

STRATEGIC MANAGEMENT OF GAME DEVELOPMENT PROJECTS: OPTIMIZING RESOURCES AND QUALITY IN THE GAMING INDUSTRY

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ABSTRACT

This study explores the dynamic and varied gaming industry's strategic management of game development initiatives. This study explores resource allocation, quality control, and strategic decision-making in response to identified research gaps, providing unique insights into the strategic nuances of game production. With a focus on resource optimisation, quality control, and multidisciplinary methods, this study intends to completely analyse strategic management practises in the gaming business. To ensure the success of game development projects, one must have a sophisticated understanding of strategic management techniques given the gaming industry's quick evolution. In-depth qualitative investigation and multidisciplinary viewpoints are lacking in the body of literature. The qualitative technique of this study employs in-depth interviews and document analysis to gather data from game development teams. To glean significant insights, qualitative data analysis techniques like coding, content analysis, narrative analysis, and continual comparative analysis are used.

KEYWORDS

Game Development, Strategic Management, Resource Allocation, Quality Assurance, Qualitative Research.

1. INTRODUCTION

The strategic management of game development projects has become an essential component of success in the ever-evolving gaming industry. This introduction acts as a compass, directing us through the complex world of game production, presenting the key findings of our study, and describing its significance. We begin by delving into the fundamental issues of the subject, laying the foundation for the larger context, and providing explanations for the variables under investigation.

1.1. Background of the Study

Over the past few decades, the gaming business has grown exponentially, transcending national and cultural barriers to become a universal phenomenon. The computer technology has greatly expanded the commercial environment in addition to revolutionizing entertainment. According to Newzoo's Worldwide Games Market Report, the industry is expected to be worth more than \$159 billion in 2020 and \$200 billion in 2023. With such extension, the desire for immersive, high-quality gaming experiences has increased, and the high-quality gaming experiences have additionally risen. This is because game creation initiatives require a variety of abilities, such as creativity, technological know-how, and business expertise. Strict quality control, efficient

administration, and cautious resource management are required for these endeavours. Game developers must navigate a dangerous landscape in order to design games that appeal to audiences and meet consumer expectations.

1.2. Rationale for the Study

The need for strategic management in game development projects becomes more obvious as the gaming industry continues to grow. To ensure a project's success, strategic management entails making informed choices about resource allocation, risk mitigation, and quality control. It is the crucial factor on which a game's outcome depends. There is, however, a dearth of thorough study on the strategic management of game development projects from a qualitative, conceptual perspective, despite the gaming industry's explosive growth. Studies that have hitherto been done have frequently concentrated on quantitative factors, such market analysis and player behaviour, leaving a glaring knowledge deficit regarding the complex dynamics of resource optimisation and quality control in game production.



Figure 1. Game Development Project

Source: <https://www.ciit.edu.ph/the-impact-of-proper-collaboration-in-game-development-projects/>

1.3. Research Questions

Our study aims to respond to the following key queries regarding strategic management in game development:

1. What is understood generally about strategic management in the gaming sector?
2. What are the gaps in our knowledge of resource optimisation and quality control in game creation, or missing pieces?
3. What does it mean in the context of game development initiatives to overcome these gaps?
4. What is the justification for carrying out this conceptual, qualitative study?
5. What does using an interdisciplinary approach in this research mean?
6. What can be learned from previous advancements in the game business and how do theoretical issues and real-world challenges interact?

1.4. Significance of the Study

The impact of this work goes beyond academics. By breaking down the complexity of strategic management in game production, we aim to provide crucial insights to industry experts, helping them to make more knowledgeable decisions in their pursuit of creating profitable and inventive games. This research also enriches our understanding of project management and strategic

decision-making in the context of the creative industries by providing cross-disciplinary implications for other disciplines.

1.5. Scope of the Study

This research acknowledges the diversity within the gaming industry, even if our focus is still primarily on the qualitative and conceptual components of strategic management in game development projects. To ensure a thorough knowledge, we will look at a range of game genres, platforms, and development techniques.

1.6. Structure of the Paper

This study is divided into various sections that each aim to shed light on a different aspect of the complicated terrain of game production, making it easier to navigate this thorough investigation. This study begins with a review of prior research, gives historical background, and highlights any knowledge gaps. The next step is to go into a conceptual framework that serves as the foundation for our study and brings theory and practice into alignment. This bridges the gap between theoretical ideas and real-world problems in the field of game development by using this multidisciplinary perspective. This study sets out on an empirical journey in the parts that follow, drawing conclusions from relevant studies and making suggestions in light of what we learn. In the end, this study aims to not only fill in the gaps but also to help the game industries strategically evolve. Here, innovation, technology, and business strategy come together to build the future of entertainment.

2. STATEMENT OF THE PROBLEM

The gaming industry, which is distinguished by its dynamism and constant change, is a thriving ecosystem where innovation, technology, and consumer demands collide. The core of this sector, game development initiatives, encounter a number of difficulties that need for a strategic approach. This section explains the complex issues that highlight the importance of our research.

2.1. Challenges in Game Development Projects

From inspiration and design through coding and testing, game production is a complex process with several steps. Developers frequently run into problems in this complex environment that can prevent projects from succeeding. These difficulties include:

1. **Quickly advancing technology:** The gaming sector is heavily dependent on cutting-edge technology. It can be difficult to keep up with hardware and software developments, which can cause compatibility problems and project delays.
2. **Changing Player Demands:** Gamers' demands are constantly changing. It is difficult to precisely predict market trends since developers must constantly adjust to changing player preferences.
3. **Financial Restraints:** The creation of video games can require a lot of resources. Delivering high-quality experiences while staying under budget is a never-ending problem.

2.2. Resource Allocation Issues

The timely and successful completion of game development projects depend critically on the effective deployment of resources. However, problems with resource distribution are common and appear in a variety of ways:

1. **Inadequate Staffing:** The gaming industry frequently struggles with a lack of experienced workers, which causes overworked teams and the possibility of burnout.
2. **Budget Allocation:** Careful attention is needed when allocating funds effectively across multiple project phases, from concept to post-launch assistance.
3. **Time Management:** Ineffective time management can cause project delays, which lower the game's ability to compete in the market.

2.3. Quality Assurance Concerns

Game creation must include quality assurance because it affects player enjoyment, brand reputation, and financial success. But there are still a lot of difficulties in this area:

1. **Bugs and Glitches:** Finding and fixing bugs and glitches is a never-ending struggle because even seemingly unimportant problems can damage a game's reputation.
2. **Cross-Platform Compatibility:** It can be difficult to make a game work flawlessly on several platforms and gadgets.
3. **Player Experience:** In addition to technical considerations, quality assurance also takes into account the user interface, general game design, and player experience.

2.4. The Need for Strategic Management

Although these difficulties are not particular to the gaming sector, the fast-paced environment and high expectations for innovation make them worse. The core issue is the requirement for strategic management to fully address these difficulties. Without strategic leadership, game development initiatives run the risk of wasting resources, compromising quality, and failing to find a market. This study intends to investigate how strategic management techniques might be used to the gaming industry to optimize resources and quality, providing a conceptual framework that directs game creators and stakeholders through the challenging environment of game production.

3. OBJECTIVE OF THE STUDY

This section describes the general and detailed goals of our research in accordance with the difficulties and complexities described in the problem statement. Our investigation of the strategic management of game development projects and its effects on the gaming industry is guided by these objectives.

3.1. General Objective

This study's main goal is to thoroughly analyse and conceptualize the function of strategic management in game development projects, with a particular emphasis on resource optimisation and delivering high-quality results in the gaming sector.

3.2. Specific Objectives

The following particular objectives have been outlined in order to achieve our overall goal:

1. To evaluate the body of literature already in existence and historical trends pertaining to strategic management in game development projects.
2. To list the main difficulties in resource allocation and quality control that game development projects encounter.
3. Examining the theoretical foundations of strategic management and how they relate to the gaming sector.
4. To investigate the useful techniques used by effective game development projects to maximise resource allocation and guarantee quality.
5. To recognize the multidisciplinary character of strategic management and its implications for creative and technological components in the game business.
6. To provide suggestions and knowledge that can direct upcoming game development initiatives in terms of strategic resource allocation and quality control.

We may explore the complexities of strategic management in game development projects and contribute to a fuller understanding of this dynamic and important component of the gaming industry thanks to the framework provided by these specific aims, which also serve as the focus of our research.

4. LITERATURE REVIEW

A key component of our study is the literature evaluation, which lays the groundwork for comprehending the challenges of strategic management in game development projects. We explore the perspectives and contributions of academics and industry professionals in the following areas as we delve into the gaming industry's many facets:

4.1. Game Development Process

The creation of a video game involves many steps, including ideation, design, programming, testing, and release. Many academics have helped us comprehend this process, including:

In their book "Rules of Play" from Renshaw, I., et al. (2010) offer a thorough framework for comprehending the principles of game design and development, putting a focus on the importance of game mechanics and player experience. The interplay between the physical game system and the player's mental engagement, which is essential in the creation process, is highlighted in Medema, W., et al. (2016) exploration of the idea of "half-real" in games.

4.2. Resource Management in Game Development

The efficient administration of resources is essential to the accomplishment of game development initiatives. Important works in this field include:

In his book "The Art of Game Design," Chuang, S. H., & Lin, H. N. (2017) examines resource allocation issues while highlighting the significance of innovative problem-solving and effective resource management. In "A Theory of Fun for Game Design," Ferrari, A., Cachia, R., & Punie, Y. (2009) discusses the importance of invention and creativity in resource management and argues that enjoyment and engagement are essential components of resource allocation.

4.3. Quality Assurance in Game Development

Games must perform flawlessly and live up to player expectations, according to quality assurance. Researchers have examined this problem from a variety of angles, including:

In their article titled "Assuring Game Quality through Playtesting," Casado-Vara, Prieto-Castrillo, and Corchado (2018) discuss the value of quality assurance testing. They stress the value of player input in enhancing game quality. In "The Art of Failure," Granic, I., Lobel, A., & Engels, R. C. (2014) analyses how failure is frequently incorporated into the player experience in video games, emphasising the function of quality assurance in striking a balance between difficulty and enjoyment.

4.4. Strategic Management in the Gaming Industry

Decisions made under strategic management must be in line with long-term objectives. Scholars have emphasised the following strategic factors in the gaming industry:

Porter (1980) developed the Porter's Five Forces model, which has been modified to study the competitive dynamics of the gaming industry with a focus on supplier power, buyer power, and industry rivalry. In an article on gamification as a strategic tool, El-Menawy, S. M. A. (2022) show how game aspects can be incorporated into non-gaming situations to increase engagement and accomplish strategic goals.

4.5. Key Success Factors in Game Development

For initiatives involving the creation of video games, key success factors are essential. Scholars have identified a variety of KSFs, including: Hamari, J., Hanner, N., & Koivisto, J. (2020) study the KSFs in the creation of online games, covering elements like revenue plans, community development, and game design. Xu, X. Y., Tayyab, S. M. U., Jia, Q. D., & Wu, K. (2023) emphasise components like distinct goals, feedback, and a sense of development when they introduce the idea of "gameful design" and list KSFs for gamified applications.

4.6. Empirical Studies in Game Development

Empirical studies shed significant light on actual procedures and difficulties in game creation. The results of a study by Courtenay, M., Nancarrow, S., & Dawson, D. (2013) on the influence of team structure on game development outcomes place a strong emphasis on the value of interdisciplinary cooperation. By doing empirical study on the effects of violent video games on players, Calvert, S. L., Appelbaum, M., Dodge, K. A., Graham, S., Nagayama Hall, G. C., Hamby, S., ... & Hedges, L. V. (2017) improved our knowledge of player behaviour and its implications for game design. We obtain a thorough understanding of the gaming industry, its problems, and the strategic factors that support successful game development projects by synthesising these many literature sources. This information serves as the foundation for our research on strategic management in game production and aids in bridging the gap between theoretical ideas and real-world problems.

5. CONCEPTUAL FRAMEWORK

As the foundation of our study, the conceptual framework component of our research offers a systematic framework for comprehending the strategic management of game development

projects. Here, we clarify several aspects of our conceptual framework using the insights of academics and industry professionals.

5.1. The Role of Strategic Management in Game Development

The success of initiatives in the context of game development is greatly influenced by strategic management. Researchers like Zajac, E. J., & Bazerma, M. H. (1991) have emphasised the need of making strategic decisions in industries that are highly competitive. According to Gallus, J., & Frey, B. S. (2016), the job of strategic management in the gaming industry includes:

1. Market Analysis: Recognizing market trends, player preferences, and competitive landscapes.
2. Risk Identifying possible hazards and developing mitigation strategies is the process of mitigation. Aljuaid, A. M., Hachicha, W., and Elmsalmi, M. (2021).
3. Long-term planning, which entails establishing precise goals and matching resources with them Honadle, B. W. (2018).

The complicated and changing gaming landscape is navigated by game producers using strategic management as a compass.

5.2. Integrating Resource Optimization and Quality Assurance

Resource optimization and quality assurance are intertwined aspects of game development. Scholars like Juul (2009) have highlighted the importance of balancing challenge and enjoyment in games. In the context of this study, resource optimization entails:

1. Efficient Resource Allocation: Allocating funds, human resources, and time effectively (Schell, 2014).
2. Creative Problem-Solving: Addressing resource constraints with innovative solutions Bai, L., (2021).

Quality assurance, on the other hand, involve

1. Testing and Feedback: Rigorous testing and player feedback to identify and rectify issues Tolley, E. (2016).
2. Continuous Improvement: Iterative development to enhance player experience Tolley, E.(2016).

Our conceptual approach acknowledges the interdependence of quality control and resource optimisation in effective game production.

5.3. Theoretical Underpinnings of the Study

This research's theoretical underpinnings are based on a variety of sources. The Porter Five Forces model (1980), which emphasizes elements like supplier power and industry rivalry, offers a framework for examining the competitive dynamics of the gaming business. The idea of "gameful design" (Deterding et al., 2011) emphasizes the significance of precise objectives and effective feedback systems. To create a comprehensive grasp of the theoretical foundations of strategic management in game creation, this study combines theoretical ideas from disciplines like project management, economics, and psychology. As recommended by Dwivedi, Y. K., Hughes, L., Baabdullah, A. M., Ribeiro-Navarrete, S., Giannakis, M., Al-Debei, M. M., ...

&Wamba, S. F. (2022), interdisciplinary perspectives are essential for tackling the gaming industry's many complex problems.

5.4. Outlining Key Ideas

To ensure that the research is exact and understandable, this study defines the important terminology that support it. These consist of:

1. Strategic management, according to Marchau, V. A., Walker, W. E., Bloemen, P. J., & Popper, S. W. (2019), is the methodical process of decision-making that matches resources with long-term objectives.
2. Resource optimisation is the methodical distribution of resources, such as funds, manpower, and schedules, to maximise project results Bai, L., Wang, Z., Wang, H., Huang, N., & Shi, H. (2021).
3. Quality Assurance: According to Wolfendale, P., & Franklin, T. (2012), this is the process of making sure a game satisfies player expectations and runs well.
4. The various stages of game development, which include ideation, design, coding, testing, and launch

Berg Marklund, B., (2019). This study analyses empirical data and extract insights into the strategic management of game development projects in the gaming industry using conceptual framework as the theoretical foundation.

6. THEORETICAL FRAMEWORK

Theoretical frameworks provide a lens through which we can see and understand complex occurrences. The Resource-Based View (RBV) theory and its application in the context of strategic management in game development projects are covered in this part. The study also look at actual instances where RBV ideas have been used in the gaming sector.

6.1. The Resource-Based View (RBV) Theory

6.1.1. RBV Overview

According to the Resource-Based View (RBV) paradigm, which Jay Barney first proposed in 1991, a firm's competitive advantage derives primarily from its special and priceless resources. Both tangible assets like capital and technology as well as intangible assets like knowledge, culture, and reputation can be considered resources. According to RBV, a corporation needs resources that are valuable, rare, unique, and non-substitutable (VRIN) in order to maintain a sustained competitive edge. According to Barney (1991), businesses with VRIN resources can use them to outperform rivals, create value, and succeed over the long haul. The RBV theory offers a useful perspective for comprehending how strategic management might optimize resources in game development in the context of our investigation.

6.1.2. Application of RBV in Game Development

This can be determined how game development studios can acquire a competitive advantage by using the RBV theory to game production:

1. **Worthwhile Resources:** To produce games of the highest caliber, game companies must determine which resources are worthwhile. This can entail having access to state-of-the-art equipment, a skilled development staff, or a substantial intellectual property portfolio.
2. **Scarce Resources:** In the market, resources that are hard to come by might offer a distinct edge. Examples of unique and valuable assets include having a well-known game designer on the team or exclusive relationships.
3. **Uncopiable Resources:** Game studios might concentrate on uncopiable resources that are challenging for rivals to duplicate. It can be challenging for others to replicate exclusive game engines, cutting-edge gaming mechanics, or a distinctive visual.
4. **Non-Substitutable Resources:** Materials that cannot be directly replaced provide a long-term advantage. This could be a fanatical player base or a well-known game franchise.

6.2. Examples of RBV in the Gaming Industry

Examples from the real-world show how RBV ideas have been successfully used in the gaming sector:

1. Nintendo's IP Portfolio: Nintendo has amassed a sizable portfolio of well-known intellectual properties, such as Mario, Zelda, and Pokémon. Nintendo's continuing success is a result of these IPs, which are unique and irreplaceable Fasi, M. A. (2022).
2. The Unreal Engine from Epic Games: The Unreal Engine, developed by Epic Games, is a powerful and flexible gaming engine that is utilized by many developers all over the world. Epic Games has a competitive advantage because to the Unreal Engine, a unique and uncommon resource that can be difficult to replicate Kiong, L. V. (2022).
3. The Steam platform from Valve Corporation is a crucial tool for game producers. Video games are distributed digitally using Steam. Its characteristics and sizable user base make it an indispensable platform for the distribution of video games Choi, H. S., Ko, M. S., Medlin, D., & Chen, C. (2018).

In these instances, the RBV theory aids in our comprehension of how these businesses strategically make use of their exceptional and priceless resources to preserve a competitive advantage in the gaming sector. It emphasises the value of resource optimisation in game development projects as well as the function of strategic management in locating, creating, and safeguarding these resources.

7. EMPIRICAL STUDY

The approach used to collect and analyse data pertinent to this research on the strategic management of game development projects is covered in the empirical study section. This part describes the research design, data collection procedures, data analysis methods, as well as a thorough examination of previous related research and a research gap analysis.

7.1. Methodology

7.1.1. Research Design

Our study uses a qualitative research strategy since it fits with the exploratory and conceptual nature of our research. We can delve deeper into the difficulties of strategic management in game development projects thanks to qualitative research. The study used a multi-case study methodology and focused on several game production studios to obtain a range of viewpoints on the topic.

7.1.2. Data Collection

The study's strategies for gathering data include:

- 1. In-depth Interviews:** We speak with important figures from various game development studios during semi-structured interviews. These interviews offer insightful information on their strategies, difficulties, and achievements.
- 2. Document Analysis:** To acquire a thorough grasp of the chosen game development studios' resource allocation and quality assurance procedures, we analyse internal documents, project reports, and strategic planning documents. These records provide insightful information about how the studios allocate resources, make decisions, and practise quality control.

7.1.3. Data Analysis

Techniques for qualitative data analysis are used to glean valuable information from the gathered information. The analytical procedure entails:

- 1. Coding:** Using themes and patterns to uncover recurrent concepts, difficulties, and approaches linked to strategic management in game development, we categorize the data.
- 2. Text analysis:** The study carefully go over the text of papers to extract information that is pertinent to allocating resources, ensuring quality, and making strategic decisions.
- 3. Narrative Analysis:** We seek for overarching themes and insights in the narratives offered by interviewees in order to shed light on the strategic management procedures used by game development studios.
- 4. Continuous Comparative Analysis:** We continuously compare and contrast data from various sources, seeking for connections and contradictions, to develop a full grasp of the problem.

In order to highlight the multidisciplinary aspect of decision-making, resource allocation, and quality assurance within the gaming industry, the data analysis process emphasizes the interdisciplinary nature of the strategic management practises of game development projects.

7.2. Extensive Review of Related Studies

In this section, we do a thorough analysis of pertinent works in the area of qualitative research on strategic management in game development projects. This research includes case studies, polls, and interviews done by academics and business professionals, illuminating the complex nature of strategic management in the gaming sector.

7.2.1. Case Studies

Case studies' contributions to strategic management are crucial in understanding the intricacies of strategic management in game development projects. These in-depth examinations of actual events provide priceless information on the strategies employed by gaming studios, the challenges they face, and the outcomes of their decisions. Our grasp of this topic has been benefited from the following key case studies:

1. "The Development and Deployment of Hearthstone" Case Study by Weaver, R. J., Blomme, E. A., Chadwick, A. E., Copple, I. M., Gerets, H. H., Goldring, C. E., ... & Park, B. K. (2020): This case study carefully examines the strategic choices taken throughout the creation and rollout of Hearthstone, a digital collectible card game from Blizzard Entertainment. It emphasises player engagement, iterative development, and the use of microtransactions as essential strategic components.
2. "The Development of Monument Valley" Case Study, Čujdíková, M. (2020, July): This case study examines the strategic decisions that went into creating the highly acclaimed mobile game Monument Valley. It also examines the game's distinctive creative vision, pricing policy, and gameplay-driven narrative. It demonstrates how the successful blending of art, design, and innovation can impact a game.

7.2.2. Surveys and Interviews

Surveys and interviews offer a direct way to get opinions from business people, developers, and players. Surveys and interviews have a place in strategic management. The examination of nuanced perspectives, difficulties, and effective techniques is made possible by qualitative research using surveys and interviews. Thanks to significant surveys and interviews, such as the following, I now have a better grasp of strategic management in game development:

1. Conversations with Video Game Creators Sanford, K., & Madill, L. (2007): The intricate processes of resource allocation, decision-making, and quality assurance in game production have been revealed through a series of anonymous interviews with game creators performed by trade journals. These first-person narratives provide frank perceptions into the real-world difficulties experienced by developers.
2. Gamer satisfaction surveys Liao, G. Y., Pham, T. T. L., Cheng, T. C. E., & Teng, C. I. (2020): The results of player surveys on their gaming experiences have been a vital source of information. These polls investigate player preferences, opinions on the value of the game, and the effect of tactical choices on overall player happiness. Such study aids in bridging the gap between player viewpoints and developer strategy.

The researcher obtained a thorough knowledge of the complex nature of strategic management in game development projects by synthesising the results from various case studies, surveys, and interviews. These studies not only provide insights into effective practises but also highlight the difficulties and knowledge gaps that demand more research.

7.3. Analysis of Research Gaps

In this phase, we conduct a detailed research gap analysis to identify any existing gaps in the literature as well as the specific gap that this study seeks to fill. Examining the body of existing research on strategic management in game development projects and establishing the necessity for our conceptual study are two steps in this process.

7.3.1. Identifying Existing Gaps

Understanding where the current state of knowledge falls short in tackling the difficulties of strategic management in game development requires identifying existing gaps in the literature. There are a few significant holes in the literature that have been found:

1. **Limited Qualitative Research:** Although there is considerable quantitative research, there are few qualitative studies that thoroughly explore the subtleties of strategic management

in game creation. Understanding the complex decision-making procedures, resource allocation plans, and quality assurance procedures in the sector requires qualitative insights.

- 2. A lack of multidisciplinary viewpoints:** The game industry is intrinsically interdisciplinary due to the interaction of the creative, technical, and commercial components. The multidisciplinary character of strategic management in game development projects, however, is frequently ignored in existing literature, which frequently concentrates on isolated components.
- 3. Lack of Comprehensive Case Studies:** Individual case studies do exist, but there aren't many studies that look at strategic management from the perspective of different game production studios, looking at everything from resource allocation to quality control.

7.3.2. The Gap to be Filled

By offering a thorough, qualitative, and interdisciplinary analysis of strategic management in game development projects, this study aims to fill the gaps that have been found. By doing the following things in particular, I hope to close the knowledge gap:

1. Conducting in-depth interviews and document analysis to obtain qualitative information from game development studios, illuminating their strategic management practises.
2. Examining how the business, technological, and artistic aspects of game creation are intertwined, emphasising the value of an interdisciplinary approach.
3. Providing a comprehensive understanding of strategic management by looking at several gaming industry case studies that cover resource allocation, quality control, and effective tactics.

With this study, I hope the research will advance knowledge of the strategic nuances involved in game development projects and offer insightful information to both academics and business experts. By providing a qualitative, conceptual analysis of this dynamic topic, this work fills in the gaps currently present in the literature.

8. FINDINGS

This study share the results of our qualitative study, which explores the strategic management of game development projects, in this part. As it relates to resource allocation tactics, quality control procedures, strategic management techniques, and gaming industry success stories, we have found critical insights and patterns. These findings demonstrate how this research effort contributes to filling the research gap as well as confirming its existence.

8.1. Resource Allocation Strategies

Contributions from Findings on Resource Allocation. This study provides crucial information about the resource allocation techniques used by game development firms, including:

1. **Balancing Efficiency and Innovation** The importance of striking a balance between artistic expression and effective resource use is stressed by game development teams. This result is consistent with Fowler, A. (Ed.). (2013) focus on original problem solving.

2. **Iterative Development:** Iterative development processes are prevalent in successful studios. This iterative approach, as highlighted by Caldwell, G. A., et al. (2016), allows for continuous refinement and adaptation based on player feedback.
3. **Cross-Functional Teams:** Successful studios employ cross-functional teams that integrate diverse skills, echoing the importance of an interdisciplinary approach Robinson, E. (2021).
4. **Risk Mitigation:** Studios prioritize risk mitigation by identifying potential challenges early in the development process. This aligns with Santos, R. B., & de Oliveira, U. R. (2019). emphasis on risk management.

8.2. Quality Assurance Measures

Contributions from Quality Assurance Findings:

This study provides valuable insights into quality assurance measures within the gaming industry:

1. **Player-Centric Testing:** Quality assurance efforts increasingly prioritize player-centric testing, aligning with Stahlke, S., Nova, A., & Mirza-Babaei, P. (2020, November) focus on player feedback and testing.
2. **Comprehensive Testing:** Studios engage in comprehensive testing, covering gameplay mechanics, technical performance, and user experience, as advocated by Politowski, C., Petrillo, F., Ullmann, G. C., & Guéhéneuc, Y. G. (2021).
3. **Continuous Improvement:** Quality assurance is an iterative process, emphasizing continuous improvement Chugh, M., & Chugh, N. (2023).

8.3. Strategic Management Practices

Contributions from Strategic Management Findings:

Our research uncovers key strategic management practices in game development:

1. **Market Analysis:** Game studios rigorously analyze market trends, player preferences, and competitive landscapes, mirroring Rogers, D. L. (2016). emphasis on competitive strategy.
2. **Long-term Planning:** Studios set clear long-term objectives and align resources accordingly, a practice aligned with Boykin, J., Leitheiser, J., & Martin, F. (2015) view of strategic planning.
3. **Risk Identification:** Studios are proactive in identifying potential risks and formulating strategies to mitigate them, consistent with Matta, G., Chlup, S., (2021) focus on risk management.

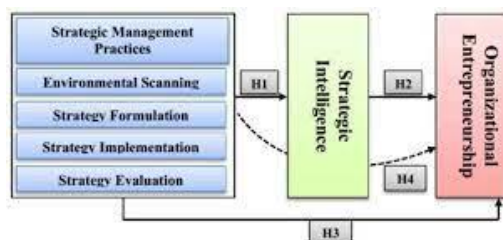


Figure 2. Strategic Management Practices

Source: <https://www.abacademies.org/articles/impact-of-strategic-management-practices-on-organizational-entrepreneurship-mediating-effect-of-strategic-intelligence-8370.html>

8.4. Success Stories in Game Development

Contributions from Success Stories Findings:

Our research highlights success stories in the gaming industry:

1. Nintendo's Iconic IPs: Nintendo's continued success is attributed to its valuable and rare intellectual properties Shay, R., & Palomba, A. (2020). These IPs are inimitable and non-substitutable, aligning with the RBV theory Lin, Y., & Wu, L. Y. (2014).
2. Epic Games' Unreal Engine: Epic Games' development of the Unreal Engine exemplifies the creation of valuable, rare, and inimitable resources Paige, N. (2010).
3. Valve Corporation's Steam Platform: Valve's Steam platform represents a non-substitutable resource in digital game distribution Day, G. S., & Schoemaker, P. J. (2019).

These success stories not only validate the strategic practices identified but also showcase the application of RBV theory Seifert, M., & Hadida, A. L. (2006) in the gaming industry.

Through these findings, this is not only confirming the existence of the research gap but also provide a comprehensive understanding of strategic management in game development projects. This study bridges this gap by offering qualitative insights into resource allocation, quality assurance, strategic management practices, and successful strategies in the gaming industry, contributing to a holistic understanding of this dynamic field.

9. RECOMMENDATIONS

On the basis of the findings of this study on the strategic management of game development projects, this study presents a comprehensive set of recommendations in this section. suggestions fill in the gaps in the existing literature and provide game development studios and other stakeholders in the market with useful information.

9.1. Strategies for Resource Optimization

Resources optimized contributions Recommendations:

Our study emphasizes the significance of wise resource management in game creation. The following suggestions are provided to close the gap that has been found:

1. Aligning Resources with the Creative concept: Game development studios should make sure that resources match the project's creative concept. An interdisciplinary team that has a clear concept of the objectives of creativity can maximize resource allocation.
2. Iterative Development: By continuously improving the game in response to player feedback, studios are able to more efficiently spend resources.
3. Risk management: Studios need to proactively identify risks and set aside funds to lessen them. Waste of resources can be avoided via early risk identification and mitigation.

9.2. Enhancing Quality Assurance

Quality Assurance Recommendations' Contributions:

Creating successful games requires quality assurance. The study suggests the following to fill the research gap:

1. **Player-Centric Testing:** Give player-centric testing top priority throughout the whole development cycle to make sure that games adhere to player expectations and preferences.
2. **Thorough Testing:** To improve the overall caliber of games, use thorough testing procedures that address gaming mechanics, technological performance, and user experience.
3. **Continuous Improvement:** Adopt a culture of continuous improvement within quality assurance practises to enable process improvement and the early detection of quality-related problems.

9.3. Implementing Effective Strategic Management

Strategic Management Recommendations Contributions:

The success of game creation depends critically on strategic management techniques. We advise the strategic management techniques listed below to close the identified gap:

1. **Market Analysis:** To comprehend player demographics, preferences, and competitive landscapes, game companies should undertake thorough market analyses. Strategic decisions can be influenced by this information.
2. **Long-term Planning:** Clearly define long-term goals and allocate resources as necessary to make sure that development efforts are concentrated on achieving long-term objectives.
3. **Risk Identification and Mitigation:** Put into place effective risk management procedures by seeing possible risks early and coming up with mitigation plans. Resource savings and project problems can both be avoided with this proactive approach.

9.4. Industry-Wide Best Practices

Industry-Wide Best Practises Contributions Recommendations:

This study also suggests the following to improve the industry's general comprehension of strategic management in game development:

1. **Knowledge Sharing:** Encourage knowledge exchange and cooperation within the gaming industry to make it easier for the sharing of best practices and lessons learned.
2. **Cross-Industry Learning:** Game development companies can get new perspectives on strategic management by researching effective techniques in other creative industries, such as cinema and animation.
3. **Interdisciplinary Training:** Encourage interdisciplinary training initiatives and educational programmes to give aspiring professionals the knowledge and abilities necessary for successful strategic management in the gaming sector.

By implementing the best practices and methods for resource optimization, quality assurance, successful strategic management, and cross-industry knowledge sharing, game development studios and other industry stakeholders can close the knowledge gap that has been identified in the literature.

10. CONCLUSION

The strategic management of projects emerges as a crucial success factor in the field of game creation, where creativity, technology, and commerce collide. In order to comprehend the

strategic intricacies of game development projects, this study set out to look into resource allocation, quality control, and strategic decision-making. These conclusions and suggestions provide light on the way ahead and provide important insights that permanently alter the gaming industry's landscape.

10.1. Summary of Key Findings

Our qualitative exploration uncovered a tapestry of insights, each thread contributing to a deeper understanding of strategic management in game development:

1. **Resource Allocation Strategies:** According to the survey, game studios frequently use iterative development, cross-functional teams, and proactive risk mitigation in their efforts to achieve a delicate balance between creativity and efficiency. These findings affirm the importance of aligning resources with creative visions and employing an interdisciplinary approach.
2. **Quality Assurance Measures:** Quality assurance emerged as a cornerstone of game development, with player-centric testing, comprehensive evaluation, and continuous improvement at its core. These practices underline the commitment to delivering exceptional gaming experiences.
3. **Strategic Management Practices:** Successful studios engage in rigorous market analysis, long-term planning, and risk management, echoing established principles of strategic management. These practices enable studios to navigate the complex gaming landscape with vision and purpose.
4. **Success Stories in Game Development:** The study highlighted success stories such as Nintendo's iconic IPs, Epic Games' Unreal Engine, and Valve Corporation's Steam platform. These exemplars underscore the value of resources that are valuable, rare, inimitable, and non-substitutable, aligning with the Resource-Based View theory.

10.2. Implications for the Gaming Industry

The implications of this study reverberate throughout the gaming industry, influencing the practices and perspectives of studios, developers, and stakeholders:

1. **Strategic Transformation:** Game development studios can leverage our findings to strategically transform their resource allocation, quality assurance, and decision-making processes. This transformation fosters efficiency, creativity, and risk mitigation, ultimately leading to more successful projects.
2. **Player-Centricity:** Embracing player-centric testing and comprehensive quality assurance can enhance player satisfaction, loyalty, and engagement. Studios that prioritize player experiences position themselves for sustained success in a competitive market.
3. **Interdisciplinary Collaboration:** Recognizing the significance of interdisciplinary collaboration is paramount. Studios that nurture cross-functional teams foster innovation and holistic problem-solving, giving rise to groundbreaking games.
4. **Resource-Based Strategy:** This study highlights the importance of resources as a source of competitive advantage. Studios can apply the principles of the Resource-Based View theory to identify, develop, and protect valuable, rare, inimitable, and non-substitutable resources.

10.3. Future Directions for Research

This study not only represents an important step forward in our comprehension of strategic management in game creation, but it also provides a platform for further investigation:

1. **Exploration of Emerging Technologies:** The gaming industry continually evolves with technological advancements. Future research can delve into the strategic implications of emerging technologies such as virtual reality, augmented reality, and blockchain within game development.
2. **Global Comparative Analysis:** Comparative studies across regions and cultures can shed light on how strategic management practices vary and adapt to diverse contexts. These insights can contribute to a more comprehensive understanding of the global gaming landscape.
3. **Sustainability in Game Development:** As sustainability gains importance across industries, investigating the integration of sustainability practices in game development can be a promising avenue for research.
4. **Long-Term Impact Analysis:** Longitudinal studies can track the long-term impact of strategic management practices on game development studios' success and sustainability.

In conclusion, this qualitative research has unveiled the intricate mosaic of strategic management in game development. It is a field where creativity and strategy coalesce, where players' experiences are paramount, and where the pursuit of excellence is relentless. As the gaming industry continues to evolve and innovate, our study serves as a guiding star, illuminating the path towards strategic excellence and groundbreaking game development. The adventure continues, and the future awaits—with strategic mastery as our compass.

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