Guest Editorial Preface

Special Issue on Games in a Brave New World:

The Role of Immersive Playful Environments in Re-Inventing the Future of Work and Re-Imagining Organisations

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INTRODUCTION

Over the past decade, the adoption of digital games and computer-mediated simulations as business tools has accelerated, motivated by the desire of organizations to better engage stakeholders and achieve improved outcomes such as increased innovation, knowledge sharing, productivity, and customer retention. The applications in which digital games and computer-mediated simulations are now being increasingly used range from collaborative problem solving (Stoeffler et.al., 2020), consumer research and marketing (Terlutter & Capella, 2013; Bittner & Schipper, 2014), enterprise resource planning (Herzig et al., 2012; Thiebes et al., 2014), customer experience settings (Makanawala et al., 2013), and user enjoyment (Lee et al., 2013; Mekler et al., 2013

Approaches range from a wide range of technologies and experiences - analogue activities, such as board games and Lego Serious Play, interactive creative design workshops such as design thinking or design sprints, playful digital experiences such as augmented reality, digital games and simulations, and gamified interactive applications and platforms. What has now evolved can be described as a 'ludo mix' (DiGRA 22020) which provides a diverse media ecology that organizations use to create new forms of interaction, experiences and partnerships to create more nuanced and diverse forms of stakeholder value. The influence of the ludo mix applied in business contexts has been profound in terms of the softening of language of engagement and deeper insight onto systems, process and work design influenced by games and play. This has allowed organizations to undertake a conceptual reframing of their business and their workspace as a *magic circle*, allowing for an expansion on the *possibility space* of what we can create, or renew, in business, government, and the future of work.

However, while chasing the ever moving, elusive target of engagement, companies have encountered new challenges and problems in deploying these business tools and research is showing that games and gamification do not provide a silver bullet for success (Koivisto and Hamari 2019). Since the recent onset of games, serious games, gamification and simulations, companies have increasingly reported several shortcomings ranging from technological limitations of new applications or the integrations of new applications to organisational legacy systems that limit scale, and the arguably shallow design and implementation of these ludic tools in that they don't quite reflect the depth or scale of the problems at hand (Raftopoulos 2020). This has led to these applications falling

short of achieving desired business goals and have consequently limited organizations' willingness to expand their investment in playful strategies and games into their engagement plans. This points to organisational capability issues and research shows that the full range of game design expertise has not yet been employed in the design of game-based systems (Rapp et al. 2019; Morschheuser et al. 2018).

Despite this setback, accommodating the changes to the way we (expect to) work has become a key focal point for a post COVID-19 era workforce, where mandatory lock-down of physical office spaces, social distancing and limitations on travel and large group congregation have propelled businesses out of their comfort zones, forcing them to restructure their organisations on the fly to adjust to a new reality (de Lucas Ancillo et.al. 2021; Amis & Greenwood (2021). The majority of their employees are working remotely, and access to customers and stakeholders need to take on new forms of engagement and collaboration. The urgency and relevance of creating interactive, engaging, productive virtual workspaces has consequently skyrocketed, and with it a renewed determination to use gameful and playful tools to keep stakeholders engaged, and most importantly, work to overcome the perceived obstacles they face new and uncharted paths to future value creation. Scholars on the impact of COVID maintain that it has changed the way companies and employees work and will continue doing so, requiring a constant reinvention (Hamouche, 2021; Datta & Nwankpa, 2021).

ARTICLES IN THIS SPECIAL ISSUE

With this renewed prioritization, the need arises for researchers and practitioners to look deeper into the impact ludo-mix tools have on the human psyche, attitudes, behaviour, health and culture, and on a more practical level, on technology adoption. This shift has affected the openness and awareness of organizations in not just the *why* or *where* they apply these technologies, but more importantly the *how* it can be applied to achieve positive, sustainable results over the long term.

This is a progression beyond the simplistic "frankensteining" of game mechanics and game components that was popular in the early days of gamification in particular as well as naive notions that everything had to be a game, or that they have been misappropriated as tools of the military industrial complex (Mollick & Rothbard, 2014). As the industry has matured, we've witnessed not only a tolerance or acceptance of game elements in business applications, but an enthusiasm in embracing the more complex design philosophies that successful game design has always been grounded in (Hamari, 2015; Deterding, 2015; Hamari et.al., 2014; Mekler et al., 2015). We've seen a recognition of the nuances of human motivation, the need to accommodate the neurodiverse landscape, and the importance inclusive design, narrative and storytelling in order to achieve engagement at levels where traditional business tools have shown diminishing returns.

In this special issue, we asked the authors to explore this development from not only the perspective of the participant, but also the perspective of the creator and the host organisation of these playful experiences. We asked not only for the opportunities, but also the limitations that were faced in terms of engagement, technology, scalability, and personalisation, and in looking at the post-COVID-19 era and the changing role of digital experiences, applications and platforms.

The four papers in this issue spread across a wide range of fields, disciplines, industries, and topics, but are all linked by the common themes of collaboration and co-creation between key stakeholders, design experimentation, agile development, technology as the enabler rather than the hero, and genuinely good playful or gameful design built into the experience.

The papers explore how the shifting socio-economic landscape is driving increased virtualisation and fragmentation of workplaces and how game-mediated tools can facilitate greater levels of participation, engagement and problem solving. They ask critical questions on how limited accessibility to physical solutions and methods changed organizations' approach to the creation of solutions, leaning more toward digital spaces due to the limited accessibility to physical solutions. They explore the use of ludo-mix tools for facilitating remote teamwork and collaboration, engaging stakeholders with company culture, mission, and values, and in the management and regulation of productivity and

output. They show why gamification in industries, such as traditional manufacturing, have not been widely implemented and accepted. These papers also address the question of how we help people achieve a superior sense of self, agency, and autonomy through the possession of a virtual body (or avatar) and the ability to achieve sensory immersion.

In "Combat Tanking in Education: The TANC Model for Playful Distance Learning in Social Virtual Reality," Stylianos Mystakidis explores the impact of using Social Virtual Reality (SVR) to achieve set objectives in playful learning environments. E-learning courses have historically struggled with challenges such as high drop-out rates and low levels of mastery. These issues have propelled forward the need for newer frameworks that sustain higher levels of motivation, engagement, performance, and satisfaction. Mystakidis claims that game-based learning using SVR, three-dimensional computer-generated spaces in which the participant can engage with, is an effective solution for this by overcoming the limitations created by a lack of physical immersion of participants. He proposes a four-dimensional model to guide the design of such environments: theme, actions, narrative, and auxiliary components (TANC). In a set of case studies, Mystakidis shows how SVR and the creation of digital artefacts was able to arouse interest, increase satisfaction, encourage creativity, and boost motivation. Despite the digital nature of these experiences, Mystakidis also found the human aspect was critical in the effectiveness. Even though the ability for participants to embody a digital identity created a new intellectual and emotional experience for learners, the instructors investment and passion in delivery of the content was key to getting participants to join in this adventure.

In "A Practical View of Gamifying Information Systems for the Future," Izabella Jedel, Adam Palmquist, and David Gillberg look at the intricacies of collaborative design processes between corporates and start-ups and their potential to accelerate innovation. They address the essentialness of the role of the iterative process in successful gamification, challenging its former "plug and play" label. By challenging the academic understanding of gamification from a practitioners experience they explore not the positives and negatives of the use of gamification itself, but rather the issues related to how it can be developed given the practical needs and limitations of a commercial organisation. By exploring what transpired between a manufacturing company and gamification startup Jedel, Palmquist, and Gillberg show the importance of technical feasibility exploration in the design process, and that the perceived effectiveness of the gamification design itself cannot exist in a vacuum when it comes to implementation. They call for new, more comprehensive frameworks that can support not only the psychological or behavioral science side of gamification, but also the technical implementation and realization of these designs, by bringing together diverse stakeholders that can help see the entire flow of development of these solutions.

In "Immersive Collaborative VR Application Design: A Case Study of Agile Virtual Design Over Distance," Simeon Taylor, Thuong Hoang, George Aranda, Gerard T Mulvany, and Stefan Greuter address how companies have embraced the affordances provided by using online collaboration and training tools, specifically looking at Virtual Reality (VR) and Augmented Reality (AR). In their case study, they reflect on how they co-designed and developed an online Occupational Health and Safety VR training application with an industry partner without any face-to-face meetings. Like Jedel, Palmquist, and Gillberg, the importance of agile, iterative development was essential for success, and like Mystakidis found, the use of VR allowed for increased agency and sense of self in the project. By looking again at the use of technology not only for the final project or outcome, but rather for the design process itself, Taylor, Hoang, Aranda, Mulvany, and Greuter show how to apply the design sprint metholodogy in a new execution. They explore VR allowed them to adapt to the clear drawbacks of the lack of physicality, and non-verbal communication. They show how this new technology was not only an enabler to overcome limitations but also an opportunity to review and rethink traditional approaches and norms. Although VR still posed challenges and limitations, they were areas in which it was the superior option.

In "Gamified Learning to Restore the Forest Landscape in Afghanistan: The Role of Immersive Playful Environments," Philipp Busch highlights how storytelling and role play are tools that can be

used as a user centred design approach that's essential to take into consideration the culture into the design of the learning process by selecting mechanics that are sensitive to the culture. Busch shows in this case study of training the trainer how this inclusive design process, by understanding and accounting for the uniqueness of the culture, created an environment that led to feelings of autonomy, mastery, social relatedness, and purpose. By using co-creation, this strategy helped create a feeling of ownership down the line of stakeholders. Like the other papers, Busch found that iterative design was crucial to fine tune the design and build a sustainable project.

LOOKING AHEAD

Organisations are looking at new and different ways to improve their performance and to better engage with employees and stakeholders. However, as we are in the midst of facing a global collective trauma brought about by pandemic, climate anxiety, economic shifts and socio-political divisions, organisations have had to also reconsider their responsibilities for the impact on employees' mental health and the health and welfare of the community in general. The knowledge and insights provided in this special issue are offered to organisations to consider when redefining their business processes, work design and to consider as alternative or supplementary methods for stakeholder and community collaboration and co-creation.

There is urgency in addressing these topics not only as a momentary bump in the road but accepting and acknowledging that our communities and organisations now entering a state of constant change and uncertainty. Therefore, we need to develop tools and approaches that can assist organisations in adapting to change, generating new knowledge, and engaging with problems in new and novel ways. Games, gamification and computer-mediated simulations can help mediate these opportunities, but only when it is well designed and executed strategically, and most importantly, when their intent is for the greater good.

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