


EXPLORING THE APPLICATION OF STRATEGY GAMES IN THE TRAINING OF MANAGERIAL SKILLS: AN ANALYSIS OF 10 EDUCATIONAL GAMES DEVELOPED BY SEBRAE

EXPLORANDO A APLICAÇÃO DE JOGOS DE ESTRATÉGIA NA FORMAÇÃO DE COMPETÊNCIAS GERENCIAIS: UMA ANÁLISE DE 10 JOGOS EDUCATIVOS DESENVOLVIDOS PELO SEBRAE

EXPLORANDO LA APLICACIÓN DE JUEGOS DE ESTRATEGIA EN LA FORMACIÓN DE HABILIDADES DIRECTIVAS: UN ANÁLISIS DE 10 JUEGOS EDUCATIVOS DESARROLLADOS POR SEBRAE

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Luiz Fernando Costa da Silva¹, Angélica Porto Cavalcanti de Souza², Ademir Macedo Nascimento³, Luanda Regina Reis Lima⁴, Ana Cecília de Barros Gomes⁵

ABSTRACT

Introduction: The growing complexity of the contemporary business environment demands constant updating of professionals' managerial skills. In this context, the use of strategy games stands out as a promising tool for developing these skills, allowing the simulation of decisions and strategies in a controlled environment.

Objective: To investigate how educational games created by SEBRAE contribute to the development of managerial skills, analyzing their characteristics, pedagogical approaches, and potential benefits to the learning process.

Methodology: The research adopts a qualitative approach, combining thematic analysis and secondary data collection. Data collection was conducted through a comprehensive literature review and analysis of the games themselves, focusing on educational elements that promote managerial skills.

Results: The results indicate that SEBRAE's educational games are valuable resources for developing managerial skills, providing simulated environments that encourage the practice of strategic decision-making and active learning. The analysis reveals distinct characteristics of each game, emphasizing their role in practical skill development.

Keywords: Educational Games. Management Skills. Business Strategy. Practical Learning. Sebrae.

¹ Bachelor of Business Administration. Universidade de Pernambuco.

E-mail: luiz.fcsilva@upe.br Lattes: <http://lattes.cnpq.br/0668864517499027>

² Dr. in Design. Universidade de Pernambuco.

E-mail: angelica.porto@upe.br Lattes: <http://lattes.cnpq.br/5932098810835313>

³ Dr. in Business Administration. Universidade de Pernambuco.

E-mail: ademir.nascimento@upe.br Lattes: <http://lattes.cnpq.br/0303674862794540>

⁴ Dr. in Production Engineering. Universidade de Pernambuco.

E-mail: luanda.lima@upe.br Lattes: <http://lattes.cnpq.br/0303674862794540>

⁵ Dr. in Law. Universidade de Pernambuco.

E-mail: ana.barros@upe.br Lattes: <http://lattes.cnpq.br/9877385722052368>

RESUMO

Introdução: A crescente complexidade do ambiente de negócios contemporâneo exige uma atualização constante nas competências gerenciais dos profissionais. Nesse cenário, a utilização de jogos de estratégia se destaca como uma ferramenta promissora para a formação dessas competências, ao permitir a simulação de decisões e estratégias em um ambiente controlado.

Objetivo: Investigar como os jogos educativos criados pelo SEBRAE contribuem para o desenvolvimento de competências gerenciais, analisando suas características, abordagens pedagógicas e os potenciais benefícios no processo de aprendizagem.

Metodologia: A pesquisa adota uma abordagem qualitativa, combinando análise temática e levantamento de dados secundários. A coleta de dados foi realizada por meio de uma revisão bibliográfica abrangente e análise dos próprios jogos, focando em elementos educacionais que promovem competências gerenciais.

Resultados: Os resultados indicam que os jogos educativos do SEBRAE são recursos valiosos para a formação de competências gerenciais, proporcionando ambientes simulados que estimulam a prática de decisões estratégicas e o aprendizado ativo. A análise revela características distintas de cada jogo, enfatizando seu papel na formação prática de habilidades.

Palavras-chave: Jogos Educativos. Competências Gerenciais. Estratégia Empresarial. Aprendizagem Prática. Sebrae.

RESUMEN

Introducción: La creciente complejidad del entorno empresarial contemporáneo exige una actualización constante de las competencias gerenciales de los profesionales. En este escenario, el uso de juegos de estrategia se destaca como una herramienta prometedora para el desarrollo de estas habilidades, ya que permite la simulación de decisiones y estrategias en un entorno controlado.

Objetivo: Investigar cómo los juegos educativos creados por el SEBRAE contribuyen al desarrollo de habilidades de gestión, analizando sus características, enfoques pedagógicos y potenciales beneficios en el proceso de aprendizaje.

Metodología: La investigación adopta un enfoque cualitativo, combinando el análisis temático y la recolección de datos secundarios. La recopilación de datos se realizó a través de una revisión exhaustiva de la literatura y el análisis de los propios juegos, centrándose en los elementos educativos que promueven las habilidades de gestión.

Resultados: Los resultados indican que los juegos educativos del SEBRAE son recursos valiosos para el desarrollo de habilidades de gestión, proporcionando entornos simulados que incentivan la toma de decisiones estratégicas y el aprendizaje activo. El análisis revela características distintivas de cada juego, enfatizando su papel en el desarrollo de habilidades prácticas.

Palabras clave: Juegos Educativos. Habilidades de Gestión. Estrategia de Negocios. Aprendizaje Práctico. Sebrae.





1 INTRODUCTION

The growing complexity of the contemporary business environment requires constant updates in the managerial skills of professionals, and it is imperative to develop strategic skills to face the challenges of the market. In this context, the use of strategy games emerges as a promising tool in the formation of these skills, providing a simulated environment that allows the experimentation of decisions and strategies without the risks associated with the real environment. This research aims to explore the analysis of strategy games and their potential use in the formation of managerial skills, focusing on a critical analysis of 09 educational games developed by SEBRAE.

Several approaches have been proposed for the formation and improvement of these skills, and one that stands out for its effectiveness and capacity for engagement is the use of strategy games as an educational tool. Games, especially those aimed at business simulations, allow the experimentation of complex management scenarios and the application of strategic decisions in a simulated environment, offering a platform for active learning. According to Salen and Zimmerman (2003), games function as decision-making systems, in which players face complex challenges and experience the results of their choices. This characteristic makes games a valuable method for developing critical skills in controlled, low-risk environments.

Kolb's (1984) theory of experiential learning also reinforces the importance of active learning, where individuals learn best through direct experience. Strategy games, by promoting constant interaction between the player and the simulated system, provide an ideal environment for this type of learning. The player is encouraged to reflect on their actions, adjust their strategies, and thus internalize knowledge more effectively than through purely theoretical approaches. In addition, the playful approach to games can increase the motivation and engagement of participants, crucial aspects for meaningful learning.

In a business environment, managers need to make decisions under conditions of uncertainty, and playing strategy games offers the opportunity to deal with such situations without the inherent real-world risks. According to Mintzberg (1994), strategy is not a rigid plan to be followed, but a process of continuous learning, in which practical experience plays an essential role. Therefore, the use of strategy games contributes to the development of a strategic mindset, by allowing participants to experiment, reflect and adjust their decisions based on the simulated consequences.

Berto and Berto (2016) highlight the importance of assessing cognition in relation to the decision-making process and strategic formation through business games. The playful approach provided by games can promote more engaging and participatory learning, which is fundamental for the effective development of managerial skills. Therefore, the justification for choosing this theme lies in the opportunity and need to understand how educational games, more specifically developed by SEBRAE, can contribute to the improvement of managerial skills.

The research problem that guides this study is: How can the strategy games developed by SEBRAE contribute to the formation of managerial skills? This inquiry aims to comprehensively explore the specific elements that make educational games with the potential to promote managerial learning.

The relevance of this research is characterized by the constant need for innovation in educational practices and professional training. In this way, an in-depth understanding of the potential of strategy games developed by an institution such as SEBRAE can direct efforts to improve educational programs, providing a more practical training aligned with market demands. As Prensky (2001) points out, digital games have enormous potential as an educational tool, as they stimulate the active participation of learners, promoting knowledge retention through practice and simulation of real scenarios.

Furthermore, the hypothesis of this study is that the strategy games developed by SEBRAE can play a significant role in the formation of managerial skills, contributing to the development of skills such as decision making, strategic thinking and problem solving.

As for the methodology, this work will adopt a qualitative approach combining thematic analysis and secondary data surveys to evaluate the educational games of SEBRAE, mapping the technical and social skills that can be worked on in each one and thus their potential use in the formation of managerial skills. Data collection was carried out through analysis of materials available by the games.

The general objective of this research was to critically analyze the content and potential of strategy games for the formation of managerial skills, with a specific focus on the games developed by SEBRAE. Specific objectives include: (1) to investigate the relationship between learning theories and the use of educational games in the development of managerial and strategic competencies; (2) to identify the main educational elements of SEBRAE games that contribute to the development of managerial skills; (3) describe and analyze the mechanics and dynamics of games and how games can influence player behavior and the possible development of competencies

(4) generate knowledge that facilitates the adoption of strategy games in educational contexts, promoting their practical application in training programs and development of managerial skills.

Thus, this study seeks to broaden the understanding of the contribution of strategy games in the formation of managerial skills, offering insights to improve educational practices and contribute to professional development in line with market demands.

2 METHODOLOGY

The methodology of this research adopts a qualitative approach of an applied nature, with the objective of describing and critically analyzing the potential of strategy games in the formation of managerial skills, focusing on 10 educational games developed by SEBRAE. Thus, the study has a descriptive character, as it seeks to explore the characteristics of games and describe how their dynamics and mechanics can contribute to the development of competencies in the educational and business context.

The methodological procedure used is documentary research, with data collection carried out through secondary sources. The materials analyzed include the games themselves, as well as relevant articles and books in the area of administration, education and gamification, providing a theoretical basis for understanding the functionalities and educational impacts of games. The period of the researched articles covers publications from 2013 to 2023, seeking to integrate recent and relevant studies. The keywords used for the research of materials were "strategy games", "managerial skills", "professional training", "SEBRAE" and "active learning".

In addition, a literature review of a narrative nature was carried out, which has as its main characteristic the flexibility in the approach to sources and in the synthesis of knowledge on the subject. This type of review does not follow a strict protocol for the inclusion or exclusion of studies, allowing the researcher a critical and comprehensive analysis of the existing information on the subject. The narrative literature review was used to theoretically contextualize the use of games in the educational field, identify research gaps and provide conceptual support for data analysis.

For this, articles from several reliable databases were accessed through the Capes Periodicals portal, as well as specialized journals in the areas of administration, education and strategy games. This type of review allowed for a critical and comprehensive analysis of the sources, providing conceptual and contextual support for the research. In addition to academic articles, relevant books on the use of games in the formation of managerial

skills were consulted, including "Games and Simulations in Teaching: Creative and Innovative Learning" by Moraes, M. C. (2014), "Gamification: How to Engage People and Transform Business" by Figueiredo, R. C. (2015), and "Corporate Games: A New Look at People Management" by Miller, L. (2016). The period of the researched articles covered publications from 2013 to 2023, aiming to incorporate recent contributions.

The keywords used in the research included terms such as "strategy games", "managerial skills", "professional training", "SEBRAE" and "active learning". These keywords were chosen to cover several aspects related to the application of games in the formation of managerial skills, considering both the educational perspective and the business practice. The data analysis was conducted through the thematic analysis technique, with a focus on identifying emerging themes related to the development of managerial skills in games. To structure this analysis, the "Gaming Model Canvas" (Escribano, 2010) was used as a theoretical reference, exploring the categories of game mechanics, components, game dynamics and expected behaviors of the players. Each of these categories guides the investigation of the interactions between the players and the elements of the games, allowing us to observe how these interactions can foster the development of cognitive and behavioral skills necessary for management.

3 RESULTS AND DISCUSSION

The analysis of the educational games developed for the formation of managerial competencies shows a range of approaches and themes that go beyond entertainment, providing practical learning experiences in different administrative scenarios. During the research, articles and theoretical materials were selected that discuss the application of games in professional training, with the objective of substantiating and contextualizing the development of managerial skills in SEBRAE games. Although the survey of articles with specific keywords was done to theoretically support the study, this review did not follow the strict protocols of a systematic review. Instead, documentary research was carried out, focusing on identifying and using theoretical references that were pertinent to the exploratory objective of this study.

The analyzed games present proposals that simulate managerial activities in different contexts, such as the administration of a farm or the management of a bicycle shop, allowing players to make strategic decisions and understand marketing and resource management processes. Each game offers a distinct focus, encouraging the development of skills such as planning, market analysis, and process optimization, which

reflects the diversity of areas covered by management and the adaptability of these tools to simulate professional realities. To organize and consolidate the analysis of each game, the "Gaming Model Canvas" was used as an analytical structure model, observing aspects such as the game dynamics, the mechanics employed and the behaviors expected of the players in relation to the development of specific skills.

To facilitate the visualization of the results, a table with the main aspects of each game will be presented. Subsequently, these data will be discussed in a comparative analysis with the available literature on educational games and their applications in the formation of managerial skills. With this approach, it seeks to understand how SEBRAE games can contribute to the practical and interactive learning of management concepts, revealing the potentialities and challenges of these tools as part of training and professional development programs.

Table 1

Main aspects and areas covered of Sebrae games

Game	Main Aspects	Areas Covered
BUSINESS FARM	- Focus on Production Processes - Strategic Decision Making - Waste Reduction - Evolution of Raw Material to Final Product - Practical Learning	Production management, strategic decision-making, resource optimization.
BUSINESS FROM ANOTHER PLANET	- Control of Three Scenarios (Farm, Factory, Fast Food Restaurant) - Complex Business Challenge - Strategic Learning - Unique Narrative	Production management, industrial strategies, restaurant management.
IT DOESN'T EVEN LOOK LIKE A PIZZERIA GAME	- Initial Goals and Challenges - Business Evolution - Visual Complications and Gameplay	Operations management, market strategies, customer service.
HERO SAGA	- Intuitive Interface - Hero Career Management - Market Strategy - Unique Narrative	Career management, marketing, sales.
BARBARITY	- Progression through Service - Monthly Evolution and Improvements - Simplicity of the Proposal	Service management, customer service, business improvements.
GLASS WITH HEALTH	- Adapting to Market Trends - Growth Strategies - Progression and Improvements	Inventory management, marketing strategies, business growth.
PIZZA DELIVERY	- Emphasis on Deliveries - Progression through Deliveries - Limitation in the Exploitation of the Production Process	Delivery management, business evolution.
MR. CYCLE	- Customer Service in Three Sectors - Management and Decision Making Cycles - Complexity and Approach to Management Concepts	Retail management, customer satisfaction, expansion strategies.

The "Business Farm" game is a valuable educational tool to teach managerial skills related to production processes and waste reduction in agriculture. Its hands-on approach

and focus on strategic decision-making make it an attractive choice for those who want to learn about farm management in an engaging, playful, and hands-on way.

"Business from Another Planet" is a rich and challenging gaming experience that offers a unique perspective on production processes and business management. With its unique approach and complexity, the game not only entertains but also teaches important management concepts, strategic decision-making, and the interconnection between the different stages of production.

"It Doesn't Even Look Like a Pizzeria Game" is enriched by interesting features that effectively simulate the management of a pizzeria. However, its gameplay is hampered by the lack of clarity in the visual interface, which can negatively impact the player's experience. Considering the potential of the game, it would be beneficial to invest in usability improvements, ensuring that participants can fully take advantage of the challenges and learnings provided by business simulation.

"Hero Saga" stands out as an innovative game that combines a user-friendly interface with a unique gameplay proposal. The hero's career management, fame capitalization, and market strategy make the game engaging, addictive, and at the same time simple, offering an experience that captivates players by challenging them to explore the nuances of heroic and entrepreneurial life in the virtual world.

Despite its simplicity and easy-to-understand approach, "Barbarity" stands out as a game that provides fun through the management of a growing barbershop. However, it is important to note that the visual quality and lack of explicit guidance on gameplay can pose challenges for players, requiring an intuitive approach to unraveling the mechanics involved. Considering its simplicity, the game offers a light and relaxed alternative for virtual management enthusiasts.

"Copo com Saúde" stands out for its simplicity and accessibility. Although it does not present extremely complex challenges, the game offers an enjoyable business management experience that is easy to play and understand. Its uncomplicated nature makes it an attractive option for wider audiences such as young people and adults, although it may be considered too simple for corporate environments looking for more robust challenges. However, the game's light and intuitive proposal provides an enjoyable and educational experience in running a juice shop.

"Pizza Delivery" offers a simplified management experience, focusing on the delivery modality and business evolution. Although it lacks an attractive visual that encourages the player's long stay, its hands-on approach allows for straightforward



gameplay. Financial management and optimization of delivery operations are key challenges, providing a lighter experience for those looking for a pizzeria management game with less operational complexity.

"Mr. Cycle" stands out as a complete game (considering concept and fun), offering an engaging and challenging experience of managing a bike shop. Its hands-on approach, coupled with detailed attention to management concepts, make it a captivating title. The pleasant interface complements the gameplay, providing an immersive experience for players seeking a more complex and educational challenge in managing virtual businesses.

4 CONCLUSION

Throughout this investigation on the application of strategy games in the formation of competencies, rich and revealing perspectives emerged on the potential impact of these tools on professional and academic development. The 10 educational games developed by SEBRAE offer immersive virtual environments that transcend traditional teaching approaches, providing practical and challenging experiences for the improvement of managerial skills. During the analysis, recurring themes such as process management, strategic planning, decision-making, resource management and marketing were identified. Among these topics, process management and strategic decision-making were the most frequently addressed, evidencing SEBRAE's emphasis on simulating scenarios that encourage the player to evaluate different paths and make decisions based on clear objectives and well-defined strategies.

On the other hand, topics such as team management and finances appeared less frequently, which may indicate a lower appreciation of these aspects in the games analyzed, or the possibility that these contents are considered in the background in relation to the broader themes of planning and management. This thematic frequency mapping allows us to observe the priority given to certain aspects of management over others, suggesting a possible gap for future game developments that focus on more specific managerial competencies, such as team leadership and financial control.

The results obtained suggest that the analyzed games not only simulate realistic business situations, but also promote active learning, allowing participants to experience the complexities of management and strategy in various contexts. Each game features a unique approach, focusing on specific areas of management, such as production,

marketing, and customer service. This thematic diversity allows users to explore, in a practical way, the different dimensions of decision-making in business environments.

Based on the data analyzed and the observations of the results, it was possible to conclude that the hypothesis was proven. SEBRAE's strategy games proved to be effective in the formation of managerial skills, contributing significantly to the development of the proposed skills. Therefore, the results indicate that the use of these games as educational tools can be an efficient strategy for the development of leaders and managers who are more prepared for the challenges of the market. This confirms that the games developed by SEBRAE can be successfully integrated into management training programs, raising the level of preparation and effectiveness of participants in their management functions.

The analysis revealed that the playful approach of these games not only makes the learning process more engaging but also provides fertile ground for the development of cognitive and behavioral skills. By facing simulated challenges, participants exercise critical skills such as strategic thinking, problem-solving, and resource management. In addition, the interactivity of games favors experimentation and decision-making in a low-risk environment, where mistakes are learning opportunities.

However, it is important to highlight the limitations of this research. Being a purely documentary and theoretical investigation, its conclusions are based on literature reviews and analysis of the games, without conducting practical experimentation with a real target audience. Based on these limitations, it is recommended that future research advances in carrying out practical experiments, applying SEBRAE games with business students or professionals in training programs. This type of study could test the effectiveness of these games in the formation of managerial skills, as identified in the theoretical analysis.

In conclusion, the practical experience provided by SEBRAE games not only contributes to the construction of practical knowledge but also promotes a practical approach to professional development. The effectiveness of these tools lies in the ability to align theoretical learning with practical application, preparing individuals for the dynamic and multifaceted challenges of the corporate world. With the continuity of future and experimental studies, it will be possible to further validate the potential of these games as essential tools in management education and training.

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