

A Case Study of the Financial Analysis of Pixar Films and Animation

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KEYWORDS <i>Financial analysis, business analysis, business intelligence, business operation, animation</i>	ABSTRACT The animation industry across the globe is making a rapid growth and technological advancements, particularly with the induction of AI and VR/AR integrations that are becoming more and more prominent. The leading trends include collaboration of 2D and 3D elements of movies with AI-powered tools that helps in streamlining the production, and animated data visualizations. The proposed work is an in-depth business intelligence case study of the financial and creative triumph of Pixar Animation Studios as the most powerful and most influential motion picture animation giant in the world. The research leverages the capabilities of Advanced Microsoft Excel and Power BI together to reveal and compare multi-faceted information in Pixar's whole body of work—from production cost and global box office receipts to critical acceptance and viewers' ratings. Analysis comes from an IMDb, Rotten Tomatoes, and global box office value dataset. The ultimate objective is to show how data-driven decision-making can maximize strategic planning for the entertainment sector, historically based on imagination and instinct. This case study is unique in that it combines the artistic process of filmmaking with the analytical weight of business intelligence. It shows how Excel and Power BI can establish profitability patterns, compute return on investment (ROI), ascertain audience preference over time, and in the process, create smart information for studios, analysts, advertisers, and content planners. In its very nature, this study not only examines past trends, but also provides a foundation for scenario planning and forward projection in media economics. The findings show Pixar's ongoing ability to sustain narrative complexity and profitability and illustrate how thinking quantitatively and visualizing can be applied to guide real-world decisions in high-end narrative economies. The approach employed here scales up to large-scale settings, is portable across a range of disciplines, and has high applicability for data analysts, business decision-makers, and researchers operating at the technology-narrative-business interface..
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1. INTRODUCTION

The animation industry is not only a business of art but a very calculated business operation. Pixar Animation Studios, has revolutionized animation stories since the debut of its first full-length feature film, Toy Story, in 1995. Respected for its robust storytelling, technical creativity, and emotional depth, Pixar has established a reputation for producing critically successful and financially successful films. But all films are also multimillion-dollar investments, and their success is not necessarily judged by or audience scores, but on its bottom line. Here, we are focusing on the business and financial side of the portfolio of movies by Pixar using two primary tools: Advanced Excel and Microsoft Power BI. The tools help in uncovering patterns, measuring profitability, monitoring audience acceptance, and ultimately supporting business decision-making. Analysis is conducted on a systematic data set whose variables are movie titles, date released, and production



budgets, box office, and critic scores. Some of the parameters that are proposed to be evaluated through this study are Connecting Creativity and Commerce, Significance of Media Data Analysis, Role of Financial Metrics, Audience Reception as a Business Indicator, Time-Based Performance Trends, Tools for Dynamic Analysis, Accessible Business Intelligence, Strategic Decision Making Use Case, Basis for Competitive Benchmarking and Academic and Practical Relevance. This study would also try to demonstrate that all the animated works of art are sophisticated interplay among audience engagement, positioning in the marketplace, and budget management. With an expert hands on of Expert Excel usage and Power BI, the raw film data could be transformed into actionable intelligence, thereby uniting the creative power of Pixar and the analytical mind of business intelligence

2. OBJECTIVES

The primary objective of this study is

To present a comprehensive business and financial report of Pixar films using advanced data tools.

To analyze various financial performance parameters

To develop an Interactive Dashboard

To create various trend analysis charts

To compare Sequels and Originals

3. IMPORTANCE

This study holds substantial importance with respect to multiple dimensions of academic, professional, strategic, and technology. The creative sector of filmmaking combined with analytical tools, will be useful to bridge two seemingly different fields: storytelling and business intelligence. Here's why this analysis is valuable according to various aspects of film making. The Academic Significance is important for practical application of relevant theories, multidisciplinary learning and for hands-on BI skill development for film making. The Business & Strategic Relevance is necessary to understand for data-driven decision making process in creative industries, financial planning for film studios and optimizing franchise value. The Analytical & Technological Significance is prime to be read for implementation of real-world BI use cases, promotion of interactive data storytelling, supporting data-driven forecasting.

There is also an industry impact to inform about media investment strategies, benchmarking competitor analysis. The stakeholders holds a great value of the system primarily for enabling executive-level decision support system, having an insights for Creators & Producers and for understanding the viewer's behaviors. The Pixar has a future readiness for preparing analysts for several real-world roles that could be required in the near future and laying of groundwork for several predictive analytics. This study is a prime example of the relationship between coexistence of data and creativity to make informed business decisions. It equips both learners and professionals with the tools to interpret, evaluate, and influence success in the competitive world of entertainment through evidence-based storytelling and visual analytics.

4. RESEARCH METHODOLOGY

The research design of the paper is both quantitative and exploratory in nature that focuses on evaluating financial and performance-related data of animated films produced by Pixar Animation Studios. The approach combines descriptive statistics, visual analytics, and time-series pattern recognition to derive actionable business insights. The methodology emphasizes the integration of financial modeling and data visualization to understand trends, identify anomalies, and support strategic decision-making in the entertainment industry.

The required data to pursue the said study is collected from publicly accessible, reputable online databases including IMDb (Internet Movie Database) – for audience ratings and release details, Box Office Mojo – for box office revenue and financial metrics, Rotten Tomatoes – for critic scores and reception metrics and Wikipedia and Pixar's official film listings – for cross-verification and supplementary information. The data collected were further compiled into a structured CSV file and later cleaned, formatted, and enriched for analysis.

The data cleaning and preparation was done using Microsoft Excel where the data cleaning was done by removing duplicates and null values standardizing the data like currency formats, decimal places etc, structuring of data.

The clean and prepared dataset was then imported into Power BI for advanced modeling and dashboard creation. Several excel based analytical tools and techniques were used for statistical aggregation, conditional formatting, and data structuring and preliminary visualization.

Ethical Considerations

All data used in this research was publicly accessible and properly cited. No confidential or proprietary information was used. The methodology ensures data accuracy and respects intellectual property rights by referencing official databases and original sources.



5. ANALYSIS

Business Analysis Using Excel

Excel served as the foundation for:

Data Integration: Merging multiple sheets with unique film attributes.

Cleaning & Formatting: Standardizing currency formats, removing nulls.

Profitability Calculations: Using $\text{Profit} = (\text{Revenue} - \text{Budget})$ and $\text{ROI} = (\text{Profit} / \text{Budget}) * 100$.

Trend Exploration: Rating progressions over time.

Preliminary Visualization: Pivot charts and conditional formats to flag anomalies.

Key Findings:

High-budget films like *Toy Story 3* and *Incredibles 2* delivered exceptional returns.

Inside Out and *Up* topped critics charts.

Outliers like *Cars 2* underperformed despite brand strength.

Business Analysis Using Power BI

Power BI offered:

Data Enrichment: Added metrics like time since release, awards, and classification.

Calculated Metrics:

$\text{Profit} = \text{Revenue} - \text{Budget}$

$\text{ROI} = \text{Profit} / \text{Budget} \times 100$

Award Tag = $\text{IF}(\text{ContainsText}(\text{Award}, \text{"Won"}), \text{"Yes"}, \text{"No"})$

Visual Depth:

KPI Cards: Total profit, average ratings.

Drill-through Pages: Film-specific insights.

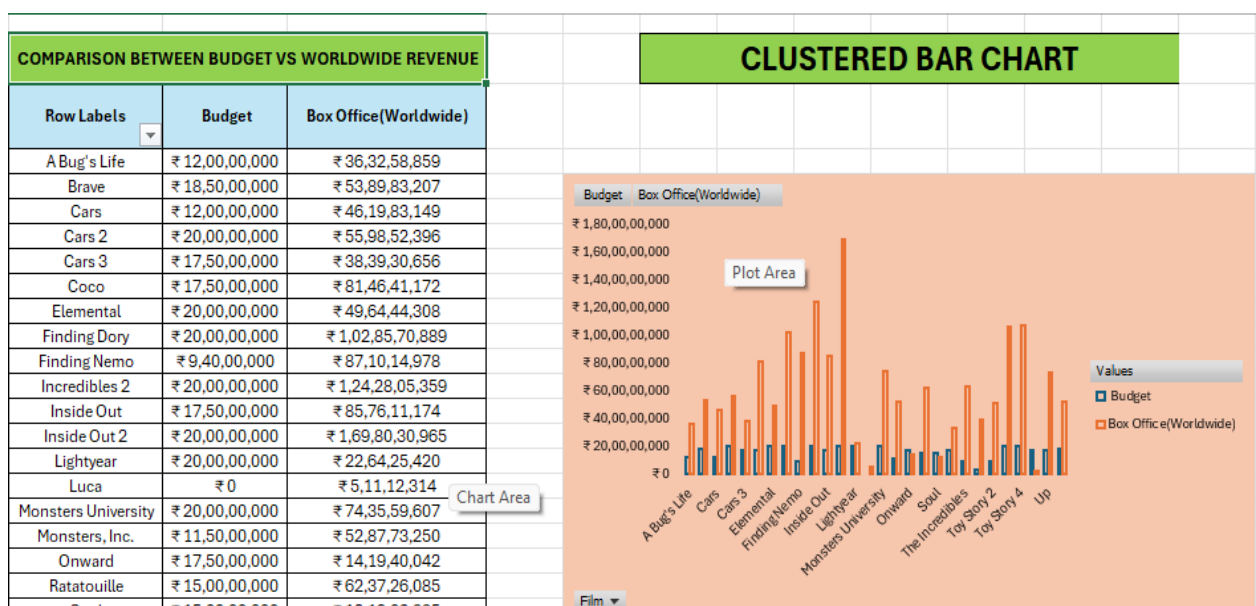
Filters/Slicers: Dynamic exploration by year, type, rating.

Strategic Insights:

60% of earnings come from international markets.

Sequels generally outperform originals in gross revenue.

Budget optimization is key—*Brave* and *A Bug's Life* had high ROI with mid-tier budgets.





Comparison between Budget vs Box Office

Clustered Bar Chart



RATINGS COMPARISON				AVERAGE BUDGET & REVENUE BY YEAR		
Row Labels	Rotten Tomato Score (Out of 100)	Metacritic Score (Out of 100)	IMDB Score (Out of 10)	Row Labels	Average of Budget	Average of Box Office Worldwide
A Bug's Life	92	78	7.2	1995	₹ 3,00,00,000	₹ 39,44,36,586
Brave	79	69	7.1	1996		₹ 39,44,36,586
Cars	75	73	7.2	1998	₹ 12,00,00,000	₹ 36,32,58,859
Cars 2	40	57	6.2	1999	₹ 9,00,00,000	₹ 51,13,58,276
Cars 3	69	59	6.7	2001	₹ 11,50,00,000	₹ 52,87,73,250
Coco	97	81	8.4	2003	₹ 9,40,00,000	₹ 87,10,14,978
Elemental	73	58	7	2004	₹ 9,20,00,000	₹ 63,14,42,092
Finding Dory	94	77	7.2	2006	₹ 12,00,00,000	₹ 46,19,83,149
Finding Nemo	99	90	8.2	2007	₹ 15,00,00,000	₹ 62,37,26,085
Incredibles 2	93	80	7.5	2008	₹ 18,00,00,000	₹ 52,13,11,860
Inside Out	98	94	8.1	2009	₹ 17,50,00,000	₹ 73,50,99,082
Inside Out 2	90	73	7.6	2010	₹ 20,00,00,000	₹ 1,06,69,69,703
Lightyear	74	60	6.1	2011		₹ 55,98,52,396
Luca	91	71	7.4	2012	₹ 18,50,00,000	₹ 53,89,83,207
Monsters University	80	65	7.2	2013	₹ 20,00,00,000	₹ 74,35,59,607
Monsters, Inc.	96	79	8.1	2015	₹ 17,50,00,000	₹ 75,82,10,511
Onward	88	64	7.4	2016	₹ 20,00,00,000	₹ 1,02,85,70,889
Ratatouille	96	96	8.1	2017	₹ 17,50,00,000	₹ 71,73,83,959

Top 5 Grossing Films

PICXAR FILMS DASHBOARD





6. PICXAR FILMS DASHBOARD



7. CONCLUSION

This work successfully demonstrated how data analytics tools—Microsoft Excel and Power BI—can be leveraged to conduct a detailed financial and business analysis of a globally recognized film studio, Pixar Animation Studios. From cleaning and organizing raw data to building interactive dashboards, each step in the analytical process provided valuable insights into Pixar's performance over time. Using Excel, foundational tasks such as data cleaning, pivot table creation, and financial metric calculations were accomplished effectively. These tasks laid the groundwork for deeper, dynamic analysis in Power BI, where advanced visuals, DAX measures, and interactive filters were used to transform the same data into an engaging, user-friendly dashboard. Through this analysis, key patterns in budget allocation, box office revenue, critical scores, and profitability trends were uncovered. The research paper offered a deeper understanding the relationship of entertainment companies like Pixar balance creative storytelling with commercial success, and how data can support strategic decision-making in such industries. The final takeaways of the research paper included demonstration of the real-world application of Excel and Power BI in a business intelligence context, showcasing structured data to be visualized to reveal meaningful business insights and reinforcement of critical technical skills (DAX, data modeling, and dashboard design) and analytical thinking needed in today's data-driven world. This research work not only enhanced technical expertise in data tools but also improved the ability to interpret data from a business perspective- making it a valuable learning experience that mirrors real world analytics challenges in the entertainment and broader business sectors.

8. FINDINGS & DISCUSSIONS

This section presents the core analytical findings from the dataset of Pixar films, interpreted through both Excel-based analysis and interactive Power BI dashboards. The focus is on financial performance, audience and critic reception, trends over time, and the comparative performance of original films vs. sequels.

The financial Performance Analysis compares revenue and budget and it was found that most of the Pixar films were highly profitable, with revenues far exceeding budgets. Notable successes in terms of absolute profit include Incredibles, Toy Story 3, Finding Dory and Inside Out. These movies recorded profits exceeding \$500 million, indicating the studio's strong ability to convert storytelling into commercial success.

The Return on Investment (ROI) was quite high and was not limited to high-grossing films. Several mid-budget films demonstrated exceptional ROI, such as: Cars (ROI ~285%), A Bug's Life (ROI ~203%) and Brave (ROI ~191%). These findings highlight that budget control is a critical factor in profitability, and not just gross revenue alone.

The Audience and Critical Reception include IMDb, Rotten Tomatoes, and Metacritic Scores which were visualized through multi-line graphs and the analysis reflected that the movies Inside Out, Toy Story 3, Up, and WALL-E consistently scored above 90% on Rotten Tomatoes and over 8.0 on IMDb. Apart from that movies like Cars 2, Lightyear, and The Good Dinosaur scored lower across all platforms, indicating weaker audience engagement and mixed critical reception.



The Consistency in Quality was observed through the study. Despite occasional dips, Pixar has maintained a high average rating across its portfolio: IMDb Average: 7.8, Rotten Tomatoes Average: 85% Metacritic Average: 78%. This reflects Pixar's consistent storytelling quality, which has become a strategic asset in brand trust and long-term audience retention.

Temporal Trends and Patterns for overall rating trends and over time. Early releases (1995–2004) such as Toy Story, Finding Nemo, and The Incredibles established Pixar's reputation. A noticeable dip in quality and ratings occurred during the 2010–2014 period (e.g., Cars 2, The Good Dinosaur). From 2015 onwards, critical acclaim resurged with films like Coco, Soul, and Luca.

Financial Performance over Time was seen during Post-2010 films typically those who had larger budgets but also returned higher gross revenue. Pixar's highest-grossing period occurred between 2015 and 2019, driven by sequels and global expansion.

Sequel vs Original Analysis concluded that according to Sequels the movies Toy Story 4, Incredibles 2, and Finding Dory were found to be consistently among the top revenue earners having higher audience familiarity that contributes to repeated viewing and merchandising synergy. As per originals the critical scores were high but revenues were low. Movies Ratatouille, WALL-E, and Inside Out scored high critically but were not the top earners. Originals are crucial for creative brand equity and narrative innovation. A balanced portfolio of sequels and originals ensures commercial success without brand fatigue.

Rating Classification is also done with this work. It was observed that PG-rated films dominate Pixar's catalog (~55%) as compared to G-rated films accounting for ~45%. PG ratings allow for slightly more complex or mature themes, contributing to broader family appeal.

Outliers and Anomalies were also identified. The movies Cars 2 and The Good Dinosaur were identified to be among the notable underperformers, with lower critical reception and modest profits despite large budgets. The movie A Bug's Life is an unexpected success, earning high ROI with a modest budget and strong international performance.

Strategic Business Insights were based on data modeling and analysis, several strategic insights also emerged during the study. To mention some few of them: Franchise development is essential for long-term revenue growth, Mid-budget originals can deliver exceptional ROI with the right themes and timing, Global audience focus must remain a core strategy, as international markets now surpass North American revenue, Release timing matters a lot as Summer and holiday releases typically perform better as compared to the other ones. Critical acclaim supports longevity on streaming platforms and merchandise value. Visualization Impact was also studied with the help of this study. The use of Power BI added a narrative-driven layer to the findings. Interactive dashboards allowed users to filter by year, film, rating, and ROI. Drill-through pages enriched understanding of individual film metrics. KPI cards and trend lines enhanced executive-level summaries and presentations. The data reveals that Pixar's strategic approach—rooted in emotionally resonant storytelling, franchise leverage, and global market focus—has resulted in both critical acclaim and financial excellence. By applying advanced data tools, this study uncovers not only what happened, but why it happened, providing a strong foundation for future business planning in media and creative industries.

9. RECOMMENDATIONS

Based on the in-depth financial and performance analysis of Pixar's film portfolio, several strategic recommendations are proposed. These are designed to help content studios like Pixar—and potentially other players in the animation and broader entertainment industry—enhance profitability, sustain critical success, and future-proof their business models through data-driven decision-making. Some of the important recommendation parameters are mentioned below.

Strengthen Franchise Management

Preserve Balance Between Originals and Sequels

Optimize Production Budgets Based on Historical ROI

Enhance Global Market Strategies

Leverage Data Analytics for Content Strategy

Optimize Release Timing

Align Ratings and Content Strategy

Expand Interactive Reporting Tools for Stakeholders

Long-Term Strategic Recommendations

These recommendations align with Pixar's mission of blending creativity with innovation. By adopting a data-first yet creatively mindful approach, Pixar—and similar studios—can further optimize their business strategy, enhance global resonance, and sustain their market leadership in the evolving entertainment ecosystem.



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