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Retail Performance and Competitive Positioning of Nike and Adidas in Australia in the Period (2016-2017): A Comparative Statistical and Strategic Analysis

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ABSTRACT: This study examines the comparative retail performance of Nike and Adidas in the Australian market using transaction-level data collected between January 1, 2016, and August 1, 2017. The analysis focuses on pre-2020 observations only and evaluates brand performance from statistical, marketing, and management perspectives. The study uses the Fact Table as the main data source and incorporates Managers and Suburb lookup tables to support regional and administrative analysis. A total of 76,466 observations were analyzed for the two brands. Key indicators were constructed, including revenue, cost, profit, and profit margin, based on total units, sale price, and cost price. Descriptive statistics were used to compare overall brand performance, while Welch t-tests, Mann–Whitney U tests, Cohen's d, and chi-square tests were applied to examine statistical differences and category associations. The findings show that Nike achieved higher total revenue, total profit, and total units sold, indicating stronger scale-based performance. In contrast, Adidas recorded a higher average sale price and a slightly higher aggregate profit margin, suggesting stronger pricing and relative profitability. Category, monthly, state-level, and manager-level analyses further show that brand performance varied across product groups, time periods, regions, and administrative units. The study contributes to marketing and management analysis by demonstrating how transaction-level data can be used to evaluate brand performance. However, the findings should be interpreted cautiously because the dataset does not include advertising expenditure, customer demographics, store size, or inventory information.

Keywords: Nike; Adidas; Retail Performance; Marketing Analytics;; Australia.

I. INTRODUCTION

Brand performance evaluation is an important issue in marketing, statistics, and management because firms compete through several measurable dimensions, including sales volume, pricing, profitability, product category performance, regional performance, and operational efficiency. In modern retail markets, brand strength is not reflected only in consumer perception or brand image; it can also be examined through observable market outcomes such as revenue, profit, unit sales, and profit margin. Previous studies show that brand equity can be connected to sales-based performance, customer acquisition, customer retention, and profit margin, which supports the use of financial and transactional indicators in brand comparison studies [10], [11], [12].

Nike and Adidas are two major global sportswear-related brands that compete in highly dynamic retail environments. Their market performance can be interpreted from both marketing and managerial perspectives. From a marketing perspective, pricing, product mix, and category performance are important indicators of brand position and customer response. Prior research suggests that pricing capabilities and value-based pricing orientation are associated with firm performance, making average sale price, profit, and

profit margin relevant measures for comparison [24], [25]. From a retail management perspective, transaction-level data can support stronger decision-making when it is analyzed across products, time, locations, and managerial units [1], [2], [5].

This study examines the comparative retail performance of Nike and Adidas in the Australian market using transaction-level data from January 1, 2016, to August 1, 2017. The analysis is limited to observations before 2020, which provides a clear historical boundary for the study. The dataset allows the construction of key performance indicators, including revenue, cost, profit, profit margin, total units sold, and average sale price. It also enables category-level, monthly, state-level, and manager-level comparisons.

The main objective of this study is to evaluate whether Nike and Adidas differ significantly in financial, marketing, and managerial performance indicators. Statistically, the study examines differences in revenue, profit, sale price, total units, and profit margin. From a marketing perspective, it investigates product category performance, pricing position, and sales trends. From a management perspective, it explores regional and manager-level performance differences. By combining descriptive statistics, inferential testing, and managerial interpretation, this study contributes to the literature on marketing analytics, retail analytics, and brand performance evaluation [1], [2], [8].

II. LITERATURE REVIEW

A comparative study of Nike and Adidas should be grounded in the idea that brand performance is not limited to brand image; it can also be evaluated through observable market outcomes such as sales, price levels, revenue, profit, and profitability. Brand equity research shows that consumer-based brand perceptions may align with sales-based brand equity and marketing-mix response, meaning that brand strength can be connected to measurable marketplace results [10]. Similarly, brand equity can influence customer acquisition, retention, and profit margin, which supports the use of profitability indicators in a brand-comparison study [11]. A broader brand equity framework also links stakeholder value, marketing assets, and financial performance outputs, which is directly relevant to a manuscript comparing brand-level financial and operational indicators [12]. In the sportswear context, brand personality has been shown to relate to brand equity, indicating that sportswear brands can compete not only through functional product attributes but also through symbolic and psychological brand associations [21].

The present study uses transaction-level retail data, so the literature on marketing analytics and retail analytics is central to the manuscript. Marketing analytics research emphasizes that structured and unstructured data can support managerial decisions when statistical methods are connected to marketing problems [1]. Retail analytics literature further argues that data on products, time, location, channels, and customers can improve retail decision-making when statistical tools are combined with domain knowledge [2]. This supports the present study's use of product category, month, state, and manager-level summaries. Retailing research has also emphasized that the future of retail competition involves technology-supported decision-making, visual and merchandise decisions, customer engagement, big data, analytics, and profitability [5]. Therefore, analyzing sales volume, revenue, profit, average price, and profit margin is consistent with contemporary retail analytics and retail management research [1], [2], [5].

Price and profit indicators are important because Nike and Adidas may follow different competitive positions. Pricing research shows that value-informed pricing can strengthen the relationship between market orientation and product performance by connecting customer value perceptions to pricing decisions [24]. Additional pricing research finds that value-based pricing orientation and pricing capabilities are positively associated with firm performance, which makes price, margin, and profit appropriate indicators for a managerial comparison [25]. The literature on shopper marketing also indicates that retail outcomes are shaped by innovations in digital activities, store atmospherics, in-store merchandising, metrics, and collaboration between manufacturers and retailers [6]. For this manuscript, the average sale price and profit margin indicators therefore help interpret whether a brand appears to compete more through volume, price position, category mix, or profitability [6], [24], [25].

Retail performance is strongly affected by category mix and distribution context. Multi-channel and omni-channel retailing research shows that retailers and brand suppliers need metrics that connect distribution decisions to marketing objectives [3], [4]. Digital transformation has also changed the retailing

value chain by shifting how firms create value and how customers interact with retail interfaces [9]. Digital marketing research proposes that marketing strategy should be analyzed through customer touchpoints and the broader digital environment [7], while big-data consumer analytics research emphasizes that large-scale consumer and transaction data can reveal hidden patterns in consumer behavior and marketing strategy [8]. These studies justify the manuscript's category, monthly, state, and manager-level analyses because the same brand may perform differently across product groups, locations, and administrative units [2], [7], [8], [9].

Although the dataset used in this study is transactional rather than social-media based, sport and sportswear brands are strongly influenced by brand communities, consumer engagement, and sponsorship-related brand perceptions. Social media has changed brand management because consumers increasingly participate in producing and sharing brand stories [13]. Brand communities based on social media can strengthen customer-brand relationships, trust, and loyalty [14], [15]. Consumer brand engagement on social media is also measurable and relevant to brand relationship strength [16], and social media communication can influence brand equity, brand attitude, and purchase intention [17]. Cross-national evidence further suggests that social media interactions are associated with stronger consumer-brand relationships and word-of-mouth behavior [18], while consumers use platforms such as Facebook, Twitter, Instagram, and Snapchat to follow brands and participate in brand communities [19]. In sport-specific research, professional sports organizations use social media to manage brand attributes and engagement [20], while sponsorship research links team loyalty, sponsor awareness, attitudes toward sponsors, and purchase intentions [22], [23]. These findings support the marketing interpretation of Nike and Adidas as competitive sportswear-related brands, while the present dataset adds a financial and managerial perspective by comparing actual retail performance indicators [20], [21], [22], [23].

Table .1 summarizes the relationship between previous studies and the present research. Earlier studies provide theoretical and empirical support from marketing analytics, retail analytics, brand equity, pricing, digital marketing, social media branding, and sport marketing. However, many of these studies focus on consumer perceptions, digital engagement, brand equity, or conceptual retail frameworks. The present study differs by using transaction-level Australian retail data to compare Nike and Adidas through measurable indicators such as revenue, profit, total units, sale price, profit margin, product category performance, regional performance, and manager-level outcomes. Therefore, the present study contributes by connecting brand and marketing theory with direct statistical and managerial evidence.

Table 1. Comparisons table between studies.

No.	Study / Reference Area	Main Focus	Method / Data Type	Key Contribution	Relation to the Present Study
1	Marketing analytics studies [1]	Use of data analytics in marketing decision-making	Structured and unstructured marketing data	Shows that statistical methods can support marketing decisions	Supports the use of statistical tools to compare Nike and Adidas performance
2	Retail analytics studies [2]	Retail performance using product, time, location, and customer data	Retail and predictive analytics	Explains how retail data can improve managerial decisions	Supports the use of category, month, state, and manager-level analysis
3	Multi-channel and omni-channel retailing [3], [4]	Retail distribution and channel performance	Retail strategy and channel metrics	Highlights the need for metrics in retail and distribution decisions	Supports analysis of regional and operational performance

No.	Study / Reference Area	Main Focus	Method / Data Type	Key Contribution	Relation to the Present Study
4	Future of retailing research [5]	Technology, big data, customer engagement, and profitability	Conceptual retail management research	Shows that modern retail competition depends on analytics and profitability	Supports using revenue, profit, margin, and unit sales as performance indicators
5	Shopper marketing research [6]	Retail environment, merchandising, and shopper behavior	Shopper marketing framework	Explains how retail outcomes are influenced by store and marketing activities	Helps interpret category and pricing differences between Nike and Adidas
6	Digital marketing research [7]	Customer touchpoints and digital marketing strategy	Literature review and conceptual framework	Shows how digital environments influence marketing strategy	Supports broader marketing interpretation of brand performance
7	Big-data consumer analytics [8]	Consumer and transaction data in marketing	Big-data analytics	Shows that large datasets can reveal hidden patterns in marketing performance	Supports the use of transaction-level data in this study
8	Digital transformation in retailing [9]	Retail value chain transformation	Conceptual and analytical retail research	Explains how retail value creation changes through digital transformation	Supports the need for data-based retail performance evaluation
9	Brand equity and sales-based performance [10]	Relationship between consumer-based and sales-based brand equity	Brand equity and market response data	Shows that brand perceptions can align with marketplace performance	Supports comparing Nike and Adidas using sales and financial outcomes
10	Brand equity, retention, and profit margin [11]	Effect of brand equity on customer acquisition, retention, and profit margin	Brand performance analysis	Links brand strength to profitability indicators	Supports including profit and profit margin in the comparison
11	Unified brand equity theory [12]	Brand equity, stakeholder value, and financial outcomes	Conceptual framework	Connects marketing assets with financial performance	Supports the study's combined marketing and financial perspective
12	Social media brand management [13]	Brand storytelling and consumer participation	Social media branding research	Shows that consumers influence brand meaning in digital environments	Supports interpretation of Nike and Adidas as socially visible brands

No.	Study / Reference Area	Main Focus	Method / Data Type	Key Contribution	Relation to the Present Study
13	Social media brand loyalty [14], [15]	Brand communities, trust, and loyalty	Social media community studies	Shows that online communities strengthen brand relationships	Adds background for understanding sportswear brand competition
14	Consumer brand engagement [16]	Engagement between consumers and brands	Scale development and validation	Provides a way to understand customer-brand relationships	Supports the importance of brand engagement, although not measured directly here
15	Social media communication and brand perception [17], [18], [19]	Brand attitude, purchase intention, and word-of-mouth	Social media and consumer behavior studies	Shows that digital communication affects brand perceptions and behavior	Supports the marketing relevance of Nike and Adidas, but differs from this study's financial focus
16	Sport brand and sponsorship studies [20], [22], [23]	Sports brand management, sponsorship awareness, and purchase intention	Sport marketing and sponsorship research	Connects sports brands with loyalty, attitudes, and purchase intentions	Supports the sportswear-brand context of the present study
17	Sportswear brand personality and equity [21]	Brand personality and brand equity in sportswear	Sportswear industry study	Shows that sportswear brands compete through symbolic and psychological associations	Directly supports studying Nike and Adidas as sportswear-related brands
18	Pricing and value-informed pricing [24]	Pricing strategy and product performance	Pricing and innovation management research	Shows that pricing decisions affect market and product outcomes	Supports comparison of average sale price, profit, and margin
19	Pricing capabilities and firm performance [25]	Pricing orientation and firm performance	Firm-level pricing research	Shows that pricing capability is associated with stronger performance	Supports interpreting Adidas's higher average price and margin
20	**Present study**	Comparative statistical, marketing, and management analysis of Nike and Adidas	Transaction-level Australian retail data, 2016-2017	Compares revenue, profit, units, sale price, margin, categories, states, and managers	Adds direct financial and managerial evidence to previous brand, retail, pricing, and analytics literature

This table positions the present study within the literature by showing that prior research supports the analytical lenses used here, while this study adds transaction-level evidence from Australia.

- Literature gap and contribution of the present study

The literature shows strong interest in brand equity, retail analytics, digital marketing, pricing, and sport branding, but many prior studies rely on consumer surveys, brand perception measures, sponsorship evaluations, or social media data. Fewer studies combine marketing interpretation with transaction-level retail indicators such as revenue, profit, total units, sale price, category mix, region, and managerial performance. The contribution of this manuscript is therefore to use pre-2020 Australian retail transaction data to compare Nike and Adidas through statistical, marketing, and management lenses. This approach connects brand-performance theory with measurable sales and profitability indicators and supports a practical discussion of scale, price position, profitability, category concentration, geographic performance, and managerial implications [1], [2], [10], [11], [21].

III. AND HYPOTHESES

1. RESEARCH QUESTIONS

- RQ1: Are there statistically significant differences between Nike and Adidas in revenue, profit, total units, sale price, and profit margin?
- RQ2: Which product categories explain the largest revenue and profit differences between the brands?
- RQ3: How do brand-level sales and profit trends change over time during 2016-2017?
- RQ4: Which states and managers are associated with stronger brand performance?

2. RESEARCH HYPOTHESES

- H1: Mean revenue differs significantly between Nike and Adidas.
- H2: Mean profit differs significantly between Nike and Adidas.
- H3: Mean sale price differs significantly between Nike and Adidas.
- H4: Product category distribution is associated with brand.
- H5: Brand performance differs across states and managers.

IV. PROPOSED METHOD

1. DATA SOURCE AND SAMPLE

The proposed method is based on transaction-level data from the Australian Market dataset. The analysis uses the Fact Table as the main data source and incorporates the Managers and Suburb lookup tables to support managerial and regional analysis. The final sample includes 76,466 observations for Adidas and Nike during the period from January 1, 2016, to August 1, 2017. Since all observations fall before 2020, the dataset satisfies the study's pre-2020 condition.

Table 2. Dataset scope and eligibility.

Item	Value
Dataset used	Australian Market
Main table	Fact Table
Additional lookup tables	Managers and Suburb
Date range	2016-01-01 to 2017-08-01
Total records	76,466
Brands compared	Adidas, Nike
Condition check	All observations are before 2020.

This table defines the dataset scope and confirms that the sample is limited to Adidas and Nike observations from 2016-2017, satisfying the pre-2020 condition.

The figure below shows the workflow of the study.

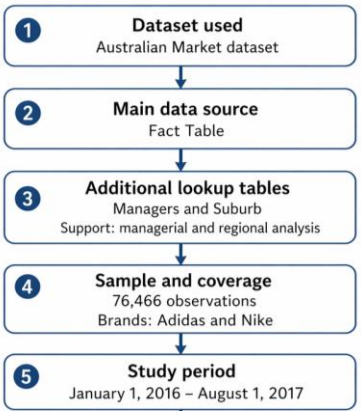

FIGURE 1. Overview of the dataset source, supporting tables, sample size, brand coverage, and study period.

The workflow clarifies how the Fact Table and lookup tables support the final sample and the statistical, marketing, and management analyses.

2. VARIABLES AND CONSTRUCTED INDICATORS

The original fields include Date, Chain, Postcode, Category, Total Units, Sale Price, and Cost Price. The following indicators were constructed for financial and managerial comparison:

Table 3. Constructed indicators.

Indicator	Formula	Interpretation
Revenue	Total Units × Sale Price	Sales value generated by each record.
Cost	Total Units × Cost Price	Estimated cost associated with each record.
Profit	Revenue − Cost	Financial surplus at record level.
Profit Margin	Profit ÷ Revenue	Relative profitability.

These indicators translate raw transaction fields into comparable measures of sales scale, cost, profitability, and relative margin.

3. STATISTICAL PROCEDURES

Descriptive statistics were used to compare scale and profitability by brand. Welch t-tests were used to compare brand means because they do not assume equal variances. Mann-Whitney U tests were added as non-parametric robustness checks. Cohen's d was used to assess standardized mean differences. A chi-square test of independence was used to test whether the category distribution differs by brand.

V. RESULTS

1. OVERALL BRAND PERFORMANCE

The overall KPI comparison indicates that Nike has greater scale in revenue, profit, and unit sales, while Adidas shows stronger average pricing and a slightly higher aggregate profit margin.

- Nike total revenue: 40,837,411.26; Adidas total revenue: 16,821,446.36.
- Nike total profit: 17,084,105.31; Adidas total profit: 7,396,880.81.
- Nike total units: 8,376,570; Adidas total units: 2,431,688.
- Adidas average sale price: 7.40; Nike average sale price: 6.10.
- Adidas aggregate profit margin: 43.97%; Nike aggregate profit margin: 41.83%.

Table 4. Overall KPI comparison.

Brand	Records	Units	Revenue	Profit	Margin	Avg Price	Avg Units/Record	Rev Share	Profit Share	Unit Share
Adidas	37,439	2,431,688	16,821,446.36	7,396,880.81	43.97%	7.40	64.95	29.17 %	30.21 %	22.50 %
Nike	39,027	8,376,570	40,837,411.26	17,084,105.31	41.83%	6.10	214.64	70.83 %	69.79 %	77.50 %

This table shows a scale-versus-margin pattern: Nike leads in revenue, profit, and units, while Adidas records a higher average price and aggregate margin.

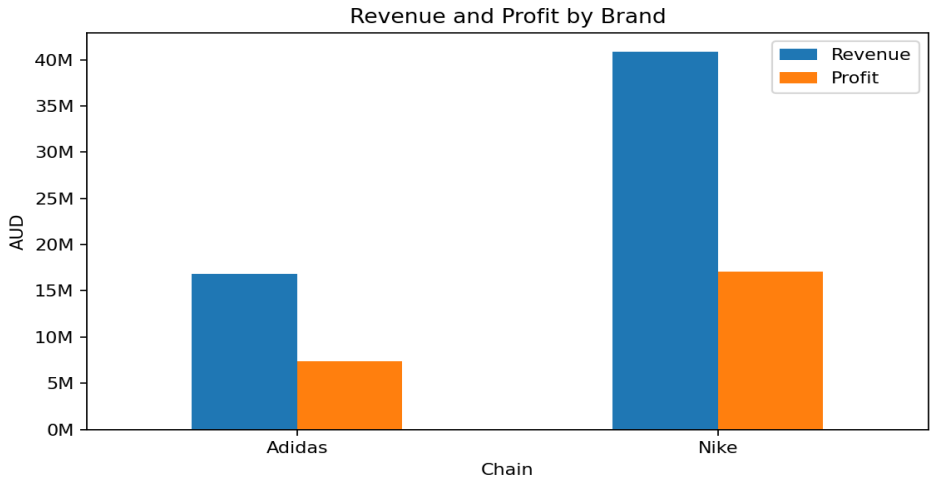

FIGURE 2. Revenue and profit by brand.

The comparison shows that Nike generated substantially higher revenue and profit than Adidas, indicating stronger scale-based performance during 2016-2017.

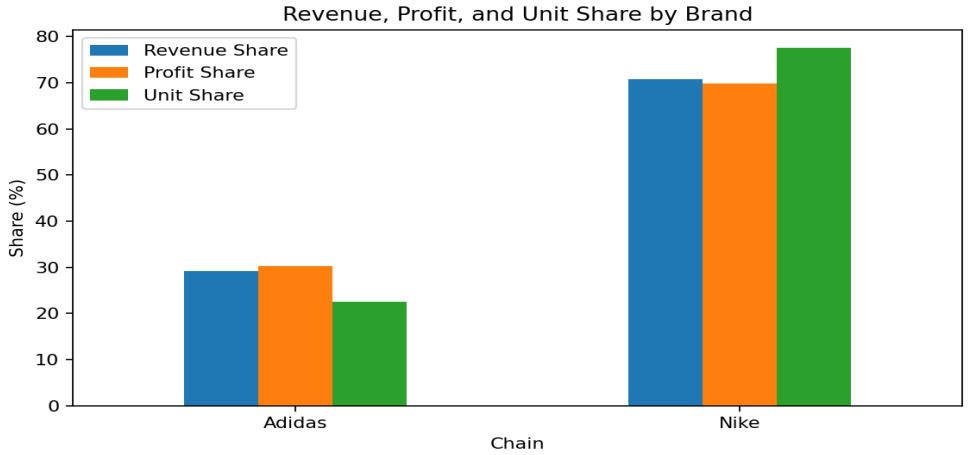

FIGURE 3. Revenue, profit, and unit share by brand.

The share comparison confirms that Nike accounted for the majority of revenue, profit, and units, while Adidas represented a smaller share of the observed sample.

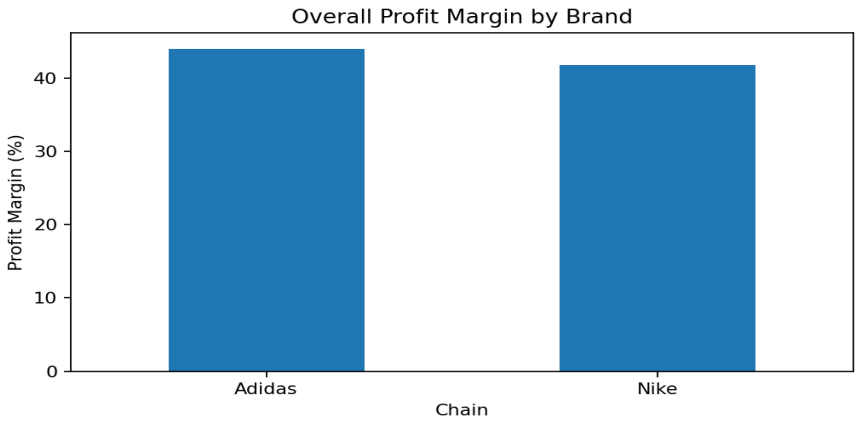

Figure 4. Overall profit margin by brand.

The margin comparison indicates that Adidas achieved a slightly higher aggregate profit margin, suggesting relatively stronger profitability per sales dollar.

2. INFERENTIAL STATISTICAL RESULTS

The statistical tests show significant differences for revenue, profit, sale price, and total units. Profit margin should be interpreted carefully because Welch and Mann-Whitney results differ, suggesting sensitivity to distributional shape and the very large sample size.

Table 5. Statistical tests comparing Nike and Adidas.

Metric	Adidas	Nike	Diff	Welch p	MW p	Cohen d
Revenue	449.30	1,046.39	597.09	<0.001	<0.001	0.50
Profit	197.57	437.75	240.18	<0.001	<0.001	0.45
Sale Price	7.40	6.10	-1.31	<0.001	<0.001	-0.20
Total Units	64.95	214.64	149.68	<0.001	<0.001	0.51
Profit Margin	0.33	0.31	-0.02	0.25	<0.001	-0.01

These tests confirm statistically significant brand differences in most performance measures, although the profit-margin result should be interpreted cautiously because the test results differ.

The chi-square test indicates that the distribution of product categories differs by brand.

Table 6. Category distribution test.

Test	Variables	Chi-square	df	p-value
Chi-square test of independence	Chain × Category	2,414.13	9	<0.001

The significant chi-square result indicates that product category distribution is associated with brand, supporting the need for category-level analysis.

3. MARKETING ANALYSIS BY CATEGORY

The category-level results support a marketing interpretation based on product mix, pricing, and category performance. Because the dataset includes some non-sports categories, this should be clearly disclosed in the final article methodology and limitations.

Table 7. Category analysis.

Category	Brand	Units	Revenue	Profit	Margin	Avg Price
Accessories	Adidas	290,789	1,249,648.06	605,389.62	48.44%	4.85
Accessories	Nike	462,149	2,217,175.91	1,090,482.39	49.18%	4.85
Equipment	Adidas	139,890	550,541.55	240,312.20	43.65%	3.97
Equipment	Nike	412,767	1,769,021.36	828,747.65	46.85%	4.30
Groceries	Adidas	2,207	6,296.20	450.20	7.15%	4.12
Groceries	Nike	1,497,038	2,123,044.56	573,493.38	27.01%	2.00
Home	Adidas	127,052	572,318.75	229,450.86	40.09%	4.80
Home	Nike	1,993,182	7,096,492.89	2,364,311.51	33.32%	4.90
Hosiery	Adidas	91,957	356,754.13	154,883.84	43.41%	3.94
Hosiery	Nike	267,153	960,151.06	437,055.92	45.52%	2.98
Juniors	Adidas	470,837	3,266,263.60	1,487,560.95	45.54%	7.68
Juniors	Nike	643,923	4,535,054.53	2,067,403.40	45.59%	7.07
Kids	Adidas	201,057	1,209,010.21	517,277.40	42.79%	5.73
Kids	Nike	1,095,191	5,541,153.87	2,380,838.51	42.97%	4.42
Mens	Adidas	663,443	4,838,225.00	2,177,797.01	45.01%	6.62
Mens	Nike	974,292	6,616,552.66	3,103,525.68	46.91%	6.26
Shoes	Adidas	292,503	3,645,699.32	1,485,277.23	40.74%	17.57
Shoes	Nike	397,168	5,582,393.13	2,259,033.24	40.47%	15.12
Womens	Adidas	151,953	1,126,689.54	498,481.50	44.24%	7.47
Womens	Nike	633,707	4,396,371.29	1,979,213.63	45.02%	6.69

The category results show that Nike generally generates higher revenue and profit across categories, while Adidas often maintains a higher average price in selected categories.

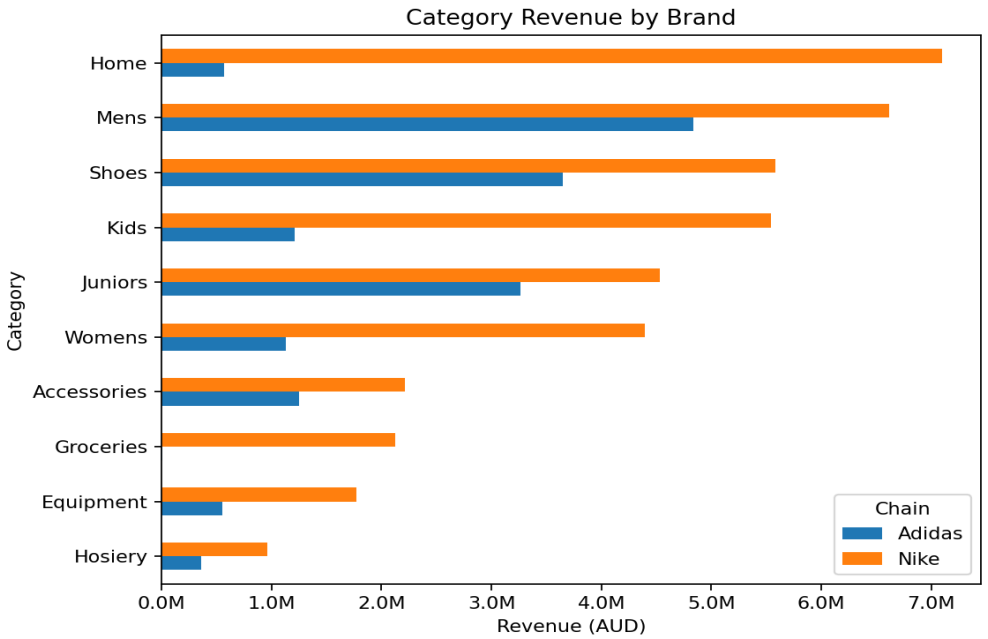

FIGURE 5. Category revenue by brand.

Category revenues show that Nike generally outperformed Adidas across most product groups, although the size of the gap varies by category.

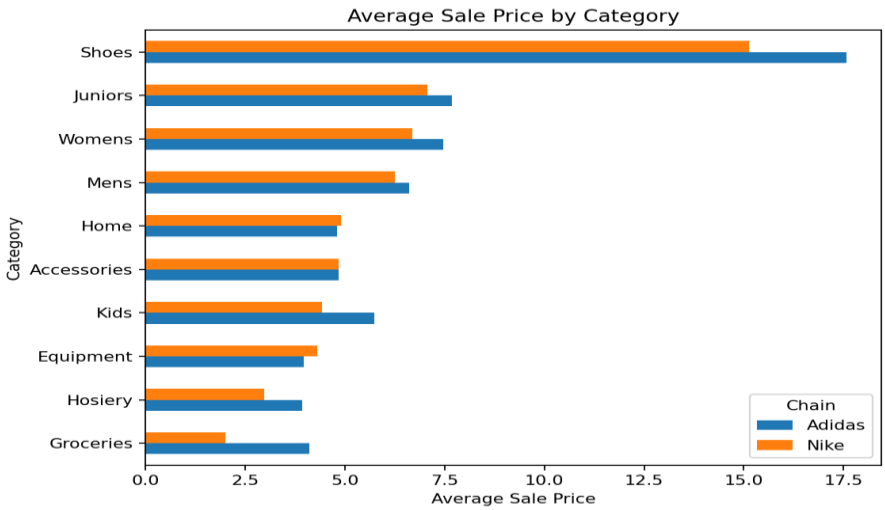

FIGURE 6. Average sale price by category.

Average sale price differs across categories, with Adidas showing higher prices in several segments, especially shoes and selected apparel categories.

4. TIME-SERIES ANALYSIS

Monthly aggregation is used to examine whether differences between the two brands are stable or driven by specific months.

Table 8. Monthly analysis sample, first 12 rows.

Month	Brand	Revenue	Profit	Units
2016-01-01	Adidas	704,928.18	272,354.85	107,834
2016-01-01	Nike	1,436,373.37	473,860.36	326,201
2016-02-01	Adidas	780,557.77	327,006.78	107,441
2016-02-01	Nike	1,680,695.42	641,270.57	357,667
2016-03-01	Adidas	848,805.54	387,656.15	116,818
2016-03-01	Nike	1,876,296.32	761,474.85	400,743
2016-04-01	Adidas	931,885.45	439,619.12	132,008
2016-04-01	Nike	2,275,286.54	996,683.97	513,850
2016-05-01	Adidas	751,091.84	336,566.27	108,390
2016-05-01	Nike	1,709,644.81	707,458.16	354,819
2016-06-01	Adidas	829,409.03	368,735.57	131,928
2016-06-01	Nike	1,914,847.32	802,089.95	440,127

The monthly sample shows that Nike records higher revenue and profit in the reported months, supporting the broader scale-based performance conclusion

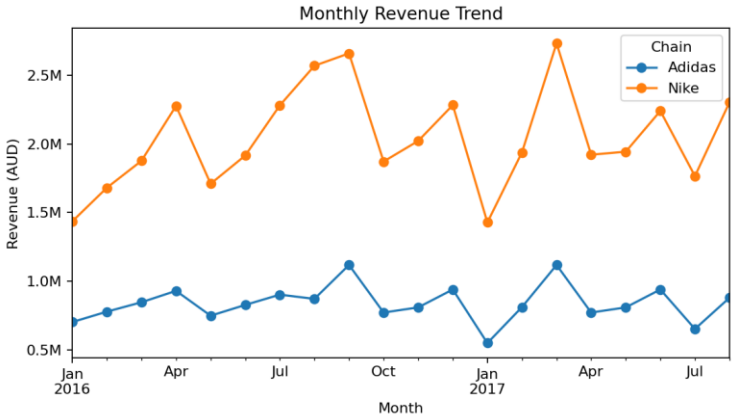

FIGURE 7. Monthly revenue trend.

The monthly revenue trend indicates that Nike remained above Adidas across the observed months, supporting the conclusion that Nike's scale advantage was consistent over time.

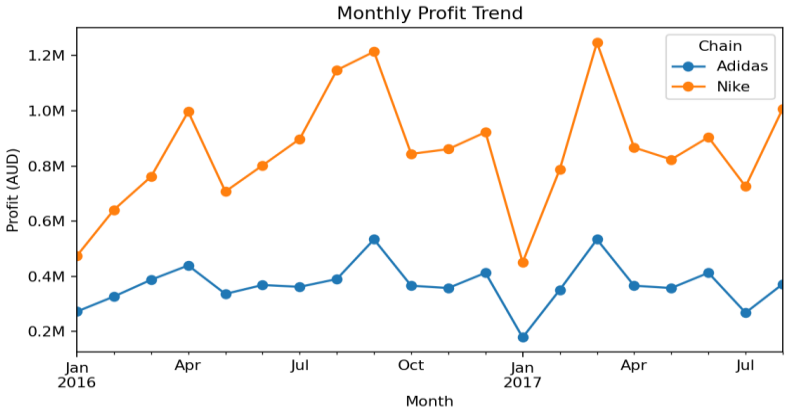

FIGURE 8. Monthly profit trend.

The monthly profit trend follows a similar pattern to revenue, showing that Nike's higher sales scale translated into higher monthly profit.

5. MANAGEMENT AND REGIONAL ANALYSIS

The Managers and Suburb lookup tables allow a managerial and regional view of performance. These results can support discussion of administrative performance, geographic concentration, and operational differences.

Table 9. State-level performance.

State	Brand	Units	Revenue	Profit	Margin
ACT	Adidas	32,400	216,455.73	91,861.02	42.44%
ACT	Nike	91,376	422,775.97	168,876.47	39.94%
NSW	Adidas	531,494	3,804,276.69	1,716,269.21	45.11%
NSW	Nike	3,431,442	17,255,576.08	7,320,793.92	42.43%
NT	Adidas	27,868	191,698.30	80,287.66	41.88%
QLD	Adidas	521,785	3,581,456.04	1,561,742.43	43.61%
QLD	Nike	1,702,983	7,903,676.30	3,207,896.57	40.59%

SA	Adidas	311,150	2,108,629.08	924,204.43	43.83%
TAS	Adidas	158,891	1,124,206.11	492,315.04	43.79%
VIC	Adidas	520,892	3,553,820.03	1,544,596.78	43.46%
VIC	Nike	2,179,971	10,465,589.78	4,334,516.65	41.42%
WA	Adidas	327,208	2,240,904.38	985,604.24	43.98%
WA	Nike	739,721	3,738,387.42	1,618,607.20	43.30%

The state-level results indicate that performance is geographically uneven, with Nike leading in several high-revenue states and Adidas showing relatively stable margins.

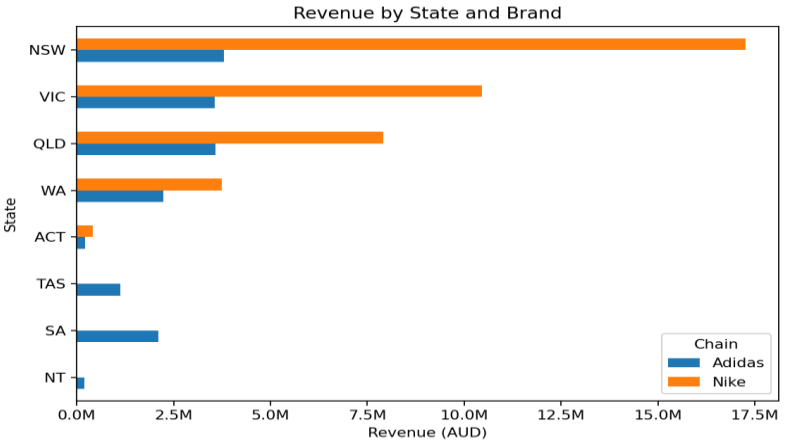

FIGURE 9. Revenue by state and brand.

State-level revenue shows geographic variation, with Nike leading in several major states while Adidas maintained smaller but consistent regional performance.

Table 10. Top 15 manager-brand combinations by revenue.

Manager	Brand	Units	Revenue	Profit	Margin
John Gardner	Nike	940,492	4,630,215.21	1,943,879.47	41.98%
Jeremy Garcia	Nike	905,338	4,386,110.93	1,829,359.83	41.71%
Rachael Long	Nike	757,172	3,687,464.93	1,534,701.64	41.62%
Terri Wright	Nike	754,785	3,452,622.60	1,372,616.99	39.76%
Brian Hubbard	Nike	735,269	3,449,995.39	1,424,289.50	41.28%
Jerry Fulton	Nike	687,530	3,328,129.46	1,375,525.51	41.33%
Lillian Pruitt	Nike	621,512	3,228,735.90	1,413,045.03	43.76%
George Chester	Nike	621,446	3,179,655.88	1,352,981.11	42.55%
Miles Hammond	Nike	523,927	2,578,978.84	1,099,215.23	42.62%
Shellie Thomas	Nike	539,878	2,418,139.77	998,055.77	41.27%
Claire Bridges	Nike	434,030	2,253,634.13	950,404.95	42.17%
Ricky Wilkinson	Nike	408,320	2,032,913.93	837,223.81	41.18%
Lillian Pruitt	Adidas	215,587	1,545,769.48	686,772.78	44.43%
Ray Watson	Adidas	205,976	1,411,833.76	621,534.14	44.02%
Amber Ward	Adidas	188,405	1,292,992.90	568,272.23	43.95%

The manager-level ranking shows that the highest revenue combinations are mostly Nike, suggesting that Nike's scale advantage is also visible at the administrative level.

VI. DISCUSSION

1. INTERPRETATION OF MAIN FINDINGS

The findings indicate that Nike achieved stronger scale-based performance than Adidas during the study period. Nike recorded higher total revenue, total profit, and total units sold, suggesting that its performance advantage was mainly volume-driven. In contrast, Adidas recorded a higher average sale price and a slightly higher aggregate profit margin, suggesting a relatively stronger pricing and margin position. This pattern indicates that the two brands may have followed different performance profiles: Nike was stronger in sales scale, while Adidas showed stronger price-related performance.

These findings are consistent with the idea that brand performance should not be evaluated through one indicator only. Previous brand equity studies show that brand value can be reflected in customer behavior, sales response, customer retention, and profit margin [10], [11], [12]. Therefore, the difference between Nike and Adidas should be interpreted as a multidimensional performance difference rather than a simple ranking of one brand above the other. Nike's higher total sales and profit indicate stronger market scale, while Adidas's higher average sale price and margin suggest a different pricing and profitability structure.

2. MARKETING IMPLICATIONS

From a marketing perspective, the results show that pricing, category mix, and sales volume are central to understanding the differences between Nike and Adidas. The significant differences in sale price, revenue, profit, and total units indicate that the two brands were positioned differently in the observed Australian retail data. Prior pricing research argues that value-informed pricing and pricing capabilities can influence product and firm performance [24], [25]. In this study, Adidas's higher average sale price may reflect a stronger price position, while Nike's higher unit sales may reflect stronger market reach or volume-based competitiveness.

The category-level findings also show that brand performance varied across product groups. This supports retail analytics literature, which emphasizes the importance of analyzing products, categories, locations, and time periods rather than relying only on aggregate sales figures [1], [2]. The chi-square result further confirms that product category distribution differs between the two brands, meaning that the observed performance gap is partly connected to product mix. This is important for marketing decision-making because revenue and profitability may depend not only on brand strength but also on where each brand performs best across categories.

3. MANAGEMENT IMPLICATIONS

From a management perspective, the state-level and manager-level results suggest that brand performance is not evenly distributed across administrative and geographic units. This means that management decisions should consider where revenue and profit are generated, which managers or regions are associated with stronger performance, and whether differences are driven by volume, pricing, or product category composition. Retail analytics research supports this approach by showing that data-rich retail environments can improve decision-making when firms use analytical tools to connect operational data with managerial action [1], [2], [5].

The findings also suggest that managers should not rely only on total revenue when evaluating brand performance. Although Nike achieved higher revenue and profit overall, Adidas showed stronger average pricing and slightly higher aggregate margin. This distinction is important because a high-volume strategy and a high-margin strategy may require different managerial decisions. For example, Nike's performance pattern may require attention to supply availability, distribution strength, and category expansion, while Adidas's pattern may require attention to premium pricing, margin protection, and selective category growth.

4. RELATIONSHIP WITH PREVIOUS LITERATURE

The results of this study are aligned with previous research on marketing analytics, retail analytics, brand equity, and pricing. Marketing analytics literature emphasizes that data-rich environments can support more accurate managerial decisions when statistical methods are linked to marketing questions [1]. Retail analytics

research similarly highlights the importance of using data to understand product performance, customer behavior, and profitability in retail settings [2]. The present study applies this logic by using transaction-level data to compare Nike and Adidas across financial, marketing, and managerial indicators.

The findings also connect with brand equity literature. Prior studies suggest that brand equity can affect sales outcomes, marketing-mix response, customer acquisition, retention, and profit margin [10], [11]. This study adds empirical support from transaction-level retail data by showing how two major brands differ in revenue, profit, pricing, volume, and category distribution. In addition, the results support pricing literature, which argues that pricing orientation and pricing capabilities are associated with firm performance [24], [25].

5. LIMITATIONS OF INTERPRETATION

Although the results provide useful evidence, they should be interpreted carefully. First, the dataset covers only the period from January 2016 to August 2017, so the findings cannot be generalized to later periods without additional data. Second, some product categories in the dataset, such as Home and Groceries, are not directly related to sportswear. This limits the ability to interpret all category-level findings as pure sportswear performance. Third, the dataset does not include advertising expenditure, customer demographics, store size, inventory availability, or consumer-level behavior. Therefore, the study can identify significant performance differences, but it cannot fully explain the causal reasons behind them.

Overall, the discussion shows that Nike and Adidas differed across several measurable dimensions. Nike demonstrated stronger scale-based performance, while Adidas demonstrated stronger average pricing and slightly stronger aggregate margin. These findings support a combined statistical, marketing, and management interpretation of brand performance.

VII. CONCLUSION

This study examined the comparative retail performance of Nike and Adidas in the Australian market using transaction-level data from 2016 to 2017. The analysis focused on marketing, statistical, and managerial indicators, including revenue, profit, total units sold, sale price, profit margin, product category performance, monthly trends, state-level performance, and manager-level outcomes. Since all observations were recorded before 2020, the dataset was suitable for the historical scope of the study.

The findings show that Nike achieved stronger scale-based performance than Adidas. Nike recorded higher total revenue, total profit, and total units sold, indicating a stronger market volume position during the study period. In contrast, Adidas showed a higher average sale price and a slightly higher aggregate profit margin, suggesting a relatively stronger pricing and margin position. These results indicate that the two brands may have followed different performance patterns: Nike appeared to rely more on sales volume and market scale, while Adidas appeared to benefit more from pricing strength and relative profitability.

The statistical tests confirmed significant differences between the two brands in several key indicators, including revenue, profit, sale price, and total units sold. The category-level analysis also showed that product mix differed between Nike and Adidas, meaning that brand performance was not only influenced by total sales but also by the distribution of sales across product categories. The regional and manager-level analyses further demonstrated that performance varied across states and administrative units, which provides useful implications for management decision-making.

From a marketing perspective, the study suggests that pricing, product category structure, and sales volume are important factors in explaining differences between Nike and Adidas. From a management perspective, the findings highlight the importance of monitoring regional performance, managerial contribution, and profitability indicators rather than relying only on total sales. Therefore, the study contributes to understanding how brand performance can be evaluated through a combination of statistical evidence, marketing interpretation, and managerial analysis.

However, the findings should be interpreted within the limitations of the dataset. The data cover only the period from January 2016 to August 2017, and some product categories are not directly related to sportswear. In addition, the dataset does not include advertising expenditure, customer demographics, store size, inventory levels, or consumer behavior variables. For this reason, the study identifies performance differences but does not claim direct causal explanations. Future studies could extend the analysis by adding

more years before 2020, focusing only on sportswear-related categories, or incorporating marketing investment and customer-level variables to provide deeper causal insight.

1. LIMITATIONS

- The dataset labels Nike and Adidas as retail chains, but some categories such as Home and Groceries are not typical sportswear categories. This should be disclosed clearly.
- The data cover 2016-2017 only, so the findings should not be generalized to later periods without additional data.
- The dataset does not include customer demographics, advertising spend, store size, inventory availability, or competitor context; therefore, causal marketing conclusions should be avoided.
- Because the sample is large, statistical significance should be interpreted together with effect sizes, shares, and managerial relevance.

2. FUTURE RESEARCH

- Extend the study with additional pre-2020 years, if available.
- Add advertising, store-level, or customer-demographic variables to improve causal interpretation.
- Replicate the analysis using only clearly sportswear-related categories as a robustness check.
- Compare the pre-2020 period with post-2020 data in a separate study if the research question later changes.

Author Contributions

The author conducted the conceptualization, methodology, data analysis, investigation, writing, review, editing, and final approval of the manuscript.

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Data Availability

The dataset will be available from the author upon reasonable request.

Conflicts of Interest

The author declares no conflict of interest.

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