GAMIFICATION: IMPLICATIONS FOR WORKPLACE INTRINSIC MOTIVATION IN THE 21ST CENTURY

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ABSTRACT

Gamification is a term which has gained currency in the media over the last few years. Gamification refers to the application of characteristics from computer games into non-gaming contexts. The concept under other names has attracted the interest of scholars for more than twenty years, due to its possible value in motivating students to learn. However few scholars have investigated ways in which the concept can be applied to building intrinsic motivation in employees in relation to their on-going jobs. This is a particularly important area for research, as new generations who have been brought up with computer games become the dominant cohort within the workforce. This paper summarises the literature on game playing as a motivator, and outlines likely motivators for younger members of the workforce. The paper goes on to discuss how the concept of gamification might be integrated into the Four-Drive theory of motivation, and how it might be integrated into workplace systems to benefit organisations in the 21st century.

INTRODUCTION

Gamification as a term and as a concept has as many detractors as it does advocates. Advocates claim that gamification has increased user engagement by up to eight times, while detractors argue that it is nothing more than a gimmick. The term was probably coined in 2002 by UK based games designer Nick Pelling. Pelling used the term to refer to the application of game-like accelerated user interface design to make electronic transactions more enjoyable and faster (Mobile Content 2011). Since 2002 the term has acquired a broader meaning, and is now generally considered to refer to the application of characteristics and design techniques from games into non-gaming contexts. Gamification concepts and techniques are now used primarily to engage audiences and motivate them to behave in a particular way. They do this by showing a people a path towards task mastery and autonomy. Despite the criticism, the techniques are now being used in a number of learning and commercial settings to encourage people to perform tasks which they might otherwise not wish to do, such as assimilating new knowledge, completing forms and surveys, learning new skills, or accessing new websites.

While there is now a good deal of evidence to support the use of games as a motivator for learning, or as a way to motivate people to complete one-off tasks, little attention has been paid to the potential for gamification to motivate employees to complete their normal day to day jobs.

This paper first discusses motivation, and game playing as a motivator. It then goes on to outline how motivational needs might be satisfied by aspects of game playing, and how these findings might be relevant to the workplace of the 21st century.

MOTIVATION

Motivation exists when a person is energised or moved to perform a task or behave in a particular way (Ryan & Deci 2000a). Motivation can vary in its level, intensity, or orientation. Much has been written on the topic of motivation. Hierarchies of need, hygiene theories, process and content theories, expectancy theory, equity theory, and many other theories and models, will be familiar to scholars in the area. One basic and important distinction in the study of motivation in the workplace involves differentiating between intrinsic and extrinsic motivation. Intrinsic motivation occurs when a task is inherently interesting or enjoyable, whereas extrinsic motivation may occur when performing the task leads to a separate desirable outcome (Ryan & Deci 2000a), such as an award, promotion or an increase in salary. Extrinsic motivators, by their very nature, tend to be effective only until the desirable outcome has been achieved. For example, if a person is motivated to work hard at a particular task by the expectation of a promotion, as soon as that promotion has been achieved, there is no longer the motivation to work hard. On the other hand an intrinsic motivator, such as job satisfaction will continue to motivate the worker to work hard indefinitely. Intrinsic motivators tend to be a function of the design of the job and values or interests of the worker, whereas extrinsic motivators tend to have

little to do with job design. Intrinsic motivators are more stable over time, and tend to require less management intervention, whereas extrinsic motivators require closer management scrutiny and attention, as effective motivational content escalates over time. We see this often in relation to salary increases. While the promise of a salary increase may be a motivator, the reality of a pay rise rarely is, as the worker adjusts their expectations, and quickly sees their new salary as the norm.

A relatively recent addition to the literature is the Four-Drives theory of motivation. This theory was originally proposed by Lawrence and Nohria (2002). The theory suggests that all humans are subject to four basic drives, namely the drive to acquire, to defend, to bond, and to comprehend (Lawrence 2011). According to Lawrence, the drive to acquire propels people to obtain physical goods such as food and shelter, intangible things such as travel and entertainment, and social things of value such as status. The drive to defend is rooted in the basic fight-or-flight response, but manifests itself in the need for financial and job security, resistance to change, and a sense of vulnerability in uncertain times. The drive to bond motivates people to build and retain family and kinship ties. It also promotes a sense of belonging to and pride in one's work organisation, and a sense of fulfilment through the membership of networks, clubs and associations. The drive to comprehend encompasses the need to understand and make sense of the world around us, the desire to make a meaningful contribution, and the desire to grow, be challenged and learn. It is part of the human condition, and the inherent need people have to play and engage suggested by McGregor (1960).

From an organisational perspective, motivating employees involves satisfying the employee needs that flow from those four basic drives. Nohria, Groysberg and Lee (2008) argue that each of these drives can be addressed through the application of primary organisational levers, as shown in Table 1.

TABLE 1: DRIVES AND ORGANISATIONAL LEVERS

Drive	Primary Lever	Actions
The need to acquire	Reward System	• Differentiate performance • Tie rewards to performance
The need to defend	Performance-Management and resource-allocation process	• Build trust • Increase transparency
The need to bond	Culture	• Foster mutual reliance • Value collaboration
The need to comprehend	Job Design	• Design meaningful jobs • Design challenging jobs

The integration of these levers and actions into management will be discussed later in the paper.

THE 21ST CENTURY WORKPLACE

Generational cohorts

Currently, the paid workforce consists of three generational cohorts, Baby Boomers, Generation X and Generation Y (also known as Millennials). Baby Boomers (those born between the mid-1940s and the mid-1960s) are usually portrayed as being idealistic, optimistic and inner-directed (Kupperschmidt 2000; Loomis 2000). Their affinity with technology varies greatly. Many have been early adopters of e-technology over the last two decades, while others do not even possess a mobile phone. Most of the people within this cohort are now in their 50s or 60s, and those still in work are approaching the end of their working lives, and consequently, this paper will not examine motivational issues for this cohort.

Generation X (Gen X - those born between the early/mid-1960s and the early 1980s) is usually described as adaptable and technologically competent (Ferres, Travaglione & Firns 2001; Jurkiewicz 2000; O'Bannon 2001). Gen X has grown up and reached adulthood during a period

of extraordinary technological, economic, and social change. Gen X employees are eager to upgrade their skills through training on the job and externally in order to keep themselves "employable" (Tulgan 1995). This sense of maintaining their marketability, in the face of uncertain job futures, may explain why they are generally less inclined to be committed to organisations. On average, Gen X employees will hold six different jobs during their careers, significantly more than their parents typically did.

Generation Y (Gen Y), consists of those born after the early 1980s. This cohort has only recently attracted scholarly interest, but they are generally described as optimistic, smart and cooperative (Perryer & Esteban 2009). This generation has known mobile phones, home computers, hand-held electronic devices, and a plethora of other e-technology for all of their lives. They are quick to adopt new technological options such as Facebook, Twitter, smartphones and tablets. They tend to accept and trust authority and follow rules to a far greater extent than the two preceding generations (Howe & Strauss 2000). The willingness to work within rules suggests that this generation is more likely to apply themselves to work systems and procedures that are rule-based. Consequently they are ideal candidates to be motivated by computer games.

It follows then that the workplace of the 21st century will quickly be peopled by workers who have grown up with computers as an integral source of information and entertainment, both at school and in the home. Games may have been important to the development of previous generations, but there was always a schism between work and play. Gen X and Gen Y (and the generations which will follow will not have experienced the divide. For them, integration of play into work is something they are likely to expect. This notion will be explored more in the next section.

GAME PLAYING AS A MOTIVATOR

We know from the anthropology and sociology literature that games have always been an important aspect of learning, and the increasing use of computer games over the last two decades has sparked interest in research into the use of computer games as educational tools (Rieber 1996). Winn (2002) maintains that the current trend in the field of instructional design is towards the development of interactive learning environments. This is logical, and a function of the expectations of students, training of the teachers, and the capabilities of the available technology. If this is indeed the case, then there is considerable scope to integrate computer games into such environments, due to the interactive nature of these games.

While it is acknowledged that the primary purpose of game playing is entertainment, the basis of any game involves achieving an objective while and working within a set of rules. Games entertain for a number of reasons. Firstly, they allow people to take risks which they might not be willing to take in real life, where the cost of failure may be significant. Secondly they distract people from the mundane or unpleasant tasks which they are required to do to as part of their

"normal" life. Thirdly, games provide people with a sense of achievement when they succeed at the game. In order to play the games, however rules must be learned. Consequently, there is much in common between playing a game and accomplishing a work related task. Perhaps the only difference is that the former is usually seen as "fun", whereas the latter is often seen as "work", the implication being that the two terms are mutually exclusive. However, managers and those responsible for job design should question this assumption. Many jobs now consist almost entirely of information processing. Successful completion of a task will often produce a message along the lines of "your transaction has been accepted". It would require little thought or effort to introduce messages which aroused the interest and stimulated the enjoyment and satisfaction of the person inputting the transaction. Perhaps the perception that work should not be play will eventually disappear due to the changing demographics of all workplaces. Prensky (2002) argues that the generation which grew up with computer games no longer accepts the separation of fun and learning, and it may be that they will have similar attitudes to fun and work.

Computer games are now widely used in many training applications, and a number of studies have found that they lead to improved learning (Ricci, Salas & Cannon-Bowers 1996; Whitehall & McDonald 1993). A study by (Malouf 1988) found that the integration of computer games into training did not produce an increase in task skill post-training, but did produce significantly higher levels of continuing student motivation to learn that task. Despite these positive findings there is still no consensus on the elements of instructional games which lead to positive learning outcomes (Garris, Ahlers & Driskell 2002). There have also been suggestions that computer games are a male pastime (Bryce & Rutter 2003), but the evidence suggests that this situation is now changing, and females are much more likely to find computer games appealing (Dickey 2006). Consequently, integrating computer game concepts into job design are likely to produce similar positive outcomes in both male and female workers.

Games have also been found to be useful as a motivator in contexts other than education. Nintendo's Wii and Konami's Dance Dance Revolution have been widely used to motivate sedentary people to be more physically active (Yim & Graham 2007). This suggests that games have the potential to motivate people to do a range of things, and are not limited to the motivation of learning. The critical issue here is that games have been shown to be motivators in areas other than education. For this reason it is argued that games are likely to be useful motivators in the workplace.

A number of scholars (Deci & Ryan 1985; Przybylski, Rigby & Ryan 2010; Ryan & Deci 2000b) have argued that Self-Determination Theory (SDT) helps to explain the process of motivation in sport education and leisure domains. The SDT model is founded on the satisfaction of three basic human needs, namely the need for competence, the need for autonomy, and the need for relatedness. If these scholars are correct, then there are clear similarities between the motivational needs of sport and leisure, and the motivational needs of employees.

GAMIFICATION AS AN INTRINSIC WORKPLACE MOTIVATOR

Gamification has the potential to increase motivation by providing employees with experiences that satisfy universal psychological needs. These needs can be addressed through the application of the four workplace levers set out in Table 1.

Reward system

There is extensive evidence in the psychology and management literature to establish that there is a response of some sort to every effective stimulus (Hodgkinson 2003; Latham 1989; Yeo 2002). Elements which can be borrowed from computer games include "real-time" feedback. Positive feedback gives reinforcement of appropriate behaviour, while negative feedback facilitates learning and adjustment (Machin 1999; Perryer 2004; Rouiller & Goldstein 1993; Tracey, Tannenbaum & Kavanagh 1995). Feedback which is built into the job will provide more regular feedback than annual performance reviews or monthly sales information. Businesses need to introduce systems and processes that allow fast and meaningful feedback, accelerating employee learning and performance. Additionally, employees need to know where they are in comparison to others people in the workplace, and games can facilitate that. Games can also assist in goal setting, in that they can provide clear objectives with milestones (getting to the next level in a game context), while at the same time providing feedback on performance. Progress through such levels should lead to employee engagement, an essential management objective for Generation Y employees. This can be facilitated through the use of badges that appear on the user's profile, or through employee awards. An example of how this is already occurring in some workplaces is the Six-sigma levels or "belts". Badges, whether real or virtual, acknowledge the expertise of the participant, and serve to inform other "players" of that level of expertise. Leader boards can also be used as reward and recognition tools. Similar reward and recognition are used by airlines in the retail loyalty programs.

Performance-management and resource-allocation processes

Computer games can make a significant contribution to transparency and fairness in the workplace (Dickey 2006; Garris, Ahlers & Driskell 2002). In games, all organisational "players" are subject to the same systems and rules, with similar outcomes for similar inputs. The range and nature of outcomes available to employees can be increased through the use of gamification concepts. For example, it is not uncommon for the budget of a manager or section to be varied based on performance. Using information technology, this can be done immediately, or perhaps weekly, rather than annually. It can be done by the allocation of credits or points, rather than through a budget allocation. The awarding, spending and exchanging of points or credits gained

through completion of tasks and the quality of task completion is a game element that is available to business now, but to the best knowledge of the authors is rarely if ever utilised.

Culture

Most workplaces now make extensive use of teams. Apart from the practical advantages of covering absences, and the synergies that can be gained by people bringing diverse experience and skill sets to the job, teams provide a social dimension to work. Teams can generate healthy competition and social connection. They can also serve to stretch employees, who generally do not want to be a weak link in their workplace. Teams facilitate shared learning and are able to take advantage of organisational learning concepts. They provide a vehicle for different perspectives to be developed and serve as a barrier to negative group processes and outcomes such as groupthink. However, teams can produce negative cultures, and indoctrinate members with incorrect or unhelpful assumptions about work. New team members can be taught ways to "beat the system", leading to a reduction in overall organisational performance. Game concepts can provide a barrier to negative or erroneous assumptions held by employees by encouraging and rewarding desired behaviours.

Job design

The job design literature has long advocated making jobs more meaningful for employees. Traditional areas of focus have included job enlargement, job enrichment and job characteristics. The Job Characteristics Model proposed by Hackman and Oldham (1980) stress the importance, among other things, of autonomy and feedback. Aspects of computer games can assist in remedial outcomes. For example, many trainee pilots now use flight simulator games to review their performance after a flight. The game technology allows trainees to set up similar conditions and to view a simulated aircraft from a number of angles. Game concepts allow inexperienced employees to rehearse and practice without the risks and costs associated with developing their skills in real business transactions.

Nobody will read the manual in the workplace of the 21st century according to many, and systems need to assist learning. If this does not occur organisations are likely to suffer significant wasted time and effort from employees. Game technology, and computer technology more generally, can assist here too. Progress bars and other visual indicators, for example can show how close to finalisation a task is.

CONCLUSION

Gamification is happening and there are many benefits, but also a downside. Employees are not Avatars who respond according to script. Engaging in game playing runs the risk of disassociation that contributes to a raft of problems. At the less extreme this may contribute to time wasting, or raised expectations from those who do develop a higher level of competence that others struggle to match. At the more extreme end of the continuum, it may lead to learning outcomes that are totally unrelated to the reality. In addition, gamification may not suit some learning styles so it needs to be combined with other learning strategies. An advantage of this approach is that individuals get the opportunity to practice in their own time and space however they may not always get the opportunity to learn beyond the basic information problem-solving in concert with others brings. Focus on skill development may be at the cost of knowledge and holistic development (i.e. a manager is focused on productivity outcomes and overlooks the human dimension – hence lack of genuine management support).

Gamification has the potential to increase the capability of a workforce through increasing the self-efficacy (Bandura 1969; Bandura 1977) of individual workers.

The question for managers is essentially the same as that raised by (Garris, Ahlers & Driskell 2002) – which characteristics of games have relevance to the workplace, and if they do, will this be beneficial for organisations? Three characteristics come immediately to mind, namely learning, rewards and individual and group performance.

Gamification is now seen by many people as a concept that has relevance to the workplace. While it has long been considered to be a useful way to motivate people to learn, it may also have value in other work related areas such as job design and team work.

There is a need for studies which examine the extent to which game playing elements in job design are impacted by the four drives.

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