**Gen AI Statement**

*When submitting your assessment, you must include the following declaration, ticking all that apply:*

*AI-supported/AI-integrated use is permitted in this assessment. I acknowledge the following uses of GenAI tools in this assessment:*

☐ *I have used GenAI tools for developing ideas.*

☑ *I have used GenAI tools to assist with research or gathering information.*

☑ *I have used GenAI tools to help me understand key theories and concepts.*

☐ *I have used GenAI tools to identify trends and themes as part of my data analysis.*

☐ *I have used GenAI tools to suggest a plan or structure for my assessment.*

☐ *I have used GenAI tools to give me feedback on a draft.*

☐ *I have used GenAI tool to generate image, figures or diagrams.*

☑ *I have used GenAI tools to proofread and correct grammar or spelling errors.*

☐ *I have used GenAI tools to generate citations or references.*

☐ *Other [please specificy]*

*I have not used any GenAI tools in preparing this assessment.*

*I declare that I have referenced use of GenAI outputs within my assessment in line with the University referencing guidelines.*

## Persuasive Technology for Driving Business-Centric Improvements

### What is Persuasive Technology?

Persuasive technology is a type of interactive information technology designed to change users' attitudes or behaviours through psychological and cognitive approaches, without using coercion (Wenker, 2022). It can be considered a part of a wider field of “Design with Intent” (DwI) and seen across a wide variety of digital platforms, targeting those who engage with it regularly to develop habits and mindsets that favour the desired outcomes of those controlling the technology (Lockton et al., 2008).

The psychological methodologies behind persuasive technology lean heavily on the concepts of reward and competition. These are the fundamental building blocks of persuasive design and research has shown that they dominate influence over the younger, more active individuals of both sexes (Oyibo et al., 2017). This is the primary demographic of those entering the workforce, and tailoring persuasive technology to them, within workplace platforms, can be a powerful driver for intrinsic motivation, delivering tools into the hands of employees to improve their time management and overall productivity (Salutari, 2021). Alternatively, this type of technology design can be targeted towards business improvement more directly by enhancing employee engagement and developing a more collaborative working environment via the common principles of gamification and interactive feedback (Wenker, 2022).

While traditional methods to employee engagement and productivity boosting initiatives rely on the social influence of those presenting the ideas and setting the example, persuasive technology leverages interactive digital interfaces, algorithms, and data analysis to reach the same business-centric goals faster and more efficiently (Wenker, 2022). This digital influence is not subject to the time-consuming human-to-human interactions which make traditional methods a broad, one-size-fits-all approach (The Principle Group, 2022). Instead, it is able to deliver constant, real-time, and most importantly personalised interventions, which can change over time to remain relevant and impactful using detailed analytics and strategy adjustments where the traditional approach is limited by subjective peer-assessments (Arora, 2024).

### How has it been Applied in Business Contexts?

Many examples of persuasive technology can be seen to drive business improvements. For example, the UK’s Department of Energy and Climate Change used persuasive design language and gamification mechanics to make the workplace more sustainable, in turn employees encouraged each other to collaborate more, decreasing office space and resources (Wenker, 2022). This demonstrates the way persuasive technologies inherently adhere to the theory of reasoned action by changing user attitudes and leveraging social norms to encourage certain behaviours to then come from the individuals own intentions (Hekler et al., 2013). Similarly, the wide adoption of persuasive technology is underpinned by its upholding of the Technology Acceptance Model, where the intuitive, user-friendly, trusted technological integrations are the successful ones (Worthington, 2021). A study on the impact of taking breaks in-between deeper focus times, encouraged by sensor-equipped office chairs, showed improvement in the focused work itself on top of the intended physical health benefits, indirectly boosting productivity (Ataguba, 2024). Here, the AI-driven personalisation gave a trustworthy nature to the interventions (break reminders), so employees were more likely to consistently take, and benefit from, the given advice.

Productivity and sustainability are not the only ways in which to measure a business' success. Other key methods for measuring the improvements driven by persuasive technology can be derived from performance data, employee engagement metrics or business/ financial analytics like ROI (Devico, 2024). Performance results can give insight into management and customers as well as employee productivity by looking into task completion rates, project delivery timelines and customer satisfaction feedback (Valtech, 2024). Whereas employee engagement is centred on each individuals' contribution and collaborative efforts via adoption rates of the technology as well as measures of engagement and morale from participation scores (Devico, 2024).

However, it is important to acknowledge that persuasive technology being misused, mismanaged, or simply misunderstood can result in harm for those engaging with it, especially when the ethical concerns are not considered, and this has been a long-standing issue since the start of the technological boom (Berdichevsky et al., 1999). For example, persuasive technology used in online platforms, typically social media, foster an interactive and engaging environment using badges, notifications, and personalised content, but often miss out the vital transparency and privacy disclosures, hiding the risk of, for example, addiction lurking ahead. Dark patterns in persuasive design are commonly used to manipulate and coerce users, such as with hidden options and costs, emotional language, and most notably automatic opt-in for everything from paid subscription renewals to simple notifications. (Jamieson, 2025)

**Case Study: BCG's "After-Hours email Pop-up" and Nudge Theory**

In the workplace, this is especially important as any coercive tactics will erode trust and harm professional relationships within the business environment (Arora, 2024). A way to combat this issue would be to utilize well-researched and commonly used persuasive design features, one such example being the digital nudge. In 2015, the Boston Consulting Group (BCG) rolled out a finalised version of their Predictable Time Off Scheme (PTO) which was an experimental study conducted across their US and Indian offices in association with the Harvard Business School over the several years prior. The PTO Scheme was designed to introduce several changes to the company, the most notable being the "after-hours email pop-up" initiative (Fetherston, 2017). This pop-up was a targeted, contextual reminder for project managers and group leaders to incentivise the consultants in their teams to take a weekday off or a consistent weekly evening away from work. This was one of the most successful rational nudges in business, resulting in worldwide survey scores indicating improved work-life balance and long-term employee satisfaction, overall prioritising employee wellbeing. At the same time, BCG was able to maintain accountability in both business conduct, respecting other employees' time away from the office, as well as their well-known "Client-first approach", such that clients' needs were still being met to a high standard due to the collaborative workstyle that was encouraged instead. (Chaturvedi, 2018)

Nudge Theory, from behavioural science, tells us that people's decisions and behaviours can be influenced in predictable ways by changes to their environment. Digital nudges are an application of this in the modern world, where we are constantly surrounded by technology, to deliver desired outcomes. In business, in particular, this could be changing employee behaviour, corporate strategies or the workplace environment in general, without economic incentives (Bartell, 2024). Emotional incentives, however, are commonly used and nudges leveraging emotions tend to produce larger effects, typically with a median of 50%, while rational nudge approaches result in only a 20% effect size, as studied across several domains including health, finances, energy and environment, and education (Hummel et al., 2019).

Emotional nudges work so well due to their psychologically aligned design; drawing on people's empathetic tendencies for loss aversion (avoiding negative consequences), social responsibility (caring and supporting others) and reward dependency (looking for social approval and recognition) to motivate them (Eltahir et al., 2021). While playing into these intrinsic human emotions can result in effective behavioural change, they introduce their own set of ethical difficulties which must be considered. For example, Bias Overload is when recipients become desensitised unknowingly to the emotional nudges pushed to them such that they bypass their own rational judgements. Alternatively, recipients can be exploited to fall into the "Google Effect" trap and rely on the easily available information handed to them even it becomes emotionally charged misinformation intended to manipulate their decisions (Korteling et al., 2023). Therefore, the resulting changes of emotional nudges are often not sustainable in the long-term in the same way as rational appeals that simplify peoples' decision making, while being personalised to their current preferences and behaviours as well as integrated into their real-time context.

Emotional and Rational are not the only way to unpack Nudge Theory and how it can be applied in business contexts, especially as these environments can be very diverse themselves. Nudges require role-specificity, cultural sensitivity and the onboarding assistance necessary for every employee demographic to make the most of any technological platform or tool introduced (Applaud, 2023). For example, in collectivist cultures (e.g. Mexico, Turkey) nudges towards team success have been found to fair better than individualised appeals used in individualistic cultures (e.g. the US or UK) where prioritising personal achievement and autonomy are more successful strategies (Kubera, 2023). Similarly, many other initiatives within business such as performance review reminders, shared online resource alerts encouraging collaboration and IOT-enabled dashboards on energy consumption overcoming accountability and awareness issues, have benefitted from interactive feedback from employees resulting in improved participation rates by tailoring to differing age groups, position types and cultural norms (Wenker, 2022).

**Alternative Perspectives on the Success of Persuasive Technologies**

So, while it is important to maintain transparency, autonomy and consent when applying persuasive technology in the professional environment, it is equally important to prioritise the constraints within the workplace or business overall which affect the design and distribution of any new initiative. This involves recognising time, resource or access constraints imposed by company regulations as well as communication gaps and pre-existing work culture that may influence how a new initiative is received, as acknowledged by Bitzer's Theory (Tørning, 2008a). The key steps in Bitzer's Theory refer to finding the urgent business challenge, referred to as the exigence, being solved and identifying the audience to whom the solution should be tailored. These are crucial for designing a persuasive technology solution that considers all the limitations of the environment in which is it being applied, maximizing its potential for change. Finally, the "fitting response" is the outcome of operating under Bitzer's Theory such that the resulting solution is developed to meet the desired outcome within these limitations (Tørning, 2008a).

For example, the Knowledge Management System (KMS) introduced at X-Corp encouraged participation and made knowledge sharing more accessible and rewarding by identifying the need for employees to share information in a sustainable way (the exigence) and the knowledge workers (the audience) who were resistant to sharing due to perceived loss of individual value and the technical barriers to do so (the constraints). Designing an independent solution

featuring Web 2.0 concepts, such as forums and collaboration tools, which worked around these limitations was what made the project successful (Tørning, 2008b). Similarly, digital nudges in the form of personalised reminders aligned with employees' schedules have been used numerous times to enhance employee engagement with corporate initiatives, like training sessions and team-building activities, where lack of awareness and motivation has hindered productivity and morale (CBRE, 2025).

**Re-evaluation of BCG's Success**

Re-evaluating BCG's email pop-up initiative through this lens reinforces the reasoning behind its success as it targeted the issue of work-life balance head-on. They recognised the role of leadership at BCG in shaping company culture and worked around the need for flexibility and autonomy to maintain client commitment within the consulting domain. By continuing to allow work communications but encouraging off-time through team leaders, a gentle approach, they successfully changed the social expectation and work culture around their employees' work hours while giving them the option to decide for themselves – a fitting response. In the same way, the success of the BCG's initiative can be broken down from a different perspective such as via McGregor's Theory X and Y which describe an opposing negative and positive nature to humanity, respectively. This translates directly to management styles in business as under Theory X employees are considered lazy, irresponsible and in need of continuous supervision whereas Theory Y takes employees to be resourceful and self-motivated (Pathak, 2024). BCG was a Theory-Y aligned initiative drawing on employees own judgement to develop their own relationship with time management and work-life balance in a collaborative and flexible space that valued participatory decision-making. Instead of monitoring or controlling employee behaviours strictly, they kept a relatively distant oversight on email pop-up interactions without forcing compliance.

In contrast, business initiatives can motivate their employees more actively to align their decisions and behaviours better with organizational goals, such as via Maslow's Hierarchy of Needs Theory. In general, this is a motivational theory in psychology suggesting that lower-level needs (like stability and peer recognition in the workplace) should be satisfied before expecting to meet higher-level needs (like more creative, innovative outputs and personal growth). In other words, a supportive environment goes a long way to reaching potential future growth and achievements (Jurist, 2019). Notably, goal-buddy systems are commonly used to encourage working relationships in an otherwise stale professional environment, this creates a socially supportive and collaborative space (lower-level need) in which employees can share progress, finding recognition in their achievements and staying accountable to future objectives (higher-level needs).

**Conclusion**

Overall, persuasive technology has been shown to be instrumental in optimising business operations and progressing towards more ambitious goals in, for example, productivity or sustainability. Keeping in mind the ethical considerations, organizations can harness the full potential of persuasive design, on human psychology, in their platforms to drive business-centric improvements while supporting their employees and delivering value to customers.

**References**


Applaud. (2023) Small nudges to giant leaps: Examples of nudging in the workplace. Available at https://www.applaudhr.com/blog/employee-experience/examples-of-nudging-in-the-workplace (Accessed: 19 March 2025)

Arora, S. (2024) Persuasive Technology: The Technology That Connects and Controls Us. Available at https://www.isaca.org/resources/news-and-trends/industry-news/2024/persuasive-technology-the-technology-that-connects-and-controls-us?utm_source=isaca_internal&utm_medium=share_link (Accessed: 17 March 2025)

Ataguba, G., Orji, R. (2024) Toward the design of persuasive systems for a healthy workplace: a real-time posture detection, Frontiers in Big Data, 7(1359906). https://doi.org/10.3389/fdata.2024.1359906

Bartell & Bartell. (2024) What Are "Nudges" And How Can They Be Useful in Business? Available at https://bartellbartell.com/blog/what-are-nudges-and-how-can-they-be-useful-in-business/ (Accessed: 19 March 2025)

Berdichevsky, D. and Neuenschwander, E. (1999) Toward an ethics of persuasive technology. Communications of the ACM, 42(5), pp.51-58. https://doi.org/10.1145/301353.301410

CBRE. (2025) The Role of AI in Workplace Technology: 10 Ways Companies Are Maximizing its Impact. Available at https://www.cbre.com/insights/articles/the-role-of-ai-in-workplace-technology-10-ways-companies-are-maximizing-its-impact (Accessed: 22 March 2025)

Chaturvedi, A. (2015) BCG allows consultants, partners to take time off every week to pursue their interests, The Economic Times India, 2 October. Available at https://economictimes.indiatimes.com/news/company/corporate-trends/bcg-allows-consultants-partners-to-take-time-off-every-week-to-pursue-their-interests/articleshow/49189203.cms (Accessed: 19 March 2025)

Devico. (2024) Measuring the success of digital transformation. Available at: https://devico.io/blog/how-to-measure-the-success-of-your-digital-transformation-efforts (Accessed: 19 March 2025)

Eltahir, A.N.A.S.S. and Xing, C. (2021) Digital Nudging: Employing the psychological aspect of Nudges to influence user's decision. International Journal of Recent Research in Social Sciences and Humanities, 8(2), pp.20-29. Available at https://www.paperpublications.org/upload/book/paperpdf-1620815888.pdf

Fetherston, J., Bailey, A., Mingardon, S. and Tankersley, J. (2017) The persuasive power of the digital nudge. The New Way of Working Series. Available at www.bcgperspectives.com

Hekler, E.B., Klasnja, P., Froehlich, J.E. and Buman, M.P. (2013) Mind the theoretical gap: interpreting, using, and developing behavioural theory in HCI research. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (pp. 3307-3316). https://doi.org/10.1145/2470654.2466452

Hummel, D. and Maedche, A. (2019) How effective is nudging? A quantitative review on the effect sizes and limits of empirical nudging studies. Journal of Behavioral and Experimental Economics, 80, pp.47-58. https://doi.org/10.1016/j.socec.2019.03.005

Jamieson, E. (2025) Exploring the Dark Patterns of Persuasive Design and its Consequences on Consumers. University of Exeter, Data Science in Society. Unpublished.

Jurist, S. (2019) A Business Application of Maslow's Hierarchy of Needs. Available at https://www.linkedin.com/pulse/business-application-maslows-hierarchy-needs-suzy-jurist/ (Accessed: 22 March 2025)

Korteling, J. E. H., Paradies, G. L., & Sassen-van Meer, J. P. (2023). Cognitive bias and how to improve sustainable decision making. Frontiers in psychology, 14, 1129835. https://doi.org/10.3389/fpsyg.2023.1129835

Kubera, P. (2023). Nudging in the workplace: moving beyond the traditional management toolbox. Zeszyty Naukowe. Organizacja i Zarządzanie/Politechnika Śląska. Available at https://managementpapers.polsl.pl/wp-content/uploads/2023/06/172-Kubera.pdf

Lockton, D., Harrison, D. and Stanton, N. (2008) Design with intent: Persuasive technology in a wider context. In Persuasive Technology: Third International Conference, PERSUASIVE 2008, Oulu, Finland, June 4-6, 2008. Proceedings 3 (pp. 274-278). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-540-68504-3_30

Oyibo, K., Orji, R. and Vassileva, J. (2017) Investigation of the Persuasiveness of Social Influence in Persuasive Technology and the Effect of Age and Gender. In Ppt@ persuasive, Apr. (pp. 32-44). Available at http://ceur-ws.org

Pathak, R. (2024). The critical evaluation of theory X and theory Y and its application in Personal and professional perspective. Quest Journals, 12(2), pp.116-124. Available at www.questjournals.org

Salutari, A. (2021) Persuasive technologies and digital wellness: Positive effects on end users' time management skills and overall productivity. Available at https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1592697&dswid=5853

The Principle Group. (2022) Effective Motivation Techniques for the Workplace. Available at https://www.linkedin.com/pulse/effective-motivation-techniques-workplace-theprinciplegrp/ (Accessed: 17 March 2025)

Tørning, K. (2008a) The rhetorical situation for knowledge sharing of best practices in corporate online environments. In International Conference on Organizational Learning, Knowledge, and Capabilities. Available at https://warwick.ac.uk/fac/soc/wbs/conf/olkc/archive/olkc3/papers/contribution280.pdf

Tørning, K. (2008b) Persuasive Technology Design–A Rhetorical Approach. In Persuasive Technology: Third International Conference, PERSUASIVE 2008, Oulu, Finland, June 4-6, 2008. Proceedings 3 (pp. 83-93). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-540-68504-3_8

Valtech. (2024) Core digital transformation metrics: A guide to measuring progress. Available at https://www.valtech.com/en-gb/blog/thread-digital-transformation-metrics/ (Accessed: 19 March 2025)

Wenker, K. (2022) A systematic literature review on persuasive technology at the workplace. Patterns, 3(8). https://doi.org/10.1016/j.patter.2022.100545

Worthington, A.K. (2021) “Technology Acceptance Model”, in Burgess, G.L., Persuasion Theory in Action: An Open Educational Resource, Online Publication, Available at https://ua.pressbooks.pub/persuasiontheoryinaction/chapter/technology-acceptance-model/