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Gamification in Management: Between Choice Architecture and Humanistic Design

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Abstract

Gamification in management is currently informed by two contradicting framings or rhetorics: the rhetoric of choice architecture casts humans as rational actors and games as perfect information and incentive dispensers, giving managers fine-grained control over people's behavior. It aligns with basic tenets of neoclassical economics, scientific management, operations research/management science, and current big data-driven decision-making. In contrast, the rhetoric of humanistic design casts humans as growth-oriented and games as environments optimally designed to afford positive, meaningful experiences. This view, fitting humanistic management ideas and the rise of design and customer experience, casts managers as 'second order' designers. While both rhetorics highlight important aspects of games and management, the former is more likely to be adopted and absorbed into business as usual, whereas the latter holds more uncertainty but also transformative potential.

Keywords: Gamification, design, management, scientific management, humanistic management, rhetorics

Gamification in Management: Between Choice Architecture and Humanistic Design

Gamification, the use of game design in non-game contexts, is the newest entrant in the rich history of games intersecting with management – a history spanning business simulation games; role-play as leadership training; new economy "fun at work" management philosophies; serious play; innovation and design games; and serious games for advertising, training, and recruitment (for reviews, see Edery & Mollick, 2008; Statler, Heracleous, & Jacobs, 2011; Mollick & Werbach, 2015; Hamari, Huotari & Tolvanen, 2015; Deterding, 2015).[1]

Gamification promises to translate the engaging aspects of games into other domains of life to create positive experiences and drive desired behaviors. Its crucial *technical* enabler has been digital behavior tracking. Formally, games can be described as systems of rules defining valid player actions, assessing whether these actions accomplished the game's goals, and feedback informing the player of the result (Deterding, 2015a). Hence, all games (and gamified systems) require a reliable way of tracking player actions, while any tracked behavior is a game in waiting: just add goals and feedback. So as human work and everyday life is shifting onto digital platforms and sensors are increasingly pervading our physical world, more and more human behavior can be digitally tracked – and gamified.

As a *product innovation*, gamification has manifested chiefly in self-optimization applications like fitness trackers with motivational goals, scores, competitions, and the like. As a *process innovation*, one finds gamified learning, training, and recruitment initiatives; employee engagement systems tracking and rewarding desired activity; gamified customer engagement and loyalty platforms; and crowdsourcing tools using gamification to motivate user-generated content, user-driven innovations, and organizational citizenship behaviors (see Hamari and Morschheuser, this issue).

However, this essay is not about what gamification is, how it came to be, or how to use it in one's organization. At least not directly. It is about how to think about gamification. Specifically, I want to tease out some of the underlying *rhetorics* in current business gamification discourse (see Deterding, 2015, for a wider discussion of gamification rhetorics). Following Sutton-Smith (1997), "rhetorics" here refers to a network of mutually fitting and reinforcing ideas, underlying (folk) theories and epistemological stances, exemplars, application areas, and practices. In shaping our thinking, rhetorics affect how gamification is implemented and studied today, and open and close corridors of possibility for its future. Importantly for the present dialogue, different gamification rhetorics align with different strands in management thinking and practice, and these alignments may help the reader understand and find their own way into the field. In short, I will argue that business gamification is currently shaped by two conflicting rhetorics – here called choice architecture[2] and humanistic design – which roughly map onto the fault lines between scientific and humanistic management, and McGregor's classic distinction of Theory X and Theory Y. In *The Human Side of Enterprise* (1960), McGregor famously held that managers either assume workers to be self-interested, passive, and avoiding work unless incentivized – resulting in a top-down management style of monitoring and control via (dis)incentives (Theory X); or they assume workers to be inherently active, motivated by opportunities for growth and meaning, which results in a management style centering on empowerment, autonomy, and responsibility (Theory Y). As we will see, these two opposite assumptions and styles still echo in current business gamification.

The Rhetoric of Choice Architecture

The rhetoric of choice architecture casts humans as strategic rational actors and games as information and incentive systems, informed by neoclassical and behavioral economics. It is

maybe most purely embodied in the 2009 business book *Total Engagement: Using Games and Virtual Worlds to Change the Way People Work and Businesses Compete* (Reeves & Read, 2009; see also Hamari, Huotari & Tolvanen, 2015, pp. 145-146).

In business and gameplay alike, people are self-interested actors making rational choices to optimize their pay-offs based on available information and incentives. Games succeed because and when they are well-tuned information and incentive dispensers. In this view, there is little difference between mathematic game theory and everyday gaming practice, economic mechanism design and entertainment game design. It foregrounds the *game* in gameplay: a formal system that structures behavior by defining goals and rules and feeding back constant information and incentives on it. Games are effectively integrated, virtualized business procedures plus performance indicators plus incentive schemes. However, if that is the case – if games are mirroring existing business structures to the dot –, what innovation would gamification bring? Four answers are frequently given:

1. Games motivate people with *nonmonetary incentives* like points and badges that hold chiefly symbolic value, importantly status signaling. Thus, gamification reduces cost by enhancing or even replacing expensive monetary incentives with cheap virtual ones (Zichermann & Cunningham, 2011). This idea has a rich pre-history in workplace quotas, competitions, and nonmonetary rewards; customer loyalty programs; and early 20th century "socialist emulation" in Russia, which replaced "capitalist" market competition and wages as motivators with "socialist" sportive competitions between workers and factories and symbolic awards (Nelson, 2012; Mollick & Werbach, 2015).

2. Game designers have identified design patterns that harness *cognitive biases*, like decaying rewards tapping into people's loss aversion (Lewis, Wardrip-Fruin & Whitehead,

2012). Gamification intentionally uses these patterns to "nudge" employee and customer behavior in desired directions (Thaler & Sunstein, 2008).

3. Video gaming is a formative experience for the *millennial generation*. This "Gamer Generation" (Beck & Wade, 2006) expects and thrives in a game-like work environment with clear goals and metrics, constant competition and positive feedback, gamy visuals and language, etc. Gamification is the millennial-appropriate veneer for existing business practice, manifest e.g. in gamified recruitment and training (Trees, 2015).

4. As fully digital environments, games provide *perfect information and control at scale*: every player action can be tracked and displayed to designers and players, every design decision re-shaped in response. This has led authors like Rangaswami (2015) to cast online games as the blueprint of future hyper-efficient, flexible, decentralized, automated work coordination platforms where individuals choose tasks and teams and algorithms impartially allocate payouts based on abundant, trustworthy performance and reputation data – just like guilds in the online game *World of Warcraft* choose members and quests and distribute loot based on rich in-game displays of player level, skills, damage per second, etc. Online games effectively prefigure the ideal end state of 'smart,' data- and AI-driven online labor markets. Gamification means learning from online games how to design the crowdsourcing platforms, computer-supported collaborative work environments, and 'gig economy' markets of the future – using game-informed design to reduce (or offload) labor coordination costs (Hamari and Morschheuser, this issue).[3]

In summary, the rhetoric of choice architecture casts gamification as a refinement of existing business practices like operating procedures, objectives, performance indicators, incentive schemes, and internal markets – super-charged with nonmonetary incentives, nudges, a

millennial veneer, and pervasive performance data tracking enabled by ubiquitous sensors and virtualized work environments.

While there is abundant evidence that information and incentives shape behavior, we also know that they do so in complex, sometimes unpredictable and counter-intuitive ways (Mollick & Werbach, 2015, pp. 445-446; Antoni et al., 2017). Critics were quick to point out these and other hidden costs, unintended consequences, and ethical quandaries of gamification (see Walz & Deterding, 2015, for a review). One, by explicitly framing work as a strategic game, gamification may crowd out moral concerns and invite "gaming the system": actors strategically using exploits and min-maxing strategies that optimize *measured* performance and individual payoff, regardless of negative side-effects for organization and communities (Deterding, 2014; Rieley, 2000). Add to that muted individual consequence – as typically found in games –, and one can understand why even *implicitly* game-like work environments such as financial trading readily invites imprudent risk-taking, moral hazards, and gaming the system (Bay, Sjödin & McGoun, 2011).

Second, for critical theorists, gamification is the current form of exploiting post-Fordist information and creative labor. By seemingly dissolving the boundary between value-extracting work and self-realizing leisure into "fun playbor", gamification tries to extract authentic, non-alienated engagement from creative workers without granting actual agency or economic share in exchange (Rey, 2015). In the course, the critical, transformative potential of play is trivialized and domesticated (Trittin, Fiesela and Maltseva, this issue). This instrumentalization of non-instrumental play is not just paradoxical (Statler, Heracleous, & Jacobs 2011): it quickly dries out the well it tries to tap. A chief source of motivation and enjoyment in play is the sense of autonomy and self-determination flowing from doing something for its own sake. When play is

made mandatory or has outer serious concerns and consequences attached to it, people quickly experience it as other-determined, thwarting autonomy, motivation, enjoyment, and any sense of play (Deterding, 2016).

The Rhetoric of Humanistic Design

This well-documented "undermining effect" formed one jumping-off point of an alternative rhetoric, largely grounded in positive psychology, design, and virtue ethics. It views humans as inherently social, emotional, growth-oriented, meaning-making beings (Deterding, 2014). It foregrounds the *play* in gameplay: Play is the paragon of human activity satisfying basic psychological needs such as competence, autonomy, relatedness, or meaning, which fuels motivation, enjoyment, and wellbeing. As "a mode of intentionality or action" (Salovaara and Statler, this issue), play is characterized by people self-determinedly exercising their capacities and creatively appropriating behaviors, meanings, and things for the sake of the enjoyment this provides, underwritten by shared norms of mutual care, trust, and safety (Henricks, 2015). This makes play a positive normative yardstick for everyday and organizational life. And compared to play, most of "reality is broken" (McGonigal, 2011). *Any* activity *can* in principle afford the enjoyment and wellbeing found in play – sailing, dancing, learning, car assembly, or even accountancy – provided it is *organized* and *interpreted* in the right way (Deterding, 2015a). However, most of everyday life currently isn't. The paradigm case are the many bottom-up "games of work" workers spontaneously spin around highly regimented, routine labor, reorganizing and reinterpreting their work to wring a sense of agency, competence, autonomy, and enjoyment from it (Roy, 1960; Burawoy, 1979; Mollick & Werbach 2015, pp. 442-443).

What sets *games* apart from other environments is that they are *deliberately designed* to afford positive experiences. Hence, what gamification can bring to management is a particular

design practice: re-organizing processes, products, and services to afford positive, wellbeing-supporting experiences for all stakeholders in order to drive organizational goals. Because experience emerges non-deterministically from the process of humans interacting with their environment (Salovaara and Statler, this issue), game design and gamification are inherently open and unpredictable processes – like any design work (Kolko, 2010). But that doesn't make them futile or arbitrary: they constitute 'second order' design, systematically discovering and creating conditions for the emergence of desired activities and experiences (van Bree, 2014). Like other human-centered design methods, this entails empathizing with people's current experiences; holistically understanding how these arise from people's current situation; and then iteratively abducting, creating, evaluating, discarding and refining prototype solutions (Kolko, 2010). However, where normal human-centered design concerns itself with people's *functional needs* ('jobs to be done'), game design and gamification are focused on *wellbeing needs* driving *positive experiences* (Deterding, 2015a).

Take Amabile's (2011) large-scale diary study of employee's "inner work lifes" – their emotions, motivations, and sense-making. Amabile found that the experience of "progress in meaningful work" is the single most powerful determinant of positive inner work life, which in turn significantly drives performance. As she notes, "effective videogame designers know how to create a sense of progress for players within all stages of a game. Truly effective managers know how to do the same for their subordinates." (Amabile, 2011, p. 88) Discovering how is the task of gamification as a humanistic design practice – be it as simple as adding a progress bar to a screen, be it as involved as creating a fair and transparent promotion system. More often than not, this will extend beyond interfaces, IT systems, compensation schemes and business

processes into practices, norms, values, and situational frames (van Bree, 2014; Deterding, 2014).

The Two Futures of Gamification in Management

Reality is obviously always messier than these two Weberian ideal types. But they are useful for understanding the deeper fault lines in the gamification discourse, and how gamification may fit into management research and practice.

The rhetoric of choice architecture reiterates the old-new vision of scientific management, operations research/management science, and current big data-driven 'smart enterprise': data will make the behavior of organizations and individuals predictable and turn management into a transparent game of strategy in which optimal moves are easily calculated and executed (Mortensen, Doherty, & Robertson, 2015; McAfee et al., 2012). Like them, it is susceptible to McNamara and ludic fallacies: mistaking the orderly, abstracted spreadsheet world of the measured and measurable (including derived models and simulations) for the far more unknown, complex, and unpredictable reality underneath (Cukier & Mayer-Schönberger, 2013; Taleb, 2010; Muller, 2018). It also reiterates Theory X-style top-down management (McGregor, 1960), only offloaded from manager intervention into automated systems: Employees and customers are self-interested actors that can and need to be constantly monitored and steered with information and incentives to act aligned with the interest of the organization.

This rhetoric dominates current business implementations of gamification, presumably because it aligns neatly with default economic thinking and business as usual and promises a quick, reliable turn-key technology solution to the intractable human problem of engagement: scalable software-as-a-service platforms for tracking, analyzing, informing, and virtually rewarding behaviors. This comforting illusion of managerial control arguably makes up a key

appeal of what Landers (this issue) calls "rhetorical gamification", ready-made solutions invoking the surface appearance of games, with no deeper underlying psychological understanding or design process. While it makes rhetorical gamification ironically *less* predictable in its effects and effectiveness (Landers, this issue), ostensibly doing away with the complexity and unpredictability of psychology and design is precisely the (selling) point of choice architecture-style gamification in business, driving its adoption. However, because it aligns so closely with business and practice as usual, it will also likely be assimilated without much trace.

The humanistic design rhetoric in turn makes a more complex proposition, one dovetailing with the rise of design (thinking) and customer experience in business (Martin, 2009; Merholz et al., 2008), and aligned with the rich history of humanistic management from the Hawthorne studies to today's renaissance (Ferris, 2013; Pirson, 2017), driven by the influx of positive psychology, business ethics, and the global political and moral value shift from economic growth to sustainable wellbeing (OECD, 2016). This rhetoric acknowledges that to avoid instrumentalization, management has to treat human dignity as its ultimate precondition and end (Pirson, 2017; Trittin, Fieseler, & Maltseva, this issue). As prefigured in McGregor's Theory Y management style, it holds that employees (and other stakeholders) will pro-actively act in the organization's interest if its goals, work environments, products and services satisfy their needs for competence, autonomy, or meaning. Managers can create the conditions for this by empathizing with stakeholders and from there jointly learn through experimentation what works, which requires an atmosphere of autonomy, trust, safety, and mutual care. In a sense, management becomes a form of second-order design and creative play: open, risky, indeterminate – but in that, also potentially transformative.

My preference for this latter perspective should be obvious at this point. Still, each rhetoric foregrounds important aspects of games, management, and their commonalities while backgrounding others. One will fit certain industries, organizations, and individuals better, who will likely self-select the more fitting one in turn. Metrics-and-incentives-driven sales departments will often chime with choice architecture, design agencies and HR departments with humanistic design. But maybe, like McGregor's Theory X and Y, the rhetorics of gamification are also self-fulfilling prophecies. Gamification informed by choice architecture may induce stakeholders to *become* strategic actors gaming the organization as best they can, while humanistic design gamification may grow capacities and demands for self-determination. Whatever the case, at this beginning of the dialogue between management and gamification research, we only do well keeping our thinking – and with it, possible futures – open.

References

Amabile, T. M. (2011). *The Progress Principle: Using Small Wins to Ignite Joy, Engagement, and Creativity at Work*. Boston, MA: Harvard Business Review Press.

Antoni, C. H., Baeten, X., Perkins, S. J., Shaw, J. D., & Vartiainen, M. (2017). Reward management: Linking employee motivation and organizational performance. *Journal of Personnel Psychology*, *16*(2), 57–60.

Bay, T., Sjödin, U., & McGoun, E. G. (2011). Gaming the system. *International Journal of Critical Accounting*, *3*(1), 5–17.

Beck, J. C., & Wade, M. (2006). *The Kids Are Alright: How the Gamer Generation Is Changing the Workplace*. Boston, MA: Harvard Business School Press.

Burawoy, M. (1979). *Manufacturing Consent: Changes in the Labor Process under Monopoly Capitalism*. Chicago, London: University of Chicago Press.

Cukier, K., & Mayer-Schönberger, V. (2013, May). The Dictatorship of Data. *MIT Technology Review*. Retrieved from https://www.technologyreview.com/s/514591/the-dictatorship-of-data/

Deterding, S. (2014). Eudaimonic Design, or: Six Invitations to Rethink Gamification. In M. Fuchs, S. Fizek, P. Ruffino, & N. Schrape (Eds.), *Rethinking Gamification* (pp. 305–331). Lüneburg: meson press.

Deterding, S. (2015). The Ambiguity of Games: Histories and Discourses of a Gameful World. In S. P. Walz & S. Deterding (Eds.), *The Gameful World: Approaches, Issues, Applications* (pp. 23–64). Cambridge, MA, London: MIT Press.

Deterding, S. (2015a). The Lens of Intrinsic Skill Atoms: A Method for Gameful Design. *Human-Computer Interaction*, *30*(3–4), 294–335.

Deterding, S. (2016). Contextual Autonomy Support in Video Game Play. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems - CHI '16* (pp. 3931–3943). New York: ACM Press.

Edery, D., & Mollick, E. (2008). *Changing the Game: How Video Games Are Transforming the Future of Business*. Upper Saddle River, NJ: FT Press.

Ferris, W. P. (2013). Humanistic Management. In E. H. Kessler (Ed.), *Encyclopedia of Management Theory* (pp. 354–359). Thousand Oaks, CA: Sage.

Hamari, J., Huotari, K., & Tolvanen, J. (2015). Gamification and Economics. In S. P. Walz & S. Deterding (Eds.), *The Gameful World: Approaches, Issues, Applications* (pp. 139–162). Cambridge, MA: MIT Press.

Hannula, O., & Harviainen, J.T. (2016) Efficiently Inefficient: Service Design Games as Innovation Tools. In N. Morelli, A. de Götzen, & F. Grani (Eds.), *Service design Geographies: Proceedings of the ServDes 2016 Conference* (pp. 241-252). Copenhagen: Linköping University Electronic Press.

Henricks, T. S. (2015). *Play and the Human Condition*. Champaign, IL: University of Illinois Press.

Kolko, D. (2010). *Exposing the Magic of Design*. Oxford: Oxford University Press.

Lewis, C., Wardrip-Fruin, N., & Whitehead, J. (2012). Motivational game design patterns of 'ville games. *Proceedings of the International Conference on the Foundations of Digital Games - FDG '12*, 172–179.

McAfee, A., Brynjolfsson, E., Davenport, T. H., Patil, D. J., & Barton, D. (2012). Big data: the management revolution. *Harvard Business Review, 90*(10), 60-68.

Martin, R. L. (2009). *The design of business: Why design thinking is the next competitive advantage*. Boston, MA: Harvard Business Press.

McGonigal, J. (2011). *Reality Is Broken: Why Games Make Us Better and How They Can Change the World*. London: Penguin.

McGregor, D. (1960). *The Human Side of Enterprise*. New York: McGraw-Hill.

Merholz, P., Schauer, B., Verba, D., & Wilkens, T. (2008). *Subject to Change: Creating Great Products and Services for an Uncertain World*. Sebastopol, CA: O'Reilly.

Mollick, E., & Werbach, K. (2015). Games and the Enterprise. In S. P. Walz & S. Deterding (Eds.), *The Gameful World: Approaches, Issues, Applications* (pp. 439–458). Cambridge, MA, London: MIT Press.

Mortenson, M. J., Doherty, N. F., & Robinson, S. (2015). Operational research from Taylorism to Terabytes: A research agenda for the analytics age. *European Journal of Operational Research, 241*(3), 583–595.

Muller, J. (2018). *The Tyranny of Metrics*. Princeton, NJ: Princeton University Press.

Nelson, M. J. (2012). Soviet and American Precursors to the Gamification of Work. In *Proceedings of MindTrek'12* (pp. 23–26). New York: ACM Press.

OECD Paris. (2016). *Strategic Orientations of the Secretary-General. Meeting of the OECD Council at Ministerial Level. Paris, 1-2 June 2016*. Paris. Retrieved from https://www.oecd.org/mcm/documents/strategic-orientations-of-the-secretary-general-2016.pdf

Pirson, M. (2017). *Humanistic Management: Protecting Dignity and Promoting Well-Being*. Cambridge: Cambridge University Press.

Rangaswami, J. P. (2015). When Peers Select Tasks and Teams. In S. P. Walz & S. Deterding (Eds.), *The Gameful World: Approaches, Issues, Applications* (pp. 459–461). Cambridge, MA: MIT Press.

Reeves, B., & Read, J. L. (2009). *Total Engagement: Using Games and Virtual Worlds to Change the Way People Work and Businesses Compete*. Boston, MA: Harvard Business School Press.

Rey, P. J. (2015). Gamification and Post-Fordist Capitalism. In S. P. Walz & S. Deterding (Eds.), *The Gameful World: Approaches, Issues, Applications* (pp. 277–296). Cambridge, MA: MIT Press.

Rieley, J. B. (2000). Are Your Employees Gaming the System? *National Productivity Review*, *19*(3), 1–6.

Roy, D. F. (1960). "Banana Time": Job Satisfaction and Informal Interaction. *Human Organization*, *18*(4), 158–168.

Sørensen, B. M., & Spoelstra, S. (2012). Play at work: Continuation, intervention and usurpation. *Organization*, *19*(1), 81–97.

Statler, M., Heracleous, L., & Jacobs, C. D. (2011). Serious play as a practice of paradox. *Journal of Applied Behavioral Science*, *47*(2), 236–256.

Sutton-Smith, B. (1997). *The Ambiguity of Play*. Cambridge, MA, London: Harvard University Press.

Taleb, N. N. (2010). *The Black Swan: The Impact of the Highly Improbable* (2nd ed.). New York: Random House.

Thaler, R. H., & Sunstein, C. R. (2008). *Nudge. Improving Decisions About Health, Wealth, and Happiness*. New Haven, London: Yale University Press.

Trees, L. (2015): Encouraging millennials to collaborate and learn on the job. *Strategic HR Review,* 14(4), 118–123.

Van Bree, J. (2014). *Game Based Organization Design. New tools for complex organizational systems*. Houndsmills, New York: Palgrave Macmillan.

Walz, S. P., & Deterding, S. (2015). An Introduction to the Gameful World. In S. P. Walz & S. Deterding (Eds.), *The Gameful World: Approaches, Issues, Applications* (pp. 1–13). Cambridge, London: MIT Press.

Warmelink, H. (2014). *Online Gaming and Playful Organization*. London: Routledge.

Zichermann, G., & Cunningham, C. (2011). *Gamification by Design: Implementing Game Mechanics in Web and Mobile Apps*. Sebastopol, CA: O'Reilly.

Footnotes

[1] In the following, I therefore deliberately exclude from discussion play at work, organizational play, or serious play (Sørensen & Spoelstra, 2012; Statler, Heracleous, & Jacobs, 2011), as well as innovation and design games, gamestorming, LEGO® SERIOUS PLAY®, and similar current uses of games, play, and toys to facilitate rationally accountable creativity in organizations (Deterding, 2015, p. 38, 47; Hannula & Harviainen, 2016). While both are receiving significant attention in management research, they overwhelmingly constitute serious games and playful design, not gamification (Deterding, 2015a).

[2] I take this phrase from Thaler and Sunstein (2008, p. 3), with some liberty, who define it as "organizing the context in which people make decisions".

[3] Warmelink (2014) provides an interesting alternative attempt to develop and validate a "playful organizational ideal-type" from online games that focuses playful values and structures.