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GAMIFIED LEARNING IN THE WORKPLACE: A CORPORATE TRAINING CASE STUDY

Short Paper

Marzia Ventura, “Magna Græcia” University of Catanzaro, Catanzaro, Italy, marziaventura@unicz.it

Walter Vesperi, University of Palermo, Palermo, Italy, walter.vesperi@unipa.it

Concetta Lucia Cristofaro, e-Campus University, Novedrate, Italy, concettalucia.cristofaro@uniecampus.it

Anna Maria Melina, University of Messina, Messina, Italy, annamaria.melina@unime.it

Rocco Reina, “Magna Græcia” University of Catanzaro, Catanzaro, Italy, rreina@unicz.it

Luigi Severini, Italian Human Resource Manager and Federmanger Association (Calabria Regioni), Italy, severini.luigi@gmail.com

Abstract

This paper explores the role of business games (BG) in fostering knowledge sharing within organizational training programs. The study highlights the potential of BG to enhance employee engagement and knowledge retention, addressing limitations of traditional training methods. The research focuses on organizations in Southern Italy and demonstrates the valuable opportunities for strategic leaders to manage training and knowledge sharing. The first results show that game-based training positively influenced employee engagement, boosting the ability to retain and apply knowledge effectively at work. The study contributes to the fields of knowledge management and organizational learning. Future research will extend the study to the national level, exploring how cultural and organizational characteristics specific to the Italian context may influence the effectiveness of professional training. This will enhance the contribution of the research and provide insights for strategic leaders.

Keywords: Business Game; knowledge sharing; workplace; training; case study

1 Introduction

Knowledge is the most important strategic resource in organizations, and its management is considered fundamental for organizational success (Nahapiet & Ghoshal, 1998; Spender & Grant, 1996). Knowledge sharing is defined as the voluntary dissemination of acquired skills and experiences to the rest of the organization (Davenport, 1997; Ipe, 2003). The exchange of knowledge among individuals and among organizational units generates competitive skills that can lead to the success of the organization (Ipe, 2003; Kogut & Zander, 1996; Nonaka & Takeuchi, 1995). Nonaka and Takeuchi's well-known work on creating organizational knowledge emphasizes the interaction of explicit and tacit knowledge held by individuals, organizations, and society. According to Nonaka and Takeuchi (1995), the process of creating organizational knowledge is a circular dynamic process that never ends. The organization is stimulated by the environment. Knowledge sharing has been linked to learning (Hurley & Hult, 1998; Weerawarden & O’Cass, 2004). Discussing organizational learning and organizational

knowledge is therefore an implicit acceptance that knowledge is not just an individualized phenomenon, even though individuals are the basic "learning units." The learning and sharing of knowledge among professionals are two essential aspects to ensure optimal performance. As a result, most organizations have implemented strategies that create opportunities for knowledge creation and sharing among their employees to address the new challenges that organizations face in order to be successful (Steininger et al., 2010). Zigan and Zeglat (2010) describe among the different means of sharing knowledge, with training being seen as the learning opportunity provided to share and receive required knowledge. Chang and Chuang (2011) believe that knowledge emerges from integrating information, experience, and theory. When people form groups and interact with each other, they tend to share knowledge and experiences, thus augmenting learning. Organizations and employees need to acquire sufficient flexibility in order to remain current and relevant in a rapidly changing environment (Milic et al., 2016). In this context, Information and Communication Technology (ICT) resources have become an alternative to traditional training methods, enabling remote skills training. Globally, advances in strategies used in remote training are recognized, as well as in the sharing of materials via digital tools (Huber & Helm, 2020; Judd et al., 2022; Flores et al., 2021; Horn & Staker, 2017; Laufer et al., 2021).

2 Games as a support of the training

The development of new technologies led in the last fifteen years to a deep revolution within the corporate training. Training is essential for employees because it improves the productivity of workers by enhancing their skills. In the last years, the use of digital devices in the workplace is essential for business (Bakkali et. al., 2016). Thereby, some employees consider that the traditional ways of learning are boring (Bakkali et. al., 2016). Moreover, the training strategy called "gamification" has demonstrated potential to improve the way of providing training to staff (Petridis et.al., 2015). Previous research have shown how "Gamification" is the most effective methodology for transmitting contents, engaging learners in a deep involving user experience (Deterding et. al., 2011). Among the huge number of training methodologies, the application of business games in corporate training have become more and more important (Reusch et.al., 2008). Nowadays, business game-based learning tools are used to simulate the development of workflows, to simulate management decisions in markets (Reusch et.al., 2008) or other issues – such as the evaluation of employees' skills and knowledges (Baldassin et.al., 2013). Many scholars and practitioners assert that it is not still clear what a business game is. There is no univocal definition of the term "business game" which can be subject to misinterpretations. As a matter of fact, the games used for managerial learning are known by various simulator, learning environment, management simulator, multi person computer simulator, digital learning games etc. Grobler and Maier (2000) suggest that this uncertainty can be attributed to various reasons: the different academic background of the people involved, and the adoption of terms originally used with other intended meanings. The relevant literature classifies games based on technologies within the category of digital learning games in turn included in the broader category of serious game, in particular the digital ones (figure 1)



Figure 1: Categorization of BGs; Source: Baldassini et.al.2013, p. 5

The Caillois (1976) defines a game as an activity that is: free: the player cannot be forced to play, otherwise the game loses the appeal provided by the fun element; limited: limited in space/ time by precise constraints set before-hand; uncertain: its evolution can neither be given nor can the results be obtained in advance. Elgood (1997) highlights that the activities in the games lead to situations in which human actions developed within it.

Instruments used in the game (cards, balls, computer etc....)
Rules
prerequisites
strategies
Probability: some games are directly influenced by luck whereas others indirectly

Table 1. Element of BG. Source: our elaboration by McGonigal, 2011

The *Serious Games* represent a dramatic convergence of games and e-learning technologies in order to provide a rich, immersive virtual learning environments. By combining sophisticated theories of education with cutting-edge technology, serious games have tackled a wide range of challenges ranging from corporate training and education through to emergency medical response. The broadest definition of a serious game, therefore, is perhaps best defined as a game played for a purpose other than entertainment. Zyda (2005) provides a broad-stroke definition of a serious game as “a mental contest, played with a computer in accordance with specific rules that uses entertainment to further government or corporate training, education, health, public policy, and strategic communication objectives. Serious Games are games designed with the purpose not just to entertain, but to also solve a problem. Bogost (Bogost, 2013) in his book "Serious Games" defines them as games that “have an explicit and carefully through-out educational purpose and are not interned to be played primarily for amusement”. Serious Games involve any application of the wider ecology of games (Deterding et.al, 2011). Many researchers (Gee,2003; Sánchez and Olivares, 2011) provide evidence that games have the capability of satisfying a range of needs found in (Maslow, 1954) hierarchy of needs. The serious games can be a useful productivity tool, it is equally true that some employers have concerns regarding the intrusion of entertainment games into the workplace through both desktop PCs and mobile devices, distracting employees and reducing productivity (Petridis, 2015). Serious games, however, have the potential to satisfy both stakeholders: the employer sees productivity gains through employees who are highly engaged with interactive and entertaining tools or training media, and the employees themselves gain both the pedagogical benefits of more interactive training, and the motivational benefits of engaging gameplay - making work "fun" need not mean sacrificing productivity; in fact, it can enhance it. The

Digital Learning Games belong to the category of serious games and are a particular subset of gaming simulations implemented using software-based or web-based architectures that raise the degree of interaction by creating eye-catching simulated contexts. The digital learning games are serious games with specific purpose of supporting the user in the achievement of skills and knowledge related to a specific discipline by increasing motivation and active participation in the learning process thanks to the incorporation of educational content into video games. According to Elgood (1997) Business Game can be considered both as digital learning games and as business simulations. Greenlaw (1964) considered the BGs a business simulation or game may be defined as a sequential decision-making exercise structured around of business operation, in which participants assume the role of managing the simulated operation. Greco et al. (2013) concludes that a business game is a serious game in a business environment that can lead to one or both of the following results: the training of players in business skills. After the creation of virtual companies (represented by individual or teams) the playing process of a business game includes the following fundamental step: Analysis of market information; taking game decision within a predetermined time period; display and analysis of results. This process is cyclical. After analysing the results, the participants take decision for the next period; the business game triggers a new round of decision-results and so until the end of the game. One of the most significant aspects of training is its role in knowledge sharing. Every organization is an ecosystem of information, practices, and processes. Employees, with their experiences, skills, and perspectives, represent a wealth of knowledge that can be shared within the work group. Training provides a structured opportunity to transfer this knowledge. An innovative way to foster knowledge sharing is the use of business games (BGs). In corporate training, gamification aims to make traditional learning experiences more engaging and dynamic, thereby improving employee learning outcomes and job performance (Schöbel et al., 2020). BG, in an organizational context, can help simulate real-world scenarios, allowing employees to practice decision-making, problem-solving, and communication skills in a risk-free environment. Knowledge sharing can then occur naturally during these experiences, as team members share insights and solutions to challenges posed in the game. By incorporating game mechanics, organizations can create a more enjoyable and effective learning environment that fosters continuous improvement and knowledge sharing among employees (Kraus et al., 2023).

3 Objective and Methods

Business Games involves the application of game design elements to an existing training method to bring about a desirable change in that method; it is often intended to improve a training outcome of interest (e.g., learning or transfer) when existing training is below effectiveness expectations. On this premise, the general purpose of this paper is to investigate knowledge sharing (KS) through BGs. Specifically, the objective is: to understand the diffusion and effects of BGs in staff training in organizational contexts. The study adopted a quantitative approach based on data collection through questionnaires and documentary research. The quantitative study seemed particularly suitable for exploring the process of implementing the Business Game in training activities by identifying its potential and critical points. The object of our study is the organizations belonging to the Federmanger Association and AIDP (Southern Italy). From a methodological point of view, the data and information useful for this work were collected through online questionnaires. Interviewees were invited to participate in the survey via email. The interviewees' responses were limited to a fixed set of answers following the Likert scale: (1) Strongly disagree, (2) Disagree, (3) I don't know, (4) Agree, (5) Strongly agree. The data collection was conducted with the strategic top of the organization and the human resources manager.

3.1 Profile of participants

Consistent with the purpose of our article, we conducted our research with a privileged observer of this phenomenon: In line with the purpose of our article, we conducted our research with a privileged

observer of this phenomenon: Federmanger and Italian Human Resource Manager associates (Calabria Region), offering a regional perspective on the adoption of gamified training. Participants included n° 214 strategic top managers and n° 56 human resources managers. Each respondent consented to the use of their personal data for this academic survey. The response rate was 48% for Strategic top Managers and 40% for HRM.

SEX		Strategic top Manager (%)	HR Manager (%)
	MAN	70%	52%
WOMEN	30%	48%	

Table 2. Sex of participants. Source: our elaboration

The average age of the participants is 52 years, with the youngest participant being 28 years old and the oldest participant being 65 years old. This suggests that the majority of the respondents in this study belong to the older generation. Not all participants hold a degree: 15% of Strategic top Manager do not have a degree, and 4% of HR Managers do. Most of the participants have a seniority of more than 15 years of service as top managers, while HRM have an average seniority of around 10 years.

4 First Findings and Conclusions

The results demonstrate the valuable opportunities for strategic leaders to strategically manage training and knowledge sharing. In this research, the BG played a significant role in knowledge sharing. The game-based training positively influenced employee engagement, which in turn boosted the ability to retain and apply knowledge effectively at work. Social interaction mediated the relationship between game techniques and knowledge sharing, highlighting the role of collaborative learning environments. These insights offer valuable guidance for top managers and human resource (HR) professionals aiming to develop engaging and personalized training programs that meet diverse employee needs and learning preferences. The preliminary findings reveal that the BG addresses particular limitations of traditional training methods, such as low interaction or limited tacit knowledge exchange, and differing from other gamification techniques in promoting knowledge sharing. For the business game to be most effective, training programs should be tailored to the varying knowledge levels of employees. Gamified corporate training programs offer major competitive advantages for organizations. The companies, by equipping employees with the latest skills and knowledge, enhance their ability to innovate and adapt to changing market conditions and the trained employees are more likely to contribute to the development of a company. The goal of this paper was to explore the impact of business games on professional training. We aimed to figure out how a game-based learning context could influence the training process (if positively or negatively) and in which way employees could take advantage of a similar training approach. Basing on the collected data the effectiveness of a business game-based approach as an innovative methodology, providing successful outcomes in terms of proficiency and of engagement of the employees.

5 Implications

Training is far more than just a method of teaching new skills. It's a critical mechanism for the exchange of knowledge within an organization. By fostering an environment where knowledge is shared freely—through structured programs, peer learning, and collaborative tools—organizations can ensure that they are continuously evolving, improving, and adapting. In the end, effective knowledge transfer through training is a key driver of success in today's fast-paced, knowledge-driven business world. The findings provide valuable insights for designing more effective corporate training programs. By understanding the gamification approaches that best target attention and engagement, top managers and human resource management can develop programs that maximize learning outcomes and enhance knowledge retention. Companies can include efficient gamification techniques in their standard training programs

to improve staff competencies. These findings can also be used by new technologies companies specialized in gamification software to enhance their products. Novel gamification strategies and resources can be created to engage users in an efficient way. The study's findings also provide valuable insights for corporate training policymakers, supporting the development of policies and strategies that promote the adoption of impactful gamification approaches in corporate learning and development settings. The next step of this research is to extend it to the national level, as the paper could benefit from a more in-depth discussion on how the cultural and organizational characteristics specific to the Italian context—such as managerial culture, hierarchical structures, or attitudes toward training—may influence the effectiveness of professional training. The next research phase will expand to the national level, examining how cultural and organizational characteristics specific to the Italian context influence training effectiveness. This broader scope will significantly enhance the research's contribution to knowledge management and organizational learning fields.

6 References

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