

Co-funded by the
Erasmus+ Programme
of the European Union



Project Number: 600947-EPP-1-2018-1-DE-EPPKA2-KA
Project Duration: January 2019 - December 2021



Gamification to address cultural challenges and to facilitate values-based innovation

Presentation at ISPIM Virtual 2020 by Henning Breuer & Kiril Ivanov



Lufthansa Systems

kamstrup



Hochschule für Medien
Kommunikation und Wirtschaft
University of Applied Sciences
H M K W



“Culture eats strategy for breakfast”

- › **Innovation** culture and its constitutive **values** are recognized as key to improve innovation capabilities, but they remain difficult to manage.
- › **Novel** facilitation **methods** need to work with values in a more profound and holistic way, providing a collaborative, experiential and practise-oriented mode of intervention.
- › **Gamification** is one particularly well-suited approach to address culture-related challenges to innovation and **to facilitate values-based innovation**.
- › However, an **overview** of existing formats and proven methods, as well as design and implementation **guidelines** are missing.

Research Questions

1. What are the current **needs** of leading European firms for dealing with cultural challenges to innovation through the use of gamified methods?
2. What are the core insights and gaps in the academic **literature** on gamification to deal with culture-related innovation challenges and facilitate values-based innovation?
3. What are actionable **guidelines** for design and implementation of gamified methods for addressing culture-related innovation challenges and facilitating values-based innovation?

Research Approach

- A. Exploratory needs analysis through 26 **expert interviews** with managers and innovation experts from six leading European firms that are industrial partners in the GAMIFY Knowledge Alliance (a Science Conglomerate, Telco, Metering, Insurance company, Airline and Bank). 33 experts and consultants from outside the consortium were interviewed.
- B. Twofold, **systematic literature review**: First, an initial set of 202 research papers sourced from SCI, SSCI and SHCI “ISI - Web of Knowledge” database on gamification and innovation (between 1900 and 2019), was narrowed down to 8 articles including the keywords “culture” OR “values” and addressing the concepts in a relevant context. Second, a review of ISPIM conference, symposium and innovation forum papers (between 2009 and 2019).

Industrial perceptions of cultural innovation challenges (A)

1. Cultural issues related to an ongoing organizational **transformation** (Metering, Telco)
2. Lack of **customer centrality** (e.g. overemphasis on technology) and/or difficulties in understanding customers' needs (Metering, Insurance, Airline, Telco)
3. Innovation is hampered by companies' industry-specific **risk aversity** (Insurance, Bank, Telco)
4. Lack of **tolerance to failure** (Science Conglomerate)
5. Lack of **collaboration culture** (e.g. silo thinking, impaired cross-functional collaboration) (Telco)
6. Innovation aversity in the **mindset** of employees (i.e. rejection, scepticism; Insurance, Airline)

Further challenges, not directly representing cultural issues were seen in pressure for short-term objectives and immediate profit, time and/or resource constraints, lack of coordination and systematic processes, and lack of alignment between innovation efforts & market needs

Industrial perceptions of future potentials for gamification (A)

- › Promoting experimentation in a safe environment
- › Establishing a common ground of understanding
- › Breaking down silos
- › Facilitating cross-functional collaboration
- › Promoting personal relationships

Types of games addressing cultural challenges (B)

- › **Dilemma games** to sensitize for and to establish a shared understanding of organisational values (Breuer et al., 2019; Gudiksen & Sørensen, 2017).
- › Gamified workshop **facilitation** methods that guide through the **collaboration** process and ensure that initial values-based framing (Breuer et al., 2019).
- › **Ideation** games that promote collective creativity, collaboration, experimentation and risk taking (Patrício, 2016; Parjanen & Hyypiä, 2019).
- › Gamified **crowdsourcing** platforms to enhance the engagement and motivation of employees and other stakeholders (Morschheuser et al, 2017; Roth et al., 2015; Zimmerling et al., 2019).
- › **Design** games to facilitate dialogue between designers and other stakeholders (e.g. users) about product-related values (Bang, 2009).
- › Agile **retrospective** games to improve a shared understanding of values and project-related objectives in small group development (Jovanović et al., 2016).

Selected Design and Implementation Guidelines (A & B)

- › **Boundary conditions:** Fit to company strategy, Sufficient support from middle and top management, Time and resource expenditures
- › **Requirements constrain the design process:** Providing clarity about purpose and real-world impact, Ensuring fit to employee target groups, Avoiding misleading incentives, Co-developing with employees to foster adoption; Ensuring professional moderation
- › **Trade-offs and considerations with respect to design elements or process:** Adjusting task complexity, Careful use of competition, Leveraging intrinsic motivation, Using physical tools

Gaps from the literature and need for future research

- › Insights on gamification for dealing with challenges in **later stages** such as prototyping, evaluation and implementation (14 out of 17 articles focus on framing and ideation).
- › Insights on the variability of how different game elements or combinations of game elements are perceived by **different types of users, teams and organizational cultures**.
- › Methods and guidelines, how to facilitate **“bottom-up” formulation and management of values based** on values of employees and other stakeholders.
- › Additional **systematization** and a conceptual framework, e.g. proceeding from recurring innovation challenges to gamified interaction formats and design patterns.
- › New games, organization- and situation-specific **applications** and comparative empirical research to better understand, design and utilize gamification to manage what we care about.





Thank you for your attention!

***For further information please check:
<https://www.gamify.site/>***


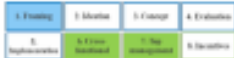

Acknowledgment

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein

Gamification approaches as potential means for fostering cultural transformation

| Publication | Dimension | Values-based / cultural challenge to innovation | Relevant insights |
|------------------------|---|--|--|
| Jovanović et al., 2016 |  | Forming (e.g. establishing shared values), storming (e.g. resolving values-based conflicts), norming and performing of agile teams can be facilitated through agile retrospective games. | Assessment of the suitability of 85 retrospective games to support the four phases of group development helps practitioners to select appropriate games. |
| Procopie et al., 2015 |  | To sufficiently attract and engage members of Generation Y into their innovation processes, companies need to adapt to the values of independence, openness, idealism and interactive work characteristic for them. | Analysis of the perspective of Generation Y on utilizing gamification approaches for innovation offers insights on their preferences for using gamification to aid product and service development, gain knowledge and skills and create an interactive environment for innovation. |
| Shi et al., 2017 |  | The transformation towards advanced service provision of product manufacturing firms implies significant cultural changes to overcome barriers, such as difficulties in sharing inter-organizational knowledge and establishing stable and interactive relationships with customers and supply chain partners. | Theoretical model to propose two levels of gamification design: for availability-based and performance-based growth generated by advanced service provision. The model helps practitioners to apply emotional mechanics of gamification (hedonic, utilitarian and social) when addressing different barriers in the adoption of servitization. |
| Lejeune, 2012 |  | The integration of “strong sustainability” within business models necessitates the identification and evaluation of managers’ skills and capacities which are favourable for business model design based on values of sustainability. | Overview of a development process for table game that helps facilitators and educators to test managers’ capacities and skills and accelerate their training with respect to the design of new sustainable business models. |

Gamification approaches for facilitating values-based innovation workshops

| Publication | Dimension | Values-based / cultural challenge to innovation | Relevant insights |
|--|---|---|---|
| Breuer et al., 2019 |  | Dedicated workshops that address innovation management challenges (e.g. for developing values-based business models) require leveraging substantial background knowledge and creative collaboration among participants. | A design pattern approach to aid the development of gamified workshop facilitation methods that can guide participants through a collaboration process and ensure that initial (e.g. values-based) framing informs subsequent decision-making. |
| Breuer et al., 2019 Gudiksen & Sørensen, 2017 |  | Formally defined organizational values are often abstract and detached from employees’ daily practises, which hinders their embracement and incorporation in everyday work situations and customer interactions as well as their potential to drive innovation. | A design pattern approach and an action research study that present dilemma games as means to support embracement and incorporation of official values, thereby promoting vertical and horizontal communication across boundaries as well as sensitizing employees for potentially conflicting values or “abstract” values. |
| Bang, 2009 |  | Users’ emotional values and experiences with regard to a product are implicit and difficult to verbalize, which hinders communication and collaboration between them and product developers. | The study presents a ‘design game’ as an approach for establishing dialogue with users about soft and non-verbal issues, such as emotional values in textile design. |

Gamification approaches as potential means for promoting engagement, communication and collaboration among players

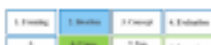



| Publication | Dimension | Values-based / cultural challenge to innovation | Relevant insights |
|-----------------------------------|---|--|---|
| Morschheuser et al., 2017 | | | Conceptual framework that analyses characteristic features of gamified crowdsourcing systems, showing that experiences common to games (e.g. feelings of mastery, autonomy and flow) can provoke intrinsic motivation and increase crowdsourcee contributions. |
| Roth et al., 2015 |  | Crowdsourcing campaigns can attract contributions from diverse stakeholders thereby fostering the development of innovation-supportive cultures. But since they offer little or no monetary incentives, their success depends on engaging "the crowd" through approaches that incite intrinsic motivation. | Overview of a longitudinal study (Scheiner, 2015), indicating that basic game elements such as points, rating systems, badges or levels positively impact the motivation to participate. |
| Zimmerling et al., 2019 | | | Field experiment showing that game elements enhance crowdsourcing platform activity, but are broadly ineffective in enhancing the quantity and quality of ideas. This guides practitioners in treating game elements with caution to avoid mitigating the utilitarian aspects of crowdsourcing. |
| Breuer et al., 2019 | | | A design pattern approach to develop of crowdsourcing formats that foster engagement and collaboration through gamified ideation, resource allocation, crowdfunding and "innovation markets". |
| Parjanen & Hyypä, 2019 |  | Innovation-supportive cultures imply collaboration that involves a diverse set of stakeholders, but heterogeneity of teams and their members' individual differences in terms of working- and communication styles can act as a barrier to collective creativity processes. | Case study of the Innotin game that promotes an innovation environment through cognitive (learning and understanding) and social (creative atmosphere, facilitated dialogue, networking and ideation) affordances. |
| Skaržauskienė & Kalinauskas, 2014 | | | Literature review on potentials of gamification for encouraging collective intelligence and creativity through game elements that foster competitiveness, collaboration, engagement/immersion and flow. |
| Patrício et al., 2018 |  | The front end of innovation is characterized by conflicting organizational pressures, high complexity and uncertainty and continuous exploration of customers' needs and values, which necessitates increased levels of engagement and collaboration among diverse stakeholders. | Cross-comparison of 18 cases of gamification applied in the early stage of innovation, specifying three groups of positive gamification outcomes: hedonic (motivation, engagement), social (team spirit, consensus building) and utilitarian (e.g. cognitive) |
| Järvelä et al., 2011 | | | Method comparison demonstrates "InnoCoop" as an approach that enhances front-end innovation efforts, through strategical alignment in design, tournament format of serious games and cooperation. |
| Bhimani et al., 2018 |  | Social exclusion experienced by individuals and groups can threaten their sense of belonging, thus impeding the facilitation of open innovation projects. | The study offers a methodological novelty for addressing social exclusion challenges and examining interactions and exchanging in open innovation through an "Open Innovation Game". |
| Patrício, 2016 |  | Innovation cultures support behaviors and capabilities such as collaboration, experimentation and risk taking. This implies methods that promote such values through tangible symbols and actions. | Case study of ideaChef®, a gamified method that enables teams to ideate solutions to a challenge by using cooking metaphors. Participants perceived this as supporting innovation in a more open environment, stimulating team building and team spirit and shaping an innovation-supportive culture. |
| Sick et al., 2018 |  | Wicked problems involve a broad range of stakeholders with conflicting values, necessitating integration of divergent perspectives and collaboration among diverse actors. | The article proposes WickSprint as a holistic approach centred around multidisciplinary sessions and workshops in which gamification elements (comparable to crowdsourcing and innovation contests) help to engage participants and foster collaboration among them. |

Table 1. Summary of discussed in the reviewed literature cultural and values-based innovation challenges and gamification approaches to address them.

Literature

- Bang, A. L. (2009). The Designer as Facilitator: Actively Involvement of End-users in the Design Process. In: The Future of Innovation, The XX ISPIM Conference. Lappeenranta University of Technology Press.
- Breuer, H., Gudiksen, S., Abril, C., & Lehmann, C. (2019). Gamification and Games as Facilitation Methods for Innovation and Entrepreneurship. In ISPIM Conference Proceedings (pp. 1-21). The International Society for Professional Innovation Management (ISPIM).
- Gudiksen, S., & Sørensen, L. (2017). Value-based leadership: Game tool as bridge maker. In ISPIM Conference Proceedings (pp. 1-13). The International Society for Professional Innovation Management (ISPIM).
- Jovanović, M., Mesquida, A. L., Radaković, N., & Mas, A. (2016). Agile retrospective games for different team development phases. Journal of Universal Computer Science, 22(12), pp. 1489-1508.
- Morschheuser, B., Hamari, J., Koivisto, J., & Maedche, A. (2017). Gamified crowdsourcing: Conceptualization, literature review, and future agenda. International Journal of Human-Computer Studies, 106, 26-43.
- Parjanen, S., & Hyypiä, M. (2019). Innotin game supporting collective creativity in innovation activities. Journal of Business Research, 96, 26-34.
- Patrício, R. (2016). ideaChef®: A gamified approach for engaging teams in corporate innovation & entrepreneurship. In ISPIM Conference Proceedings (p. 1). The International Society for Professional Innovation Management (ISPIM).
- Roth, S., Schneckenberg, D., & Tsai, C. W. (2015). The ludic drive as innovation driver: Introduction to the gamification of innovation. Creativity and Innovation Management, 24(2), 300-306.
- Zimmerling, E., Höllig, C. E., Sandner, P. G., & Welp, I. M. (2019). Exploring the influence of common game elements on ideation output and motivation. Journal of Business Research, 94, 302-312.