</b>          | <b>45</b>          | <b>92</b>              | <b>80%</b>                 |
|                       | Lic./MsC researchers  | 52%                      | 3                  | 9                  | 12                     | 10%                        |
|                       | PhD students  | <b>74%</b>               | 11                 | 9                  | 20                     | 17%                        |
|                       | Lab. Techs. & Core staff  | 46%                      | 8                  | 8                  | 16                     | 14%                        |
|                       | Post-docs & lab managers  | <b>79%</b>               | <b>20</b>          | 13                 | <b>33</b>              | <b>29%</b>                 |
|                       | Admin. & support staff  | 59%                      | 5                  | 5                  | 10                     | 9%                         |
|                       | Other   | 40%                      | 1                  | 1                  | 2                      | 2%                         |
|                       | <b>Total:</b>   | <b>64%</b>               | <b>58</b>          | <b>57</b>          | <b>115</b>             | <b>100%</b>                |

### 3.3 Data collection and instruments used

Secondary documental data available online for indicators, organizational structure and mission/values were collected (Tables II and III). Online data were obtained from the questionnaires implemented with Qualtrics (<https://www.qualtrics.com>), both in English and Portuguese. The Likert scale used included five options: “Strongly disagree” = 1, “Disagree” = 2, “Neutral”=3, “Agree” = 4 and “Strongly Agree” = 5. For analysis, ordinals were used to encode text (categorical) answers. The answers in Portuguese were codified similarly and aggregated to the answers in English. The questionnaire started by asking for the institute and their [staff] profile (PI, Post-doc, PhD Student etc.; Table I), then proceeded to the OCAI where respondents were asked to rate each of the 24x2 items on the 5 Likert scale. The scoring was different from the original method of Cameron and Quinn (2006) but is a possibility admitted by the authors and validated by Kalliath et al. (1999), Helfrich et al. (2007) and Pollock & Roberts (2014). Participants were first asked to respond to the 24 OCAI items based on their perceptions of the current organizational practices (the “now”), and then repeated the exercise for their ideal organizational practices (the “preferred”). The OCAI items were fine-

tuned for the SRI community by changing the words “Organization” to “Institute” and “product” for “research”, and “Market culture” to “Compete” culture. The OCAI measures the four archetype OC in six dimensions: 1) Dominant characteristics, 2) Organizational Leadership, 3) Management of employees, 4) Organizational glue, 5) Strategic emphases, 6) Criteria of success. These were not analyzed in depth, except for descriptive statistics for dimensions 1, 2 and 4, separated by Institute (see Table XX in Annex), which were used to complement the interpretation of the OC type results.

Analysis of internal consistency showed good reliability for the OCAI responses, with Cronbach’s  $\alpha$  and McDonald’s  $\omega$  values ranging from .82 to .90 (Tavakol and Dennick 2011; Hayes and Coutts 2020). Four participants forgot to score one item of the OCAI questionnaire, and to avoid losing their global scores we replaced the missing with the average of the remainder similar scores (note that in the OCAI, the score for each OC is a continuous value obtained from averaging multiple ordinal scores). Responses missing more than one score were not included in the analysis, except for eight cases (<7% of the valid responses) that were missing all the 24 scores for “preferred” OC; those responses were used only for analysis of OC “now”.

The questionnaire then proceeded to the additional survey about Management and HR values, also with a similar 5 point Likert scale. The first author identified eight values as interesting because they are less addressed in the OCAI and were less discussed 30 years ago when the OCAI was being developed. These include [psychological] safety & respect (Edmonson 1999), Job-security, Work-life Balance and “Diversity, Equity & Inclusion” (DEI), imperatives for the new generations which are currently the predominant labor force (Badar and Lasthuizen 2023) and, finally, “Communication”, “Feedback” and “Acknowledgement” which are essential leadership skills (Goleman 1998). These are also recognized as “key attributes of successful SRIs” in Bradke et al. (2023). Given the exodus of Portuguese researchers due to lack of funding and opportunities in recent years, we also asked about [access to] “Resources”. This survey’s reliability was also good, with Cronbach’s  $\alpha$  and McDonald’s  $\omega$  values of .81 (both tests). The questionnaire then closed asking partly open-ended questions for the “best of” and “to improve” about their institutes. The suggestion was to provide one word, but respondents could (and often did) provide sentences.

### 3.4 Characterization of variables measured and statistical analysis

- **Independent variables:** i) Institute and ii) staff profile (both categorical). The profile was aggregated into two categories only, reflecting two major communities: Supervisors and Subordinates (which I called staff category). Analysis included also the comparison of data from public documentation, as of 2019, in 2023 (“now”) and in 2025, after the administrative merge of the two institutes into “GIMM”.

- **Dependent variables:** Several indicators (categorical, ordinal and continuous variables) were collected from documental analysis and are reported in Tables II & III, without statistical analysis other than calculating percentages and comparing evolution from 2019 to 2023. The text contributions from the “best of” and “to improve” part of the questionnaire was summarized with the help of AI (OpenAI 2023) by prompting “summarize into 4 words:” with the contributions of each community. More details can be found in Fig- S-7 and Table S-XII in Annex.

Dependent variables from the OCAI: (A) Clan culture; (B) Adhocracy; (C) Compete [known as “Market” in the original OCAI]; and (D) Hierarchical, all measured as categorical ordinal variables, as “now” and “preferred” and for each of six OCAI dimensions, and averaged to one continuous value for each of the four OC variables. For comparisons between the different communities a two-way ANOVA was conducted. In total, I analyzed eight (4x2) dependent OCAI variables and the results are shown in Table III and in Annex Tables S-I to S-V and Figs S-1 to S-4.

Dependent variables from the Management & HR values survey: 1) Communication, 2) Feedback, 3) Safety & Respect, 4) Acknowledgement, 5) Resources, 6) Job-security, 7) Work-life Balance and 8) Diversity, Equity & Inclusion (DEI), all measured as ordinal values. For comparisons of communities I used both a Mann-Witney U test, and ordinal logistic regression (Table IV and Annex Tables S-VI to S-XI and Figs S-5 and S-6).

Preparation of tables, graphs, calculations and statistical analysis were done with Microsoft Excel 365 and JASP v0.18.3 (JASP Team 2021). For qualitative data analysis OpenAI’s ChatGPT and prompts were used to summarize into four words the institutional values and the contributions from respondents, which has been shown to produce a considerable overlap of themes identified by human researchers and producing reliable results in qualitative theme analysis (Guo and Lee 2023; Watchinger et al. 2024; Lixandru 2024; Turobov, Coyle, and Harding 2024).

## IV. Results

### 4.1 The two institutes “before” and “now”

Both institutes have strong international collaborations, and emphasize intellectual breadth, creativity, and independent scientific thinking. Both foster collaborative environments, encouraging interactions and synergies between researchers from different fields. While both cover a broad range of research themes, IGC has a stronger focus on basic biological research and iMM on clinical and translational research. The institutes have somewhat different sizes and structures. Despite being much older, the IGC is smaller and with a smaller ratio of researchers per group, especially after a decrease in 2023 (although there may be slight differences in the way groups are accounted for in the annual reports). Also, the IGC organigram is flatter, with less management levels, less consulting bodies, advisory boards or associated partners. In terms of diversity of major research themes the two are equilibrated, both with five common and five unique (Table II), although IGC spans a broader range of the life-sciences by including as major topics also development and evolutionary biology.

Despite the difficulties with national funding, both institutes managed to increase their budgets significantly in 2023, with iMM capturing a higher proportion of European grant funding. At the same time, both institutes underwent a reduction of groups and researchers (especially dire at IGC), and in nationalities and proportion of international researchers, in post-docs and in graduate students. This exodus left the IGC with a higher proportion of junior researchers. Gender balance is not perfect among Supervisors, with a bias for male PIs in both institutes, less at IGC where women PIs still represent 41% (despite the decline in 2023), while iMM increased female PIs to 36%. Being both well renowned institutes internationally, it is not surprising that a significant portion of the staff are foreign, despite the decrease seen in both institutes, with the iMM now hosting only 14% international researchers. Although no data was collected for demographics of age groups, documental data shows a substantial portion of junior researchers (post-docs, PhD students, MsC/BSc students; in fact the largest group of respondents on this study), now corresponding to 84% and 64% of all researchers at IGC and iMM, respectively. As for production of peer-reviewed scientific publications, the IGC slightly increased while the iMM saw a decrease in the number of papers, and both institutes produced

less PhD theses in 2023. An expression of iMM's focus on translational R&D is the significantly higher number of patents filed and the hosting of numerous startups/spinoffs.

**Table II.** Indicators of the context and culture for each institute (IGC and iMM) as of 2023 from secondary documental analysis (available publicly).

|                             | IGC (Oeiras)   | iMM (Lisbon)  |
|-----------------------------|--|---|
| <b>Context</b>              | Founded in 1961, the IGC is a SRI devoted to biological and biomedical research, innovative training and transforming society through science. It is part of Fundação Calouste Gulbenkian (FCG), a private foundation with charitable, artistic, educational and scientific statutory aims. The IGC went through a restructuring following 1998. | Created in 2002 following a merger of biomedical research centers of the Univ. of Lisbon (UL), iMM is a non-profit research institute aiming to nurture innovative ideas in basic, clinical and translational biomedical research. iMM maintains strong partnerships with the UL, its Faculty of Medicine and the Santa Maria University Hospital.  |
| <b>Goals</b>                | <i>“Conduct biological and biomedical research, innovative training and transforming society through science.”</i>   | <i>“Pave the way for groundbreaking science.”</i>   |
| <b>Vision</b>               | <i>“Leading research institution where individuals pursue original discovery driven scientific questions in a multidisciplinary, international and collaborative environment. We foster discovery to benefit mankind at all levels [...]”</i>  | <i>“Improve human life through excellence in biomedical research.”</i>  |
| <b>Mission</b>              | <i>“Meeting science’s global challenges:<br/>Ground-breaking discoveries in Life Sciences<br/>Innovating in training<br/>Incubating the next generation of future leaders<br/>Stably promoting science in society and involving society in science.”</i>   | <i>“Promote basic biomedical, clinical, translational and innovation research [...] to a better understanding of disease mechanisms. Develop new diagnostic or predictive tests as well as new therapies. Support postgraduate scientific training of young graduates, doctors and other health professionals. Support scientific dissemination and provision of services abroad in the areas of specialized diagnosis, quality control and collaboration in National and International Commissions related to Health.”</i> |
| <b>in 4 words with AI*:</b> | Discoveries, Innovation, Leadership, Society   | Research, Diagnostics, Training, Dissemination  |
| <b>Values</b>               | <i>“Independence, integrity &amp; ethics<br/>Excellence<br/>Plurality and Cooperation<br/>Generosity and Responsibility<br/>Equity, Fair Representation and Inclusivity”</i>   | <i>“Generation of Knowledge<br/>Excellence<br/>Individual Freedom<br/>Ambition”</i>   |
| <b>in 4 words with AI*:</b> | Integrity, <u>Excellence</u> , Cooperation, Equity   | Knowledge, <u>Excellence</u> , Freedom, Ambition  |
| <b>Research Areas</b>       | <u>Immunology &amp; Inflammation; Neuroscience; Infectious Diseases &amp; Microbiology; Genetics &amp; Genomics; Molecular &amp; Cell Biology; Cell &amp; Developmental Bio.; Evolutionary Bio.; Computational Bio. &amp; Bioinformatics; Systems Bio.; Environmental &amp; Plant Bio.</u>   | <u>Cancer Bio.; Immunology &amp; Inflammation; Neuroscience; Infectious Diseases &amp; Microbiology; Cardiovascular Bio.; Metabolic Disorders; Stem Cells &amp; Regenerative Med.; Genetics &amp; Genomics; Molecular &amp; Cell Bio.; Structural Biology &amp; Biochemistry</u>  |
| <b>Sources (2024/6)</b>     | <a href="https://gulbenkian.pt/ciencia/homepage/igc/missao-visao-e-valores/">https://gulbenkian.pt/ciencia/homepage/igc/missao-visao-e-valores/</a>  | <a href="https://imm.medicina.ulisboa.pt/about/imm/#vision-mission-values">https://imm.medicina.ulisboa.pt/about/imm/#vision-mission-values</a>   |

\* OpenAI's ChatGPT was used to summarize by prompting “summarize in 4 words: ”; See also Table S-XII in Annex.

**Table III.** Underlying organization structure, demographics & indicators of IGC & iMM, in 2019, 2023 and after merger. Collected from secondary documental analysis (in public Annual Reports).

|                                      | <u>2019 (“before”)</u>  |   | <u>2023 (“now”)</u>   |  | <u>2025...</u>  |
|--------------------------------------|---|---|---|--|---|
|                                      | IGC   | iMM   | IGC   | iMM  | GIMM  |
| <b><u>Organization structure</u></b> |   | 5 Ass. members                                      |   | 5 Ass. members                                     | 6 Ass. members<br>Admin. Council  |
|                                      | FCG Trustees<br>[+ 3 c. bodies* <sup>1</sup> ]  | Board of Trustees<br>[+ 4 c. bodies* <sup>1</sup> ] | FCG Trustees<br>[+3 c. bodies* <sup>1</sup> ]   | Board of Trustees<br>[+5 c. bodies* <sup>1</sup> ] | Board of Trustees<br>[+2 c. bodies* <sup>1</sup> ]                        |
| <b>Administrative layers</b>         | 3 Directors   | 2 Directors<br>1 CFO/COO                            | 2 Directors   | 2 Directors<br>1 CFO/COO                           | President (CEO)<br>Director (CSO)<br>1 COO<br>1 Fiscal<br>Scient. Council |
|                                      | 13 services   | 10 services   | 11 services   | 7 services   | 8 services  |
| <b>Research community</b>            | 32 Res. Groups<br>10 Core Fac.  | 34 Res. Groups<br>10 Core Fac.                      | 27 Res. Groups<br>8 Core Fac.   | 32 Res. Groups<br>12 Core Fac.                     | 40? Res. Groups<br>>10 Core Fac.  |
| <b>People (total)</b>                | 383   | 665   | 284 (↓27%)  | 646 (↓3%)  | iMM > IGC   |
| <b>Nationalities</b>                 | 44  | 22  | 32(↓27%)  | 26 (↑18%)  | ≈   |
| <b>% Female</b>                      | 59%   | 66%   | 59%   | 67% (↑1%)  | ≈   |
| <b>Researchers</b>                   | 284   | 514   | 161 (↓43%)  | 483 (↓6%)  | iMM > IGC   |
| <b>% of Researchers</b>              | 73%   | 77%   | 57% (↓16%)  | 75% (↓2%)  | iMM > IGC   |
| <b>Researchers / group</b>           | 9   | 15  | 6 (↓33%)  | 15   | iMM > IGC   |
| <b>% International researchers</b>   | 33%   | 24%   | 30% (↓3%)   | 14% (↓10%)   | IGC > iMM   |
| <b>% Female researchers</b>          | 58%   | 61%   | ~63% * <sup>2</sup>   | 58% (↓3%)  | ≈   |
| <b>% Female PIs</b>                  | 44%   | 26%   | 41% (↓3%)   | 36% (↑18%)   | ≈   |
| <b>Junior researchers</b>            | 181   | 343   | 135 (↓34%)  | 309 (↓10%)   | iMM > IGC   |
| <b>% Junior researchers</b>          | 64%   | 67%   | 84% (↑20%)  | 64% (↓3%)  | IGC > iMM   |
| <b>% Female junior res.</b>          | -   | -   | ~66% * <sup>2</sup>   | 68%  | ≈   |
| <b>Research areas   unique</b>       | -   | -   | 10   5  | 10   5   | ≈   |
| <b>Papers per researcher</b>         | 0.37 (104)  | 0.53 (273)  | 0.68 ↑ (109)  | 0.44 ↓ (212)                                       | IGC > iMM   |
| <b>Grad. theses per researcher</b>   | 0.07 (21)   | 0.21 (107)  | 0.14 ↑ (22)   | 0.19 ↓ (93)  | ≈   |
| <b>Patents filled</b>                | -   | 13  | 1   | 17 (↑31%)  | iMM > IGC   |
| <b>Centers/startups incubated</b>    | -   | 7   | 1   | 10 (↑43%)  | iMM > IGC   |
| <b>Meetings + seminars</b>           | 32 + 210  | 102 + 414   | 43↑ + 112↓  | 77↓ / 335↓   | ≈   |
| <b>Yearly expenditure (M€)</b>       | 17.4  | 15.7  | 19.9 (↑14%)   | >20.3 (↑29%) * <sup>3</sup>                        | -   |
| <b>% External funding</b>            | 52%   | 41%   | 43% (↓9%)   | 56% (↑4%)  | ≈   |
| <b>Sources (2024/6):</b>             | <a href="https://gulbenkian.pt/ciencia/homepage/igc/facts-and-figures/">https://gulbenkian.pt/ciencia/homepage/igc/facts-and-figures/</a> |   | <a href="https://imm.medicina.ulisboa.pt/about/imm/#scientific-reports-highlights">https://imm.medicina.ulisboa.pt/about/imm/#scientific-reports-highlights</a> |  | -   |

\*<sup>1</sup> “Bodies” = Consulting bodies such as Councils & Advisory Boards (AB), which may differ in both “legacy institutes”: @ IGC: includes Scientific AB, Ethics committee, Ombud’s office. @ iMM: includes Council of Scientists, Scientific AB, Industry AB, Societal AB, DEI group.

In “now” columns, red italic numbers = decrease; green = increase, from 2019 to 2023

In the “2025 GIMM” column, instead of indicators I represent symbols for the relative contributions of each institute for the merger: “>” means “contributes more”; ≈ means contribute equally.

\*<sup>2</sup> Not available in public reports, but estimated from internal reports on FTEs.

\*<sup>3</sup> Does not include all expenditure.

## 4.1 The OCAI results

The OCAI revealed that the two institute's communities have fairly similar OC profiles, sharing the same dominant OC, both now and in their preferences. There are some small differences which on some cases are statistically significant. Neither institute seems to be particularly congruent, i.e., they do not have a clear tendency for a single OC, but the IGC identifies Adhocracy and Clan as dominant cultures, while iMM identifies Adhocracy and Competing. Both identify Hierarchy as the least predominant. The order of predominance of the four OCs archetypes as perceived "now" is: Adhocracy > Competing/Clan > Hierarchy (Table IV and Fig 2, and Annex Tables S-I to S-V).

The scoring for Competitiveness and Hierarchy are affected significantly by institute, with iMM showing more predominance of Competing and Hierarchical cultures than IGC. To complement/confirm these observations, a preliminary analysis of the OCAI dimensions 1, 2 and 4 "now" (shown in Annex Table S-II) was conducted, confirming that at IGC the "dominant characteristic" now is Clan, while at iMM is Competing. The OCAI "organizational leadership" and "organizational glue" dimensions at IGC are dominated also by Clan culture, while at iMM its Adhocracy instead of Competing. In other words, the small differences in Clan and Adhocracy cultures between IGC and iMM are not statistically significant, but the more Competing and Hierarchical cultures at iMM are.

Interestingly, in terms of discrepancy, the order of preference of the four OC types is different from what is perceived now. Although both institutes prefer Adhocracy (i.e., both institutes are in tune with their dominant culture now), they both place Clan and Hierarchy above Competing in order of preference for GIMM (Table IV; Fig 2; see also in Annex Table S-III and Fig S-2). This is not caused by a significant desire for less Competitive OC (except possibly at iMM) but by a clear desire to shift towards a Clan type OC, especially noticeable at iMM, where the discrepancy reaches a full point. Both institutes favor a shift towards Hierarchy, instead of focus on Competing. These discrepancies imply an overall shift of the focus of both institutes from "External" to "Flexibility" in the CVF.

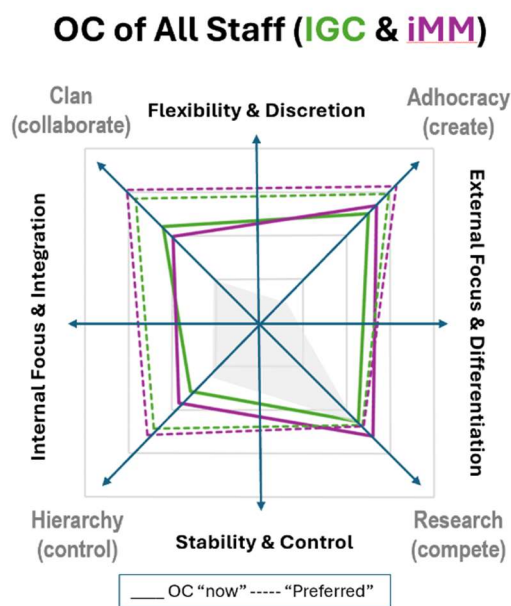
As for the analysis of the two different [staff] Categories, the Subordinates have a discrepancy in Clan and Hierarchical OC (Fig 3) at levels which are near to what Cameron and Quinn (2006) consider important to address, and statistical analysis confirms an effect of [staff] Category in the Clan "now" culture. That is not the case when we consider their preferences though. Among

Supervisors, congruency is low with a slight dominance of Adhocratic OC, but there is a clear preference for Clan culture. This tendency is also seen in Subordinates, although to a lesser extent.

**Table IV.** Average scores for the four OC profiles (now vs preferred), by SRI and by staff category

| OC profiles<br>(order of dominance “now”) |                | IGC<br>(n=54) | iMM<br>(n=53) | Subordinates<br>(n=88) | Supervisors<br>(n=19) | Significance<br>(2-way ANOVA) |
|---|----------------|---------------|---------------|------------------------|-----------------------|-------------------------------|
| <b>Adhocracy</b>                          | “now”          | <b>3.5</b>    | <b>3.7</b>    | <b>3.6</b>             | <b>3.7</b>            | -                             |
|   | vs “preferred” | 4.0           | 4.1           | 4.0*                   | *4.4                  | $P < 0.05$ for category       |
| <b>Competing</b>                          | “now”          | 3.3*          | *3.6          | 3.4                    | 3.6                   | $P < 0.01$ for institute      |
|   | vs “preferred” | 3.4           | 3.4           | 3.3                    | 3.6                   | -                             |
| <b>Clan</b>                               | “now”          | 3.2           | 3.0           | 3.0                    | 3.4                   | $p = 0.09$ for category       |
|   | vs “preferred” | 3.8           | ↑ 4.0         | ↑ 3.9                  | ↑ 4.1                 | -                             |
| <b>Hierarchy</b>                          | “now”          | 2.6*          | *2.8          | 2.7                    | 2.7                   | $P < 0.001$ for institute     |
|   | vs “preferred” | 3.4           | ↑ 3.6         | ↑ 3.6                  | 3.2                   | -                             |

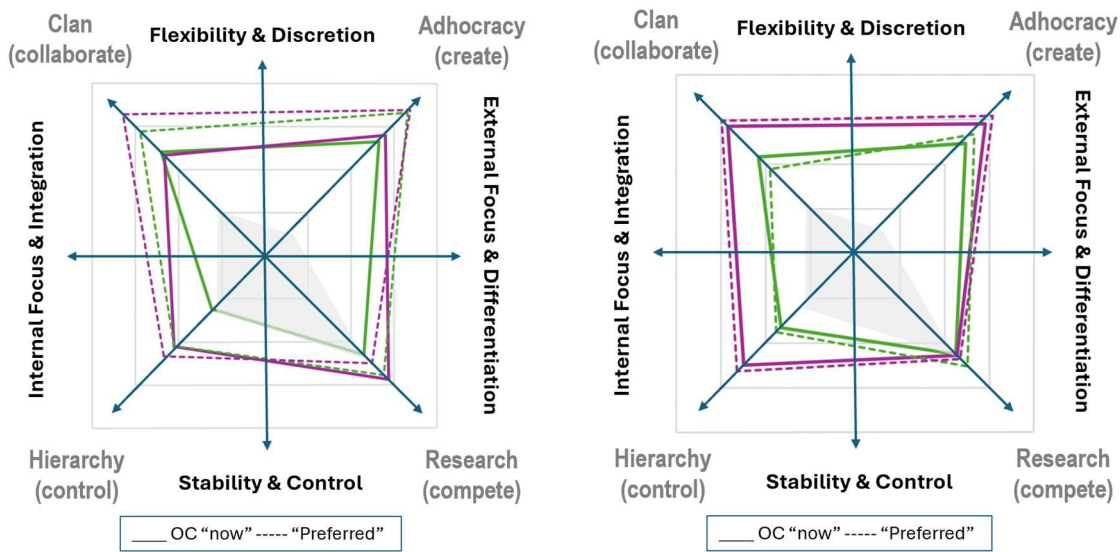
Boxed values = important discrepancies between OC “now” and “preferred”, requiring immediate attention according to Cameron & Quinn (2006). Bold values = dominant characteristics; *italic*, least scored OC. \* = significant effect.



**Fig 2.** Global OCAI plot for both institutes (IGC = green; IMM = Purple; continuous line = “now”; dashed line = “preferred”). The gray shaded polygon inside the graph represents the average OC plot for more than one thousand organizations as shown by Cameron & Quinn (2006). Note that both the IGC and iMM have a profile that is quite different from the average organization, both much less congruent in terms of Adhocracy and Clan cultures. In this plot, the CVF is represented as the vertical and horizontal axes.

### OC of Supervisors (IGC + IMM)

### OC of Subordinates (IGC + IMM)



**Fig 3.** OCAI results for supervisors (“PIs/Coordinators/Heads”) vs Subordinates (all others). IGC = green; IMM = Purple; continuous line = “now”; dashed line = “preferred”. The gray shaded polygon inside the plot represents the average plot for more than one thousand organizations as assessed by Cameron & Quinn (2006). Note that although in these plots we represent the two staff categories of IGC and IMM separately, for the statistical analysis we agglomerated supervisors from both institutes. These plots simply reveal that there may be underlying differences between Supervisors of the two institutes which we did not attempt to further analyse given the small sample size.

## 4.2 Opinions on selected Management/HR values & word contributions

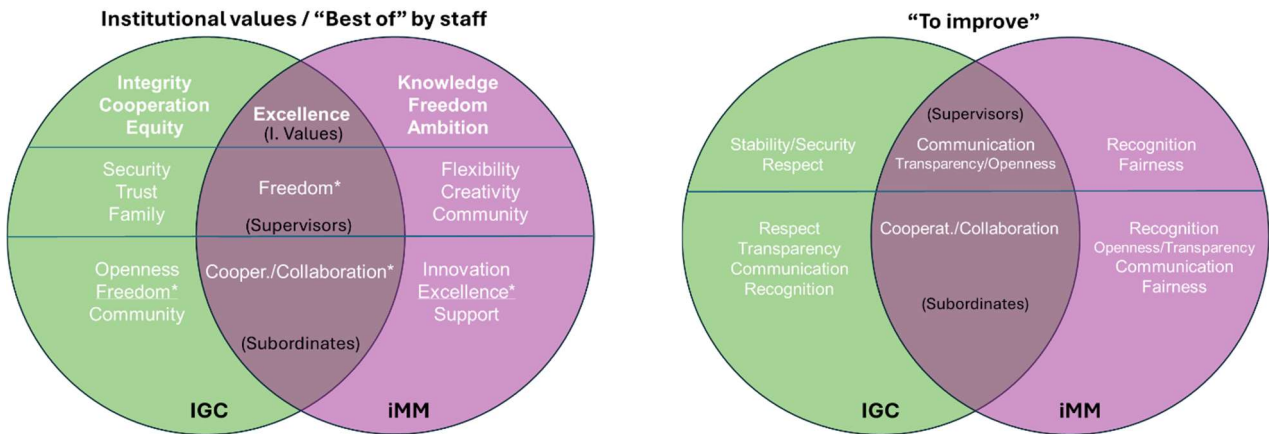
The results from this part of the questionnaire identified dissatisfaction with four issues: i) Job-security, ii) Communication, iii) Feedback and iv) Work-life Balance. There were no significant effects of Institute or Category, though (see table V), so the dissatisfaction with these values is generalized among the communities, which partly confirms H4, i.e., there are differences of satisfaction levels with different values, but it was not possible to identify if some communities are more dissatisfied. These results were complemented by the analysis of open-ended “word” contributions and respective AI summaries, as shown in Fig. 4 (and Table S-XII in Annex) where “Transparency, Communication, Safety, Stability” seem to be the key words for improvement, followed by “Respect, Fairness, Recognition & Openness”. Here, there is also no obvious topic that stands out for any of the communities.

Interestingly, few of the words chosen by the communities as the “best of” of their institutes coincide with respective institutional values, with the exception at IMM of Excellence (among

Subordinates) & Freedom (among Supervisors). The AI summary of the institutional values of both institutes aggregated was “Integrity, Excellence, Freedom and Ambition”, which does not align well with the AI analysis of the “best of” of all communities aggregated, and which was “Innovation, Openness, Support & Community” (see also Fig. S-7 and Table S-XII in Annex).

**Table V.** Median scores for the variables measured in the survey of “Management & HR values”.

| Measurement         | IGC<br>n=52-53 | iMM<br>n=50-51 | Superv.<br>n=18-19 | Subord.<br>n=84-85 | Significance<br>(Mann-WhitneyU) | Significance<br>(Ordinal.Log.Regress.) |
|---------------------|----------------|----------------|--------------------|--------------------|---------------------------------|--|
| 👎 Job security      | 2              | 2              | 2                  | 2                  | $p=0.75$                        | -                                      |
| 👎 Communication     | 2              | 3              | 3                  | 3                  | $p=0.41$                        | $p=0.60$                               |
| 👎 Feedback          | 3              | 3              | 2                  | 3                  | $p=0.74$                        | $p=0.71$                               |
| 👎 Work-life balance | 3              | 3              | 3                  | 3                  | $p=0.13$                        | $p=0.23$                               |
| 👍 Acknowledgement   | 4              | 4              | 4                  | 4                  | $p=0.69$                        | -                                      |
| 👍 Safety & respect  | 4              | 4              | 4                  | 4                  | $p=0.30$                        | -                                      |
| 👍 Resource access   | 4              | 4              | 4                  | 4                  | $p=0.49$                        | -                                      |
| 👍 DEI               | 4              | 4              | 4                  | 4.5                | $p=0.68$                        | $p=0.12$                               |



**Fig 4.** Alignment of institutional values and “best of” from respondents’ text, summarized by AI (“ChatGPT”). On the right, “to improve” represents values that GIMM must work on, as assessed from the responses of staff, separated by category. \* Values recognized by staff which coincide with their respective institutional values. See more details in Table S-XII in Annex.

## 5. Discussion

Given the known implications of OC clashes on the success of M&As, this study tried to assess and compare the OC profiles of two merging SRIs and their communities, their perceptions and aspirations, and the satisfaction with selected Management & HR values. Understanding these internal forces is essential to facilitate the challenging process of integration of the different communities that compose the newly merged institute. Although some differences were found, the two institutes have fairly well aligned, albeit incongruent, OCs, and that is seen also when we compare supervisors vs subordinates. We find discrepancies (“now” vs “preferred” OC) in both institutes, and important priority issues in the assessment of the HR & Management, which taken together provide valuable insights and recommendations.

### *What does all this mean? Implications*

Although the two institutes show fairly similar OC profiles there are some minor, though sometimes statistically significant, incongruences and discrepancies worth noting when analyzing the communities separately. H1 is confirmed, but the differences found are not likely to render the two institutes incompatible since the “dominant characteristics” OCs are similar. The sheer size of the IMM, compared to the IGC (especially after the recent reduction of researchers) and the difference in KPI weights (Table III) raises the possibility that the IMM OC may be gradually imposed or become predominant, which could accentuate any existing differences between the cultures of the two institutes and potentiate attrition and entrenchment. It is important during the integration phase to focus attention in what unites the two communities and promote more cooperation and collaboration, as is desired by all. How? All communities recognize Adhocracy as their dominant OC, and prefer a reinforcement of that culture. There are certainly "champions of Adhocracy" among staff members of both legacy institutes, so those members could be recruited to take an influential role in this transition, for example by organizing seminars or training in Adhocracy, and observing staff interest and participation. As Cameron and Quinn (2006) suggest, leadership (supervisors) plays a crucial role in the promotion and implementation of novel OC profiles and the supervisors should be themselves champions of the culture type desired by their teams (more below). These skills can be trained with dedicated activities promoted by the HR unit.

The IGC also perceives less of a Competitive culture now, and that is how all communities prefer their OC – less focused on competition/objectives. IGC supervisors are also champions of Clan culture, and since all communities prefer it, a positive integration strategy could be to invite more IGC’ers to lead the promotion of Clan culture (especially among Supervisors), in coordination with GIMM’s HR unit. The IGC campus, because of its surrounding infrastructure may be an interesting site to develop such activities, but it is also important to organize retreats with all communities, and incentivize (not force!) the mobility of researchers and groups between the two existing infrastructures (the Oeiras vs Lisbon “campuses”), until there is a new building for the whole GIMM.

Hierarchy is now the least prevalent culture in both institutes, and yet all communities seem to desire more Hierarchy, especially in replacement of the Competitive culture. Although the Adhocracy and Hierarchy are opposing in the CVF, Cameron (1986) notes that their coexistence is often associated with better performing organizations. So, wisely combining more Adhocracy with well-structured Hierarchy may be a positive change for GIMM’ers. The iMM seems to have the champions of Hierarchy and Competitiveness so they could take on an influential role in this transition with new ideas on implementing a Hierarchical OC that better suits the mission and values of GIMM, while trying to match the aspirations of the community. These results confirmed H2 and H3, i.e., both institutes aspire for more cooperation/collaboration and less competition, with only insignificant differences identified between the OC of Supervisors and Subordinates.

One can also attempt to align these observations and preferences of OC style, with satisfaction on Management and HR values, especially for those values in which we found dissatisfaction. For example, why do staff point so clearly to job-security as a major concern, and aspire for more Clan and Hierarchical OC? This is possibly rooted in the inconsistent public investment for science in Portugal, and a private sector that rarely attracts PhDs. There is a decades-long reliance on fellowships to support scientific work, a practice that was once very common at IGC, and less at iMM. Nevertheless, both institutes' communities still identify concerns regarding job security, so merely adopting iMM’s policy may not be enough to address all of the GIMM members' concerns..

Although both legacy institutes pride themselves in promoting institutional values such as “Excellence, Cooperation, Equity, Freedom and Ambition”, they live up only partially to these values since they are not fully recognized by the different communities as representing the “best of” of their

own institutes. Interestingly, subordinates seem to align better with the institutional values by recognizing “Excellence, Cooperation and Freedom”, while Supervisors recognize “Freedom” as a prevalent value. Although the vision and mission for GIMM were already made public at the conclusion of this thesis ([www.gimm.pt](http://www.gimm.pt)), the definition of the institutional values was not yet public. Hopefully, this study can offer cues about what the GIMM community sees as its most cherished values, and help the leadership set priorities for immediate action and integration efforts.

It is also important to make sure both communities feel during the integration process that their legacies and particular values are preserved and respected, to promote engagement and cooperation. The media presence of GIMM should always reflect the past history and contributions to the scientific community and society of both institutes equally. GIMM’s image should emerge naturally from the best of both legacy institutes, especially taking into consideration how Clan culture is valued by both.

Looking at the summaries of the words offered by the respondents, well in line with the survey of the opinion on selected values, one is tempted to see a confirmation of the preference for Adhocracy and Clan cultures in the desire for more “Freedom, Community, Cooperation and Excellence”. This apparent paradoxical desire for more control/Hierarchy, may not be related to Hierarchy *per se*, but to a need for better Communication, Transparency and Security/Stability, and for institutional practices that provide a better sense of respect and recognition. Interestingly, the words summarized by AI showed almost no overlap between the aggregated institutional values of both legacy institutes (= “Integrity, Excellence, Freedom and Ambition”) and the choices of their communities aggregated (= “Innovation, Openness, Support & Community”). The leadership of GIMM should pay attention to these aspirations and cues and engage more with the community. How? Starting by hearing the community while fine-tuning its institutional values and promoting culture integration activities.

### ***Leading the change (according to Cameron & Quinn 2006)***

The Adhocracy OC is oriented for creativity, and the most effective leader type for this is the Innovator, Entrepreneur & Visionary. The value drivers are innovative outputs, transformation and Agility. For less Competing style OC - as desired by the GIMM’ers-, it is advised to tone down the competing orientation, hard-driving, competitor, producer nature of leadership, and allow less emphasis on external outputs. Here are some guidelines, based in Cameron & Quinn (2006):

**Promoting Adhocracy:** Encourage staff to innovate, expand alternatives, become more creative and facilitate generation of new ideas. Communicate a clear vision of the future and facilitate its accomplishment. Foster an orientation toward continuous improvement. Adhocracy Culture increase means more employee suggestions, process innovativeness, thoughtful risk taking, tolerance of first-time mistakes. However, it does not mean: Everyone for him/herself, covering up errors, thoughtless risk taking, “taking the eye off the ball”, acquiring only the latest technologies, or no coordination and sharing of ideas.

**Promoting Clan OC:** Facilitate effective, cohesive, smooth functioning, high-performance teamwork. Facilitate effective interpersonal relationships, including supportive feedback, listening, and resolution of interpersonal problems. Help staff improve their performance by expanding their competencies and take support personal development opportunities. Clan Culture increase means more employee empowerment, participation and involvement, cross-functional teamwork, horizontal communication, caring climate, recognition for employees. However, it does not mean: A culture of “niceness”, lack of standards/rigor or of tough decisions, or overall mediocrity.

**Market/Competitive Culture decrease means:** Ongoing commitment to excellence, world-class organization, goal accomplishment, energized employees, less myopic thinking about targets, less punishing environment. However, it does not mean: Disregard for performance, or for trends in the field or loss of interest, missing deadlines or lowering of quality standards.

**Proposed stages for implementation of change** (based on Cameron & Quinn, 2006):

- 1) Obtain consensus about OC now (OCAI); 2) and the preferred. 3) Determine how to materialize discrepancies; 4) Give examples of the preferred OC by storytelling; 5) Create a strategic plan for OC change in articulation with HR; 6) Execute the plan and re-assess often. The HR unit must play an central role in implementation of all these.

### *Is bigger really better?*

The IGC tends to have smaller groups, and equivalent productivity in terms of papers and graduate theses. In turn, at IMM the productivity in patents and startups/spinoffs is higher than at IGC, so institutes are comparable and complementary, and that is a strong argument to justify the

merger. However, numerous studies show that large research groups, as seen in large SRIs, or pouring ever increasingly public funds into science does not necessarily translate directly – or proportionately – to gains in productivity, especially in fast-growing R&D. In fact, it may sometimes correlate negatively and some authors even argue that public funding should be not be primarily funneled towards simply “excellence” but also towards improving diversity (Ejerimo, Kander, and Henning 2011; Fortin & Curie 2013; Cook, Grange, and Walker 2015; Doyle et al. 2015; Lorsh 2015). Large teams mainly develop and consolidate existing knowledge, while small teams disrupt science and technology (Alberts 1985; Danthi et. al. 2015; Wu, Wang, and Evans 2019). In the face of this, and the perils of M&A syndrome experienced in other sectors, one wonders about all the potential advantages, or gains in access to competitive funding or in international rankings as a rationale for promoting large M&As in SRIs. Especially if not all measures are previously taken to secure the main assets of both legacy institutes: the human capital, and its diversity, creativeness and motivation.

### *Limitations and future research*

The current work gathered interest from <20% of the whole population of both institutes (valid responses correspond to 12%, or 16% if we consider only researchers), which is potentially limiting. Why didn't we get more participation? More time and preparation of this research work, and the involvement of the HR unit could have allowed for a more representative study, however the time for preparation of this thesis was limited and the GIMM's HR unit is only being created now, so we could not count with their precious help. Note also that the Supervisors' community is limited, since the number of PIs is kept to ~30 at each institute. We can also speculate that the low participation (and high percentage of invalid responses) may reflect feelings of uncertainty or anonymity concerns, or even a latent dissatisfaction with the ongoing merger process, and that could possibly bias the data. The prevalence of words to refer “to improve” such as “Communication, Transparency, Cooperation/collaboration”, and the dissatisfaction with “Job Security, Communication and Feedback” supports these assertions. The results emphasize the importance of carrying out a broader and longitudinal study, ideally led by GIMM's HR unit when fully operational.

In time, a more detailed study of “Job satisfaction” could help confirm and better pinpoint some of the issues identified; possibly the JSS (*e.g.*, Spector 1985) or a Professional Engagement Survey (Little and Little 2006). Also important would be to assess the Psychological Safety and Organization

Climate (Edmonson 1999), since those are essential to promote an inclusive and Adhocratic culture, which is the preference of the whole GIMM community. This could possibly also help explain the apparent contradiction that the communities mention the need to improve “Recognition, Respect and Fairness” (Fig. 4), while rating “Acknowledgement” as satisfactory (median of 4; Table V).

One wonders also whether these results will condition the responses of future studies at GiMM. The questionnaire allowed for participants to save their results, and this could be used in the future to control for previous exposure to OCAI, and for comparing their opinions now and in the future.

## 6. Final conclusions

During M&As, feelings of uncertainty and entrenchment are natural, and only proper planning and effective leadership can bring to fruition positive change. This thesis work provides cues to understand what to do – and what not to do-, to engage the communities into the path of least resistance and effective cooperation. Good news: the two institutes are already fairly aligned in terms of their OCs, so there is potential for success! Merging into a large(r), more diverse and competitive SRI can only be truly effective if it addresses the concerns of its communities. A large SRI that cannot guarantee job security better than the legacy institutes, or promote better communication and feedback, or a healthy work-life balance, is a risky endeavor given the high rate of M&A failures typically seen in other sectors. Bigger isn’t automatically more innovative or disruptive, as is the case for research group and grant sizes. The keywords extracted from the responses to the questionnaire seem to be “transparency, openness, recognition, fairness, stability, respect and communication, communication...communication”! Care should be taken to minimize loss of HRs and potentiate diversity – a strength of both legacy institutes-, while developing a new OC style following the best aspirations of all GIMM’ers: There is a clear desire of Adhocracy and Clan cultures, and initiatives to promote common activities have already begun and will certainly promote those even more. The preferred shift towards a culture of “Flexibility and discretion” (in the CVF) suggests GIMM should look at Agile practices being implemented in institutes such as the Human Technopole (Italy), EMBL and Leipzig University (Germany), The Crick Institute (UK) and HHMI - Janelia Research Campus (US). GIMM’ers are calling for more Agile, and desire a more Adhocratic OC. Will bigger be better? Only time and the prevailing joint efforts and full creativity of both legacy institutes will show.

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# Annexes

## Email requesting authorization to conduct the study:

(the email was sent to the Direction of GIMM and the HR of the Fundação Calouste Gulbenkian; the GIMM's new HR unit was later contacted)

Dear GIMM Directors,

I am currently attending an Executive MSc in Leadership at NOVA – SBE (Carcavelos), and my thesis topic is “Organizational Culture in the Context of M&As”. I hereby request authorization to conduct the study within the GIMM community, which entails application of the OCAI (Organizational Culture Assessment Instrument; <https://www.ocai-online.com/about-the-Organizational-Culture-Assessment-Instrument-OCAI>) plus a few complementary questions that I prepared.

Participation is optional, all answers are confidential (no names collected) and I only ask which institute they belonged to in 2023 plus optional info about the employee profile (PhD student, post-doc, PI etc..). The questionnaires will be distributed via email once I have your OK, and I wish to close by May 20<sup>th</sup>.

The results will be analyzed and discussed in my thesis which I must submit by July 8<sup>th</sup>, and defend in October 2024.

The questionnaire should not take more than 10min. Here is a link to see how it will look for the participants, prepared by me:

[https://qualtricsxmnhz3zkhrk.qualtrics.com/jfe/form/SV\\_8DnF8L5DY4HRtVs](https://qualtricsxmnhz3zkhrk.qualtrics.com/jfe/form/SV_8DnF8L5DY4HRtVs)

Your thoughts & suggestions are welcome.

I hope this study can be of assistance to the community and promote engagement and participation in the fusion process, and hopefully provide clues for the Direction to plan integration into a new organizational culture that captures the best aspirations of the whole GIMM community.

I will also take the opportunity to express my gratitude, especially Dra Ana Rijo and the FCG-HR team who have supported my interest in pursuing this MSc and hope I can count also with your support,

Thanks in advance.

With best regards,

## Email sent to participants, distributed in both institutes

Dear colleagues,

I am conducting an academic study titled “Organizational Culture in the Context of M&As”, which is the focus of an MSc from the SBE-NOVA University.

This study requires application of a questionnaire known as OCAI – “Organizational Culture Assessment Instrument” \*1, plus a few complementary questions that I prepared. I hope this study can help promote engagement and participation during the fusion process, and inspire an organizational culture that best captures the aspirations of the whole GIMM community.

Your participation is optional (but highly appreciated ;). All answers are confidential (no names are collected) but I need to know which institute you belonged in 2023 and also the main role (PhD student, post-doc, PI etc..).

I would like to finish collecting most data by May 31<sup>st</sup>, so I am counting on your help!  
The results will be analyzed and discussed in a thesis. You must submit by July 8<sup>th</sup>, and defend in October 2024.

The questionnaire hopefully will not take more than 10-15min of your precious time and is available here:

[https://qualtricsxmnh3zkhrk.qualtrics.com/jfe/form/SV\\_8DnF8L5DY4HRtVs](https://qualtricsxmnh3zkhrk.qualtrics.com/jfe/form/SV_8DnF8L5DY4HRtVs) (PC or cell-phone)

By following the link and answering the questionnaire you are agreeing that the data collected can be used for the purposes of the study and understanding the organizational culture(s) of the GIMM community. Thanks in advance for your cooperation.

I finish by expressing my gratitude to the FCG HR and GIMM direction for the support to this study.

\*1) (<https://www.ocai-online.com/about-the-Organizational-Culture-Assessment-Instrument-OCAI>)

////////////////////////////////////

Caros colegas

Estou a realizar um estudo académico intitulado “Cultura Organizacional no Contexto de M&As”, que é o foco de um Mestrado da Universidade SBE-NOVA.

Este estudo envolve a aplicação de um questionário conhecido como OCAI – “Instrumento de Avaliação da Cultura Organizacional” \*1, além de algumas questões complementares que eu preparei.

Espero que este estudo possa ajudar a promover o envolvimento e a participação durante o processo de fusão e que possa vir a inspirar uma cultura organizacional que capte as melhores aspirações de toda a comunidade GIMM.

A participação é opcional (mas muito apreciada,). Todas as respostas são confidenciais (não são pedidos nomes) mas é importante saber qual instituto a que pertenceu em 2023 assim como o seu perfil (aluno de doutoramento, ou pós-doutorado, PI etc..).

Gostaria de recolher a maioria dos dados até 31 de Maio. Posso contar com a sua ajuda?

Os resultados serão depois analisados e discutidos numa tese que deve ser entregue até 8 de julho e defendida em Outubro de 2024.

Prevejo que o questionário não demorará mais de 10-15 minutos do vosso precioso tempo e está disponível aqui:

[https://qualtricsxmnh3zkhrk.qualtrics.com/jfe/form/SV\\_5dusCW8IXVO4xhA](https://qualtricsxmnh3zkhrk.qualtrics.com/jfe/form/SV_5dusCW8IXVO4xhA) (PC ou smartphone)

Ao seguir o link e completar o questionário estará a concordar que os dados obtidos possam ser usados para este estudo sobre cultura organizacional da comunidade GIMM. Agradeço antecipadamente a vossa cooperação.

Termino expressando a minha gratidão aos RH da FCG e à direção do GIMM pelo seu apoio a este estudo.

\*1) (<https://www.ocai-online.com/about-the-Organizational-Culture-Assessment-Instrument-OCAI>)

## The OCAI questionnaire:

“Organizational Culture Assessment study of the community of the Gulbenkian Institute of Molecular Medicine – GIMM (2024)”

Dear colleague,

Thanks for following the link and helping me with the study. By completing this questionnaire you are agreeing that the data collected can be used for the purposes of the study and understanding the organizational culture(s) of the GIMM community. No personal data will be collected, and if you do not wish to participate feel free to close the window now.

Organizational Culture (OC) is the set of values, beliefs, attitudes, systems and rules that outline and influence employee behaviour within an organization. The OC reflects how employees, stakeholders and the general public experience an organization and its brand. This questionnaire will help us assess the prevalent OC of the IGC and IMM, how the two cultures align and what are the main expectations of the GIMM community for its future.

Please follow the instructions and try to answer all questions. Be sincere and spontaneous, avoiding the risk of biased responses (e.g. answers considered socially desirable). The answers are anonymous and the whole questionnaire should not take more than 10-15 min.

I thank you for the time taking this survey and your insights. If you wish, you can download your answers in PDF format in the end. Feel free to contact me for any questions, comments or suggestions about this study.

At which Institute were you working during 2023?

IGC

IMM

The following question is optional, but will be highly valuable to understand possible different perceptions of organizational culture(s) in the different GIMM communities. This information will NOT be used to try to identify any participants personally.

- Licenciature/MsC student/researcher
- PhD student
- Post-doc researcher or lab manager
- PI/Coordinator/Head
- Lab technician or Facility staff
- Staff in administration or support units
- Other**

*The OCAI - Organizational Culture Assessment Instrument (based on Cameron and Quinn 2006; <https://www.ocai-online.com/about-the-Organizational-Culture-Assessment-Instrument-OCAI>) consists of six sets of four statements.*

*The questions will run twice, first gathering your opinions about your former institute (IGC or IMM), and then again for your vision of what GIMM will be in 5y.*

# 1. Dominant Characteristics

|   | Strongly Disagree     | Disagree              | Neutral               | Agree                 | Strongly Agree        |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A. The institute is a very personal place. It is like an extended family. People seem to share a lot of themselves.                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| B The institute is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| C The institute is very results-oriented. A major concern is with getting the job done. People are very competitive and achievement-oriented. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| D The institute is a very controlled and structured place. Formal procedures generally govern what people do.                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

## 2. Organizational Leadership

|   | Strongly<br>Disagree  | Disagree              | Neutral               | Agree                 | Strongly<br>Agree     |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A. The leadership in the institute is generally considered to exemplify mentoring, facilitating, or nurturing.                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| B. The leadership in the institute is generally considered to exemplify entrepreneurship, innovation, or risk taking.           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| C. The leadership in the institute is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus.      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| D. The leadership in the institute is generally considered to exemplify coordinating, organizing, or smooth-running efficiency. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

### 3. Management of Employees

|  | Strongly Disagree     | Disagree              | Neutral               | Agree                 | Strongly Agree        |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A. The management style in the institute is characterized by teamwork, consensus, and participation.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| B. The management style in the institute is characterized by individual risk taking, innovation, freedom, and uniqueness.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| C. The management style in the institute is characterized by hard-driving competitiveness, high demands, and achievement.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| D. The management style in the institute is characterized by security of employment, conformity, predictability, and stability in relationships. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

## 4. Organization Glue

|   | Strongly Disagree     | Disagree              | Neutral               | Agree                 | Strongly Agree        |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A. The glue that holds the institute together is loyalty and mutual trust. Commitment to this institute runs high.                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| B. The glue that holds the institute together is commitment to innovation and development. There is an emphasis on being on the cutting edge. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| C. The glue that holds the institute together is the emphasis on achievement and goal accomplishment.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| D. The glue that holds the institute together is formal rules and policies. Maintaining a smoothrunning organization is important.            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

## 5. Strategic Emphases

|  | Strongly Disagree     | Disagree              | Neutral               | Agree                 | Strongly Agree        |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A. The institute emphasizes human development. High trust, openness, and participation persist.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| B. The institute emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| C. The institute emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| D. The institute emphasizes permanence and stability. Efficiency, control, and smooth operations are important.                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

## 6. Criteria of Success

|   | Strongly Disagree     | Disagree              | Neutral               | Agree                 | Strongly Agree                   |
|---|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------------|
| A. The institute defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            |
| B. The institute defines success on the basis of having the most unique or newest research. It is a research leader and innovator.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            |
| C. The institute defines success on the basis of winning in the research community and outpacing the competition. Competitive research leadership is key. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            |
| D. The institute defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost research are critical.                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |

(The same questions were then asked again, this time to characterize the preferred [“desired”] culture, i.e., as the participants see the future institute in five ears)

## Management & HR values questionnaire

Thanks for your cooperation and patience so far! The last questions are complementary and optional, and were designed to help understand better particular aspects of OC.

Please select the most appropriate answer for each statement about your former institute (IGC or IMM) during the last 5 years:

|  | Strongly Disagree     | Disagree              | Neutral               | Agree                 | Strongly Agree        |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A. My institute communicates well the vision, values, plans and decisions. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| B. Personal feedback is provided regularly and fairly.                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| C. I feel safe and respected when sharing ideas or opinions.               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| D. My work and commitment are acknowledged.                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| E. I can find most resources necessary to be productive.                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| F. There are adequate job-security policies.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| G. It is possible to achieve a healthy work-life balance.                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| H. Diversity, equity and inclusiveness are valued.                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

“Best of” and “to improve” open questions:

- In one word, what do you value most about your institute's culture or values?

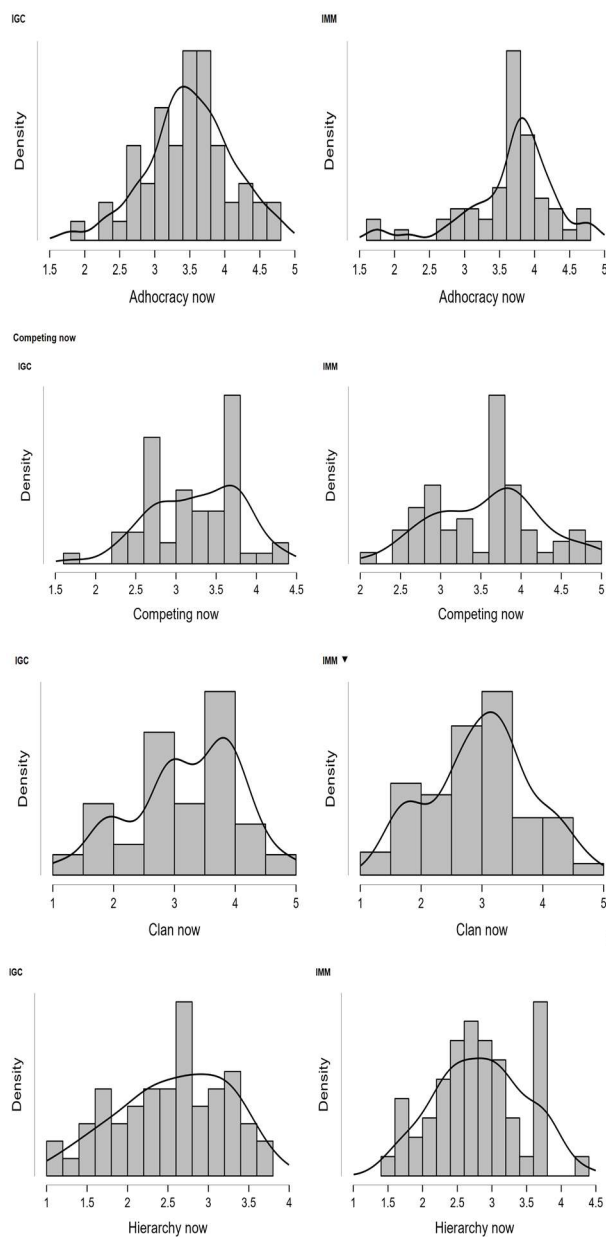
- What could be implemented to improve workplace culture?

# OCAI – descriptive statistics tables and distribution plots

**Table S-I.** Descriptive statistics of the OC average scores “now”, separated by Institute.

|                | Adhocracy now |       | Competing now |       | Clan now |       | Hierarchy now |       |
|----------------|---------------|-------|---------------|-------|----------|-------|---------------|-------|
|                | IGC           | IMM   | IGC           | IMM   | IGC      | IMM   | IGC           | IMM   |
| Valid          | 58            | 57    | 58            | 57    | 58       | 57    | 58            | 57    |
| Missing        | 0             | 0     | 0             | 0     | 0        | 0     | 0             | 0     |
| Mode           | 3.500         | 3.800 | 3.800         | 3.800 | 2.800    | 3.000 | 2.800         | 2.500 |
| Median         | 3.500         | 3.800 | 3.300         | 3.700 | 3.250    | 3.000 | 2.700         | 2.800 |
| Mean           | 3.502         | 3.688 | 3.257         | 3.596 | 3.203    | 2.989 | 2.572         | 2.840 |
| Std. Deviation | 0.609         | 0.621 | 0.561         | 0.678 | 0.890    | 0.826 | 0.677         | 0.646 |
| Minimum        | 1.800         | 1.700 | 1.700         | 2.000 | 1.000    | 1.300 | 1.000         | 1.500 |
| Maximum        | 4.800         | 4.800 | 4.300         | 5.000 | 5.000    | 4.800 | 3.800         | 4.300 |

<sup>a</sup> The mode is computed assuming that variables are discreet.



**Fig S1.** Density plots of the average response for the different measured OCs “now”, by institute

**Table S-II.** Descriptive statistics of OCAI scores for items in dimensions “Dominant Characteristics (1)” and “Organizational leadership (2)” and “Organizational glue” as assessed “now” and separated by Institute. A,B,C & D correspond to the Clan, Adhocracy, Compete & Hierarchy OC, respectively. These data complemente the analysis of the OCAI OC characterization.

### OCAI "dominant characteristics" dimension ▼

Descriptive Statistics

|                | 1C    |       | 1A    |       | 1B    |       | 1D    |       |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | IGC   | IMM   | IGC   | IMM   | IGC   | IMM   | IGC   | IMM   |
| Valid          | 58    | 57    | 58    | 57    | 58    | 57    | 58    | 57    |
| Missing        | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Mode           | 3.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 2.000 | 2.000 |
| Median         | 3.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 2.500 | 3.000 |
| Mean           | 3.362 | 3.737 | 3.638 | 3.386 | 3.414 | 3.386 | 2.828 | 2.860 |
| Std. Deviation | 0.968 | 0.936 | 0.986 | 0.996 | 1.009 | 0.978 | 1.201 | 1.043 |
| Minimum        | 2.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Maximum        | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 |

<sup>a</sup> The mode is computed assuming that variables are discreet.

### OCAI "organizational leadership" dimension

Descriptive Statistics

|                | 2B    |       | 2D    |       | 2C    |       | 2A    |       |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | IGC   | IMM   | IGC   | IMM   | IGC   | IMM   | IGC   | IMM   |
| Valid          | 58    | 57    | 58    | 57    | 58    | 57    | 58    | 57    |
| Missing        | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Mode           | 3.000 | 4.000 | 3.000 | 3.000 | 2.000 | 2.000 | 4.000 | 2.000 |
| Median         | 3.000 | 4.000 | 3.000 | 3.000 | 2.000 | 3.000 | 3.000 | 2.000 |
| Mean           | 3.034 | 3.789 | 2.879 | 3.281 | 2.690 | 3.246 | 3.138 | 2.702 |
| Std. Deviation | 0.898 | 0.881 | 1.215 | 0.978 | 0.940 | 1.199 | 0.999 | 1.149 |
| Minimum        | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Maximum        | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 |

<sup>a</sup> The mode is computed assuming that variables are discreet.

### OCAI "organizational glue" dimension

Descriptive Statistics

|                | 4C    |       | 4B    |       | 4A    |       | 4D    |       |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | IGC   | IMM   | IGC   | IMM   | IGC   | IMM   | IGC   | IMM   |
| Valid          | 57    | 57    | 58    | 57    | 58    | 57    | 58    | 57    |
| Missing        | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Mode           | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 3.000 | 2.000 | 3.000 |
| Median         | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 3.000 | 2.000 | 3.000 |
| Mean           | 3.702 | 3.895 | 3.690 | 3.842 | 3.517 | 3.035 | 2.638 | 2.965 |
| Std. Deviation | 0.626 | 0.699 | 0.995 | 0.882 | 1.232 | 1.117 | 1.071 | 0.981 |
| Minimum        | 2.000 | 2.000 | 1.000 | 2.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Maximum        | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 |

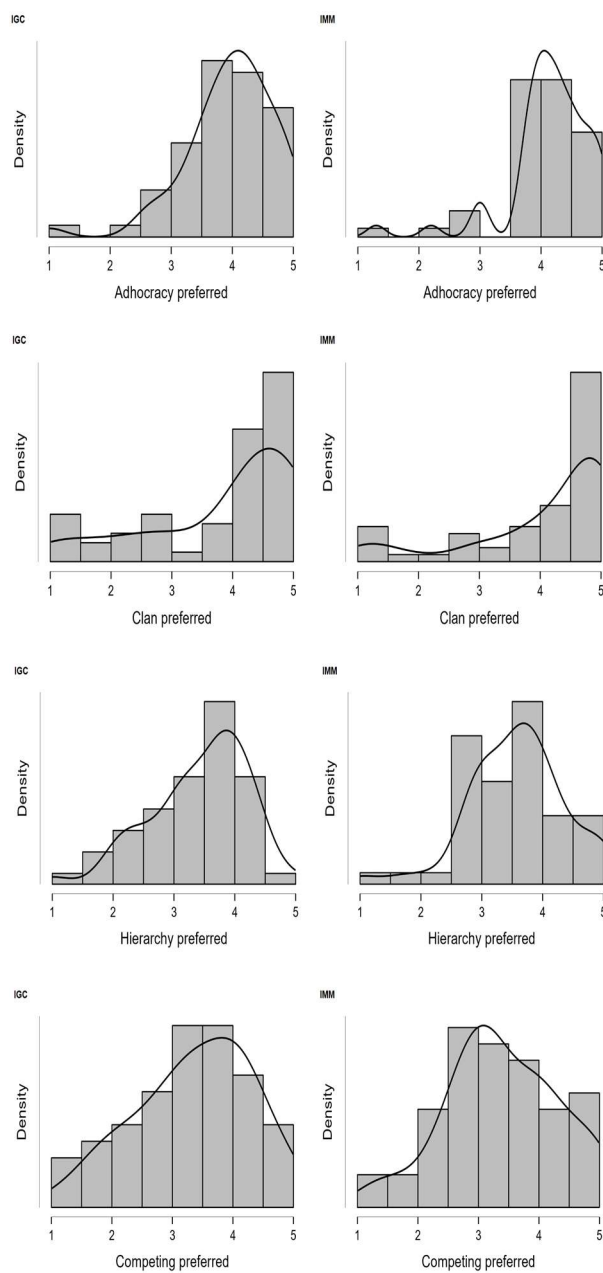
<sup>a</sup> The mode is computed assuming that variables are discreet.

**Table S-III.** Descriptive statistics of the average “preferred” OC scores, by Institute

|                | Adhocracy preferred |       | Clan preferred |       | Hierarchy preferred |       | Competing preferred |       |
|----------------|---------------------|-------|----------------|-------|---------------------|-------|---------------------|-------|
|                | IGC                 | IMM   | IGC            | IMM   | IGC                 | IMM   | IGC                 | IMM   |
| Valid          | 54                  | 53    | 54             | 53    | 54                  | 53    | 54                  | 53    |
| Missing        | 4                   | 4     | 4              | 4     | 4                   | 4     | 4                   | 4     |
| Mode           | 4.000               | 4.000 | 4.800          | 5.000 | 3.800               | 3.000 | 4.000               | 2.800 |
| Median         | 4.000               | 4.200 | 4.300          | 4.700 | 3.700               | 3.700 | 3.500               | 3.300 |
| Mean           | 3.963               | 4.136 | 3.844          | 4.045 | 3.428               | 3.574 | 3.352               | 3.385 |
| Std. Deviation | 0.739               | 0.686 | 1.244          | 1.212 | 0.797               | 0.793 | 0.969               | 0.936 |
| Minimum        | 1.000               | 1.300 | 1.000          | 1.000 | 1.000               | 1.000 | 1.000               | 1.200 |
| Maximum        | 5.000               | 5.000 | 5.000          | 5.000 | 5.000               | 5.000 | 5.000               | 5.000 |

<sup>a</sup> The mode is computed assuming that variables are discreet.

(Note that there are missing responses for “preferred” OC, because some participants did not complete the 2<sup>nd</sup> round of the OCAI).

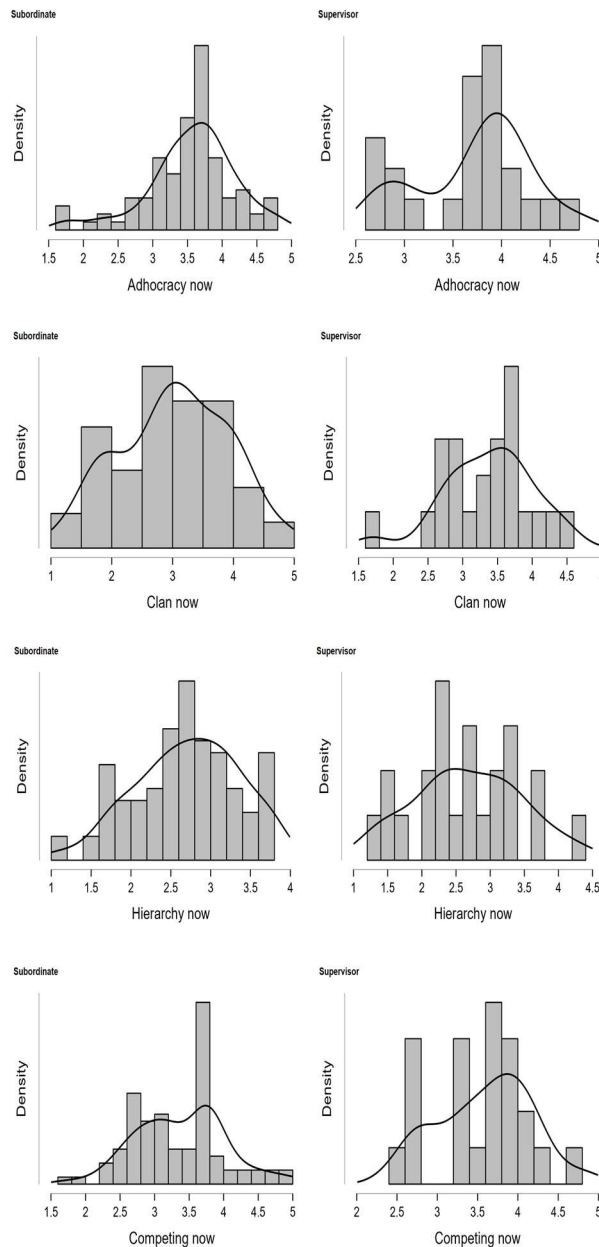


**Fig S-2.** Density plots of the average response for the four different OCs preferred, separated by institute

**Table S-IV.** Descriptive statistics of the OC “now” assessment, by staff category.

|                | Adhocracy now |            | Clan now    |            | Hierarchy now |            | Competing now |            |
|----------------|---------------|------------|-------------|------------|---------------|------------|---------------|------------|
|                | Subordinate   | Supervisor | Subordinate | Supervisor | Subordinate   | Supervisor | Subordinate   | Supervisor |
| Valid          | 92            | 23         | 92          | 23         | 92            | 23         | 92            | 23         |
| Missing        | 0             | 0          | 0           | 0          | 0             | 0          | 0             | 0          |
| Mode           | 3.800         | 4.000      | 3.000       | 3.000      | 2.500         | 2.300      | 3.800         | 2.800      |
| Median         | 3.700         | 3.800      | 3.000       | 3.500      | 2.800         | 2.700      | 3.300         | 3.700      |
| Mean           | 3.561         | 3.726      | 3.029       | 3.370      | 2.712         | 2.678      | 3.384         | 3.591      |
| Std. Deviation | 0.628         | 0.578      | 0.899       | 0.642      | 0.645         | 0.789      | 0.652         | 0.585      |
| Minimum        | 1.700         | 2.700      | 1.000       | 1.700      | 1.000         | 1.300      | 1.700         | 2.500      |
| Maximum        | 4.800         | 4.800      | 5.000       | 4.500      | 3.800         | 4.300      | 5.000         | 4.800      |

<sup>a</sup> The mode is computed assuming that variables are discreet.



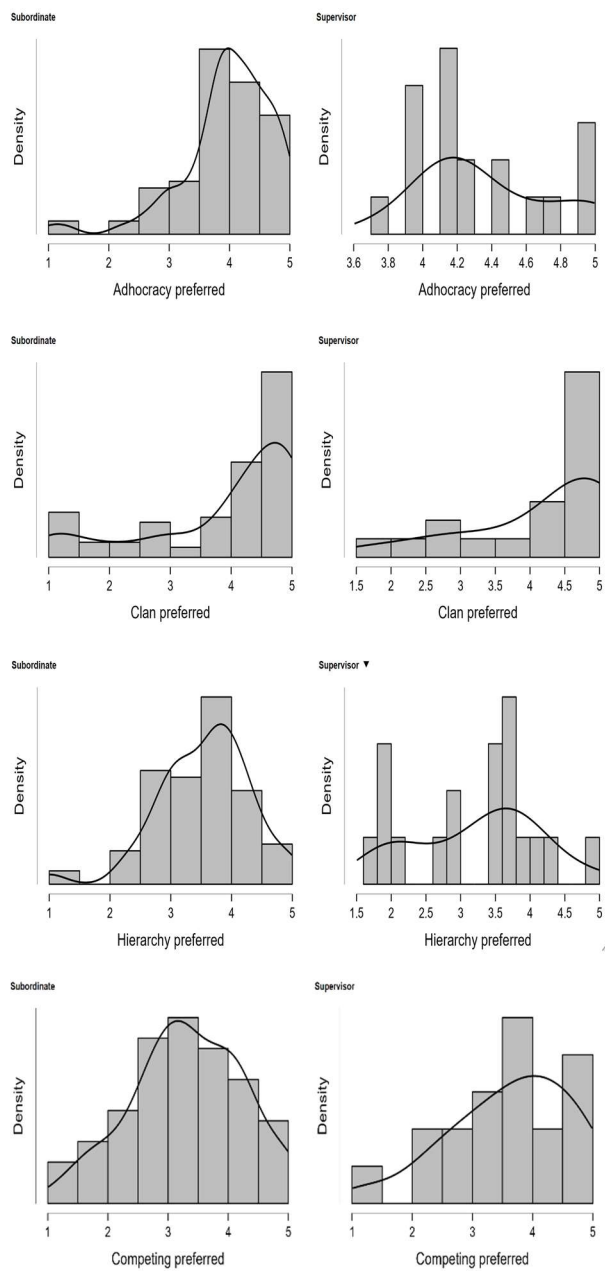
**Fig S-3.** Density plots of the average score for the different OCs measured “now”, separated by staff category.

**Table S-V.** Descriptive statistics of the “preferred” OC assessment, by staff category.

|                | Adhocracy preferred |            | Clan preferred |            | Hierarchy preferred |            | Competing preferred |            |
|----------------|---------------------|------------|----------------|------------|---------------------|------------|---------------------|------------|
|                | Subordinate         | Supervisor | Subordinate    | Supervisor | Subordinate         | Supervisor | Subordinate         | Supervisor |
| Valid          | 88                  | 19         | 88             | 19         | 88                  | 19         | 88                  | 19         |
| Missing        | 4                   | 4          | 4              | 4          | 4                   | 4          | 4                   | 4          |
| Mode           | 4.000               | 4.200      | 5.000          | 5.000      | 3.000               | 2.000      | 2.800               | 4.000      |
| Median         | 4.000               | 4.200      | 4.300          | 4.700      | 3.700               | 3.500      | 3.300               | 3.800      |
| Mean           | 3.982               | 4.358      | 3.906          | 4.121      | 3.556               | 3.242      | 3.317               | 3.605      |
| Std. Deviation | 0.753               | 0.385      | 1.258          | 1.080      | 0.759               | 0.920      | 0.932               | 1.015      |
| Minimum        | 1.000               | 3.700      | 1.000          | 1.500      | 1.000               | 1.700      | 1.000               | 1.200      |
| Maximum        | 5.000               | 5.000      | 5.000          | 5.000      | 5.000               | 5.000      | 5.000               | 5.000      |

<sup>a</sup> The mode is computed assuming that variables are discreet.

(Note that there are missing responses for “preferred” OC, because some participants did not complete the 2<sup>nd</sup> round of the OCAI).



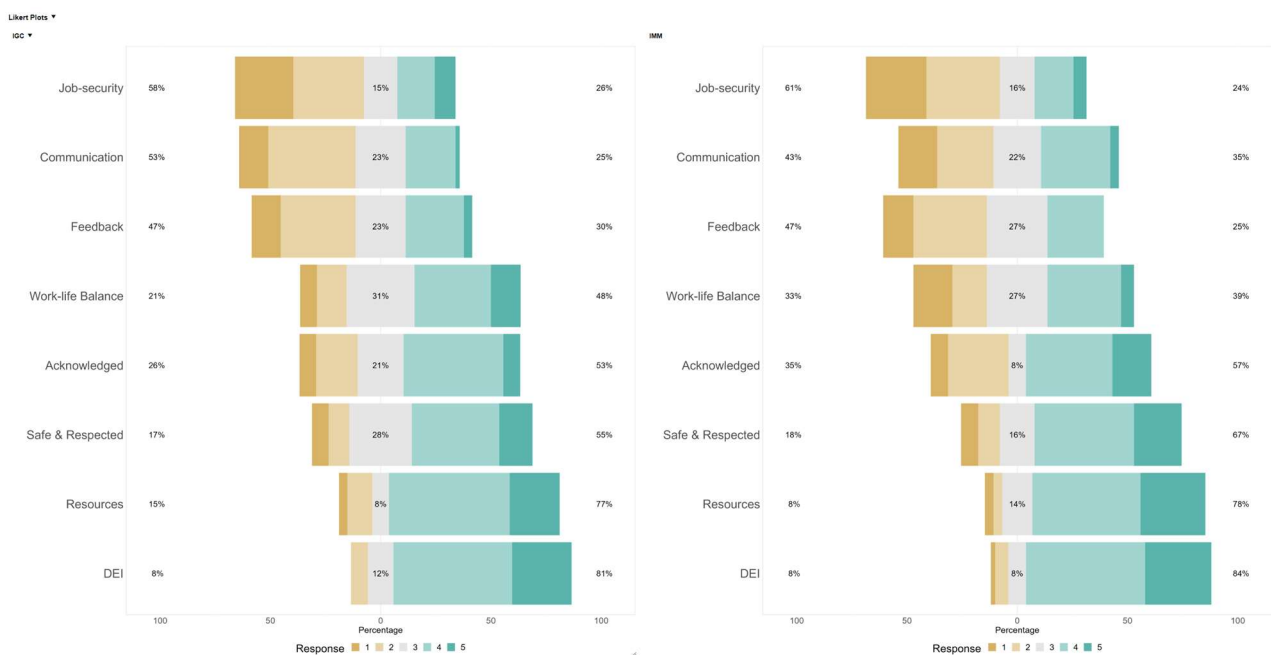
**Fig S-4.** Density plots of the average scores for the four OCs preferred, separated by staff category.

## Management & HR values – descriptive statistics tables and plots

**Table S-VI.** Descriptive statistics of variables measured for Management & HR values, by Institute.

|                | Job-security |       | Communication |       | Feedback |       | Work-life Balance |       | Acknowledged |       | Safe & Respected |       | Resources |       | DEI   |       |
|----------------|--------------|-------|---------------|-------|----------|-------|-------------------|-------|--------------|-------|------------------|-------|-----------|-------|-------|-------|
|                | IGC          | IMM   | IGC           | IMM   | IGC      | IMM   | IGC               | IMM   | IGC          | IMM   | IGC              | IMM   | IGC       | IMM   | IGC   | IMM   |
| Valid          | 53           | 51    | 53            | 51    | 53       | 51    | 52                | 51    | 53           | 51    | 53               | 51    | 53        | 51    | 52    | 50    |
| Missing        | 0            | 0     | 0             | 0     | 0        | 0     | 1                 | 0     | 0            | 0     | 0                | 0     | 0         | 0     | 1     | 1     |
| Mode           | 2.000        | 2.000 | 2.000         | 4.000 | 2.000    | 2.000 | 4.000             | 4.000 | 4.000        | 4.000 | 4.000            | 4.000 | 4.000     | 4.000 | 4.000 | 4.000 |
| Median         | 2.000        | 2.000 | 2.000         | 3.000 | 3.000    | 3.000 | 3.000             | 3.000 | 4.000        | 4.000 | 4.000            | 4.000 | 4.000     | 4.000 | 4.000 | 4.000 |
| Mean           | 2.509        | 2.412 | 2.604         | 2.784 | 2.736    | 2.647 | 3.327             | 2.941 | 3.264        | 3.314 | 3.453            | 3.627 | 3.811     | 3.961 | 4.000 | 4.040 |
| Std. Deviation | 1.310        | 1.236 | 1.044         | 1.189 | 1.112    | 1.016 | 1.115             | 1.207 | 1.095        | 1.273 | 1.102            | 1.166 | 1.039     | 0.979 | 0.840 | 0.903 |
| Minimum        | 1.000        | 1.000 | 1.000         | 1.000 | 1.000    | 1.000 | 1.000             | 1.000 | 1.000        | 1.000 | 1.000            | 1.000 | 1.000     | 1.000 | 2.000 | 1.000 |
| Maximum        | 5.000        | 5.000 | 5.000         | 5.000 | 5.000    | 4.000 | 5.000             | 5.000 | 5.000        | 5.000 | 5.000            | 5.000 | 5.000     | 5.000 | 5.000 | 5.000 |

<sup>a</sup> The mode is computed assuming that variables are discreet.



**Fig S-5.** Likert plots for the opinion on management and HR values, separated by Institute (Left = IGC; right = right)

**Table S-VII.** Statistical tests comparing institutes for “Management and HR values”.

| Independent Samples T-Test |          |       |
|----------------------------|----------|-------|
|                            | W        | p     |
| Job-security               | 1399.500 | 0.750 |
| Communication              | 1229.000 | 0.411 |
| Feedback                   | 1400.500 | 0.743 |
| Work-life Balance          | 1550.500 | 0.126 |
| Acknowledged               | 1292.000 | 0.687 |
| Safe & Respected           | 1198.000 | 0.296 |
| Resources                  | 1253.500 | 0.489 |
| DEI                        | 1243.000 | 0.676 |

Note. Mann-Whitney U test.

**Table S-VIII.** Ordinal logistic regression tests.

### Generalized Linear Model

Model Summary - Communication

| Model          | Deviance | AIC     | BIC     | df  | X <sup>2</sup> | p     |
|----------------|----------|---------|---------|-----|----------------|-------|
| H <sub>0</sub> | 300.090  | 308.090 | 318.668 | 412 |                |       |
| H <sub>1</sub> | 299.063  | 311.063 | 326.930 | 410 | 1.027          | 0.598 |

Coefficients

|                    | Estimate | Standard Error | z      | p      |
|--------------------|----------|----------------|--------|--------|
| (Intercept) * 1    | -1.533   | 0.322          | -4.756 | < .001 |
| (Intercept) * 2    | 0.103    | 0.271          | 0.380  | 0.704  |
| (Intercept) * 3    | 1.046    | 0.290          | 3.605  | < .001 |
| (Intercept) * 4    | 3.719    | 0.622          | 5.982  | < .001 |
| InstitlMM          | -0.285   | 0.354          | -0.805 | 0.421  |
| CategorySupervisor | -0.259   | 0.458          | -0.565 | 0.572  |

*Note.* Communication levels: 1:1, 1:2, 1:3, 1:4, 1:5. Linear predictors:  
logitlink(P[Y<=1]), logitlink(P[Y<=2]), logitlink(P[Y<=3]), logitlink(P[Y<=4]).

**Table S-IX.** Descriptive statistics of variables about Management & HR values, by staff category.

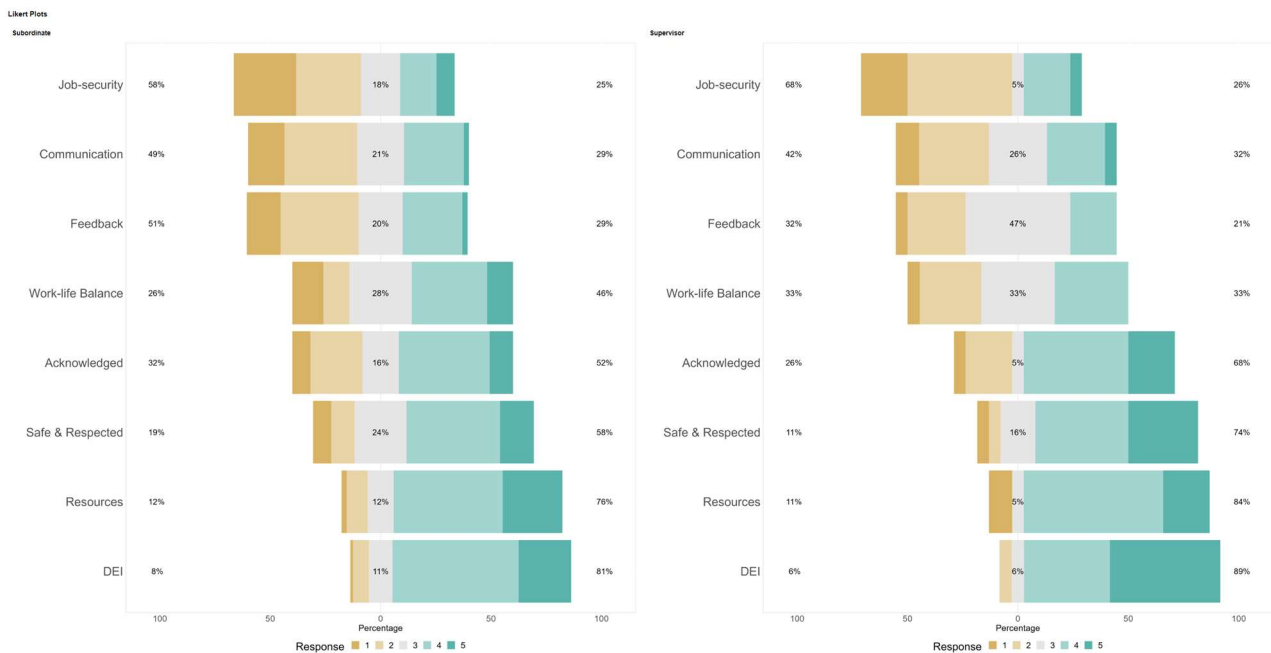
|                | Job-security |            | Communication |            | Feedback    |            | Work-life Balance |            | Acknowledged |            | Safe & Respected |            | Resources   |            | DEI         |            |
|----------------|--------------|------------|---------------|------------|-------------|------------|-------------------|------------|--------------|------------|------------------|------------|-------------|------------|-------------|------------|
|                | Subordinate  | Supervisor | Subordinate   | Supervisor | Subordinate | Supervisor | Subordinate       | Supervisor | Subordinate  | Supervisor | Subordinate      | Supervisor | Subordinate | Supervisor | Subordinate | Supervisor |
| Valid          | 85           | 19         | 85            | 19         | 85          | 19         | 85                | 18         | 85           | 19         | 85               | 19         | 85          | 19         | 84          | 18         |
| Missing        | 0            | 0          | 0             | 0          | 0           | 0          | 0                 | 1          | 0            | 0          | 0                | 0          | 0           | 0          | 1           | 1          |
| Mode           | 2.000        | 2.000      | 2.000         | 2.000      | 2.000       | 3.000      | 4.000             | 3.000      | 4.000        | 4.000      | 4.000            | 4.000      | 4.000       | 4.000      | 4.000       | 5.000      |
| Median         | 2.000        | 2.000      | 3.000         | 3.000      | 2.000       | 3.000      | 3.000             | 3.000      | 4.000        | 4.000      | 4.000            | 4.000      | 4.000       | 4.000      | 4.000       | 4.500      |
| Mean           | 2.471        | 2.421      | 2.659         | 2.842      | 2.659       | 2.842      | 3.176             | 2.944      | 3.224        | 3.579      | 3.459            | 3.895      | 3.894       | 3.842      | 3.952       | 4.333      |
| Std. Deviation | 1.287        | 1.216      | 1.119         | 1.119      | 1.108       | 0.834      | 1.217             | 0.938      | 1.169        | 1.216      | 1.129            | 1.100      | 0.988       | 1.119      | 0.863       | 0.840      |
| Minimum        | 1.000        | 1.000      | 1.000         | 1.000      | 1.000       | 1.000      | 1.000             | 1.000      | 1.000        | 1.000      | 1.000            | 1.000      | 1.000       | 1.000      | 1.000       | 2.000      |
| Maximum        | 5.000        | 5.000      | 5.000         | 5.000      | 5.000       | 4.000      | 5.000             | 4.000      | 5.000        | 5.000      | 5.000            | 5.000      | 5.000       | 5.000      | 5.000       | 5.000      |

\* The mode is computed assuming that variables are discreet.

**Table S-X.** Statistical tests by staff category

|                   | W       | df | p     |
|-------------------|---------|----|-------|
| Job-security      | 816.500 |    | 0.941 |
| Communication     | 736.500 |    | 0.539 |
| Feedback          | 719.000 |    | 0.442 |
| Work-life Balance | 872.000 |    | 0.338 |
| Acknowledged      | 661.000 |    | 0.197 |
| Safe & Respected  | 619.000 |    | 0.097 |
| Resources         | 812.000 |    | 0.971 |
| DEI               | 550.500 |    | 0.047 |

Note. Mann-Whitney U test.



**Fig S-6.** Likert plots for the assessment of variables of Management and HR values, by staff category.

**Table S-XI.** Correlation matrix of variables measured for Management & HR values (both institutes aggregated; Spearman's test for ordinal variables).

Spearman's Correlations

| Variable             | Communication  | Feedback | Safe & Respected | Acknowledged | Resources | Job-security | Work-life Balance |
|----------------------|----------------|----------|------------------|--------------|-----------|--------------|-------------------|
| 1. Communication     | Spearman's rho | —        |                  |              |           |              |                   |
| 2. Feedback          | Spearman's rho | 0.486*** | —                |              |           |              |                   |
| 3. Safe & Respected  | Spearman's rho | 0.501*** | 0.469***         | —            |           |              |                   |
| 4. Acknowledged      | Spearman's rho | 0.342*   | 0.387**          | 0.575***     | —         |              |                   |
| 5. Resources         | Spearman's rho | 0.276    | 0.236            | 0.328*       | 0.103     | —            |                   |
| 6. Job-security      | Spearman's rho | -0.050   | 0.402**          | 0.096        | 0.444**   | -0.096       | —                 |
| 7. Work-life Balance | Spearman's rho | 0.273    | 0.213            | 0.351*       | 0.263     | 0.113        | 0.074             |
| 8. DEI               | Spearman's rho | 0.351*   | 0.307*           | 0.378**      | 0.294*    | 0.032        | 0.221             |

“Values” & word clouds for “best of” & “to improve” answers:



Fig S-7. Word clouds (<https://www.wordclouds.com/>) of “best of” (left) vs “to improve” (right), summarized from all valid answers of IGC+iMM respondents.

Table S-XII: Alignment of “values” from responses, summarized in four words by AI (ChatGPT):

| Values...              | @ IGC   | @ IMM  | IGC + iMM   | ...to improve:  |
|------------------------|---|--|---|---|
| ...of the Institute:   | Integrity<br>Excellence<br>Cooperation<br>Equity                | Knowledge<br>Excellence<br>Freedom<br>Ambition                   | Integrity<br>Excellence<br>Freedom<br>Ambition                      | -   |
| ... recognized by All: | Freedom<br>Community<br>Openness<br>Respect<br>(n=37)           | Innovation<br>Excellence<br>Freedom<br>Collaboration<br>(n = 37) | Innovation<br>Openness<br>Support<br>Community<br>(n=74)            | -   |
| ... by Supervisors:    | Security<br>Freedom<br>Trust<br>Family<br>(n=5)                 | Flexibility<br>Freedom<br>Creativity<br>Community<br>(n=5)       | Security<br>Flexibility<br>Creativity<br>Community<br>(n=10)        | Openness<br>Transparency<br>Security<br>Communication<br>(n=12)   |
| ... by Subordinates:   | Openness<br>Freedom<br>Community<br>Cooperation<br>(n=32)       | Innovation<br>Excellence<br>Collaboration<br>Support<br>(n=30)   | Innovation<br>Openness<br>Community<br>Support<br>(n=62)            | Respect<br>Transparency<br>Communication<br>Recognition<br>(n=63) |
| ...to improve:         | Stability<br>Transparency<br>Respect<br>Communication<br>(n=38) | Recognition<br>Communication<br>Openness<br>Fairness<br>(n=37)   | Recognition<br>Transparency<br>Communication<br>Stability<br>(n=75) |   |

Green = values consistent between groups

Boxed = call for attention