Designing Workplaces to Align with Culture(s)

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ABSTRACT

Neuroscience studies indicate that when workplace design recognizes, reflects, and respects both users' national and organizational cultures wellbeing and performance soar (see, for example, Veitch, 2012), but national and organizational culture are generally separately considered. The reported project integrates neuroscience research related to organizational culture, national culture, and workplace design to develop a straightforward framework that can be used in practice to create work environments that support employees as they work to their full potential within the context of their national and organizational cultures. The system presented has been extensively tested and refined in practice. The tool developed is based fundamentally in the national culture research of Hofstede and also the organizational culture research of Cameron and Quinn. Hofstede et al. (2010) identify 6 factors that describe national culture: individualism-collectivism, power distance, masculine-feminine, tolerance of uncertainty, long-term or short-term orientation, and indulgent-restrained. Hofstede's system's relevance to design decision-making has been supported, for example, by Zhang et al. (2006). Cameron and Quinn's (2006) classification system, which identifies four organizational culture types (hierarchy, market, clan, adhocracy) also has clear design implications, as identified, for example, by Zerella and colleagues (2017). The Hofstede and Cameron and Quinn systems recognise key cultural dimensions at two different scales Three factors identified by Hofstede are particularly relevant to workplace design (individualism-collectivism, power distance, masculine-feminine) (Augustin, 2018) and a synthesis of research related to these factors indicates that there are four major classes of optimal workplaces (Augustin, 2018). Analyses focused on integrating Augustin's national culture design system with Cameron and Quinn's organizational culture types, completed in the context of decades of professional practice and reported in this paper, results in 16 separate national/organizational culture workplace design scenarios and specific, practical office design recommendations to effectively utilize available resources, human, financial, and otherwise. The model established can be used by office design practitioners to develop workplaces that boost wellbeing and professional performance and by researchers doing more conceptual studies.

1   INTRODUCTION

Neuroscience studies indicate that when workplace design recognizes, reflects, and respects both users' national and organizational cultures wellbeing and performance soar (see, for example, Veitch, 2012), but national and organizational culture are generally separately considered.

This project integrates neuroscience research related to national culture, organizational culture, and workplace design to develop a straightforward framework that can be used in practice to create work environments that support employees as they work to their full potential within the context of their national and organizational cultures.

Both national and organizational culture have been concisely defined. Hofstede et al. (2010) identify national culture as "the unwritten rules of the social game. It is the collective programming of the mind that distinguishes the members of one group or category of people from others." Fleming and Guddenmund (2015) report that organizational culture: "influences a people's or group's views of the world . . . and is stable over time. . . Culture can be likened to an invisible hand that directs behaviour, influencing group member's behavioural choices. . . . This guiding hand is of the group's own making."

Ample research indicates that it is important to align workplace design with national culture and also with organizational culture. For example, Grenness (2015) reports on the negative consequences of workplace design that is inconsistent with national culture, such as higher user stress levels. Space design that aligns with national culture optimises employee performance (for example, Gifford, 2014; Grenness, 2015; Hofstede et al., 2010). Multiple researchers have identified the tension-inducing consequences of organizational culture-inconsistent workplace design, while design that recognizes and reflects organizational culture boosts wellbeing and cognitive performance (Schein, 1990; Peponis et al., 2007).

2   DESIGNING FOR NATIONAL CULTURE

Hofstede, Hofstede, and Minkov (2010) present the significant parameters of national culture, and they couple their widely applied system for categorizing cultures with useful design insights. The team reports that nations are:

- *Individualistic or collectivistic* and design implications of this parameter include: people from more individualistic cultures (compared to those from more collectivistic ones) have greater expectations of being able to have privacy when they wish, are less willing to share resources, are less driven to conform and follow "design rules," are more likely to modify environments to serve immediate needs, and are less likely to signal group membership via design decisions (but more likely to use those decisions to communicate their individuality). Hofstede et al. also report on how dozens of nations score on the cultural parameters they identify.
- *More or less accepting of power differences conveying benefits, those more accepting are described as higher on "power distance."* In cultures with relatively high power distance, people with more power have access to more/better amenities, for example and are interested in indicating their power to others.
- *Masculine (tougher) or feminine (not as tough).* In more feminine cultures, quality-of-life and pleasure-in-use, environmental responsibility, and modesty (in display, etc.), are more important than in more masculine ones. In more masculine cultures achievement and design elements that signal achievement are important.
- *More or less tolerant of uncertainty.* Less tolerance for uncertainty is linked to a greater need for rules (of all sorts, which has programming consequences), more concern about cleanliness (which has ramifications for material choices, for example), less focus on

opportunities to relax, and more negative feelings toward novelty, compared to cultures with more tolerance for uncertainty.

- *Longer- or shorter-term in their outlook.* Tradition and keeping up with trends are viewed more positively in cultures with a short term-orientation; in cultures with a long-term orientation there is relatively more concern with material wear and financial returns.
- *Indulgent or restrained.* People feel freer to enjoy life in less restrained cultures.

Additional research related to the Hofstede et al. (2010) system indicates that:
- There is more concern about nonverbal messages sent via design in collectivistic than in individualistic cultures (De Mooij and Hofstede, 2011).
- Relatively more angular lines/shapes are generally preferred by people from more individualistic countries; the reverse is true for people from more collectivistic ones (Ghoshal et al., 2016; Zhang et al., 2006).
- People from cultures with a long-term orientation are generally more focused on achieving peace of mind; those with a short-term orientation on pursuit of happiness (De Mooij and Hofstede, 2011).
- Members of cultures with a short-term orientation are more willing to pay for convenience (De Mooij and Hofstede, 2002).

3 DESIGNING FOR ORGANIZATIONAL CULTURE

Cameron and Quinn (2006) developed a widely used system for categorizing organizational cultures, which, like that of the Hofstede team, has clear design implications.

The four organizational cultures identified by Cameron and Quinn can be briefly described by the single adjective the researchers have chosen to exemplify it (2006):
- Hierarchy – Controlling
- Market – Competitive
- Clan – Collaborative
- Adhocracy – Creative

Cameron and Quinn (2006) provide additional details about each organizational culture. In a hierarchical culture, the workscape is rigorously structured, with supported ways of acting formalized via rules and policies. In contrast, market cultures are focused on productivity and effectively competing in relevant channels. Clan cultures focus on teamwork and employee development and wellbeing as well as empowering employees. In adhocracies creative and innovative thinking and behaviours are highly valued.

Research links the Cameron and Quinn culture types with workplace design parameters. For example, Wells et al. (2007) report that clan cultures supply higher-quality workspaces to their employees than non-clan ones. West and Wind (2007) share that when their case study organization developed a workplace environment consistent with its organizational culture professional wellbeing ensued.

4   SYNTHESIS: INTEGRATING   NATIONAL   AND   ORGANIZATIONAL CULTURE REQUIREMENTS

A single system can integrate existing research on space design and national and organizational cultures to create places where people work to their full potential with high levels of wellbeing within the context of their national and organizational cultures. This paper introduces such a system, layering support for organizational culture into Augustin's 2018 program for national culture-informed design. The system reported here was both derived via and supported by articles in the peer-reviewed press, such as those cited in this text, identified as part of an ongoing, systematic, exhaustive literature review of articles related to workplace design and culture(s), etc. published in English, as well as by decades of related professional practice.

National culture has a more significant effect on optimal workplace design solutions than organizational culture, it drives viable options. As Hofstede, Hofstede, and Minkov (2010) report "Nationality defines organizational reality. . . . [research presented] demonstrated six ways in which national cultures differ; all of these have implications for organization and management processes."

Augustin (2018) synthesizes information on national culture and design. Her system reflects scores on individualism-collectivism, power distance, and masculinity-femininity and presents four major classes of optimal workplace environments (those for Striver nations, for Nurturer nations, for Developer nations, and for Coordinator nations). Design solutions for each class should be slightly adjusted for countries with relatively extreme scores on tolerance for uncertainty and/or long- or short-term orientation, using the material included in Section 2.

The integration of Augustin's national culture-informed workplace design requirements (2018) with office design prerequisites based in organizational culture is the new model presented in this paper. Workplace design-related highlights of the integration of Augustin's system with research on organizational culture consistent design are included below.

4.1   Strivers (Individualistic and Masculine/Tough Nations) - Workplace is an enable-er.

As Augustin (2018) reports, effective Striver work environments:
- Provide opportunities for true audio and visual privacy for individuals and for groups
- Duplicate resources when necessary; Stivers are not keen on sharing (which can result in assigned workspaces).
- Can be modified, at an individual and group level, as users deem necessary; the malleability important to Strivers and Nuturers means that these users have more control over their at-work experiences than is desired by members of other groups.
- Signal individuality.
- Flout "design rules."
- Do not focus on quality-of-life for users; Strivers prize achievement and will sacrifice comfort to realize it; functionality, efficiency, and effective action are key design considerations.
- Feature relatively more angular design elements (whether in three-dimensions with furniture or architectural elements, or two-dimensions with upholstery patterns, wall treatments, etc.) than in Developer and Coordinator spaces.

- Need not focus too much on environmentally responsible options; Strivers are not as enthusiastic about designing green as some others.
- As Augustin (2018) reports, "An archetypal workspace that would support Strivers features a central meeting/laboratory space ringed by individual work areas with floor-to-ceiling walls whose shared space facing walls are transparent glass sliding doors with curtains that can be drawn."

Strivers can be low or high on power distance. High or low power distance scores for Strivers, Nurturers, Developers and Coordinators result in the same sorts of tweaks to environmental design. For example, in higher power distance Striver workplaces there will be more apparent relative rank (based on power/status) indicated via design and aesthetic options and more amenities that are available only to those who have achieved a particular status.

Countries were categorised as individualistic-collectivistic, etc., based on their relative score on cultural parameters reported by Hofstede et al. (2010), with the average rank being the boundary between classifications, for example, as individualistic or collectivistic. Individualistic, tough, low power distance countries include Australia, Austria, Canada, Germany, Great Britain, Hungary, Ireland, Israel, Italy, Japan, New Zealand, and the United States. India is, for instance, an individualistic, tough, high power distance country.

The new model presented in this paper customizes spaces for Striver nations based on organizational culture types present (market, hierarchy, adhocracy, and clan; Cameron and Quinn, 2006).

Striver-Market Culture Combinations Design for this grouping aligns highly consistent organizational and national culture requirements. For all national and organizational culture pairings, the tightest alignments, such as this one, are the most likely to be present and to thrive (Hofstede et al., 2010). Striver-Market work environments will be meticulously tuned to increase the likelihood of winning, by individuals and groups, whether "winning" is buying commodities for production at low prices or profitable stock market trading. It is also key that victories are acknowledged. If instantaneous interpersonal communication is required to effectively capitalize on competitive conditions, shielding between workers will be minimized. Since these spaces need to be tuned to team-specific needs, it is especially important to collect information from users.

Striver-Hierarchy Combinations These workplaces will be more constrained than other Striver pairings, with decisions on allocations of workplace resources, from space to sit-stand desks, influenced by rules/systems as well as how distribution may lead to accomplishing desired objectives.

Striver-Adhocracy Combinations People working within this combination are likely to be particularly attuned to providing opportunities for individuals and groups to concentrate/focus and to make sure that everyone has any resources they may need to be creative. Comfort can be sacrificed to promote creativity. People in this combination will make environmental changes and if design does not support doing so the space will "ugly up" fast. Break areas and refreshment zones are important in the context of helping users' brains work as well as possible.

Striver-Clan Combinations Clans will feel quite challenged here because for Strivers the wellbeing of individuals and groups are less important than what they achieve. For clans, amenities and opportunities to refresh are significant for the quality-of-life they support. Clan groups will

enjoy the opportunity to present themselves in the spaces developed and there will be more positive feelings about curvilinear design elements here than among other Strivers.

4.2   Nurturers (Individualistic and Feminine/Not Tough Nations) – Workplace is home base.

The best workplaces for Nurturer nations (Augustin, 2018):

- Supply visual and audio privacy for individuals and for groups when desired. Nurturer private spaces will be more pleasant places to spend time than those frequented by Strivers, with comfortable casual furniture instead of more purpose-driven conference tables and chairs, for instance. For Nuturers, goals are met, but not at the expense of quality-of-life.
- Combat employee stress. Self-actualization is important for Strivers and Nurturers, and not as important for Developers and Coordinators. Self-actualizing can add to stress levels, so tension-reducing design elements are useful in self-actualization-important environments. For example, colours used by Strivers and Nurturers should be not very saturated but relatively light, as these shades support knowledge work and are relatively relaxing to view (Valdez and Mehrabian, 1994). Self-actualization quests make coherent space planning more difficult.
- Do not require resource sharing.
- Support living pleasant lives. Among Strivers, individuals/teams can command space and other resources that they need to achieve goals, but for Nurturers there may also be casual spaces controlled by particular groups (and occasionally individuals) for relaxation as well as a team room. Strivers focus on wellbeing as it directly optimizes performance while Nurturers are interested in people living pleasant lives as they work. You may find a fancy coffee maker in a Nurturer break area because employees will like using it, there will be a coffee machine in a Striver break room also, but not so people can enjoy the coffee, but so that they can remain caffeinated.
- Be changeable and flexible in use.
- Allow individuals and groups to "say" what they want about themselves via personalization/customization while they reject any "design rules" they want to ignore.
- Present relatively more angular than curvilinear design elements.
- Thoughtfully and thoroughly support the health of the planet.
- Augustin (2018) reports that "An archetypal workplace for Nurturers brings hygge (Billie and Sorensen, 2007) to the workplace with pleasant enclaves created for each distinct workplace group."

Individualistic, not tough, lower power distance countries include Denmark, Estonia, Finland, Lithuania, Norway, Sweden, and The Netherlands. France is an individualistic, not tough, high power distance nation.

The new model presented in this paper customizes spaces for Nurturer nations based on organizational culture types present (adhocracy, market, hierarchy, and clan; Cameron and Quinn, 2006).

Nurturer – Adhocracy Combinations This is the tightest Nurturer pairing. The form of Nurturer - Adhocratic spaces must support creativity by members in any way they can, which may require stress-reducing sensory experiences or elevated quality-of-life, for example. People living in this

combination will particularly value space flexibility/change options, ones that allow them to do whatever they need to do to be creative while still having positive life experiences. Adhocracies are likely to have spontaneous meetings, so meeting space options must support some unscheduled use. To fully understand what any adhocracy needs for creativity requires research with the group.

Nurturer-Market Combinations This combination will be willing to trim the comfort of their spaces to compete effectively in ways that other Nurturers find hard to understand. In this blend, market groups are likely to have the stress reducing design elements and design-in-use flexibility that will actually contribute to their success in meaningful ways, but that they would not themselves see as necessary.

Nurturer-Hierarchy Combinations In these configurations, pre-established systems have a significant effect on environmental conditions experienced as do completing tasks and quality-of-life. These systems might relate, for example, to amenities that groups with different professional responsibilities have access to.

Nurturer-Clan Combinations Clan cultures can particularly relish amenities encouraged by a feminine culture and take full advantage of related opportunities presented. With clans, amenities are important so that users live pleasant lives, as the users define "pleasant", so there can be clashes routed in design-decision justification. Clan cultures are particularly attuned to member wellbeing and can prioritize that over nearly all else.

4.3   Developers (Collectivistic and Masculine/Tough Nations) – Workplace is a machine.

Workplaces for Developer nations (Augustin, 2018):

- Support extensive communal experiences (and efforts), privacy is less important than it is to Strivers and Nurturers (although all employees need privacy from time-to-time (Gifford, 2014)). Open environments in general are more acceptable to Developers than they are to Strivers and Nurturers (although they pose a challenge to work requiring concentration and focus for all (Gifford, 2014)).
- Allow sharing of professional resources, which can lead to design efficiencies not possible in spaces for Strivers and Nurturers.
- Are designed to support primary anticipated space use; flexibility/changeability requirements are minimal.
- Send messages, via design, about membership in demographic/sociological groups and not individuality. Design decisions generally will conform to design rules users are familiar with. Nonverbal communication via design and design elements is more important in collectivistic cultures than in individualistic ones, so research with users is required to make sure that they "read" the right things, about themselves and others, in spaces created.
- Feature relatively more curvilinear than rectilinear three- and two-dimensional design elements.
- Promote efficiency and achievement. Developers are part of a big family, one with goals and objectives and a job to get done.
- Communicate familiarity via design options, in more individualistic cultures alternatives can seem more expressive (Jordan, 2000).
- Are not driven by environmental responsibility.
- As Augustin (2018) reports, "An archetypal workplace environment for Developers is a large workplace with expansive view lines (a "field" of desks, for example) where the group as a unit can perceive it is moving toward goal achievement."

Collectivistic, tough, low power distance countries include Greece and Pakistan. Sample collectivistic, tough, high power distance countries are Brazil, China, Hong Kong, Malaysia, Mexico, Philippines, Singapore, and Venezuela.

The new model presented in this paper customizes spaces for Developer nations based on organizational culture types present (hierarchy, clan, adhocracy, and market; Cameron and Quinn, 2006).

Developer – Hierarchy Combinations This pairing is particularly oriented to respecting and acting in accordance with established systems that clearly lay out "how things are done around here." These systems, to some extent, simplify space programming, which cannot proceed without knowledge of what has been codified. Nonverbal communication is particularly important in this combination. Meetings are likely to be planned in hierarchical cultures and workplace design needs to support this tendency.

Developer-Clan Combinations This combination is likely to be challenged in ways that can be difficult to temper via design. Members of clans can fear that individual needs will get lost in a Developer "machine." Resolving disconnects like this requires great skill on the part of designers.

Developer-Adhocracy Combinations In this combination, groups are likely to be provided with a space that supports their goals along with the ability to make changes that they feel are required to support their creativity, as long as these modifications do not conflict with collectivistic design options. Users will value design familiarity as it supports their creativity. Designers for this combination must carefully investigate how a space can support creative endeavours now and in the future and design what is learned via this research into areas provided when sites are occupied.

Developer-Market Combinations For this combination, goal achievement is important and as long as this can be accomplished via shared resources and other conditions consistent with design in collectivistic contexts (which can support differentiated environments) all will work well. It is important that when spaces for this pairing are originally occupied the physical environment is developed to support any anticipated future requirements. Market cultures are content to work in familiar design as long as it supports "victory" in the competitions of interest.

4.4   Coordinators (Collectivistic and Feminine/Not Tough Nations) – Workplace is a haven.

In workplaces for Coordinator nations (Augustin, 2018):

- Sharing resources is acceptable and private spaces are not a priority.
- Designing in use flexibility is relatively less important.
- Design "rules" are followed.
- Design elements that promote cordiality are prized because harmony and consensus are important in collectivistic cultures. Examples of these sorts of design options are warm surface colours (Choi et al., 2016) and seat cushions on chairs (Ackerman et al., 2010).
- Space customizations do not promote individuality.
- Support for interpersonal bonds, via co-location and similar mechanisms, can take precedence over efficiency of layout.
- User quality-of-life is important and potential for positive, pleasant experiences can drive design choices.
- Curvilinear design elements are favoured.

- For more feminine cultures aesthetic approaches should communicate artistry, while in more masculine ones, such as in Developer nations, signalling performance is more desirable (Jordan, 2000).
- Environmental responsible is important.
- As Augustin (2018) reports, "An archetypal workplace for Coordinators would feature shared work areas, as is the case with Developers, but for Coordinators the 'rooms' of colleagues would be smaller with co-located groups more carefully managed to produce pleasant at-work experiences."

Collective, not tough, high power distance countries include Chile, Indonesia, Peru, Portugal, Russia and Turkey. South Korea and Taiwan are collectivistic, not tough, low power distance countries.

The new model presented in this paper customizes spaces for Coordinator nations based on organizational culture type present (clan, adhocracy, market, and hierarchy; Cameron and Quinn, 2006).

Coordinator – Clan Combinations This is a tight pairing focused on optimizing employees' lived lives (although all commercial enterprises need enough income to survive). In Coordinator-Clan combinations artistry can tie to quality-of-life. Design plans developed to benefit all support core requirements and will not be changed without considerable internal discussion. Clan cultures value socializing, making common spaces for interacting important elements of workplaces. Zerella and colleagues (2017) share that "visual access, physical proximity and workstation equality are related to behaviours valued within clan culture styles, including communication, collaboration, teamwork, relationships and non-hierarchical behaviour." Members of clan cultures are likely to value participating in the design process.

Coordinator – Adhocracy Combinations This combination can work well as long as all agree on how workplace design can support creativity; quality-of-life/pleasant work areas are desirable as they contribute to creativity. For this pairing, preferred design elements will be slightly more rectilinear than in other Coordinator combinations.

Coordinator – Market Combinations In this situation, all will go well when all participants concur on how design can support "winning" professional objectives. For this pairing, preferred design elements will be noticeably more rectilinear than in other Coordinator combinations.

Coordinator – Hierarchy Combinations With this combination, there can be significant disagreements about whether workplace elements/amenities should be allocated based on their potential to make working life more pleasant or based on a more regimented system for decision-making that includes factors such as role within the organization.

5   MODEL VALIDATION
This model is based on research published in peer-reviewed journals/sources and has been validated using methods outlined by Zeisel (2006). The outcomes of countless applications support it.

6   CONCLUSION
National and organizational culture influence how people experience and use workplaces. Research findings published in the peer-reviewed press on national culture-appropriate design, organizational-culture consistent design, and on the ties between workplace design and knowledge

worker wellbeing and performance, were synthesized to develop a comprehensive model of culture(s)-right workplace design. It can be used to guide the development of workplaces that optimise wellbeing and professional performance and also by researchers.

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