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Article

Designing a comprehensive gamification model and pertinence in organisational context to achieve sustainability

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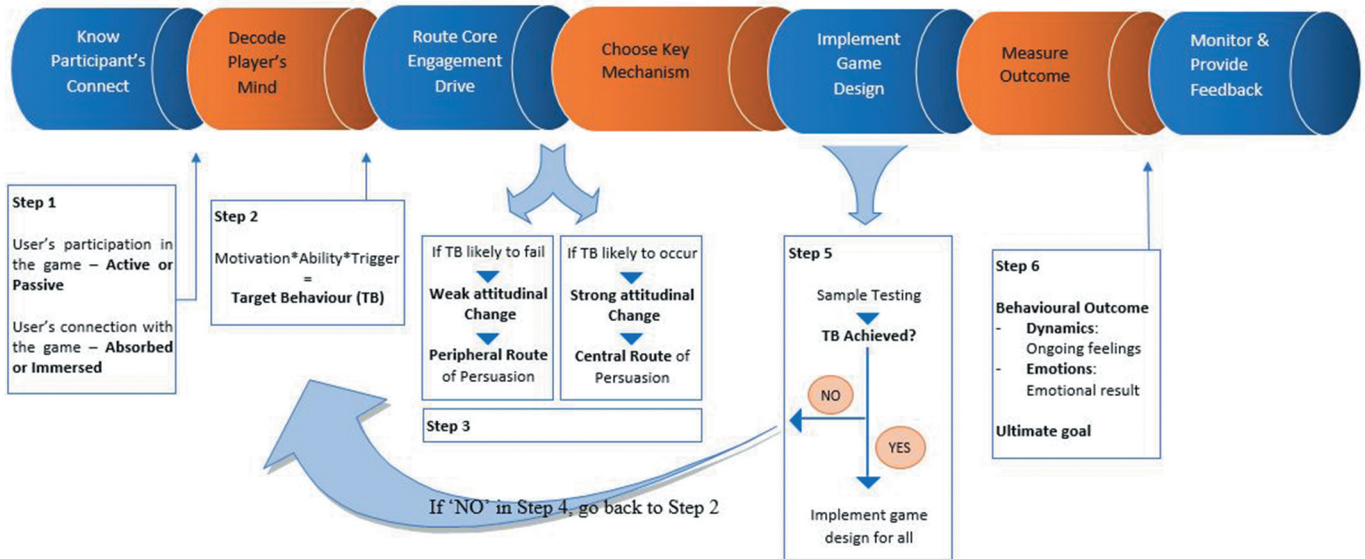
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MANAGEMENT | RESEARCH ARTICLE

Designing a comprehensive gamification model and pertinence in organisational context to achieve sustainability

Deepti Prakash¹ and Parul Manchanda^{1*}

Abstract: The present study outlines the power of gamification to help reduce the attitudinal and engagement-related threats in a given non-game environment. Through this research paper, we proposed an extensive model of gamification, proposed on a series of theoretical models (ELM Model, Fogg Behaviour Model, ABC Model of Attitude, Octalysis Framework and MDE Framework) to be implied in organisations. Enabling participants to eliminate disengagement. Secondly, we have explored the “Intent”, “Mechanism”, and “Outcome” of organizations that have extensively applied gamification for restructuring various functional activities. Further, through this scholarly work, we have brought forward a novel concept of how gamification may help organisations achieve different dimensions of sustainability (economic, social and environmental).

Subjects: Design; Work & Organizational Psychology; Persuasion

Keywords: Gamification; gamification model; sustainability (economic, social, environmental); “Intent, Mechanism, Outcome“



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Dr Deepti Prakash, is an Assistant Professor, University School of Management Studies, Guru Gobind Singh Indraprastha University (GGSIPU). She has pursued advanced course in Behaviour Testing and Training. Her area of expertise is Organizational Behaviour, Human Resource Management, and Entrepreneurship. She is also currently doing a research project under Faculty Research Grant Scheme of GGSIP University (2016) titled- Impact of mindfulness on entrepreneurial orientation of employees: A comparative study of intrapreneurial and non-intrapreneurial organizations. Her work is published in international and national journals of repute. Ms Parul Manchanda, is a Research Scholar with the University School of Management Studies, Guru Gobind Singh Indraprastha University (GGSIPU) and an Assistant Professor with Vivekananda Institute of Professional Studies (GGSIPU). She has around 6+ years of experience including industry and academics. She has taught subjects in the domain of marketing and entrepreneurship. Her keen areas of interest are entrepreneurship, sustainability and business management.

PUBLIC INTEREST STATEMENT

In the modern era, the attitudinal and engagement-related threats in a given non-game environment can be minimized by combining certain game-like elements in the non-game setting. Had there been some game-like elements, namely, fun, enjoyment or competition along with a tinge of appreciation and accomplishment implemented in the non-game environment, the mere tasks would have certainly caught attention. Thus, the power of “gamification” helps achieve the outcomes better. Through this paper, an effort has been made to study the Intent, Mechanism and Outcome of organisations that have extensively used gamification for restructuring functional activities. It also tends to explore the sustainability (economic, social and environmental) dimensions achieved by organisations that have adopted gamification.

1. Introduction

“All work and no play makes Jack a dull boy”, applies aptly to almost every person in today’s era. What if Jack is made to deal with his work in a playful environment? With advances in technology and society at such a rapid pace, the world today is literally changing (Fadels et al., 2017). This speedy progression is already being adopted readily due to the various changes that have been observed in the demographic shift taking place in the working population. Followed by a second trend of the ever-rising use of internet, social technologies, video games, computer games, mobile games, etc., amongst almost all the age groups (Sanmugam et al., 2014). Consequently, digital games have thus become increasingly popular over the last few years; even at the workplace! (ESA, 2015). These trends have marked an onset of a third trend which is identified as the increasing disengagement among the Generation Y and the Generation Z population which are consistently demanding more than what the current environment has to offer (Fadels et al., 2017; Moritsugu et al., 2017). Industry professionals have taken notice of this trend, and have termed this as “gamification”. It is considered as an emerging technology used by organisations that leverages techniques to make games engaging, addictive and apply them to everyday business scenarios and operational processes (e.g., training, marketing campaigns and customer service). The trend is expected to make big numbers as the global gamification market which was valued at USD 2.17 billion in 2017, is estimated to reach USD 19.39 billion by 2023 (Mordor Intelligence, 2018).

This idea of gamifying the tasks and behaviours that can build sustainability can actually bring awareness and solve problems. Organisations are trying to maintain their “financial footing”, “deliver a “social benefit” and to be “environmentally viable” at all times. Gamification can thus have a major application in context to sustainability. It can offer an innovative alternative, an approach that blends together knowledge and tools from the field of game design with behavioral psychology (McGonigal, 2011). Thus, gamification can be regarded as an important method for enabling positive social change and increased sustainable efforts.

The rest of the article is organized as follows: Firstly, the research objectives of the present work have been presented. Secondly, the evolution of gamification is presented in the form of a timeline of major events. Further, laying emphasis on existing gaps in game-based learning or serious games. Additionally, a brief literature review for the studies is done in context to gamification (2010–2019). Thirdly, the research methodology adopted for the present study has been presented. *Fourthly*, through this present research, we aim to deploy various conventional and fundamental theories and the “Octalysis” framework proposed by “Yu-Kai Chou” for making gamification model that is based on its core drives rather than just the game elements. *Lastly*, followed by a discussion of few organizations that have extensively been using gamification in context to different functional areas. Additionally, the paper makes an attempt to understand a broader perspective of achieving economic, social and environmental benefits of these gamification initiatives. *Lastly*, we discuss conclusion, limitations of the study and areas of future research.

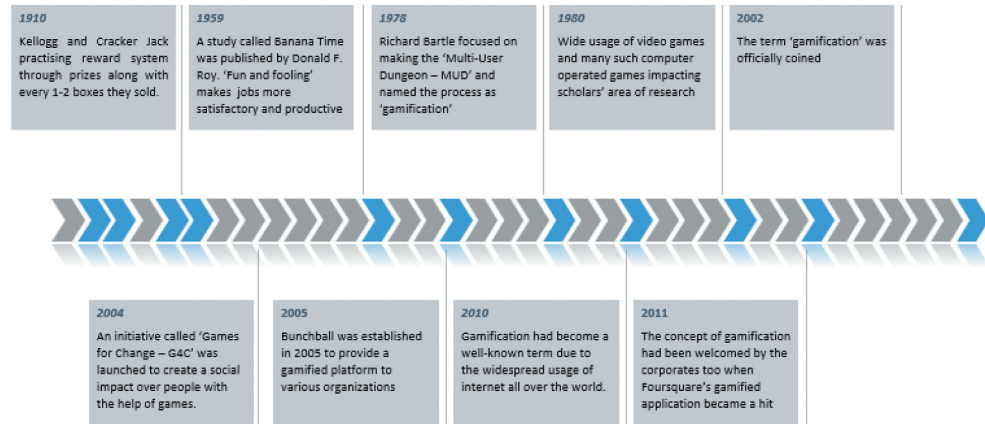
2. Research objectives

- To provide an overview of the evolution of Gamification.
- To propose for an extensive model of gamification.
- To study the Intent, Mechanism and Outcome of organisations that have extensively used gamification for restructuring functional activities and exploring the sustainability dimension.

3. Literature review

Drawing from literature of Gamification (Figure 1), it has been inferred that although the term came into existence in the early 2000s, by Nick Pelling, though the practice of putting elements from video games to use in the real environment had been started a long ago even before a formal term of gamification cemented. In 1910, Organisations such as Kellogg and Cracker Jack were practising reward system motivating billions of people worldwide with their prizes. In 1980, the wide usage of video games impacted the scholars’ area of research as they shifted their interests to how games could inculcate skills of critical thinking and problem-solving amongst the players. It was in 2002, when the term “gamification” was

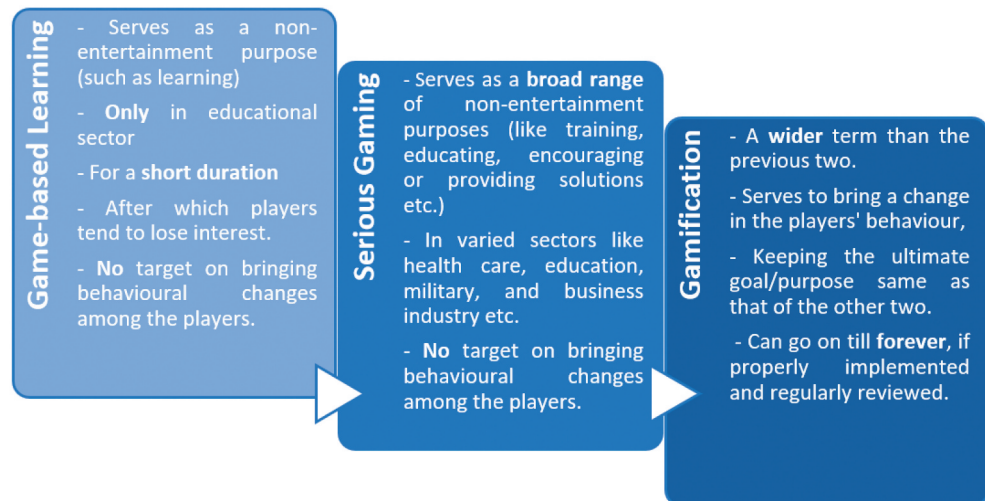
Figure 1. Time line for the development of the concept of gamification adapted from (McCormick, 2013).



officially coined. In 2004, another initiative called “Games for Change—G4C” was launched to create a social impact over people with the help of games. In 2005–2007, a company named Bunchball was established in order to provide a gamified platform to its clients. By 2010, Gamification had become a well-known term due to the widespread usage of internet all over the world. In 2011, the concept of gamification was welcomed by corporates (McCormick, 2013). On the parallel, there has been an emergence of similar terminologies, which were related to games like “serious games”, “game-based learning”. However, “serious games”, “gamification”, and “game-based learning” are often attributed as three different concepts comprising similar goals to be achieved (Figure 2).

- *Game-based Learning (GBL)*, is purely meant to serve the educational purposes where learners or students depend majorly on “games” (Karagiorgas,& Niemann 2017)—either virtual or non-virtual, to learn their curriculum content (Keeler, 2014). According to (Folmar, 2015), the engagement in Game-based Learning (GBL) occurs for a short span, probably during the game duration. The players find no interest once they have completed and mastered the game.
- *Serious-Gaming* seems to be a much wider term than GBL, for it uses fully developed games to serve various specific (non-entertainment) purposes (Sailer et al., 2017) rather than just one, i.e. education or learning (Connolly et al., 2012). The serious games could be used for training,

Figure 2. Conceptual difference between game based learning, serious gaming and gamification (Author’s own contribution).



educating, encouraging or providing solutions (Karagiorgas & Niemann, 2017) in domains such as health care, military, education, and business industry etc.

- *While for Gamification*, the end goal would be same as that of the serious gaming or GBL, the process of achieving it is different. Gamification is an ongoing process that makes use of only the “game elements” unlike serious gaming and GBL, which depend on the “games” to fulfil their outcomes. The game elements when put into a non-game environment aim to improve engagement and encourage desired behavioural changes. Referring to the literature, the primary purpose of gamification is to bring a change in the player’s behaviour while trying to do a given task or accomplish a goal unlike serious gaming or GBL, which do not focus on behavioural changes.

Through an extensive literature, it was identified that several papers have discussed the gamification theory in general, and they have conversed about the various gamification elements. (Dalmina et al., 2019) in his work presented studies of the similar nature through systematic mapping of gamification design frameworks. (Mora et al., 2017) through her work presented in a concise manner the various studies for designing better gamified models/systems. There were various other studies that identified summarizing research in context to gamification in some specific domains like education (Dreimane, 2019; Christy & Fox, 2014; Filsecker & Hickey, 2014; Simoes et al., 2013; Doherty et al., 2017); healthcare (Alahäivälä & Oinas-Kukkonen, 2016; Goh et al., 2017; Hamari & Koivisto, 2015; Jones et al., 2014; Muangsrinooon & Boonbrahm, 2019; Zhao et al., 2016); e-participation (Bista et al., 2014; Hassan, 2017; Hassan & Hamari, 2019; Ocejda & Fernández, 2017); marketing management (Huotari & Hamari, 2017; Lucassen & Jansen, 2014; Xi & Hamari, 2019); science (Morris et al., 2013; Sørensen et al., 2016); crowdsourcing (Lee et al., 2013; Morschheuser et al., 2017). Additionally, some empirical studies have clearly brought forward the positive effects of gamification on behaviour and motivations (Doherty et al., 2017; Hamari et al., 2014; Koivisto & Hamari, 2019; Sailer et al., 2014; Su & Cheng, 2015). Further, the research conducted by (Kuntz et al., 2012) resulted in the introduction of gamification in the sustainability awareness and efforts of individuals had positive outcome in saving energy, water and reducing gasoline use. (Kasurinen & Knutas, 2018) further highlighted that sustainability is the emerging trendiest area of gamification research. Though by reviewing literature we could identify a handful of studies (Gatti et al., 2019; L.K. Lee et al., 2019; Morganti et al., 2017; Negruşa et al., 2015; Paravizo et al., 2018; Ro et al., 2017) which could explicitly mention the use of gamification in bringing about sustainability in various functional domains of varied organisations or additionally trying to induce sustainable behaviour in consumers.

4. Research methodology

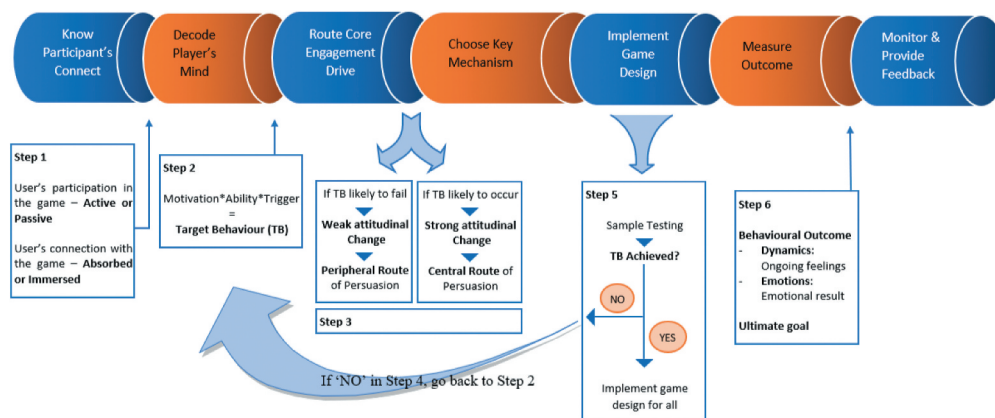
A detailed and extensive literature search on the topic “gamification” was carried out for the time duration of 2010–2019. The year 2010, was specifically selected, as the literature on gamification clearly mentions that gamification as a term became popular in the year 2010. We used various key words like “gamification”, “gamification AND sectors”, “gamification AND sustainability”, gamification AND organisations” to make our search more relevant to meet our objectives of the study. Various online databases were assessed to find out papers matching the above inclusion criteria. Consequently, we came across another 102 papers. After this, a detailed review of these papers was conducted, and finally 61 papers were selected. We laid emphasis on including papers which proposed prospective theories to build better gamification models and attributing to the use of gamification in several organisations/industries and various functional areas. This was done to develop a more comprehensive understanding of the benefits and the challenges faced by these organisations. The paper, is thus based on a thorough literature review in the field of gamification focussing on the various theories and the ; core drives stated by “Yu-Kai Chou” which were further used to formulate an exhaustive and a comprehensive gamification model. The model so proposed is generic and tends to be applicable in the culture of varied sectors with an aim of improving the engagement levels. Further, an endeavour has been made to explore sustainability (economic, social and environmental) dimension of organizations that adopt gamification.

5. Process involved in designing a good gamification model

The significance of a good gamification model has been very well suggested by Gartner, Inc. Hence, it is necessary for a designer to first scrutinize the design and then develop a model. Since no specific

procedure is seen to be prescribed by the researchers for designing a good gamification model, a combination of both theories and Yu-Kai Chou’s Octalysis framework could be put to use by the designer. Following is a generic model proposed in consideration with the theories of gamification, core drives taken from Octalysis framework, FBM (Fogg Behaviour Model—2009), ABC (Affective, Behaviour, and Cognitive) model of attitude, MDE principles (Mechanics, Dynamics, and Emotions—2004) and ELM (Elaboration Likelihood Model—1980) with an aim to make the gamified design a success. It follows a step-by-step procedure and also comprehends a feature of continuity. The following proposed model comprises seven steps, which could be taken up by the designer in a chronological manner (Figure 3). These steps are, namely,

Figure 3. Proposed gamification model (Author’s own contribution).



- (1) Know the participants’ connect with the gamified environment
- (2) Decode the player’s mind
- (3) Route a core engagement drive
- (4) Choose the key mechanism of the game design
- (5) Implement the game design
- (6) Measure the outcome
- (7) Monitor and provide feedback

(1) Know the Participants’ Connect with the Gamification Environment: The first and the foremost step involves defining the participants of the gamified experience and their interaction with the gamified environment based on two fundamentals, namely, (a) Participation and (b) Connection with the environment. The “Participation” fundamental refers to the degree of contribution made by a participant in the environment. In other words, the participant could either be “actively” or “passively” involved in the entire experience. While, the “Connection” fundamental refers to the relationship established by him with his environment via “absorption” or “immersion”. In terms of immersion, an individual is either physically or virtually present in the gamified experience, whereas in terms of absorption, he neither becomes a physical nor a virtual part of the experience. Rather, he assumes a mental presence, which implies that the experience occurs in front of him thereby making a room in his mind.

The participants can usually be categorised into four parties depending on the degree of their participation and connection with the experience. However, they tend to vary with respect to their active or passive participation and physical/virtual presence, i.e. immersion or mental presence, i.e. absorption. The parties are, namely,

- A designer, the one who assumes the ownership of designing the gamified model and thus remains active and fully immersed in the designing phase. Once the designing phase is over and the experience is set up, he becomes passive and absorbed while observing and tracking the overall progress.
- A player, who is the hero of the entire gamified experience, tends to remain completely active and immersed while performing and competing in the experience. He could range from an existing to a new or a potential participant. Besides belonging to an internal environment, the participant could also join from an external or outside environment.
- A spectator, whose role differs from that of the designer and the player, contributes indirectly by guiding and motivating the players towards accomplishment of their goals. He behaves like a passive but an immersed participant to bring a change in the players' behavioural patterns.
- Lastly, an observer, who behaves like a member of the audience. While being an outsider in the experience, he passively follows the activities in order to know the results (or probably, the winner). It is the viewers' presence in large proportions, which helps the experience gain fame and acceptance. Later, such viewers possess the capability to join the player or spectator groups where they become more active and immersed in the experience than before.

2. Decode the Player's Mind: The next step involves having a deep insight of the player's mind in order to know his level of expectation from a given set of problem or simply a challenge. In other words, it is crucial for the designer to understand the factors responsible in controlling the player's behaviour before actually implementing any game-like tool in the non-game environment. Else, he might execute a gamifying technique without knowing why certain technique would work in his given problem set. Not only this, the omission of this step could also leave him with a poor gamified design. Thus, decoding or understanding the player's mind holds a lot of importance.

Decoding works on the prime factors of Fogg Behaviour Model (FBM), namely, (a) motivation, (b) ability, and (c) trigger, all three of which together act as a prerequisite to initiate a target behaviour. So much so, a person ought to have enough motivation, ability and an equivalently potent trigger at a given time in order for the target behaviour to take place.

The FBM model can be symbolically represented as—

Adequate (Motivation * Ability * Trigger) = Target Behaviour

(1) Motivation: As could be seen above, motivation and target behaviour are directly related to each other. This means higher the motivation, higher is the probability of a target behaviour to occur. A person tends to behave in a certain manner depending on his motivation to perform the tasks involved. Yu-Kai Chou states that there is at least one core drive always present in motivating a person to do everything that he does (Yu-Kai Chou). Thus, it is necessary for the designer to know the current level of motivation among his new, existing or potential players. Thus, taking reference from the Octalysis framework given by Yu-Kai Chou, motivation can be broken down into the following major elements.

- Extrinsic Motivation, comprising drives such as—
 - (1) Social Influence and Relatedness,
 - (2) Unpredictability and Curiosity, and
 - (3) Empowerment of Creativity and Feedback

During the designing phase, the designer would be interested in knowing how often his potential players relate themselves to the society and get influenced by their friends, family, and peers, etc. and whether they do things out of curiosity or based on feedback.

- Intrinsic Motivation, comprising drives such as—

- (1) A Sense of Ownership or Possession,

- (2) A Sense of Urgency or Impatience, and
- (3) A sense of Development or Accomplishment

The designer would also wish to look for some intrinsic motivators surrounding his potential players in order to know if the achievements and possession do affect them to a great extent.

- Other elements of motivation could be -

- (1) Epic Meaning and Call, i.e., a sense of purpose, and
- (2) Avoidance, due to a fear of loss.

(1) Ability: Motivation alone cannot initiate a target behaviour in a person, for adequate ability is also required to pass the level at which the desired behaviour gets activated. The designer would take into consideration a few components in order to make himself aware of his players' ability to perform a given task or behave in a certain desired manner. The components are ,namely, time, money, physical/mental effort, social distance.

(2) Trigger: A trigger could be something that instigates people to produce a desired behaviour. If motivation and ability are high, a player would still require an ignition to perform a task at the right time. This ignition works as a trigger for the people. The trigger factor would sound appropriate when adequate motivational and ability levels are achieved. However, a few triggers work differently and can instead be used to increase the other two factors to some extent. The designer would henceforth need to devise a right type of trigger for his players depending on their behavioural nature. As per the FBM model, they could vary as -

- Spark, which aims to increase motivation
- Facilitator, which aims to increase ability
- Signals, which are used when both motivation and ability are present and only a reminder is required at the right moment.

3. Route a Core Engagement Drive: Implanting effective triggers and motivators might not be a welcoming solution for initiating a target behaviour if the very attitude of the players is just negative or non-positive. In such a scenario, it becomes important for the designer to route a core engagement drive. In other words, he would require to lay down ways, which could target the specific components of the attitude model (i.e. affective and cognitive components of the ABC Model of Attitude) in order to bring an effective change in the overall attitude or behaviour of his players.

Further, according to the ELM Model, the designer could make a rational use of two routes (Petty & Cacioppo, 1986) namely,

- Central Route of Persuasion: If the motivation and ability are high and the attitude is positive, then central route of persuasion may be adopted in order to help the players scan the content carefully and acquire all the required information. Under central route, significant focus could be made on the content of the message or the trigger, its credibility, strength of the argument, logic, and authenticity of the ideas, etc., which would likely cause a stronger change in the attitudinal components.
- Peripheral Route of Persuasion: If the motivation and ability are low and the attitude is negative or non-positive, then peripheral route of persuasion may be adopted in order to improve the players' engagement and focus through diverting their attention away from the message content to its presentation. An effective presentation would be based upon the number of arguments, length of the message, appropriate use of vocabulary, and symbolic representations like signs and logos, etc., thereby providing a clarity to the players and helping them understand the message or the trigger more carefully than before.

4. Choose the Key Mechanism of the Game Design: The next step comprises developing a strong foundational structure of the gamified experience. By choosing the right set of mechanism, the designer tries to provide a base to the experience. A key mechanism could simply involve setting up the rules, defining the opponents, specifying a player's interaction with his opponent, time and place where the experience would take place as well as stating as to what would determine the player's success or failure in the experience. All in all, the mechanics tend to serve as a building block in the entire gamified experience. The designer should ensure that the mechanism of his game design gets established well before the experience is set up. For this, he may take into consideration the different types of mechanics, namely:
 - Set-up Mechanics: They may provide a structure to the gamified environment by placing the required objects in the experience, distributing them amongst the players and working on the overall environmental setting (Elverdam & Aarseth, 2007). In other words, set-up mechanics could help the designer determine the following:
 - Nature of the Opponent/Competitor—Knowing whether the competitor is an insider or an outsider, known or unknown, playing alone (single competitor involved) or in a team (multiple competitors involved) etc.
 - Spatial Dimension: Defining a place where the experience is going to take place—real world or virtual world.
 - Temporal Dimension: Adding a time dimension to the experience—“Real-time Strategy” i.e. all the players playing at once, or Turn-based Strategy i.e. each player playing in the allocated time slots.
 - Journey: Defining a set of features to be presented to the players at each level in the game with an aim to increase motivation and productivity during the journey. It would involve; strategizing ways to on-board a new player; helping the on-boarded but inexperienced players; choosing a set of feedbacks to be shared with the players as they make significant progress.
 - Narrative: The designer could choose a narrative or a story line, if required. It would enable his players to showcase their capabilities via role-play.
 - Rule-based Mechanics: They put together the entire gamified experience and provide a direction to the players. By stating the rules, i.e. all the permissible and non-permissible actions (constraints), the designer tends to place the players under a reasonable amount of pressure so as to provide a challenging environment to his players. Besides this, such mechanics also help the players understand as to when they are allowed to interact with one another. The rule-based mechanics could be categorised into two types, namely,
 - Time-based Rule Mechanics: It takes “time” factor into consideration specifying how the players ought to perform within a given time frame; else, the resources might deplete.
 - Objective-based Rule Mechanics: It takes “objectives” or “goals” into consideration describing the effect of meeting a given objective.
 - Progression Mechanics: The progression elements tend to behave as a constant source of engagement, while the experience is on and are thus used by the designer to create a valuable impact on the ongoing gamified experience. A progression mechanism could comprise both virtual and real rewards given to the players as important feedback in their journey. The designer shall consider a set of relevant and desirable rewards or progression mechanics in order to increase the probability of a certain behaviour to get repeated in the future.
 - Real Rewards such as monetary prizes, trophies etc.
 - Virtual Rewards such as points/scores, badges, levels, leaderboards etc. are considered to be equally influential in terms of engagement.
5. Implement the Game Design: “Implementation” is a crucial stage, for it involves putting the plan into action. The implementation stage goes through two phases—
 - Sample Testing: The first phase includes testing the gamified design on a small number of people wherein the sample is chosen according to the results of the interviews conducted, observations made (both personal and expert), and the surveys taken by the designer in the pre-designing phase.

- Development of the Game Design: A proper development of the game design takes place once the sample testing proves to be successful. Before converting the design into a model, an analysis is made with respect to the target behaviour. If the players seem to behave in a desired manner, then the target behaviour is said to be achieved and further development takes place. This marks as an onset of the real implementation of the gamified design. However, if as per the analysis the players do not behave accordingly, then the target behaviour fails to be achieved and again calls for the designer's intervention. The entire procedure rigorously starts from the Step II until the results of the sample testing are positive.
- 6. Measure the Outcome: Once the design is fully implemented, the next step involves measuring the outcome and finding if the ultimate goal has been achieved. An outcome could be measured in two parts, namely,
 - Behavioural Outcome: This comprises examining the players' behaviours and matching them with the target behaviour. A gamification model is said to be successful if it enables the designer to match his players' behaviours with the one targeted. So much so, a desired behaviour with non-accomplishment of the ultimate goal does not make the gamified design ineffective, for gamification possess the power to reward the players' efforts more than their win. While measuring the behavioural outcome, the designer could make use of the "Dynamic" and "Emotion" elements of the MDE (Mechanics, Dynamics and Emotions) Model.
 - Dynamic Element: It refers to the ongoing emotions/feelings, which arise as a player participates and moves ahead in the experience. In other words, the dynamics depict "in-game" interactions and behaviours evolving during the play.
 - Emotion Element: It describes the overall reaction and state of mind of the players as they become a part of the experience. Emotions emerge when a player follows mechanics and generates dynamics.
 - Ultimate Goal: This comprises measuring the overall results and finding if the ultimate goal has been achieved. The entire gamification model is set up with a purpose of achieving the ultimate goal. If the ultimate goal is lost or not achieved during the gamified experience, the very idea of implementing game-like elements into the non-game environment loses its vision.
- 7. Monitor and Provide Feedback: The last step comprises the monitoring phase wherein the designer is required to monitor the model, locate any irregularities, and provide timely feedback for rectification. Since a high budget is involved in designing a good model, the zero-error approach, if adopted, could not only make it cost-efficient but also a success in the industry. Moreover, a good gamification model shall always welcome constant feedback, and does not have a finite end. Instead, it must go on perpetually in order to be able to merge with any non-game environment.

6. Company's practising gamification in different functional areas and their sustainability dimensions explained

The following (Table 1) is a compilation of author's work in regard to the various organisations that have implemented gamification for success in different functional areas ranging from customer engagement, loyalty programmes, seller engagement executive training management, employee engagement, recruitment selection, product development, content development. Through this table, we have highlighted, the purpose, i.e. the "intent" of introducing gamification into various operational procedures of an organisation. It also mentions the "Mechanism" implemented in gamifying these procedures, which primarily mean use of games/game like elements to make the procedures more fun like. Ultimately, it brings forward the "outcome" of these gamified procedures, to what extent the purpose has been duly met and can it be something categorised as success in the organisation. Additionally, through the (Table 2) we have tried to understand a broader perspective of achieving economic, social and environmental benefits of varied gamification initiatives initiated by these organisations, which may thus further motivate other organisations in realising the fact that gamification holds the potential of bringing in success in the true form, thus helping us embark on all the dimensions of sustainability to an extent.

Table 1. Company's applying gamification in several functional areas

SNo.	Company	Functional Area	Intent	Mechanism	Outcome
1.	Google	Customer engagement; content resource development	<p>(1) To bring a change in customers' behavioural patterns</p> <p>(2) To build its content/data resource over the online platform.</p> <p>(3) To persuade advertisers to pay for the services rendered by Google.</p>	<p>Primarily used two elements of gamification to serve the purpose of persuasion and engagement. The elements are—</p> <ul style="list-style-type: none"> • Incentivizing • Crowdsourcing <p>For example,</p> <ul style="list-style-type: none"> • Stars or badges given to a particular restaurant enable people to choose or select from a list of restaurants. Thus, Google directs its customers' behaviour with the help of stars. • It encourages customer participation in sharing and writing reviews and feedback thereby building its online content resource. • It provides incentives to the advertisers in order to influence them to pay for the ads running over its online platform. 	<p>(1) People tend to select restaurants based on the ratings (stars) given by Google.</p> <p>(1) Such ratings are the result of a database collected and updated regularly by the people worldwide. The reviews and feedback shared by them in turn help Google build its data resource.</p> <p>(1) Advertisers feel willing to pay for the ads which run on Google's online platform due to the varied incentives and discounts offered by it.</p>
		Employee engagement	<p>(1) To work collaboratively, bring people together, and channelize their energies towards accomplishment of the organizational goals.</p> <p>(1) To develop a sense of belongingness among the employees and motivate them to assume their respective responsibilities.</p>	<ul style="list-style-type: none"> • Uses "Epic Meaning and Calling" drive from Yu-Kai Chou's Octalysis Framework. • For example, Google attempts to instigate the employees' intrinsic motivational drive by describing their roles in organizing the world together. While setting an agenda, it specifically makes a mention of—"we, instead of you, who make the world a better place to live in". 	<p>(1) Achieve the organizational targets through effective contribution and co-operation of each employee.</p>
		Human resource management	<p>(1) To channelize the employees' energies in a productive and formalised manner.</p> <p>(2) To develop better cognitive capabilities among employees.</p>	<ul style="list-style-type: none"> • Has launched an in-house currency, Google, to be exchanged by the employees on a platform known as "Predictive Market". • Every employee is allowed to forecast and speculate events on the basis of money betted on a specific outcome. Such betting game is made to be played during the lunchtime. • The employees attempt to predict the outcome of the affairs/events either occurring or likely to occur within or outside of the organization. 	<p>(1) Increased levels of motivation among the employees and effective utilisation of gossip time.</p> <p>(1) Generated creative ideas from employees.</p>
2.	Apple	Customer Engagement	<p>(1) To create a niche market of its own and bring a revolutionary change with its product range.</p> <p>(2) To bring back the customers' lost interest and trust on the brand by penetrating and creating a positive image in their minds.</p>	<ul style="list-style-type: none"> • Made use of the "Epic Meaning and Calling" drive from Yu-Kai Chou's Octalysis framework to penetrate into the minds of the customers. Thus, it launched two campaigns, namely, 1984, under the tagline: "Why 1984 won't be like 1984." • Think Different, attracting and appreciating people who love to think differently. 	<p>(1) The '1984' campaign proved to be a hit in the launch of Macintosh computers.</p> <p>(1) The "Think Different" campaign brought back the lost image of the organization.</p>

(Continued)

Table 1. (Continued)

SNo.	Company	Functional Area	Intent	Mechanism	Outcome
3.	Deloitte	Human resource management	<p>(1) Creation of Goodwill: To develop the firm's reputation. Furthermore, to demonstrate the firm's willingness to support the growth of the employees.</p> <p>(1) Discovery of Talent: To provide an equal opportunity to the employees to demonstrate their skills and talent.</p> <p>(1) Cultural and Behavioural Shift: To bring a positive change in the organizational culture by addressing the employees' emotional aspect rather than influencing them via logical facts and figures with an aim to bring success and innovation at work.</p> <p>(1) Purposeful Employee Engagement: To enable the employees to perform work with a sense of purpose and also, let them know that the organization values their work.</p>	<ul style="list-style-type: none"> • A contest initiated at Deloitte's US India offices to develop creative thinking as well as bring innovation at work. The contest was known as "Maverick Program". Rules of the Contest: <ul style="list-style-type: none"> • Contest to be run in the teams of four professionals • One female in every team • Any professional in the organization could join irrespective of his position or status, his performance ratings etc. • Managers need to be initially informed. • Participation in the contest to be separate from the regular commitments at work. • The contest involved real-world business scenarios, challenges, competition, and rewards for engagement. Engagement rewards could comprise opportunities to work with the top leaders. 	<p>(1) Enhanced employees' ability to think out-of-the-box and work in collaboration.</p> <p>(1) Development of a positive behaviour to find meaning in work as well as to perform work for the organization.</p>
		Executive training engagement	<p>To help the employees or executives perform the target behaviour, i.e. get engaged in the training content designed for them.</p> <p>Ultimate goal:</p> <p>(1) The training intends to help the executives build apt skills—both management and leadership.</p> <p>(2) It also aims at developing a connection between the executives and the top business leaders across the world.</p>	<p>With the help of the Behaviour Platform by Badgville, the organization made use of game mechanics to execute its executive training program "Deloitte Leadership Academy".</p> <ul style="list-style-type: none"> • Rewards such as visual rankings and badge-like earnings. The rankings would place the executives on the leaderboards, while the badges would be demonstrated on their online profiles. • Challenges or missions • Leaderboards • Competition etc. 	<p>(1) Reduction in the time taken to finish the training program.</p> <p>(1) Enhanced trainee engagement.</p>
4.	L'Oreal	Recruitment, selection, and training	<p>(1) To recruit a deserving and right candidate in the fields of human resources, marketing, operations, and sales. To enable screening of candidates on the basis of analytical skills and abilities required in the modern times unlike the conventional hiring process that lacks such skill tests.</p> <p>(2) To attract the best of the talent from across the globe.</p>	<ul style="list-style-type: none"> • L'Oreal's Reveal Game, an online serious game built to recruit, select, and train graduates. • Brandstorm, an offline game developed to recruit professionals in the field of marketing. • Makes use of gamification elements such as competition, challenges (real-world business cases) etc. to attract students, graduates, and professionals. 	<p>(1) Led to the hiring of well-deserved candidates which were also seem appropriate for the organization.</p>

(Continued)

Table 1. (Continued)

SNo.	Company	Functional Area	Intent	Mechanism	Outcome
5.	Foursquare	User engagement	<p>(1) To familiarize people with the newly launched foursquare application.</p> <p>(2) To make users' real-life scenarios a fun-filled experience.</p> <p>(3) To act as a motivational driver of feedback, collection, and achievement for the players in order to influence them to perform the target behaviour.</p>	<p>Made use of gamification elements namely,</p> <ul style="list-style-type: none"> • Points, serving as a feedback motivational driver for the users. • Badges, serving as an accomplishment/achievement motivational driver for the users. • Leaderboards, serving as a competitive as well as an accomplishment motivational driver for the users. <p>The board is termed as a "Cross-Situational Leaderboard". More the number of points and badges earned by a user, higher would be his placement on the leaderboard.</p>	<p>(1) Successful in influencing the users to check-in at various venues via Foursquare application.</p> <p>(2) Foursquare was successful in influencing the users to check-in at various venues via Foursquare application and allowed users to earn points and receive badges every time they checked-in to a new place. Not only this, they also felt highly motivated to visit the same place for a greater number of days than other users did, for it would place them on the top of the leaderboard.</p> <p>(3) Development of such location-based service using a social network could help Foursquare earn \$50 millions in the year 2011, i.e. 2 years after the service launch. It was indeed a breakthrough.</p>
6.	eBay	Seller engagement	<p>To influence its sellers to perform a target behaviour, i.e. increase the organization's overall sales by selling more items on its platform.</p>	<ul style="list-style-type: none"> • Makes use of badges to be given to the sellers depending upon the highest sale made by them. For example, it provides "Virtual Ribbon" as a badge to its top seller. Therefore, the ribbon acts as a collection and accomplishment motivational driver for the sellers. 	<p>Led to higher organizational sales and a considerable increase in revenue.</p>
7.	Samsung	Customer engagement	<p>(1) To motivate the customers to buy the products.</p> <p>(2) To serve as the collection and accomplishment motivational driver for the customers.</p>	<p>Makes use of gamification elements namely,</p> <ul style="list-style-type: none"> • Points • Badges • Leaderboards <p>Addresses the "Development and Accomplishment" drive from Yu-Kai Chou's Octalysis framework.</p>	<p>Led to a higher traffic on its online platform thereby raising the total revenue earned from the sales.</p>
			<p>(1) To increase customer engagement in the brand and maintain its loyal customers.</p> <p>(2) To target its new or prospective customers, motivate them to visit the website, and review its product offerings; thereby enhancing their relationship with the organization</p>	<p>Launched a loyalty program termed as Samsung Nation on its online platform (Samsung.com) for the existing, new, and prospective customers. Therein, it took help of Badgeville to understand the behaviour of its customers and significantly made use of the gamification elements namely,</p> <ul style="list-style-type: none"> • Points, • Badges, & • Levels such as bronze, silver, and gold statuses etc. <p>in order to engage them across its online platform. The company was thus able to recognize customers on the basis of user-generated content by rewarding users for getting engaged with the community.</p>	<p>Strengthened the relations with the customers, possibly causing them to come back on the website and get engaged with the activities conducted by Samsung.</p>

(Continued)

Table 1. (Continued)

SNo.	Company	Functional Area	Intent	Mechanism	Outcome
8.	Amazon	Customer engagement	(1) To build a connection with the buyers or customers and increase the overall organizational sales in the long run.	<ul style="list-style-type: none"> Makes use of a “feedback” motivational driver for the customers. <p>For example, on every purchase, the customer receives an order confirmation message from Amazon stating: “We have received your order request. It is safe with us.” The message addresses the feedback motivation drive of the customer by making him feel secured and satisfied about his purchase. Implants “Social Influence and Relatedness” drive from Yu-Kai Chou’s Octalysis framework.</p>	<p>(1) Enhanced relationship between the customer and the organization.</p> <p>(1) Gradual increase in the future sales.</p>
9.	Xerox	Managerial training and engagement	<p>(1) To impart effective training to the managers of the organization.</p> <p>(2) To engage the managers in the training process.</p> <p>(3) To mitigate the turnover rate among the managers.</p>	<p>Started a management training program involving elements such as—</p> <ul style="list-style-type: none"> Quests, & Game Mechanics <p>along with launching a gamified application known as “Stepping up to Management” in order to provide successful training to the managers and engage them in their managerial roles.</p> <p>The training required the managers to compete in the online quests by working in collaboration with his team players.</p>	<p>Leads to an effective and efficient management along with successful accomplishment of the organizational goals.</p>
10.	Nike	Customer engagement	<p>To build a relationship with the customers (or runners) via online engagement platforms. The relationship to be established between the following:</p> <ul style="list-style-type: none"> The runner and the organization, Nike Among the runners themselves The runner and the running professionals The runner or the music listener and Nike’s collaborating partner, Apple 	<ul style="list-style-type: none"> Started a social networking website, Joga.com, in collaboration with Google wherein it included monthly competitions, challenges, an experience sharing platform for the individuals who wished to demonstrate their talent, & a winner chosen by the community developed online. Supported and financed varied street soccer quests. Created a website known as Nike ID welcoming people to compete while designing shoes for Nike. The website made voting accessible for the online community to choose the best shoe design of the season. In addition, it allowed online space for customization like choosing the shoe colour, style or adding a flag icon supporting a specific country etc. Built a website to help the fans connect with the professional players. Made use of the online groups, mobile technology, and athletic gears to develop a co-creation platform, Nike Plus (Nike +), in collaboration with Apple. Therein, the online groups involved nike-plus.com and itunes.com, the mobile technology comprised Apple’s wireless device—iPod Music Player, whereas the athletic gear comprised a customized pair of running shoes designed with a pocket to hold such wireless device. 	<p>Built a customer relationship through sustained efforts.</p>

(Continued)

Table 1. (Continued)

SNo.	Company	Functional Area	Intent	Mechanism	Outcome
11.	Marriott International Inc	Recruitment, selection, and engagement of young workforce	(1) To select the best suitable candidate for the organization (2) To provide the candidates with a deep insight of the organization's culture. (3) To help the applicants understand the hotel industry as a whole.	<ul style="list-style-type: none"> • Built an online game known as “My Marriott Hotel” on the basis of varied hotel-themes. • Creating a virtual simulation-kind of environment to the candidates applying for the job in order to make them understand about the operations of the hotels' kitchens. • Therein, the candidates would act like working inside the virtual kitchens and earning points in accordance with their customers' satisfaction levels. 	Selection of the appropriate candidates and reduction in the employee turnover rate leading them to be more engaged in their work.
12.	McDonald's	New hire training and engagement	(1) To engage the newly hired employees in the training program. (1) To help the employees understand the working of new tills system installed. The key intent was to help the employees get familiar with the new technology and replace the system of taking manual orders.	<ul style="list-style-type: none"> • Kineo and McDonald's created a “till training” game. • The employees are required to deal with customer orders, going between customer conversation and till entry, while the process being timed, explicitly showcasing their knowledge of the till system and keeping their customers happy. • Lifelines, bonuses and panel elements were also added to enhance the gamification feel. 	Effective operation of the newly installed tills by the employees thereby increasing the overall productivity at work.

Table 2. Sustainability dimension attained by company's practising gamification

		Sustainability Dimension			
Company Name	Functional Area	Economic	Social	Environmental	
Google	Customer engagement; content resource development	<p>(1) Customers' reviews and feedback help improve the overall quality of the organization's content resource.</p> <p>(2) Customer participation in resource development helps make the business scalable and reduce the overall cost of building the data/content.</p> <p>(3) Crowdsourcing helps bring diverse views from the people across the globe thereby allowing for constant rectification and updation of the database.</p> <p>(4) Incentives help increase the profits of the organization, for people feel encouraged to pay for the services provided to them over the online platform.</p>	<p>(1) Customer participation helps build a connect with the people across the world, thereby allowing them to feel a sense of belongingness towards the organization.</p> <p>(2) Provides a platform to share views and opinions on.</p> <p>(3) Develops a connect between people by making them aware about others' preferences via recommendations.</p>	<p>It creates a viable natural environment for both the customers and the advertisers, helping them both choose the best. The customers in terms of the right restaurant or etc. and advertisers to get the maximum possible traction of the amount spent for advertising.</p>	
	Employee engagement	<p>(1) Increased productivity per employee.</p> <p>(2) Achievement of organizational targets.</p> <p>(3) Development of a positive culture in the long-run.</p>	<p>(1) People tend to remain associated with the organization for a long duration. This is because they feel like a part of the organization and naturally belong to it.</p> <p>(2) Collaboration also allows them to build a strong connection with one another.</p> <p>(3) Leads to personal growth of the employees via development of effective leadership and proficiency skills.</p>	<p>(1) Judicious use of the human resource.</p> <p>(1) Reduction in the conflicts, possibly eliminating the wastage of the organization's resources.</p>	

(Continued)

Table 2. (Continued)

Company Name	Functional Area	Sustainability Dimension	
Human resource management	<p>(1) Increased levels of positivity and motivation among the employees to work hard and achieve the outcomes they had already made their speculation on. Moreover, a higher value was speculated on the results, which were more likely to benefit the organization. This was termed as “Optimism Bias”.</p> <p>For example, the prediction on whether a project would be completed on time is more likely to be positive, for such prediction tends to be under an employee’s control and in turn, influences him to work hard on the given project.</p> <p>(1) Effective utilisation of time spent over gossiping during lunchtime, for the employees tend to be lured by the prizes received in exchange of the organization’s in-built fake currency, Goobles. There is a simultaneous increase in the overall productivity levels.</p> <p>(2) Increased probability of achieving the targets, for the ideas came from employees not just at a higher level but also at a lower level including people engaged in Google’s food channel.</p> <p>(3) Positive results of launching the Goobles helped create efficient project teams within the organization.</p> <p>For example, people with likely mindset were made to sit together in order to allow for a collaborative and productive thought-processing amongst them.</p>	<p>(1) Increased levels of proficiency among the employees, for they would try their best to bet only on the most probable outcomes.</p> <p>For example, one of the employee creations involved the development of a coded program called “trading robot” in order to make profits out of the trades taking place in the predictive market. The robot could help the employee take part in nearly half of the total trades and make significant amounts of profit.</p> <p>2. Provided an equal opportunity to all within the organization, irrespective of any bias based on gender and a level/position an employee is currently placed at.</p> <p>3. Enabled the employees of same/similar intellect to interact with one another, possibly leading to effective utilisation of their skills.</p>	<p>(1) Judicious use of the organization’s human resource.</p> <p>(1) Effective management of time and other resources.</p>
Apple	Customer Engagement	<p>(1) Established a connect with the community or society</p> <p>(1) Enabled people to think out of box. Moreover, it called for an introspection within each one of them to make them analyse if they could also think as crazy and creatively as Apple does.</p>	<p>(1) Effective utilisation of time, energy, and money while interacting with the customers thereby reducing the overall resource consumption.</p>

(Continued)

Table 2. (Continued)

		Sustainability Dimension		
Company Name	Functional Area			
Deloitte	Human Resource Management	<p>(1) Increased productivity as employees feel constantly motivated to perform meaningful work.</p> <p>(2) Retains talent and gets innovative ideas from the workforce by building an internal reputation among them. This further helps in reducing the cost of hiring.</p> <p>(3) Recruits best, effective, and a highly creative talent by building a reputation in the marketplace (external).</p> <p>For example, the Maverick Program started by Deloitte was taken forward to be implemented in the Indian universities thereby building a strong reputation among such universities and helping the organization hire best of the talent from them.</p>	<p>(1) Enhanced ability to work in teams, handle pressure, portray innovative ideas effectively in the form of presentations, and draw inferences involving deep insights and critical thinking skills.</p> <p>(1) Enables the best team of professionals to work with the top leaders in challenging business environment.</p> <p>(1) Provides an equal opportunity to take part in the contests. Also, initiates women empowerment by including one female in the team of four contestants, thereby targeting a social issue.</p>	<p>Enabled less wastage of time, energy, and resources because of the following:</p> <p>(1) The contest structure involved successive rounds of elimination in order to select the best contestants to deal with complex problems and present real-world business scenarios to the executive panel.</p> <p>(1) The contests, challenges, and opportunities effectively replaced the need of giving monetary with an aim to increase employees' motivation.</p> <p>(1) Embedded a positive cultural environment in the organization.</p>
	Executive Training Engagement	<p>(1) Use of game mechanics led to reduced cost of training, for the training took 50% less time in completion and engaged a large number of executives.</p> <p>(2) Ultimate goal accomplished, i.e. the organization saw development of leadership and management skills within its executives.</p> <p>(3) Effective training enabled people to gain expertise on a plethora of subjects thereby enhancing their overall skills.</p>	<p>Provided an opportunity to interact with the top business leaders across the world.</p>	<p>Effective usage of the online platform, for the training would take place in two ways:</p> <ul style="list-style-type: none"> • Web-based • Mobile-based <p>It thus brought overall reduction in the resources consumed while providing traditional training.</p>
L'Oreal	Recruitment, selection, and training	<p>(1) "Brandstorm" has led to the hiring of more than 20% of the organization's managerial group thereby proving the gaming channels to be successful in the recruitment process.</p> <p>(2) With such detailed attention towards the recruitment process, the company has been able to see higher levels of productivity along with a greater scope of goal accomplishment.</p> <p>(3) Less cost involved in the recruitment and selection process as an inappropriate hire could prove to be more expensive to the organization than the one hired with an apt skillset.</p> <p>(4) Helps in bringing down the rate of employee turnover in the long run. This is due to the real-life challenges included in the games, which enable the applicants to understand their role and work well in advance, possibly causing them to take cautious decisions with respect to their area of interest.</p>	<p>(1) Successful at influencing the applicants to take part in the games. Their winning either leads to their selection for the recruitment process or just helps them receive exciting prizes.</p> <p>(1) Constant testing of analytical skills in the game levels enable the applicants to evaluate and understand their capabilities.</p> <p>(1) Provides an equal opportunity to everyone across the globe without any bias based on gender, caste, creed etc. This is because the selection depends upon an applicant's calibre.</p>	<p>(1) Reduction in the consumption of resources used in the hiring process, namely,</p> <ul style="list-style-type: none"> • Time • Energy • Fuel (causing carbon emissions) <p>Thus, less resources are used to initiate interactions between the job applicants and the support systems involved in the recruitment procedure.</p>

(Continued)

Table 2. (Continued)

		Sustainability Dimension		
Company Name	Functional Area			
Foursquare	User engagement	<p>(1) Increased traffic on the Foursquare website or application.</p> <p>(2) Reduction in the cost of giving expensive monetary rewards, for users could be influenced using virtual achievements.</p>	<p>(1) Satisfaction of feedback, collection, and achievement motivation drives of the users.</p> <p>(1) Prevention of causing demotivation among the users placed at the bottom of the leaderboard. The cross-situational leaderboard enables the users to compete with the ones placed just above and below them on the leaderboard. Simply put, they compete only with those who are closest to them, possibly allowing for a scope of gradual progress.</p> <p>(1) Provides equal opportunity to all the users (existing, new or prospective) to check-in using the application without any room for biasness.</p>	<p>(1) Reduction in the consumption of resources between the organization and its customers (or users).</p> <p>For example, Foursquare's use of gamification elements has eliminated the need of giving any monetary reward to the users. This is because it could foresee how people loved to earn points and badges to satisfy their feedback and accomplishment drives.</p>
eBay	Seller Engagement	<p>(1) Increased seller motivation has helped raise the total revenues of the organization.</p> <p>(2) Demonstration of a good rapport among the sellers, buyers, and other stakeholders in the long run. Also depicts that the organization values not only its buyers (customers) but also its sellers (manufacturers or wholesalers).</p> <p>(3) Less usage of monetary prizes such as extra commissions, discounts, etc., because of providing virtual rewards to the deserving sellers.</p>	<p>Builds a strong connect with the sellers, depicting the efforts made by the organization in preventing any discrimination between its buyers and sellers.</p>	<p>(1) Reduction in the consumption of resources between the sellers and the organization's support systems involved in selling.</p>
	Customer Engagement	<p>(1) Increased customer motivation has led to a considerable increase in the organizational sales thereby raising the overall revenue.</p> <p>(2) Replacement of monetary prizes (such as discounts, cashbacks, etc.) with virtual rewards.</p> <p>(3) Increased loyalty among the customers or buyers in the long run.</p>	<p>Provides recognition to the customers, depicting that the organization values its customers.</p>	<p>Reduction in the resource consumption between customers and the organization's support systems involved in selling.</p>
Samsung	Customer engagement	<p>(1) Enhanced relationship between the organization and the people either using the Samsung products or wanting to use them. This helps build a sense of loyalty among the people in the long run.</p> <p>(2) Customers' participation through reviews, comments, and Q&A's on the online platform helps build strategies for marketing the existing products and also, launch new products in accordance with their needs and wants. Thus, it serves as a great platform for market orientation.</p>	<p>(1) Rewards help satisfy the development and accomplishment drive of the customers.</p> <p>(1) Apt recognition and opportunities to win the brand's product offerings help build a strong connect with the customers (existing, new, and prospective), depicting that the organization as a whole values them.</p> <p>(1) Enables the people to build a connection with the community as a whole and find out how others spend their time.</p>	<p>Reduction in the consumption of resources between the customers and the organization's support groups concerned with manufacturing, marketing, selling, and customer satisfaction in the long run.</p>

(Continued)

Table 2. (Continued)

		Sustainability Dimension		
Company Name	Functional Area			
Amazon	Customer engagement	<p>(1) Creation of a goodwill among the customers along with their increased loyalty towards the brand.</p> <p>(2) Rendering high-quality services raises the level of customer's preferences with respect to the brand, thereby causing a considerable increase in the overall organizational sales in the long run.</p> <p>(3) Social influence and relatedness drive causes people to make a purchase, possibly leading to increased sales from the existing product offerings.</p>	<p>(1) Customers feel valued and, therefore, develop a sense of belongingness towards the organization.</p> <p>(1) Provides a sense of security towards a customer's purchase order and builds trust on the brand.</p> <p>(2) Helps the customers build a connection with the society by enabling them to see what others are buying.</p> <p>For example, people shop from the online platform on the basis of recommendations/suggestions made by Amazon as they scroll through its website or application. Such recommendations could help them relate to the society.</p>	<p>(1) Reduction in the consumption of resources between the customers and the organization's support groups concerned with customer satisfaction and overall trade.</p>
Xerox	Managerial training and engagement	<p>(1) Efficient and productive management.</p> <p>(2) Increased output and successful accomplishment of the organizational goals in the long run.</p> <p>(3) Engagement tends to cause reduction in the managerial turnover rate in the long run, possibly leading to reduced costs of hiring new managers.</p>	<p>(1) Quests enabled the managers to showcase their existing skills and abilities while solving the given problems, thereby increasing their engagement levels.</p> <p>(1) Challenges and competition also provided a scope of personal growth and development to each managerial employee. They led to the development of an appropriate managerial skillset demanded in the industry, thereby adding to the employee's personal growth.</p>	<p>(1) Judicious utilisation of the managerial skillset to reduce the wastage of other resources in the long run.</p>
Nike	Customer engagement	<p>(1) Increased customer base, i.e. up to eleven million people were noted to use the Nike+ system.</p> <p>(2) Frequent interactions with the customers helped maintain brand loyalty and reduce the overall risk involved in losing the customers.</p> <p>(1) The co-creation platform helped increase both Nike and Apple's businesses by providing access of both music player kit and sports kit to the customers (runners and music listeners).</p> <p>(2) Increased ability to know the customers' preferences and choices, possibly aiming to design shoes as per their wants.</p> <p>(3) Increased profits via collaborations thereby building an external reputation in the marketplace.</p> <p>(4) Reduction in the customer dissatisfaction as well as products and services' break down.</p>	<p>(1) Proper education about running, routes, runner's training, and progress etc. caused less injuries to the runner and helped him gain the required knowledge.</p> <p>(1) Personalization or customization experience on the Nike's websites helped people develop a sense of belongingness towards the organization.</p> <p>(1) Soccer quests, Joga.com etc. enabled individuals to share their personal experiences on an online platform.</p> <p>(1) Contests and challenges also helped people know about the latest shoe trends prevailing in the market.</p> <p>(1) Nike's websites provided an opportunity to the fans across the world to interact with the professional players or running experts.</p>	<p>(1) Lowered resource consuming interactions between the customers (runners and other individuals across the world who were interested in playing soccer) and the organization. This is because the marketing strategy majorly comprised of the word-of-mouth promotions, possibly reducing the overall marketing cost.</p> <p>(1) Reduction in the consumption of resources involved in designing and manufacturing a shoe that might prove to be a failure in the market. This is because Nike could grasp its customers' behavioural pattern while allowing them to design shoes as per their choices, thereby reducing the wastage of money, time, and energy involved plus the harmful carbons being emitted.</p>

(Continued)

Table 2. (Continued)

		Sustainability Dimension		
Company Name	Functional Area			
Marriott International Inc.	Recruitment, selection, and engagement of young workforce	<p>(1) Increased ability to provide a clear understanding of the organization's culture well before a candidate becomes a part of the Marriott group.</p> <p>(1) Reduction in the employee turnover rate. This is because the employees get to know about their work well in advance, which in turn, reduces the likelihood of an employee leaving the organization.</p> <p>(2) Increased productivity on the part of the employees, possibly leading to an efficient management of the kitchen's operations.</p> <p>(3) Reduction in the cost involved in hiring new personnel in the long run.</p>	<p>(1) Generates awareness among the people/ applicants about the hotel industry as a whole.</p> <p>(1) Helps the applicants know their areas of interest before actually entering the hotel industry.</p> <p>(2) Provides an opportunity to the serious applicants to know about their customers well in advance and also, find out ways or techniques of satisfying them.</p>	<p>(1) Equitable use of resources utilised in the hiring process as well as for employee engagement.</p> <p>(2) Thus, reduction could be seen in the consumption of the following resources which would otherwise be utilised in the traditional hiring process—</p> <p>Time, (3) Energy, (4) Money, & (5) Fuel (causing carbon emissions) etc.</p>
McDonald's	New hire training and engagement	<p>(1) Increased levels of engagement among the employees to undergo training and adopt new technology.</p> <p>(2) Focused learning in the training program led to the adoption of new and faster processing technology than the conventional manual order systems.</p> <p>(3) Significant increase in the level of productivity thereby raising the overall sales of the organization.</p> <p>(4) Effective training helped increase the ability to fully avail the benefits of installed tills.</p> <p>(5) Increased customer footfall.</p>	<p>(1) Provided an opportunity to the employees to learn something new and progressive.</p> <p>(2) Increased employees' ability to work in a dynamic environment.</p>	<p>(1) Less wastage of the resources, namely,</p> <ul style="list-style-type: none"> • Time, • Money, & • Energy etc. <p>to be otherwise consumed in taking manual orders from the customers.</p>

7. Conclusion

The academicians, researchers and practitioners have often given due diligence to the positive effects gamification can have in the non-game environment. In contrast, one of the biggest limitations faced by the organisations is the time of implementing gamification at the workplace, since the management considers the work to lose its purpose with the involvement of “games”.

While, on the other hand, it is suggestive that the management should take “psychological dynamics” into consideration when assigning work to the employees. Having said that, organisations should understand that engagement cannot take place without throwing appropriate challenges and rewards to the prospective concerned parties. Thus, practitioners and designers have often understood the importance of successful gamification model. Therefore, careful designing and implementation of the gamified model is of prime importance, as huge cost, time, and energy are at stake. Further, through this research paper, we have emphasised on how the organisations may aim to achieve sustainability through the application of gamification in varied functional areas. This research paper, is thus a novel attempt to demonstrate the varied sustainable objectives for some of the renowned organizations are trying to accomplish by making use of gamification.

Further, the model proposed in this research paper, has been based on a series of theoretical models. Additionally, the model accommodates all the perspectives into consideration, like that of a designer, a player, a spectator, and an observer, possibly eliminating the scope of a poor gamified model. Therefore, the model so proposed is user/player centric while keeping in mind the varied aspects from the designer’s point of view. The novel gamification model proposed in this research paper highlights some important aspects, like gamification without a defined purpose could render the entire process ineffective. It is therefore crucial to have gamification driven by its purpose, goals, and targets—whether economic, social, or environmental, in order to mark its overall success.

Further, the underlying notion is to, set one goal based on the attitudinal change desired to be targeted, thus avoiding complexities with more than one goal. Therefore, depending on the type of attitudinal change (strong or weak) the designer wishes to focus, a suitable route of persuasion (central or peripheral) could be chosen. It is also suggestive that the designer also ought to be cautious while developing the gamification mechanism to drive a right set of dynamics and emotions among his players and evaluating their ability and motivational levels to instil appropriate triggers in the gamified setup. Besides this, the designer holds a perennial role for the timely review and modification required in the gamification process. Moreover, in order to make any gamified model to be successful, there should be enough space for modification. It is the designer’s ability to review and make changes, which allows gamification to become flexible and adaptable in almost all the sectors and divisions.

8. Limitations and future directions

This paper has attempted to propose a good gamification model to be further implemented in any non-game environment. Besides this, a few noteworthy interpretations on how some of the companies are known to have achieved sustainable outcomes via gamification have also been charted out in this paper. Having said all that, certain limitations still seem to be associated with such propositions. *Firstly*, all the postulations made tend to be based on a secondary data collected for this purpose and, therefore, lack an empirical touch. Simply put, no first-hand observations have been made in the paper in this regard. Instead, the findings were seen to have been extracted from the excerpts of eminent authors and researchers who have already made their contribution towards “gamification”. *Secondly*, the gamification model suggested in the paper has been neither aroused from any experiential learning outcome nor taken down into practice as yet. Instead, it has just been proposed on a series of theoretical models (ELM Model, Fogg Behaviour Model, ABC Model of Attitude, Octalysis Framework, theories of gamification, and MDE Framework) studied for the purpose of developing a good gamification design. Despite that, it is seen to have taken almost all the factors into consideration—from the

perspective of a designer, a player, a spectator, and an observer, possibly eliminating the scope of a poor gamified model. *Lastly*, few interpretations could be made on the environmental aspects of the outcomes achieved by the companies. One of the major reasons behind it is known to be the key intent of gamification, which differs from the interpretations (environmental) made. As a matter of fact, gamification has always aimed at increasing the “engagement levels” among the people for any non-game work they do, possibly leading to its insignificant contributions towards “sustaining” the environment. This paper thus, talks about the impact gamification may have on the environmental aspect in the varied sectors. Further, an elucidation is only made, in terms of reduced resource consuming interactions either between the consumers and the organizations or the employees and the organizations have majorly helped target the environmental issues. Besides this, the organizations were also seen to have substantially achieved success in targeting the social issues prevailing in the community, possibly leading to an equitable distribution of its resources among the people.

In order to have a comprehensive understanding of the various prospective gains gamification may have. Future research in this domain can be extended by researchers with respect to synthesizing first-hand information. Emphasis should be laid on collecting primary data and backing all the useful derivations made out of the secondary data in order to have a clear understanding of the potentials gamification has as well as the ones it aims to reach. All in all, an effective and balanced research in the area of gamification shall rely on both the qualitative and the quantitative sources of data. Since the gamification model/process suggested in the paper has not been tried and tested before, it would thus require to be effectively supported by a series of empirical research to mark its success in any non-game environment. Furthermore, a deep insight should also be directed towards understanding the environmental outcomes/results the companies thrive to achieve via sustained efforts.

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