

GAMIFICATION-BASED INFORMATION OPTIMISATION FRAMEWORK FOR ENHANCING COLLABORATIVE AND INNOVATIVE WORKPLACE CULTURE

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ABSTRACT: *Gamification has transformed its traditional application in the context of motivation and turns out to be a culture engineering method, which determines the creation of behavioral cultures, values and shared identities according to the conscious design patterns. The researcher in this paper will discuss how gamification architectures can identify and transmit normative behavioral expectations within organizations, education, and socio-cultural settings. The research is based on a qualitative interpretive approach, which is based on semi-structured interviews with experts and a thematic analysis of gamified systems in industries, such as digital platforms, heritage preservation games, educational environments, and corporate engagement systems. The findings show that game mechanisms such as reward systems, progress loops, leaderboards, narratives, and feedback architecture are used to set normative structures that regulate activities of the users and form desirable social norms, such as collaboration, productivity, sustainability, and civic engagement. In the analysis, the concept of gamified cultural scripting is introduced, where the users absorb norms through a process of engaging in a repetitive form of interaction. The paper is a contribution to the literature in business and organizational studies by theorising the concept of gamification as a strategic culture and not a user engagement approach. It raises another concern of manipulation, programming behavior, and inequality of power in gamified environments. Its findings offer both theoretical and practical recommendations about ways to develop ethically responsible and culturally sensitive interactivity of gamification systems.*

Keywords: Gamification, Cultural Engineering, Behavioral Norms, Game Architecture, Organisational Culture, Qualitative Study

1.INTRODUCTION

Gamification has been increasing at a scorching rate to become an effective tool used in business, education, governance, and culture arena to shape the user's engagement and behavioural outcomes. Gamification has been popularly applied to promote engagement and effort with a more classically understood concept of incorporating game features, such as points, badges, and leaderboards, and stories, considered non-game. However, recent literature and experience have indicated that gamification is not merely the act of maximising engagement, but a behavioural regulation framework that inculcates some norms, values and expectations to the interaction between gamifiers. In this respect, gamification may be perceived as a form of cultural engineering, whereby the idea of a developed game shapes the way individuals think, act, and engage with social systems.

Gamified platforms are used throughout the organization to reinforce the culture of productivity, compliance, and performance-oriented culture. Gamification structures the learning conduct, identity development, and learning participation. The programs of cultural heritage and urban engagement are supported with the help of gamified storytelling to create collective memory and civic identity [1]. Similarly, pro-environmental norm is also integrated into the everyday behaviour of gamification systems which are oriented towards sustainability [2]. These different applications imply that gamification systems are normative systems, coded behavioural systems within digital and social space.

Even though gamification has taken root as a trend, the expanded cultural sense of gamification has not been studied extensively. Most of the existing literature focuses on user

motivation, the interface measures and effectiveness of the system, and not much is mentioned regarding how the gamification architectures constitute the intentional construction and transfer of social norms. Scholars already identified the role of cultural context in gamification design [3], yet the qualitative study of the process through which the designers exist and how players learn to tolerate the normative scripts in the long-term perspective has not been carried out.

This gap will be addressed in this paper whereby gamification has been discussed as a planned intervention of cultural engineering. It discusses how the game structures (in the configuration of reward systems and progression models, social comparison structure and narrative framing) can affect behavioral norms and identities within the contexts. The central research question which will guide this study is the following: How is gamification architecture one of the mechanisms of cultural engineering to shape behavioral norms?

This research can assist business and organizational scholars to reconsider gamification as a cultural designing tactic due to its qualitative interpretive method. It also presents valuable data on ethical, managerial, and social consequences of how systems are designed that can shape human behavior on a large scale.



Figure 1: Conceptual Framework of Gamification as Cultural Engineering

2. LITERATURE REVIEW

2.1 Gamification and Behavioural Design

[1] states that the general structure of gamification rests on the behavioral psychology concept and is largely inspired by the mechanics of a game, including quests, feedback systems, reward systems, and progression structures. Such factors serve as stimuli to the behaviors that the users will tend to use positively by being reinforced and goal oriented. Gamification systems can create an environment in which behaviors are enabled, supported, and educated through organizing channels of interaction and providing an environment in which feedback is received instantly. This leads to the fact that gamified systems can override engagement and can be used as behavioral design frameworks.

[2] presents the example of crowdsourcing systems in an empirical manner, demonstrating that gamification architectures have the potential of substantially affecting the number of users, the rate of completion of the task assigned to the individual, and the stability of the performance. The paper illustrates that the extrinsic incentives are points, badges, and ranking systems that dictate the user's behaviors and provide performance expectations in online contexts. The findings suggest that gamification is a behavioral rule process which structures the way individuals interact with the digital systems and coordinates the behavior of the users with the platform objectives.

[3] discusses the organizational opposition to gamification implementation and reveals that behavior design deployed in gamification systems reflects in most instances the work managerial wishes to control productivity and interaction between employees. The research noted that expectations in the domains of efficiency, competition, and compliance are coded by the gamified systems and therefore determine the workplace culture. It means that gamification is not a value-neutral tool but a strategic process according to which the companies can make the employees behave in some manner and reestablish the institutional norms.

2.2 Gamification as Cultural Transmission

In their article, a systematic review of the use of gamification as a cultural heritage by [4] demonstrates that a communication tool of cultural narratives and historic materials becomes an important element of the gamified system. The research has shown that interactive narrative,

exploration, and interactivity built on a reward basis allows the process through which users can access cultural heritage in significant ways. By communicating with each other through repetition, the users absorb values of culture and acquire a sense of culture which is associated with the heritage narratives which unravels the role of gamification in the culture transmission process.

[5] offer the theme of serious games that are dedicated to the old architecture and mention relevant aspects that can impact the endless interest of users. Based on their results, narrative immersion, cultural symbolism, and development based on reward helps players to be more emotionally attached to heritage environments. It implies that it was possible to develop culture appreciation and identity with the assistance of gamified systems since the system of symbolic meaning and value should be translated into gameplay systems.

The hypothesis derived by [6] is the hypothesis that the national culture plays a major role in the development of gamification and the perception of the elements within a game by the users. Their conceptual model emphasizes the importance of cultural aspect in designing and reception of gamified system collectivism, power distance, and uncertainty avoidance. It means that not only does gamification enable the culture to spread its values, but it also reproduces and reproduces the cultural norms already existing in the digital space.

The study by [7] focuses on the gamification of the university environment and finds that gamified education can also help to foster the sense of belonging and identity development among the students, especially foreign. The paper observes that interdependence issues, peer performance, and social structure of achievement promote social inclusion and culture assimilation. It shows that gamification may be considered as the instrument of social and cultural integration, organizing the interactions, which will enable inclusion and common identity.

2.3 Gamification in Organizational and Sustainability Contexts

[8] explores the integration of gamification by organizations and determines the strategic use of gamified systems to improve productivity, compliance, and engagement of employees. The research points out that performance dashboards, achievement badges, and leaderboards are some of the aspects of the game used by organizations to normalize competitive work cultures and enable efficiency-driven behaviors. These systems have become managerial systems that influence how employees behave with the organization goals aligning individual performance to organizational goals and to some extent influence workplace norms and expectations.

2.4 Research Gap

Although he also mentions that the existing literature about gamification is largely focused on the results of engagement, usability, and motivation, as [3] point out, there is minimal discussion of how gamification affects culture in general. The idea of gamification is hardly thought of as a deliberate system of structuring and transmitting behavioral norms although researchers have acknowledged that gamification can be used to influence the behavior of users and participation. This demonstrates that there is the need of a

more conceptual understanding of gamification as a cultural and social design mechanism.

[8] provide importance of the cultural context in the designing process of gamification, still, they remark that there is no empirical literature, which examines how the cultural values are consciously applied in the mechanics of the game. Most literature sources believe culture to be an external determinant that influences user response, and not a consequence that the gamification systems have shaped. This indicates a gap in the expertise related to how the gamified environments themselves are commodities of cultural production and reproduction.

[9] demonstrates that it can also become a sense of belonging and identity formation among students, but the study does not go into any detail on how such identities are eventually formed with the aid of design decisions. This implies a more general drawback of the literature where the findings about identity are observed but not the processes of design that make these findings. The purpose of the gamification design and its impact on social identity therefore needs to be investigated.

[10] found that green gamification is effective in promoting sustainable behavior, but it needs further research on the ethical connotation of the manipulation of behavior via the behavioral change through the application of gamified systems. Such gamification design issues as manipulation, asymmetries of autonomy and power are not critically discussed in the existing literature. This shows the importance of research about gamification as a working tool, an ethical and administrative mechanism.

In total, the gap in the research in the conceptualization of gamification as a form of cultural engineering may be observed in the whole literature. It needs to be done through a qualitative, interpretive research to study the intentional encoding of norms in game structures, how the norms are internalized by users and how such systems have contributed to cultural and organizational processes in general.

3. METHODOLOGY

3.1 Research Design

The proposed research falls under the category of qualitative and is based on interpretive research design since it pays attention to how the gamification systems formulate and reproduce behavioral norms within an organizational-educational, and socio-cultural setting. Qualitative methodology will be appropriate because the research aims at understanding the meaning, intentions, and experiences that are attributed to the design of gamification as opposed to measuring the predetermined attributes. The interpretive paradigm would allow the researcher to examine the way the behavioral expectations can be intentionally implemented into games forms by their designers, and the way in which they are perceived and internalised by people. The investigation of the nuances of the gamified systems that serve as cultural engineering apparatus is in the research paper since it is built on the experiences of living and approaches to design. The specified design is particularly better suited to the exploration of the implicit values,

assumptions, and power structures that are internal to the gamification processes (reward systems, narratives and feedback loops).

3.2 Data Collection

There were two primary qualitative instruments involved in the process of data collection associated with the current study, namely semi-structured interviews and document analysis of gamified systems. Semi-structured interviews were used to interview professionals who designed, implemented, or manifested gamified platforms. The respondents were gamification designers, management of the organizations that have implemented the gamification tools, educational techno-logists, and developers of the culture heritage game. The Interview form was also loose and it was used to delve deeper into the design motives of the participants and the perceptions of the participants on the user behaviour in addition to their experiences on the behavioural implications of the gamified systems. Questions during the interviews were dedicated to the design rationale of the award systems, upgrading systems, social comparative properties, and narrative qualities and how they are viewed to influence user behavior and cultural conventions.

3.3 Sampling

The sampling method was purposive since it was applied to choose the participants that possess direct and relevant experience with gamification systems. The research included only a small group of 20 respondents, and their representation is diversified consisting of business organizations, learning institutions, and cultural and sustainability programs that are quite active gamifiers. The criterion of selection also implied that the participants were required to possess two years of experience in the creation, introduction, or administration of gamified platforms. This ensured that the participants had a decent level of expertise in providing meaningful information on the deliberate design and behavioral impression of the gamification systems. The fact that the backgrounds of the participants also varied, also enabled the study to obtain cross-sector views on the operation of gamification as a cultural engineering mechanism.

3.4 Data Analysis

The data obtained were analyzed using the thematic analysis according to the six-step model proposed by Braun and Clarke. The familiarization with data (reading the transcripts of the interviews several times and recording the platform) was taken as the first step in the analysis. This was made through systematic coding of portions of data that were suggestive of behavioral design models, reward framework, identity indicators, and societal controlling frameworks. These codes were grouped into bigger clusters at the second level so as to create mechanisms of norm-construction that were inbuilt in gamified systems. Themes were then developed to capture patterns that were recurrent in the behaviors of reinforcing behavior, identity formation, social comparison, and narrative framing. Finally, the themes were interpreted to expound on how gamification works as a cultural engineering that dictates the behavioral norms and social practices in some situations. This interpretation process ensured a firm and concise way of analyzing the qualitative

data and it was in line with the interpretive research design of study.



Figure 2: Research Method Flow

4. FINDINGS AND ANALYSIS

The results show that gamification is a multi-layered cultural engineering system where behavioral norms are planned, implemented, and supported both in a digital and an organization setting. Through the interviews and platform studies, four mechanisms interacting in a symbiotic relationship were found to form the most predominant routes by which gamified systems form and convey norms: reward structures, progression systems, social comparison frameworks and narrative architectures. These mechanisms are interconnected and do not run separately; they interact and form a coherent system of behavioral regulation by which user identities, expectations, and daily practices are defined.

4.1 Norm Encoding Through Reward Structures

According to [3] one of the main design elements of gamification is reward structures, which indicate what should be desired and which reinforce the repetition of actions by feedback loops. The respondents in this research continuously talked about reward systems including points, badges, streaks, and milestones as the behavioral cues in a system that illustrate what is deemed valuable. As an illustration, within the corporate productivity systems, points were attributed to employees based on the completion of tasks, on-time, and achievement of the performance goals and, therefore, productivity and efficiency became normalized as the organizational values. Likewise, sustainability-oriented applications have associated rewards with environmentally friendly behaviors like energy consumption or involvement in green practices, which strengthens the green as a social value [12].

[12] shows that these types of reward architectures have been shown to play the role of behavioral governance through its architecture of participation, matching system-defined objectives with user behavior. This is reinforced by the findings of this paper, since users have stated that they would shift their behavior so as to gain maximum rewards, and this behavior could become a norm. With time, the reinforcement of the rewarded behaviors becomes normalized and the certain behaviors become a part of who one is and their

actions are no longer externally motivated actions but rather become internalized norms. Another observation by the participants was that reward systems influenced both positive and negative behavioral expectations by the fact that there were no rewards to reward behavioral tendencies as a way of implicitly demotivating said behavioral tendencies.

[8] also emphasizes that the gamified reward processes can also affect cognition and perception of success, making them change not only behavior but also cognition and perception. Students in educational platforms considered in this paper linked badges and high score to competency and success, and this affected their learning preferences and interactions with their peers. This proves that reward structures do not simply reward action, but proactively define normative concepts of success, effort and value within a system.

4.2 Identity Formation Through Progression Systems

As [2] notes, the gamification concept can be very impressive in identity construction by providing users with roles, statuses, and symbolic representations that construct self-concepts. The findings of this article show that one of the identity construction systems is progression systems (levels, titles, rankings, and avatar customization), which define the role of users in the gamified system. According to the respondents, users begin to identify with their value of self-worth and social identity with the labels generated by the system such as the greatest, knowledgeable contributor or earth friendly.

[10] explain that the aim of gamized learning environments is to build competencies and behavioral identities following predetermined progression channels. This paper expands that showing that progression systems offer hierarchical organization of identity that causes a user to seek to be elevated to a superior job position. As a case in point, in the corporate systems, the employees said they were having difficulty learning additional tiers or elite awards as they were indicators of professional competence and esteem. By the character of their progression level in the sustainability applications, users identified themselves as environmentally responsible, which enhanced the pro-social and ethical identities.

[11] state that such identity structures are based on the dimensions of culture since the value of an individual or group contribution may be taken differently in different societies. This research study findings indicate that progression systems can either favor competitive individualism or cooperative collectivism with design alternatives. This leads to the problem of gamification as a process of cultural scripting that shapes identity and belonging to some socio-cultural contexts.

5. DISCUSSION

The findings of the study indicate that gamification is an example of soft governance, whereby the control of behavior is no longer determined by rigid rules or coercive mechanisms but through the developed incentive systems, feedback, and narrative. According to [3] gamified environments can guide behavior by adding motivation triggers into the interaction design that allows the consumer to automatically set their practices to systems goals. The present outcomes add to the argument by proving that such mechanisms are the means of normative governance, which

not only affects the behavior of the users but also the form of how they believe they should think and should act. Incorporating the presence of corporate productivity platforms, as in the case of employees within a corporate productivity platform, employees refined their behaviours in regard to performance metrics, not because of any form of enforcement, but because the gamified system made visible and recognizable rewards and socially recognised. It goes in line with [5] who shows that the involvement of users in gamified systems is structured in terms of rewards and least in the form of command-and-control systems.

The concept of gamified cultural scripting emerges as one of the essential theoretical areas of attention of this study. This concept is described as the means according to which constant exposure to the mechanisms of gamification, such as rewards, progression systems, and social comparison mechanisms, leads to users adopting some values and systems of norms of behaviour. The gamified learning environments as proved by [13] not only affect the behavior of the students, but also their attitudes and cognitive orientations to cooperation and success. Similarly, the findings of the current research also show that regular exposure to gamified incentives leads to the user developing system prescribed behavior as a matter of course which the user ultimately considers natural or instinctive. Under the umbrella of the sustainability, e.g. a group of employees that continuously used the eco-rewarding systems said that environmental friendliness action turned into a part of their daily working identity, which correlates with the findings of the [9] of the green gamification and pro-environmental norm internalization.



Figure 3: Gamification as Soft Governance Model .

Another way through which the article redefines gamification is on the concept of gamification as a culture design which is a tool to the common understanding of gamification as a drive or engagement system. [8] emphasize that gamified systems in the cultural heritage field transmit cultural values

and stories contributing to the perception of identity and the past by the users. This aspect of gamification is the foundation of the present research as it confirms that gamification in the spheres of organizations, education, and sustainability is one of the systems of construction of a shared norm and values. It is also proven by [7] that the urban regeneration projects founded on gamification arouse the feeling of civic responsibility and engagement in the community that underlie the collective cultural norms. Gamification is a potentially valuable instrument of cultural influence because it may be applied as a deliberate strategy of influencing culture by introducing reward systems and value-filled tales into the systems design rather than focusing on behavioral influence.

The other important contribution of the research is the fact that this paper has demonstrated how gamification can be exploited in the identity construction process. [8] focuses on the effect of a gamified environment in establishing a sense of belonging and identity among the learners by the recognition systems and shared challenges. This observation is accepted and expounded by the outcome of this study that proves that progression system, title, and status markers constitute symbolic identities, and the users internalize them over time. The individuals reaching superior levels or being identified begin to perceive themselves within the frame of what the system has defined, such as the member who makes the most contribution or the sustainability advocate. Such is the process that Guhl and [13] reflect as the cultural instantiations of identity in gamified systems since the features of design reflect and uphold the social values of achievement, competition, or collectivism in general. Thus, gamification does not only create a behavioral impact, but also identities which align with the institutional and cultural objectives.

At the same time, the implications of the study concerning the use of gamification as a cultural engineering process are significant for its ethical implications. [3] cautions that gamification can be used as a control mechanism by managers that distort employee behavior under the guise of involving them. This fear is justified in the present paper as the respondents confessed that users would alter their behavior in the way reward systems are designed even though they may not necessarily be aware of the real intentions of the system. This casts doubt upon the autonomy, informed consent and influence of behavior manipulation possibility. Also, according to Dalgren and Tran (2025), green gamification may force the employees towards the organization values, which may limit the individual agency, though it promotes sustainability.

According to [3], social differences and stress can be created between gamification participants, particularly when hierarchical performance differentials are reinforced by leaderboard. The findings of the provided research also led to the observation that as much gamification as possible can improve motivation and interest; it can also marginalize the less effective ones and reinforce the culture of the dominant population. This brings about the need to have ethical

designing systems that ensure freedom, inclusivity, and convenience in gamified systems.

6. ETHICAL IMPLICATION

The results of the current paper indicate that although gamification has a huge potential of influencing beneficial behavior and engagement, its application as a means of cultural engineering presents some tricky ethical issues that should be seriously considered. According to [9], gamification systems, especially those applied in an organizational setting, can be regarded as very subtle tools of managerial control, whereby the behavioral expectations are integrated into the system of rewards and performance measurements. This poses a threat of behavioral control and autonomy loss because users could unintentionally adjust to the goals system-inflicted without putting into serious consideration their personal likes or values. This anxiety is confirmed by the results of the current study because the participants indicated that often the users adapt their behavior so as to receive maximum rewards or recognition even in instances where this is not consistent with their intrinsic motivations.

[3] emphasize that cultural dimensions affect the design of the gamification and that provokes concern about the promotion of the values of the dominant culture. Gamified systems usually assume the values of the designers or institutions behind it like competitiveness, productivity, or personal accomplishment. This may discriminate against other cultural views or sets of values. The current research observed that some gamified platforms implicitly encourage the practice of competitive individualism by use of leader boards and rankings systems, which are not necessarily consistent with a collectivist cultural environment. This indicates that gamification can recreate and even amplify cultural hierarchies instead of ensuring inclusivity.

The other important ethical issue is associated with privacy and monitoring of data. According to [3], the gamified systems are deeply dependent on monitoring user behavior to give feedback, rewards, and performance analytics. Although this type of data collection will improve the effectiveness of the system, it will also present some concerns in terms of consent of users to the data collection, ownership of the data, and misuse of personal information. The respondents of this research reported that gamified company websites tend to track specific behavioral data resulting in some sort of digital surveillance that may influence employee trust and well-being. This is in line with the larger issues of data-based governance in cyberspace.

Another risk that is found by the study is the psychological dependency on the reward systems, in which the user becomes dependent on outside incentives to motivate them. As [9] observes, users may become conditioned to get validation with the help of points, badges, or rankings, which may negatively impact intrinsic motivation. The results of this research indicate that users can become less engaged when the rewards are eliminated, which means that they are addicted to gamified reinforcement processes. This makes behavior change strategies, which highly depend on extrinsic motivation, questionable in terms of sustainability and ethicality.

To address these issues, the paper highlights the importance of ethical gamification systems, which should focus on transparency, inclusivity, and user welfare. According to [3], responsible design of gamification should entail effective communication of the system goals, collection of consent among the users, as well as incorporation of various cultural values in the design procedures. The ethical frameworks must also have a system of gamification that facilitates intrinsic motivation, unhealthy competition, and fair play. Gamification can become a beneficial cultural tool instead of the manipulative mechanism by introducing the ethical considerations into the design practices.

7. CONCLUSION

This discussion reveals that gamification is no longer the motivating tool as it was before but rather a powerful cultural engineering tool that does not only shape behavioral practices, identities and societal activities within the organizational context but also within the learning and the society environment. The qualitative interpretive analysis of gamified systems provides a demonstration that reward system, progression system, social comparison processes, and narrative system are all normative environments that define behaviour of the users and influence identity formation. This validates the notion of cultural scripting through gamification because when a system gets exposed to game architecture repeatedly, internalization of systems-defined norms and values occurs.

However, the game-altering quality of gamification is augmented by the reality that there are grave challenges and concerns that ought to be conquered in the guise of ethical and sustainable gamification implementation. Some of the key problems in the study include the propensity towards manipulative design practices that may interfere with the autonomy of the users, the presence of cultural bias in the gamification systems that may undermine some categories of users, and the excessive reliance on extrinsic motivation which may reduce the intrinsic engagement. Moreover, there is also a lack of proper ethical governance systems, which creates a sense of perplexity in accountability and reasonable use of gamified systems. Another sign of appropriate and balanced implementation strategies is the possibility of behavioral dependency on reward mechanisms in the long-term.

It is against these challenges that the following research should be aimed at the cross-cultural features of gamification ethics, how other cultures view and respond to a gamified system. The application of AI-based adaptive gamification, where the user's behavior is dynamically altered to change the rewards and feedback, should also be investigated, as well as the emergence of new ethical and governance issues. Finally, it would require long-term longitudinal studies which would determine the impact of gamification on society, particularly its influence on the development of identity, social norms and impact on the institution over the long term.

The present research article is applicable to the growing literature base because it re-defines gamification as the cultural engineering practice and introduces the need to make it ethically responsible in its design. By recognizing the possibilities and the traps, organizations and designers will

get the tool of introducing positive cultural shift, and safeguarding user sovereignty and welfare via gamification.

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