Improving Urban Governance through Gamification as the Use of Technology



By İlayda Köroğlu, Department of Sociology, Istanbul University, Turkey

With digitalization, many initiatives aiming to increase urban participation have emerged, especially with the encouragement of local governments. Although many participation platforms have been used in line with the needs stated in urban development visions, the level of public participation has remained low (Thiel, Reisinger, Röderer, & Fröhlich, 2016). It has been observed that there are specific problems within the participation processes for both citizens and various stakeholders (Lebrument, Zumbo-Lebrument, Rochette, & Roulet, 2021). Problems such as incentives, belonging, awareness, cooperation, effective communication, feedback, and an environment of freedom have been highlighted in many studies. Therefore, many researchers worldwide are exploring new ways of designing engaging ways of participation, and gamification as an interaction design stands out in this regard. Gamification uses game mechanics, aesthetics and game thinking to build relationships between people, motivate action,

promote learning and solve problems (Kapp, 2012). It is becoming more prominent, primarily as digitalization facilitates using game elements in non-game areas (Thiel, Reisinger, Röderer, & Fröhlich, 2016).

Gamification can be used to improve city operations in a variety of ways (Bousquet & Goldsmith, 2017): *(a)* engaging citizens in healthy behaviours, *(b)* encouraging civic engagement, and *(c)* bringing together different departments. Gaming environments benefit participatory processes by establishing the context for engagement and creating an environment of freedom that allows stakeholders to plan, test, and learn without fear of real-world consequences (Mayer, 2009). Used as tools in a wide range of processes such as design, decision-making, idea gathering, surveying, problem identification and increasing activity participation, games or game elements act as 'facilitators' in the contexts in which they are used.

Gamification, which refers to using game design elements in non-game contexts (Deterding, Dixon, Khaled, & Nacke, 2011), integrates the stakeholders involved more engagingly and promotes innovative outcomes (Wanick & Bui, 2019). However, innovative policies and advanced solutions can fail if not combined with initiatives to raise citizens' awareness and promote lasting behavioural change (Kazhamiakin, Marconi, Martinelli, Pistore, & Valetto, 2016). In addition, it is crucial to see gamification as more than just adding points and badges to a system (Thiel, Reisinger, Röderer, & Fröhlich, 2016). The elements used for a gamified system may not always produce the desired result. For example, as leaderboards can motivate those at the top and demotivate those at the bottom, competition among participants may cause some people to stop using the system (Eveleigh, Jennett, Lynn, & Cox, 2013). In this respect, it is essential to adopt a holistic and continuously transformative design approach tailored to the goal, the conditions, and the participants.

Building on the conclusions I made in my master's thesis (Koroglu, 2022) as a result of examining both the literature and existing practices, I can summarize some of the points that should be considered in gamification applications to increase urban participation in governance processes:

- **Clarity and Precision**: First, the problem to be solved by using games or game elements should be expressed as clearly as possible. In addition, to the purpose of the design, the goals to be achieved with this application

and the limits of the application should be well defined. Thus, the participant's perception of the purpose of the application should be clear, and the stages they will go through should be as understandable and straightforward as possible.

- **Theoretical Background**: In gamification solutions, adding game elements to the system without a clearly defined framework leads to failure (Burke, 2014). Basing the gamification design on specific theoretical frameworks is crucial for the application to yield the targeted result. Some frameworks and theories are employed in current motivational science research. For example, Flow Theory (Csikszentmihalyi, 2004), Self-Determination Theory (Ryan & Deci, 2000), Player's Journey (Kim, 2018), Octalysis Framework (Chou, 2015), Player Types (Marczewski, 2015) and Dynamic-Mechanical-Component System (Werbach & Hunter, 2012).
- **Design Approach**: It is crucial to remember that this is a process to produce sustainable benefits by creating permanent behavioural change rather than a method that is applied and completed in one go. Therefore, the design should be constantly renewed, checked and updated according to the conditions through iterations. Furthermore, the process must always be human-centred because, as Zicherman (2011) says, gamification is 25% technology and 75% psychology.
- **Rewards**: Reward-based gamification is a strategy that may only have short-term effects and reduce engagement quality (Thiel, Reisinger, Röderer, & Fröhlich, 2016). Approaches beyond the reward-punishment system should be considered (Pink, 2011). Not just rewards or positive emotions, but also various challenges and elements, such as scarcity and uncertainty, should be used in the design (Chou, 2015). In addition, since extrinsic rewards used to encourage participants are not sufficient for the system's sustainability, constructs that can appeal to intrinsic motivation after an extrinsic trigger should also be included in the process (Eyal, 2014).
- **Feedback**: People are motivated by their progress and completed processes (Pink, 2011). The feedback mechanisms in the implementation should clearly express the participant's progress and actions throughout the process. In addition, an expression space should be opened for the participant's feedback on the process, and complementing digital participation processes with physical sessions, such as meetings or

negotiations, is vital for community building as it increases mutual trust alongside the stronger sense of feedback.

- **Tasks**: A proper assignment can sustain the targeted behaviours and the gamified system. Assignments within the system should appeal to gradual and appropriate motivation. Thus, even the participants can ensure continuity by taking responsibility. In this regard, the theoretical frameworks mentioned above can be utilized.
- **Privacy and Security**: As one of the main issues of gamification is data ownership, the management of processes and people and data management should be considered (Wanick & Bui, 2019).

Finally, when such elements are not considered when implementing gamification, applications that do not achieve the intended result emerge. Moreover, in such cases, there is a danger of technology using us instead of us using technology. Therefore, it is vital to adopt a human-centred perspective in gamification initiatives and consider this process as multi-layered and with different dimensions, just like human beings.

References

Bousquet, C., & Goldsmith, S. (2017). Boosting Engagement by Gamifying Government. Government Technology Magazine.

Burke, B. (2014). Redefine Gamification to Understand Its Opportunities and Limitations. Gartner.

Chou, Y.-k. (2015). Actionable Gamification: Beyond Points, Badges and Leaderboards. Octalysis Media.

Csikszentmihalyi, M. (2004). Good Business: Leadership, flow, and the making of meaning. Penguin.

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From Game Design Elements to Gamefulness: Defining "Gamification". MindTrek '11: Academic MindTrek 2011 (s. 9-15). Tampere: Association for Computing Machinery.

Eveleigh, A., Jennett, C., Lynn, S., & Cox, A. L. (2013). "I Want To Be A Captain! I Want To Be A Captain!": Gamification İn The Old Weather Citizen Science Project. First International Conference on Gameful Design, Research and Applications (s.

79-82). Toronto: Association for Computing Machinery.

Eyal, N. (2014). Hooked: How to Build Habit-forming Products. (B. Akat, Çev.) Penguin.

Kapp, K. M. (2012). The Gamification of Learning and Instruction: Game-Based Methods and Strategies for Training and Education. San Francisco: Pfeiffer.

Kazhamiakin, R., Marconi, A., Martinelli, A., Pistore, M., & Valetto, G. (2016). A Gamification Framework for the Long–term Engagement of Smart Citizens. IEEE International Smart Cities Conference, (s. 1-7).

Kim, A. J. (2018). Game Thinking.

Koroglu, I. (2022). Use of Technology as a Tool of Participation in Public Spaces: Gamification. Master's Thesis, Istanbul University.

Lebrument, N., Zumbo-Lebrument, C., Rochette, C., & Roulet, T. (2021). Triggering participation in smart cities: Political efficacy, public administration satisfaction and sense of belonging as drivers of citizens' intention. Technological Forecasting and Social Change.

Marczewski, A. (2015). User Types. A. Marczewski içinde, Even Ninja Monkeys Like to Play: Gamification, Game Thinking & Motivational Design (s. 65-80). Blurb.

Mayer, I. S. (2009). The Gaming of Policy and the Politics of Gaming: A Review. Simulation & Gaming, 825-862.

Pink, D. H. (2011). Drive: The Surprising Truth About What Motivates Us. Penguin.

Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development and Well-Being. American Psychologist, 68-78.

Thiel, S.-K., Reisinger, M., Röderer, K., & Fröhlich, P. (2016). Playing (with) Democracy: A Review of Gamified Participation Approaches. JeDEM-eJournal of eDemocracy and Open Government, 32-60.

Wanick, V., & Bui, H. (2019). Gamification İn Management: Analysis And

Research Directions. International Journal of Serious Games, 57-74.

Werbach, K., & Hunter, D. (2012). For The Win: How Game Thinking Can Revolutionize Your Business. Philadelphia: Wharton Dijital Editions.

Zichermann, G., & Cunningham, C. (2011). Gamification by Design. O'Reilly.