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Towards a Gold Standard Operations Control Centre (OCC): applying Creative Leadership principles in the re-design of an OCC at a leading international airline

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Creative Leadership (CL) is a leadership model comprising the three values of Empathy, Clarity and Creativity, which are considered baseline operational and leadership attributes in a Fourth Industrial Revolution (4IR) world. This paper presents a case study charting the application of CL principles within delivery of a complex research project involving international collaboration between The Helen Hamlyn Centre for Design (HHCD) at London's Royal College of Art (RCA), a strategic partner – TATA Consultancy Services (TCS), and an airline client [the Airline]. The purpose of the design research was to improve the operational efficiency of the Airline, whilst improving staff and customer experience. This addressed three discrete, yet interlinked areas of delivery within the Airline Operations Control Centre (OCC), namely Technology, Environment and People. The three values of CL – Empathy, Clarity and Creativity – were exercised to align physical, technological and psychological factors. These were implemented in the design of a UX technology that made complex information accessible at a glance, and the re-design of the OCC office environment to enable better communication and personal wellbeing. This paper captures the process and outcomes, whilst reflecting on the efficacy of the CL model as a progressive framework for innovation, growth and development.

Keywords: *Creative Leadership; airline; operations control; people-centred design; design research*

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Introduction

Our world is changing rapidly, with digital technologies offering solutions to business and commerce, as well as raising questions about the role of people, and the individual, in an AI-first world (Deloitte, 2018; McKinsey & Company, 2016; Schwab, 2016). Professor Klaus Schwab, Founder and Executive Chairman of the World Economic Forum, warns that this Fourth Industrial Revolution (4IR) 'is unlike any we have experienced before,' with far-reaching implications for how we work, live, and relate to each other and the world around us.

In this context, the air travel sector is seeing a growing need to integrate technological solutions aimed at improving airport control, operational and financial safety and efficiency (Castro & Oliveira, 2011; Castro *et al.*, 2012; Mota, 2008; Řasa & Plos, 2015), with a people-centred approach (ABB, 2017; BAW Architecture, 2016; CCD Design & Ergonomics, 2019; Chang & Walecki, 1998; Edmonds, 2015; International Organization for Standardization, 2000; Morel, 2012), with a view to improving performance, minimising error, and advancing the overall experience and wellbeing for both passengers and staff alike. The case study presented in this paper, which resulted from a collaboration between the RCA, TCS and the Airline, explores this challenge.

The brief

TCS had been working with the Airline to co-create strategic solutions that re-imagine airline operations and enrich customer experience. Whilst significant technical developments had been made concerning how staff accessed the various flight and aircraft management systems, information streams and social media feeds, HHCD was brought in to help implement these developments using a people-centred design approach (Coleman, 1999; Eikhaug & Gheerawo, 2010; Coleman, Lebbon & Myerson, 2003).

People-centred design is an approach that elicits active engagement from different stakeholder groups, via ethnographic (Bichard & Gheerawo, 2010; Bryman, 2012; Robson, 1993) and participatory methods (Buur & Matthews, 2008; Sanders & Stappers, 2008), to promote shared ownership of creative directions that meet both user need and client business goals. This approach allows for openness, flexibility and empathy-building in the discovery phase of the research, which typically leads to alteration, or re-definition, of the initial brief (Coleman & Myerson, 2002).

The initial activities of engagement involved all three project partners and took place on-site at the Airline buildings. This enabled qualitative research, including semi-structured interviews (Robson, 1993), workshops with staff from different departments, and ethnographic observation of the OCC (Bichard & Gheerawo, 2010; Bryman, 2012; Robson, 1993), to clarify the purpose, scope and deliverables for this project. From this, the overarching aim for a year-long design research project was formalised as follows:

Improve the operational efficiency of the Airline, whilst maintaining, or improving, customer experience.

Specific project objectives were highlighted by the Airline management, technical and operations staff, falling under two distinct categories:

Immediate day-to-day challenges:

- Improve the graphical user interface (GUI) of the OCC system;
- Improve the transfer of information across departments consolidating multiple systems into one interface;
- Balance the diverse needs of different departments in the system;
- Bring the customer voice into the decision-making process;
- Establish, and improve on, day-to-day 'pain points' for staff.

Overarching long-term opportunities:

- Enable staff to make better, faster decisions;
- Enhance a culture of collaboration and co-operation;
- Provide more accurate troubleshooting of issues that arise;
- Ensure customer retention after disruptions experienced;
- Develop a roadmap for a gold standard OCC.

Three delivery areas

To address these challenges and opportunities, the project team defined three discrete, yet interlinked areas of delivery – Technology (i), Environment (ii), and People (iii) – which were presented as 'design sprints' to the Airline. These would produce implementable outcomes throughout the year, whilst employing Creative Leadership principles to address the overarching opportunities in a way that contributed to overall organisational objectives and vision (Figure 1).
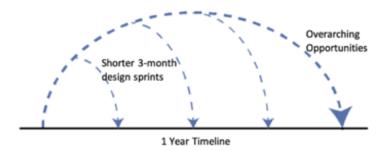

Figure 1. Project timeline

Methodology

The research followed the four-phase 'Double Diamond' innovation process (Figure 2), based on a range of people-centred design research activities employed at HHCD, to extract rich and textured insights about the OCC context, stakeholder and user groups, as well as building innovation, creativity and inclusion in the design outcomes.
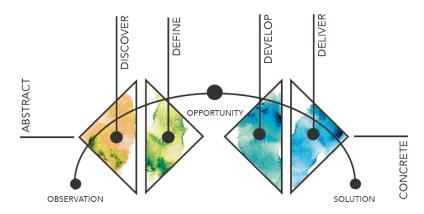

Figure 2. Four-phase 'Double Diamond' Design Thinking process (UK Design Council, 2005)

Specific methods included: on-site visits (three times for an average period of five days) which allowed for ethnographic observation, stakeholder interviews and workshops (Bichard & Gheerawo, 2010; Bryman, 2012; Robson, 1993); low- and high-definition prototyping of ideas; and questionnaires (Denscombe, 2003; Bryman, 2012) which were used for primary research and collating feedback. Multiple methods of data gathering helped capture both qualitative and quantitative response, allowing for triangulation of the data (Denzin, 1989), and minimising researcher and participant bias. The project team abided by the ethics guidelines of the RCA to ensure the safety and wellbeing of all project contributors. Access to the OCC was arranged through TCS and the Airline, and Information sheets were provided to each participant to obtain Informed Consent.

The OCC operates 24 hours a day throughout the year and sees a high level of complexity in its space. Researchers had to gather meaningful research data in a way that was non-disruptive, and captured sufficient feedback to design ideas in a corporate setting, where personal opinion on themes such as workspace and employee wellbeing had not been previously sought. Managing this effectively required:

- Robust project management and communication across time-zones;
- Pre-planned visits on-site to enable co-located research;
- Frequent liaising with the client to remotely administer research tools and collate feedback, reliant on clear communication to mitigate misunderstanding or bias;
- Maintaining individual and project clarity in dealing with the multiple project stakeholders.

The project represented a new level of complexity for HHCD in conducting a design research project with human, technological and environmental considerations and an international tri-partner delivery team. The researchers used the Creative Leadership model conceived at HHCD (Gheerawo, 2018; Gheerawo, 2019; Gheerawo, Flory & Ivanova, 2020) to test applicability.

Creative Leadership

A transformational process in which individuals access innate creativity and the potential to lead themselves and others towards fulfilling the goals and vision of the organisation or project. (Gheerawo, 2019)

Creative Leadership (CL), as defined at HHCD, is a tripartite model of leadership encompassing the three values of Empathy, Clarity and Creativity (Figure 3) that was conceived by Rama Gheerawo, HHCD Director, in 2011, in response to experience drawn from circa 200 people-centred projects partnering with business, government and not-for-profit organisations.
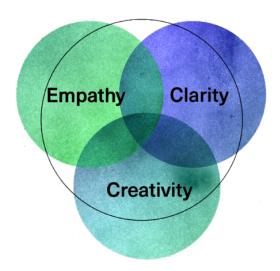

Figure 3. The tripartite Creative Leadership model (Gheerawo, 2017)

Over the last nine years, CL as a model for use within design development and innovation management, has been trialled via delivery of executive education and bespoke international workshops with participant groups (n=2000+), and primary research including interviews and a pilot study (Ivanova, 2018; Ivanova, 2019, Gheerawo, 2019; Gheerawo, Flory & Ivanova, 2020). This was followed by a review of practice at HHCD, supported by interviews with senior members of staff (Ivanova, 2018; Ivanova, 2019) which revealed that Empathy, Clarity and Creativity were inherent in the delivery of people-centred projects, throughout different stages of delivery from concept development to actualisation, and in managing factors, e.g., people, technologies, resources.

Whilst these CL attributes had been identified retrospectively within previous projects, it was hypothesised that the intentional application of these attributes would enhance the people-centred and creative value of project activities, individual engagement, organisational process, and design outcomes. In practice, this meant applying the three CL values to guide ideas generation, decision-making, and stakeholder interactions, from research to realisation. The following sections present an experiential analysis of applying CL principles within the OCC redesign.

Creative Leadership in the OCC

An OCC functions to oversee the 'planning and coordination of the disruption management process to achieve network punctuality and customer service while utilising assets effectively and minimising cost' (Bruce, 2016). The team has to ensure the smooth running and operations of each aircraft, from the moment it arrives into an assigned gate, until it departs to its following destination (Řasa & Plos, 2015). This includes a variety of operations (Figure 4), such as engineering check-up of the aircraft, management of staff, handling of passengers in transit, and communications via social media to address passengers' inquiries and feedback. The successful management of all of these interlinked aspects ensures a safe, efficient and positive experience for around 100,000 passengers per day.
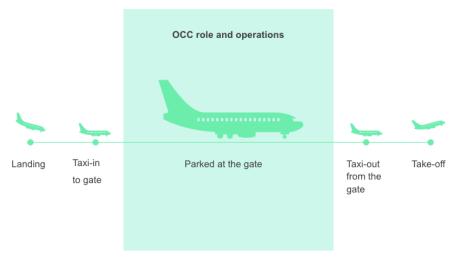

Figure 4. Role and responsibility of OCC

On-site research took place within the OCC for initial observation and exploration. Researchers needed flexible approaches in this fast-paced setting to elicit stakeholder co-operation. Guided by the CL values of Empathy and Clarity, they built trust with OCC staff members – a core research group – to identify considerations important to them. This entailed semi-structured interviews conducted as one-to-one sessions with six OCC members of staff, allowing for open and honest conversation. Deep listening and non-judgment were key in driving empathic exchange. As the OCC rarely sees external visitors, clarity of purpose and intention for the research engagement needed to be visibly communicated.

Subsequently, two design researchers – Poggi and Gadzheva – spent 24 hours at the OCC shadowing the day and night shifts. This rapid ethnography research technique gathered insights in real-time (Bichard & Gheerawo, 2010). The day shift allowed the researchers to observe individual behaviour, teamwork and communication during busy times, and the night shift provided insights into how OCC members cope with boredom and fatigue. This empathic approach helped gain an understanding of the context, specific day-to-day challenges, and opportunity areas for improvement, uncovering direct insights from OCC staff. Many were unexpected, such as the sense of personal fulfilment that mainly arose when the team would come together to resolve a difficult situation:

I like when something goes wrong and you are doing something to solve the problem and make sure everybody is updated.' (Senior Officer, OCC)

Several context-specific and resource-related challenges that arose are summarised below.

The nature of work

Working in an OCC environment requires sustained attention and quick response alongside accurate and efficient communication. For staff working twelve-hour shifts with short breaks, this presents physical and psychological challenges. The ability to respond adequately relies on:

- Access to appropriate technologies and support to ensure information transfer;
- The quality of staff communication in- and between teams;
- The physical and mental wellbeing of individuals.

We need proper breaks. Having the option to use standing desks and having big monitors would make life so much easier. (Engineer, OCC)

Workplace design

The physical environment of an OCC is often concerned with health and safety, ease of mobility and interactions, and minimising distractions (BAW Architecture, 2016; Hugo, Kovesdi & Joe, 2018; International Organization for Standardization; 2000), with little to no focus on other factors including psychological needs (Vischer, 2008) and adequate access to non-task related resources, e.g., healthy food options and recreation areas (Figure 5). Myerson & Privett (2014) highlight Vischer's view, that psychological comfort has to be equally addressed to maximise organisational productivity – a missing link in current workplace design which addresses primarily physical and functional comfort.
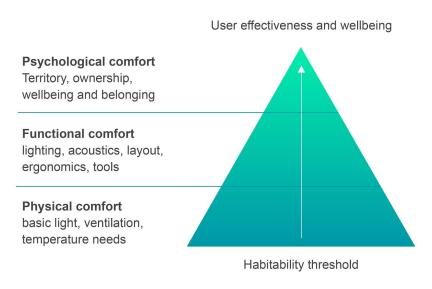

Figure 5. Vischer's comfort model (2008), illustration adapted from 'Life of Work' (Myerson & Privett, 2014)

Optimal solutions had to be achieved with minimal design intervention and disruption to the workflow. This required the design team to maintain high levels of all three CL components throughout the entire delivery process, including reflection, self-critique, regular stakeholder communication and feedback on ideas, to ensure that the vision of creating a 'state-of-the art' solution could lead to implementable outcomes with immediate benefits, both personally and organisationally. Specific CL processes and attributes that were employed in this process are presented below.

Addressing OCC challenges through CL research

Current research into Creative Leadership at HHCD, including interviews, experiential learning, extensive literature review, and the mapping of barriers to Empathy, Clarity and Creativity, indicates that stress, workload and time are key factors that influence productivity, efficiency and personal fulfilment in the workplace (Gheerawo, 2019; Ivanova, 2019; Gheerawo, Flory & Ivanova, 2020). This helped define criteria and inform opportunities for the challenges identified through the research.

Empathy

Empathy, as defined at HHCD, is 'the ability to recognise, understand and reflect on the thoughts, feelings and behaviours of others'. It is a cognitive capacity to make inferences regarding others' mental states: their knowledge, needs, intentions, and feelings (Decety & Ickes, 2009). It enables designers to connect with others, build relationships and trust, in order to understand the lifestyle, aspirations and emotional needs of people they are designing for (Coleman, Lebbon & Myerson, 2003), thereby moving away from design solely based on physical and ergonomic requirements. Empathy drove the people-centred considerations in the technological and environmental redesign centring on:

- usability beyond ergonomics;
- management and self-management of stress and workload;
- improving wellbeing and personal fulfilment.

Clarity

Clarity, as defined at HHCD, is 'having a clear understanding of the vision and direction of the organisation, or project; it is the ability to effectively communicate this to a variety of audiences; to be clear is to maintain an accountability-mindset that supports the growth of the individual, team and organisation.' The Clarity component was born out of an observed need for 'open and direct communication' that could help resolve complex design problems and enable creative and empathic processes (Ivanova, 2018). Myerson states that simple language can reduce complexity and make difficult concepts accessible (Ivanova, 2018). Others link Clarity to emotional awareness and emotional intelligence (Bodet et al., 2011), mindfulness and wellbeing (Hanley & Garland, 2017), and conscientiousness (Campbell *et al.*, 1996). Clarity principles were used to:

- consolidate complex information streams, making the relevant content accessible 'at a glance';
- enable effective teamwork, communication and cooperation;
- enhance personal focus, vigilance and alertness.

Alongside Clarity in communication, other aspects included maintaining focus, setting targets, balancing everyday operation with overall vision, and matching outcomes to expectations. This formed the basis for considering individual performance, values and aspirations, and their alignment with the Airline vision and ethos, in developing approaches to improve organisational culture – highlighted by OCC management staff – to develop an accountability mindset, enable two-way communication and evolve key performance indicators (KPIs) to be more context-relevant, intelligent and inclusive.

Creativity

Creativity, as defined at HHCD, is the 'innate human ability to utilise intellect, skills and resources to create solutions, services and products that are novel, useful and relevant'. Creative thinking is associated with the capacity to deliver solutions that positively impact, and in this project, Creativity focused on enabling creativity-related capacities in the OCC staff. Specific attributes included formation of novel task-related connections between existing ideas (Mayseless *et al.*, 2015), intuitive thinking, sensory perception, problem identification, evaluation and articulation (Torrance, 1993), attention processes, working memory, improvisation and insightful problem solving (Fink *et al.*, 2008) among others. These were all relevant to ensure that:

- The designs for the UX technology and environment were co-created with staff to ascertain relevance;
- Solutions were people-centred, and both functional and aspirational;
- All project partners and stakeholders were creatively united in crafting solutions.

Some emotional components of Creativity such as ease, fun and feeling safe, directly informed sensory modifications and design interventions, to address emotional uplift and staff wellbeing.

Towards a Gold Standard OCC: three delivery areas

Technology (UX)

Technology was the initial focus area whereby the technology partner led the overall program management, solution architecture, development and implementation, and HHCD was engaged to develop a people-centred specification to optimise the user experience (UX). CL ensured that the final outcome aligned user needs, design considerations and technological capabilities.

Numerous improvements were needed. Outdated software, and hardware limitations, resulted in workstations that presented a barrier to productivity. Interviews with OCC staff defined a shared need for a general overview of the current operations situation, an often-challenging ambition as different teams used different software. A Clarity principle of accessing information 'at a glance' guided the solution leading to the design and installation of a large (two by three metres) digital dashboard to display content such as airport view, flight information, and local weather in one single location that could be viewed by all.

Digital dashboards are not an unusual solution in an OCC (Morel, 2012), however the design of UX requires specific understanding of the needs and culture of each OCC staff and Airline. This entailed identifying and prioritising the relevant information and existing processes to develop a design that met accessibility guidelines, set creative standards for UX through its content and visual language, and built on existing processes rather than requiring behaviour change. To prioritise the content of the dashboard (Figure 6), OCC team members were split into five groups of four, and asked to write down the content most relevant to them on an A0 board. Responses were collated to identify ten priority areas. A digital questionnaire was distributed to all OCC team members, asking them to rank and prioritise the list. Iterative feedback with team managers took place throughout; with following selected for the wall-screen display: Global view, Local weather, Satellite view, CCTV camera feed, Flight status bar, News Bar feed, Flight detail (on map).

Figure 6. Design development for a digital dashboard

The visual display of the information comprised two components: layout, and graphic style.

Layout

The positioning of the elements had to follow information hierarchy and flow. The graphic style, including colour, typography and graphic elements, had to provide appropriate and accessible representation of the content and Airline brand. Design iterations were tested using online questionnaires, to ensure integration of OCC feedback. The final layout responded to two main requirements:

- Hierarchy: to ensure that the most important / necessary information was placed in key position;
- Clusters: to display information in a way that made different elements easily distinguishable.

Graphic style

The graphic style (Figure 7) followed people-centred principles based on the design experience of the design team, with two key considerations:

- Accessibility: the typography, graphic elements and colour were chosen to provide optimal readability (Henry, 2017; Rello, 2012);

- Belonging: the colour scheme reflected the Airline brand identity, motivated by the pride expressed by OCC staff during interviews and demonstrated by their long years of service.
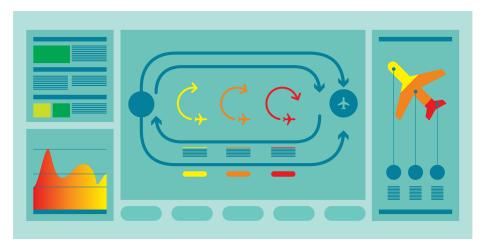

Figure 7. Developing the visual display of information, including layout and graphic style

The designers identified a further opportunity to build Empathy into the interface. This added an 'educational' element to the interface, as a number of staff requested. This was a need to counterbalance mental processes required to adapt to patterns of shift work and sleep, and stress management (Warm, Matthews & Finomere, 2008), with processes for peer-to-peer knowledge-share (Pandey & Momaya, 2007), and continuous personal or professional development. The solution was an 'Educational mode' for the interactive screen, which would appear on the wall screen when the overall situation was under control, with no anomalies to address. This interface would be active only for a limited amount of time (e.g., 20 seconds) and display the following information:

- Wellbeing tips: how to get better sleep, how to prepare for shift work;
- Peer support: recommending a 'go to' person for specific issues;
- Introduction to new staff: presenting new team members.

Adding this people-centred aspect to the UX design was well received by the Airline senior leadership. The final design ideas were also well received by OCC staff and were tested in the space. The empathic value of the CL approach enabled the design changes to be 'co-created' with staff. The positive response led the development of a desktop version of the interface by TCS, building on the insights and learnings already gathered.

Environment

OCC operators make daily decisions that impact directly on the Airline service quality, and sometimes deal with situation-critical circumstances. Minimising human error and mitigating risk have therefore been a long-standing effort in disruption management and control room design (Dekker, 2014, Leung & Paul, 2013, Castro & Oliveira, 2011). While there is recognition that 'disruption management relies heavily on the tacit knowledge of people' (Mota, 2008), the predominant focus is still on using this tacit knowledge to develop and deploy technologies with intuitive capacities, rather than developing processes to grow this capacity within staff and encouraging knowledge-exchange.

More recent examples of 'best practice' in OCC design have begun to address the need for 'humanising' the process, by collaboratively developing solutions with the end client, balancing people-centred and technological requirements, and developing spaces and environments that 'empower users to deliver excellent operations' (ABB, 2017; BAW Architecture, 2016; CCD Design & Ergonomics, 2019). In this context, a CL approach was viewed as key in developing an OCC centred on individual knowledge, skillset and contributions, as well as teamwork and collaborative effort.

Workplace design for wellbeing

Building on the initial research insights, primary considerations entailed maintaining vigilance, motivation, and optimising performance and productivity for OCC staff, as well as developing a sense of belonging and control, and improving overall wellbeing. CL principles were used to consider all factors of physical, functional and environmental

comfort (Vischer, 2008), including lighting (Dzwonczyk, 1951), acoustics, temperature, fresh air, biophilia (Gray & Birrell 2014), layout and workstation design. Key questions that guided the Empathy- and Clarity-building throughout this exploration phase included:

How do long-hour shift work and focused data monitoring affect OCC staff mood and concentration levels? How do staff manage potential boredom and fatigue?

In what ways does the existing work environment support, or preclude, productivity?

How does the current design of the space, e.g., office furniture, colours and materials used, affect the psychological and overall wellbeing state of staff?

What provision exists for rest and downtime? What design interventions could support this?

Where do people gather? What is considered 'social' space within the OCC?

The project drew on previous work from The Helen Hamlyn Centre for Design in the area of workplace and wellbeing, also bringing in additional expertise from a workplace design project partner. Initial assessment of the existing workspace was based on an evaluation toolkit developed and tested in the project 'Workplace and Wellbeing' (HHCD and Gensler, 2017). Findings showed that engaging employees in the design process correlated with higher levels of wellbeing in the short term. Overall, better employee wellbeing could be achieved by aligning organisational priorities with the functional and psychological needs of employees (Myerson & Ramster, 2017). Functional needs include aspects such as furniture and environmental conditions (light, sound, air quality). Psychological needs include aspects such as empowerment, belonging and trust.

The team used the evaluation toolkit to establish where improvements could be made. The toolkit consisted of eighteen questions covering an employee's environment, settings, tools, value, purpose and autonomy. Questionnaires were printed and made available at the OCC office for several days, so that people from different teams and shifts could participate.

Twenty-two people, representing the organisational and regional demographic, filled in the questionnaire. The responses were analysed following the methodology of the toolkit. The findings from this indicated a disparity in how much employees found their functional and psychological needs as being met through the design of the current OCC environment, as well as a need to improve staff wellbeing. These findings were triangulated with insights from the interviews and ethnographic observation on site, highlighting functional needs which were not being met, including lack of ergonomic furniture, no provision of ancillary facilities, e.g., rest areas, eating places, changing and shower facilities, and décor and aesthetics which did not create a positive-feeling and welcoming environment. Regarding psychological needs, staff expressed that they wanted to feel more recognised and valued by the organisation, as well as having opportunities for personal and professional development. To address this, the researchers reviewed leading practice in the area of workplace design, to extract a set of four factors to guide the re-design:

- Sense of control: enabling agency for the individual worker over their environment;
- Silent messaging: using design interventions to address staff needs;
- Alignment with tasks: design solutions that enhance the ability to fulfil their tasks;
- Mental refresh: developing opportunities for recovery and respite.

These principles were expressed within three delivery areas: (i) re-designing the office layout; (ii) developing interior design solutions; and (iii) addressing the need for personalisation via an agile storage solution. As the design team was based remotely, visualisations of ideas were shared regularly with the OCC staff, to gather feedback and ensure that the final outputs met the needs of individual workers and managerial teams. This required the design team to maintain high levels of Empathy and Clarity in communicating effectively via online channels.

Office layout

In resolving the layout, there was an initial lack of clarity in proposing an optimal layout configuration, so the research team presented four different layout options to be evaluated by each OCC member of staff individually. Participants were encouraged to draw, comment and suggest improvements. Email correspondence and online meetings were conducted

on a weekly basis, to determine team roles and communication needs, which were analysed and mapped onto the layout. This helped define a new OCC layout, which was based on the following five principles as illustrated in Figure 8:

  1. Foster information: decision-makers are placed centrally to allow an overall view;

  2. Optimise and manage staff circulation: ensure freedom of movement;

  3. Allow expansion: the layout is re-configurable;

  4. Task-specific areas: spaces are dedicated to specific work;

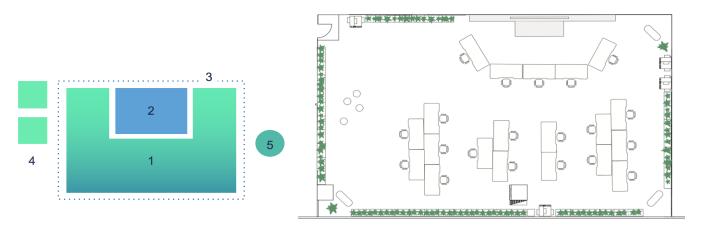 *5. Alternative workspace: routine can be positively disrupted using alternative work set-ups.*

Figure 8. Five principles for a new OCC layout template and example of their implementation

Interior design solutions

Design interventions within the OCC environment targeted three areas – the office, the kitchen, and a rest space – to provide an immediate uplift of the overall work experience of staff, by focusing on physical and visual comfort, as well as bringing in a level of organisational care and service. Creative solutions focused on improving the layout, developing bespoke colour and material palettes, and enhancing the brand presence. In the office area, where desks are shared between several members of staff across shifts, the designs focused on addressing immediate need for ergonomic working stations, improving air circulation and light conditions, and bringing in biophilia. Research suggested that the introduction of greenery could reduce stress, improve cognitive function, and increase health and wellbeing, thereby positively impacting productivity (Gray & Birrell, 2014).

At an empathic level, there was a need to address food and refreshment provision (WORKTECH, 2019) – a simple example being access to a pantry and coffee making facilities in an area for socialising and short breaks. Ideas for the kitchen area therefore centred on creating a welcoming space, and improving the facilities to offer a range of healthy food options for different diets. This entailed setting up a dining area, introducing soft seating and vending machines (Figure 9).

Figure 9. Proposition for a new kitchen space with bright colours and materials providing a joyful and relaxed ambiance

In order to directly tackle the issue of stress and fatigue related to shift work (Dong & Jacob, 2016; Warm, Matthews & Finomere, 2008), the design team proposed the introduction of a rest area that was separate from the main office space. Martin-Gill *et al.* (2018) suggest that control operators should have a separate respite space for ergonomic reasons, and to manage physical and psychological fatigue. Taking inspiration from the first-class cabin of an aircraft, the team developed a proposition for two self-contained rest spaces (separately for men and women) to offer the privacy and comfort needed for short recreation breaks during shifts (Figure 10).

Figure 10. Proposition for a rest area with a comfortable couch and adjustable light, music, books or magazines.

Personalisation

Research indicated a need to reduce workstation clutter, whilst enabling staff to have a degree of ownership and easy access to personal belongings during their shift. This presented a challenge, as the shift rota meant that five people occupied the same desk at different times, and personal lockers were a long distance from the desk area. To address this, the design team developed a concept for a personalised movable storage, much like a cabin-size luggage that could be taken from a locker and docked to the desk at the beginning of each shift (Figure 11). This included space for personal items, e.g., a pillow and blanket; a photo of family and loved ones; a tray for stationary; a handover bag with potential for recording handover messages digitally; and an oil diffuser for individual aromas that help with removing fatigue and stimulating performance, e.g., citrus, peppermint, cinnamon and jasmine (Ho & Spence, 2005; Mahachandra & Garnaby, 2015; Warm, Dember & Parasuraman, 1990; Zoladz & Raudenbush, 2005).
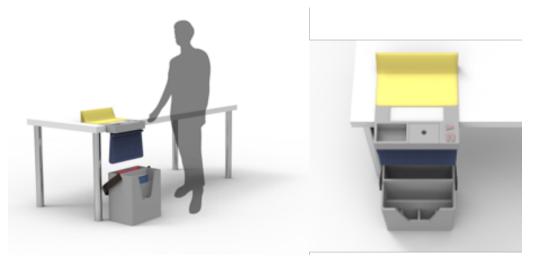

Figure 11. Concept for an agile storage solution

People

Workplace design can be a canvas for new-generation leaders to express strategies that entrust, enable and motivate people. (Aki Stamatis of Fourfront in WORKTECH, 2019, p.10)

While the CL principles of Empathy, Clarity and Creativity, were integrated in the design delivery of technological and environmental propositions, there is further potential for Creative Leadership to address organisational needs. It was hypothesised that the CL principles and practice could support the Airline in preparing for the changing reality and demands of a twenty-first century workplace, particularly in response to global trends such as:

- The Fourth Industrial Revolution (4IR) disrupting industries, organisations and jobs (Deloitte, 2018; Schwab, 2016);
- New models of leadership being called for (Medhurst, 2019, WORKTECH, 2019; World Economic Forum, 2012), particularly in the context of disaster management (Johnson & Suskewicz, 2020);
- A reskilling revolution, where individual skillset is becoming a workplace currency (Bakhshi *et al.,* 2017);
- A shift in performance values and indicators (Allen & Macomber, 2020; Deloitte, 2017), with empathy and creativity becoming recognised by HR departments as core skills (Kirstetter *et al*., 2013; World Economic Forum, 2020);
- Gen Z entering the workforce (Francis & Hoefel, 2018; Stahl, 2019).

To test these ideas, insights were generated through primary research to map performance and development opportunity areas. Whilst a main purpose of the OCC is to ensure safety, performance and efficiency, staff were motivated by a reported love for their work, pride in the Airline, and a collaborative spirit to problem-solving. This offers an opportunity to relook at the performance indicators currently used, which centre on number-based metrics, e.g., zero delays and fewer customer complaints, and move towards people-centred, qualitative indicators.

Specific technology-powered solutions that would help support further learning, more effective communication and knowledge-sharing, include:

- Applications, e.g., an official company mobile platform, or chat, to unify different social media platforms used currently, and help establish cooperation, quick response and individual accountability, by building relationships centred on empathy, cooperation and personalisation;
- Training systems, to provide regular opportunities for personal and professional development, as well as signifying company recognition of individual value and contributions.

Staff demonstrated an awareness of the changing nature of work in a technology-centric global environment: 'This office should be more innovative like Google office, Facebook office' (Senior Officer). To enable this evolution, the role of leadership in relation to workplace design (Medhurst,2019; WORKTECH, 2019; WORKTECH, 2020) is particularly important, which would also require seeing the re-design of an OCC as an integral part of organisational transformation, and strategic goals and delivery (CCD Design & Ergonomics, 2019; Chang & Walecki, 1998). Upskilling in CL, which is a core delivery area for HHCD could enable the Airline to:

- Transition from rigid hierarchical structures to an accountability mindset;
- Redefine performance indicators;
- Establish people-centred communication streams;
- Identify current training needs and opportunities for attracting next generations of talent.

You've got to understand how you will get end user engagement in the process – it's a change process after all. Change should never be something that is done to people. (CCD Design & Ergonomics, 2018)

An example of CL enabling transformation, was a simple design idea which emerged through observation of on-the-ground engineers conducting aircraft check-ups. The ambition of the Airline to 'go digital' at every level was focused on developing a flawless digital technology to optimise current process failures, moving away from paper reliance. However, field research and observation of staff behaviour indicated an opportunity. The staff left the technology behind as they did not have the space to carry it on site, but it was noted that staff wore a high-visibility vest at all times on the ground. The team redesigned the vest, to incorporate a sturdy zipped pocket to carry the technology, which could open to a flat position when needed, thereby allowing staff to be hands-free for specific operations (Figure *12*).
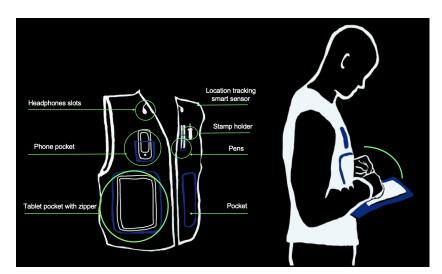

Figure 12*. Redesign of the high-visibility vest.*

Findings and opportunities

A recent critique of the 'Double Diamond' innovation process by the UK Design Council (2019) has acknowledged the explicit need for 'enabling' leadership mindset and processes, alongside other activities that bring deep, people-centred insights into actualisation. Similarly, research into the future of workplace and skills is proposing wholistic models to address the uncertainty of new realities; calling for new models of leadership to drive that change.

In this context, the tripartite model of Creative Leadership, which emerged from practice and experiential learning in design and innovation delivery over the last twenty years, proposes a framework, a way of thinking, and a programme of activities and applications, that seek expression of, or enable, the integration of Empathy, Clarity, and Creativity principles, in developing people-centred solutions that align individual wellbeing, immediate need for change, and future-focused organisational aspirations.

The case study presented above of an airline operations control centre, aimed to evidence specific aspects of this in practice, which included:

- The management of a complex, international, multi-stakeholder project;
- Guiding decision making in relation to best fit research methods and design approaches and tools;
- Exercising, and incorporating, CL attributes and capacities in the development of people-centred design solutions, to align physical, technological and psychological factors in the delivery;
- Working together with the Airline leadership team to map training needs and future design opportunities for transformation from the current state of the OCC towards a Gold Standard Operations Control Centre.

Application of the CL model requires a balance of the three values, applied in an equitable and interconnected manner. Simply focusing on one factor was seen to skew project deliverables and create less appropriate solutions. Initial assessment from the project partners shows that the values are recognisable, implementable, and bring benefit in terms of framing, developing and delivering innovative propositions. In particular, they engender accessible description of complex situations, helping to promote and communicate creative ideas to OCC staff and the leadership team, making boardroom conversations easier, whilst enabling a sense of authenticity through genuine co-creation and employee engagement.

Human-centric design is one of the key elements of this engagement as the intent is to enrich the experience of both the frontline staff and the travellers. RCA has brought their unique, well-researched approach that encompasses creative design, clarity and empathy and this has been one of the key strengths of the overall solution. (Balaji Jagannathan, TCS Global Head – Strategic Initiatives | Travel & Hospitality)

The next stages of Creative Leadership research in practice, will seek to develop a portfolio of applications in contexts where design, leadership and performance are inherently linked to individual and organisational prosperity, wellbeing and growth opportunities. This also begs the question of the evolution of design expertise, and the skills and training that would be required to develop creatively-leading, inclusive, and long-term sustainable solutions, working across cultures, disciplines, organisations and geographies.

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