



THE IMPACT OF DIGITAL MARKETING ON FINANCIAL METRICS OF SELECTED ONLINE GROCERY PLATFORMS

¹Pota Shreya Rushikesh, ²Dr. Vipul Nakum

¹Research Scholar, ²Research Guide

¹Monark University, Ahmedabad, Gujarat

²Shree M P Shah Commerce College, Surendranagar, Gujarat

Abstract: In the current digital era, the grocery business has transformed significantly due to the growth and increased popularity of online grocery purchases. The market for online groceries has grown significantly in recent years due to the rapid shifting of consumer habits and a growing need for convenience while shopping. The grocery retail industry has seen tremendous change due to the growth of digital platforms, especially after COVID, and the customers now frequently choose to purchase groceries online. This study emphasizes advertising expenditures as the variable that is independent and the total earnings, revenue, and total expenses as the dependent variables. This study examines how digital marketing affects the financial success of a few chosen online grocery platforms. The study examines data from three well-known e-grocery platforms—Big Basket, Blinkit, and Swiggy Instamart—over a six-year span from 2018 to 2023 using a one-way ANOVA approach including introductory approach towards post – hoc analysis. These platforms were chosen using a purposive sampling technique in the light of their market dominance and dependence on digital marketing tactics. According to the results, there is a statistically significant connection between expenditures on advertising and financial results, with changes in advertising expenditures resulting in appreciable fluctuations in overall revenue, sales, and expenses. The findings emphasize, how important digital marketing expenditures are to e-commerce platforms' financial performance and the necessity of smart budget allocation to optimize the profits. This study adds to the expanding compilation of research on the efficacy of marketing through digital channels in the field of online retail industry.

Index Terms - Advertising Expenses, Digital Marketing, Financial Indicators, Financial Metrics, E-grocery Platforms

I. INTRODUCTION

In this day and age, where digital marketing tactics are redefining the parameters of interaction with customers, the economic viability of grocery shopping apps becomes a crucial field of study. The simple words to define Digital Marketing can be, the practice of promoting products or services using electronic devices. The terms "**online advertising**", "**internet advertising**" and "**web advertising**" are frequently used to describe digital advertising. Digital marketing is the kind of marketing that targets customers by using internet-based promotional activities. The use of digital technology for product or service promotion is known as "**digital advertising**". Talking about the evolution of digital marketing, the story takes us to the **early 80s era** when in 1981 the first computer was launched by **IBM**, which can be termed as a revolutionary event. In addition to this, an ad agency named as "**Channel Net Soft Advertising Group**", transformed the traditional marketing into soft form advertising. This occasion might be considered a pioneer in the field of digital marketing. The image below depicts the development of digital marketing

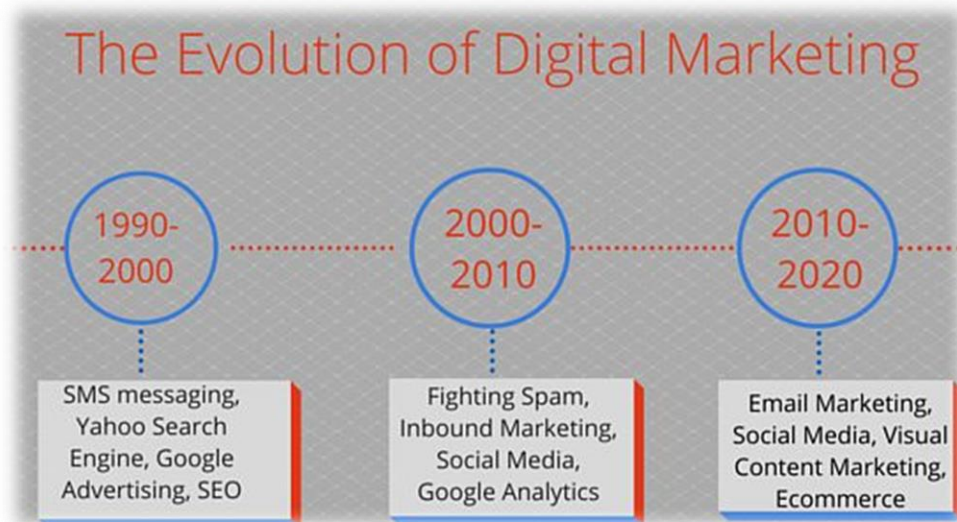


Figure 1 Evolution of Digital Marketing (Source – www.digipims.com)

India saw the emergence of digital marketing as a result of the internet growth, which was a huge advancement on its own. Before 1996, only a few individuals were aware of "**digital marketing**" while, internet marketing and SEO began to gain traction in India around 2000. But with today's amazing nationwide connection, nearly every small company has become a pro player in the game of digital marketing, especially in this era of social media. Digital marketing is the aiding force which provides the companies to make good amount of profits also in retaining good number of customers. The recent the grown popularity of **video content, smartphones, social commerce** including **AI - powered customization**, is some or the other way transforming the pitch of digital marketing in India. Now a days the consumers are always eyeing on influencer marketing, which can be treated as the most crucial bit in the hard drive of digital marketing because it increases brand awareness and promotes conversion through focused tactics and tailored experiences resulting into big numbers of profits for the company.

Amongst the many industries affected by this digital revolution, the grocery business observed considerable changes with the arrival of **e-grocery services**. These platforms use digital marketing techniques to improve their **reach, customer engagement** and **overall financial performance** in the addition to satisfy the rising desire for convenience among customers. Due to evolving customer tastes and changing lifestyles, more people are engaging themselves with e – grocery services. Which ultimately highlights the importance of digital marketing. Online grocery platforms utilize many tactics, including Search Engine Optimization (SEO), marketing via email, social media advertising, and targeted promotions, to **entice** and **retain customers**. In an extremely competitive marketplace, the efficacy of these particular digital marketing strategies is critical for increasing sales, strengthening brand loyalty and promoting sustainable growth.

The purpose of this research study is to explore how digital marketing (advertising expenses) influences the economic success of the specific online grocery stores.

II. LITERATURE REVIEW

Abdulla, 2021 The development and effects of e-marketing in India during the pandemic are examined in this research paper. E-marketing is defined as using internet technology to promote a brand; this includes indirect as well as direct marketing strategies. Lockdown, safety measures during the epidemic greatly expedited the use of digital commerce. Easy access, cost savings, and enhanced client interactions are major elements driving this change. Notwithstanding its benefits, issues including lack of trust, impersonal service and the integration with conventional advertising still exist. The study also emphasizes how companies must modify their approaches in order to take advantage of e-marketing in the post-pandemic environment. Rising credit card use, convenient computer access, and shoppers looking for deals are driving the expansion of internet marketing in India and creating a more efficient and well-organized purchasing environment.

Chakravarthy, 2022 The research looks at how successful businesses in Hyderabad, India are using digital marketing. It assesses variables such as competitiveness, perceived relative advantage, consumer pressure and inclination toward digital marketing. According to the study, the only element that substantially affects company performance is the amount of competition; other variables did not directly correlate with the success of the organization. Due to a lack of familiarity with digital tactics, many SMEs remain dependent on traditional marketing strategies. The study emphasizes how crucial it is to adjust to changes in digital marketing and recommends more research in other geographical areas as well.

DR. Satish A. S. 2022 The assessment of the literature looks at the impact and reach of e-marketing before as well as after the COVID-19 epidemic. It emphasizes how the pandemic made traditional marketing strategies less viable, which in turn promoted more consumer and marketer trust and encouraged the expansion of e-marketing activities. Customers preferred e-marketing as it was easily accessible, had a large selection of items, was affordable and saved the time. The preference of consumers for e-marketing was further increased by safe payment options and efficient procedures. It appears that e-marketing will have a bright future as more consumers are anticipated to be driven to digital platforms, which will boost business profitability. Traditional brick-and-mortar establishments are expected to endure, despite certain difficulties. The assessment finds that the pandemic has highlighted the significance of digital tactics and that the combination of conventional marketing strategies and technical improvements in e-marketing has been effective.

Kalra, 2023 Research shows that in order to make wise purchase decisions, modern customers are depending more and more on word-of-mouth recommendations and the several online studies made possible by social media. Key benefits of digital marketing are the capacity for in-depth research on products, the increased impact of word-of-mouth advertising and the improvement of interaction with customers via social media sites and other digital mediums. It also mentions difficulties including fluctuating customer retention as a result of the abundance of online alternatives. According to the findings, digital marketing has a big impact on consumer behaviour and in order for firms to successfully attract and keep customers, they must adjust to these changes.

Sharma, 2024 This study looks at how well-known textile firms' financial success is affected by the use of digital marketing techniques. Using regression analysis, the research finds a strong positive relationship between marketing spending and sales, indicating that digital marketing initiatives significantly improve sales in the textile industry. Purposive sample of businesses with a significant internet presence and secondary data are used in this mostly quantitative study approach. The results highlight the crucial role that customized digital marketing tactics play, in enhancing financial performance, indicating that smart digital expenditures are necessary to keep the textile sector competitive and promote growth.

III. OBJECTIVES OF THE STUDY

A. Primary Objective:

- I. To evaluate the influence of digital marketing (advertisement expenses) on the financial indicators (Total income, sales & expense) of the selected online grocery platforms.

B. Secondary Objectives:

- II. To compare the financial performance (Total income, sales & expense) in relation with their digital marketing (advertisement expenses) across years (2018-2023).
- III. To assess the role of digital marketing (advertisement expenses) in driving sales growth & profitability for the selected online grocery platforms.
- IV. To examine whether the financial metrics (Total income, sales & expense) differ significantly between the selected online grocery platforms in relation to their advertising strategies.

IV. RESEARCH METHODOLOGY

- A. **Research Design:** In order to investigate how fluctuations in advertising expenses among three online grocery platforms (Bigbasket, Blink it, Swiggy Instamart) affect their financial outcomes (Total income, sales & expenses), this study uses a “**Causal – Comparative Research Design.**”
- B. **Sampling Technique:** A purposive sampling technique has been used over here as social media is the main focus of the marketing strategies of the chosen online grocery platforms, which have been in business for a long time. These platforms' customer base, profitability, and popularity have all significantly increased since COVID. These three specific e-grocery platforms (**Bigbasket, Blink it, Swiggy Instamart**) have thus been selected for the research.
- C. **Data Collection Methods & Instruments:** Authentic reports on finances and digital marketing indicators sourced from reliable sources are the foundation of the secondary data collection approach, for the years 2018-2023, ProwessIQ software has been used as a complete instrument to gather financial data, guaranteeing the accuracy and dependability of financial reporting.
- D. **Variables:** In this study a parameter named as Advertising Expenses has been taken **Independent Variable**. While the other financial indicators such as Total income, Sales & total expenses is considered as **Dependent Variable**.
- E. **Hypothesis: H₀ (Null Hypothesis):** Advertising Expenses do not significantly affect the financial indicators (Total Income, Sales, or Total Expenses) over the years 2018–2023.
H₁ (Alternative Hypothesis): Advertising Expenses do significantly affect at least one of the financial indicators (Total Income, Sales, or Total Expenses) over the years 2018–2023.
- F. **Method of Analysis:** To ascertain whether there were notable variations in the financial performance (total revenue, sales, and total expenditures) of the three e-grocery platforms according to their advertising expenditures, the data were examined using **One-Way ANOVA**.

V. DATA ANALYSIS

One-Way Analysis of Variance (ANOVA) is employed in this study to investigate how advertising expenses affect the financial performance metrics (total income, sales, and total expenses) across the years 2018–2023. Because Advertising Expenses, the independent variable, is categorical and separated into several time frames (years), the one-way ANOVA technique is suitable for comparing the average of the variables that are dependent among these various groups (years).

By using this statistical technique, we can determine if changes in the spending on advertising over time have a substantial impact on the financial results. This study can successfully ascertain if variations in advertising expenditures from year-to-year result in quantifiable variations in important financial measures by employing One-Way ANOVA. The following is the detailed data for the selected e-grocery platforms for the years 2018-2023:

Supermarket Grocery Supplies Pvt. Ltd. (BIG BASKET)						
PARTICULARS	YEAR 2018 (Rs. In Crore)	YEAR 2019 (Rs. In Crore)	YEAR 2020 (Rs. In Crore)	YEAR 2021 (Rs. In Crore)	YEAR 2022 (Rs. In Crore)	YEAR 2023 (Rs. In Crore)
Total income	1684.11	2802.59	3818.25	1240.39	1759.5	2304.54
Sales	1661.59	2754.55	3790.06	1227.72	1707.78	2270.35
Total expenses	2040.01	3459.54	4585.75	1694.99	1975.34	2514.98
Advertising expenses	94.38	188.88	148.08	10.28	7.65	0.41

Table 1 Financial Metrics of Supermarket Grocery Supplies Pvt. Ltd. (BIG BASKET) for the years 2018-23

Blink Commerce Pvt. Ltd. (BLINK IT)						
PARTICULARS	YEAR 2018 (Rs. In Crore)	YEAR 2019 (Rs. In Crore)	YEAR 2020 (Rs. In Crore)	YEAR 2021 (Rs. In Crore)	YEAR 2022 (Rs. In Crore)	YEAR 2023 (Rs. In Crore)
Total income	53.81	83.93	177.52	204.16	242.6	860
Sales	29.84	70.15	165.27	200.26	236.4	724
Total expenses	312.11	531.93	856.54	585.9	1262.7	2052
Advertising expenses	54.63	82.08	199.24	94.83	139.8	188

Table 2 Financial Metrics of Blink Commerce Pvt. Ltd. (BLINK IT) for the years 2018 – 2023

Bundl Technologies Pvt. Ltd. (SWIGGY INSTAMART)						
PARTICULARS	YEAR 2018 (Rs. In Crore)	YEAR 2019 (Rs. In Crore)	YEAR 2020 (Rs. In Crore)	YEAR 2021 (Rs. In Crore)	YEAR 2022 (Rs. In Crore)	YEAR 2023 (Rs. In Crore)
Total income	456.5	1292	3548.5	2145	4046.2	5361.3
Sales	417	1121.7	3287.5	2008	3557.1	4653.3
Total expenses	841.4	3637.6	7329.8	3447.2	7814.3	9118.9
Advertising expenses	129.8	776.2	1806	447.5	1884.5	2549.8

Table 3 Financial Metrics of Bundl Technologies Pvt. Ltd. (SWIGGY INSTAMART) for the years 2018 – 2023

A. One-Way ANOVA results of Supermarket Grocery Supplies Pvt. Ltd. (BIG BASKET)

Anova: Single Factor (BIG BASKET)

SUMMARY

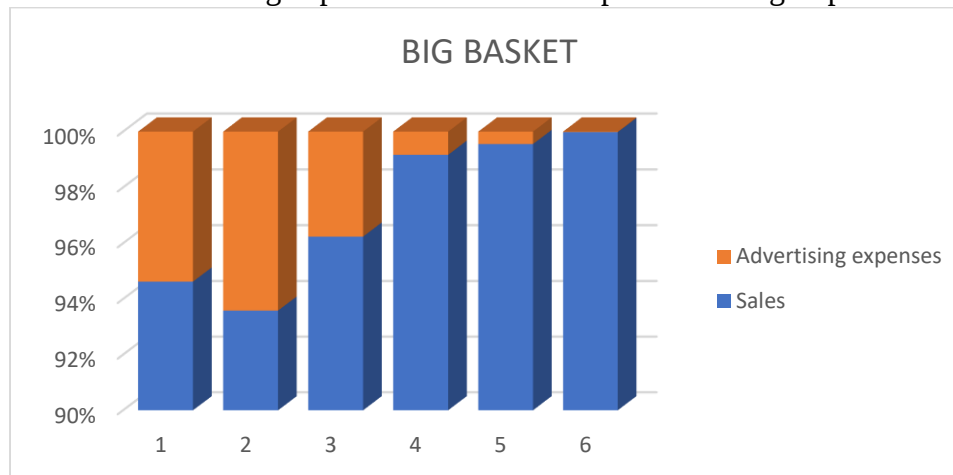
Groups	Count	Sum	Average	Variance
Total income	6	13609.3	2268.23	869175.695
Sales	6	13412.0	2235.34166	862153.136
Total expenses	6	16270.6	2711.76833	1227423.90
Advertising expenses	6	449.68	74.9466666	6594.65542

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	25283125.6	3	8427708.55	11.3682579	0.00014358	3.09839121
Within Groups	14826736.9	20	741336.848			
Total	40109862.6	23				

The above results indicate the significant changes in the financial indicators based on advertising expenditure. On the principal point the **P-value** over here is **0.00014** which is quite below then 0.05 significance level, reflecting that the advertising expenses having a statistically significant impact on the

financial indicators. The results' validity is further supported by the **critical value of F of 3.10**, which shows that differences in advertising expenditures have an impact on each group's financial success.



Tukey multiple comparisons of means 95% family-wise confidence level

	diff	lwr	upr	p adj
Sales-Advertising expenses	2143.85944	651.7769	3635.942	0.0034425
Total expenses-Advertising expenses	2725.43031	1233.3477	4217.513	0.0002874
Total income-Advertising expenses	2648.21965	1156.1371	4140.302	0.0003988
Total expenses-Sales	581.57087	-910.5117	2073.653	0.6989246
Total income-Sales	504.36021	-987.7224	1996.443	0.7806780
Total income-Total expenses	-77.21065	-1569.2932	1414.872	0.9988786

The findings from the Tukey multiple comparison test, which was used for comparing the means of several groups within the dataset, are shown in the table. A 95 percent confidence level is used in the analysis to account for type I error in multiple comparisons.

- Sales & Advertisement expenses: Sales are greater by 2143.86, with p-value 0.003. Also, with the confidence interval ranging from 651.78 to 3635.34, the significant mean difference is probably within the range
- Comparing Total Expenses to Advertising Expenses: Total Expenses is larger by 2725.43 units, and the difference is equally significant ($p = 0.0003$). The true mean difference is probably going to be significant, with the confidence interval 1233.35 to 4217.51
- Total Income vs Advertisement expenses: The mean difference between Total Income and Expenses related to advertisement is 2648.22 units, indicating that Total Income is substantially greater than Advertising Expenses ($p = 0.0004$).

B. One-Way ANOVA results of Blink Commerce Pvt. Ltd. (BLINK IT)

Anova: Single Factor (Blink It)

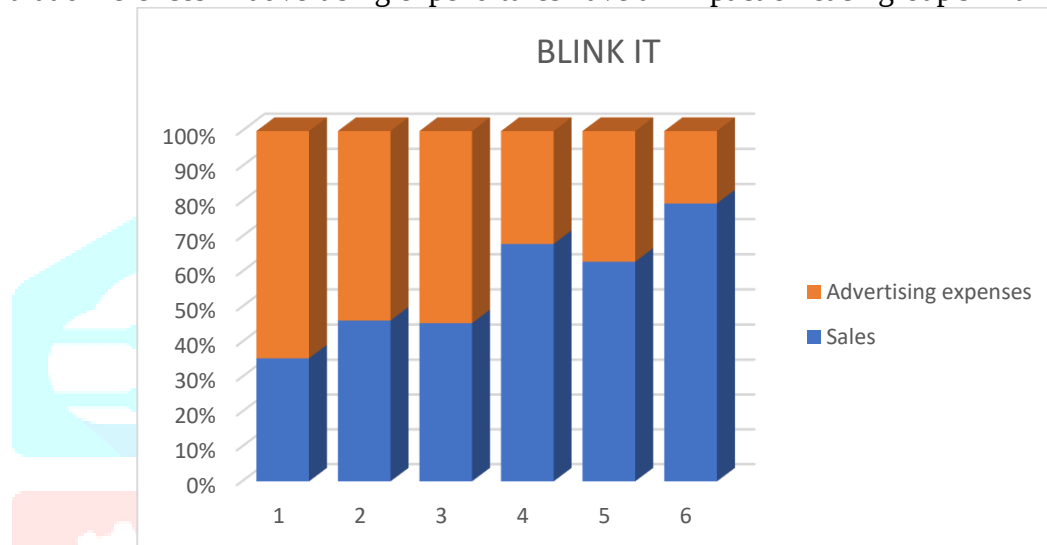
SUMMARY

Groups	Count	Sum	Average	Variance
Total income	6	1622.02	270.336666	88619.5393
Sales	6	1425.92	237.653333	62883.2015
Total expenses	6	5601.11	933.53	406709.496
Advertising expenses	6	758.58	126.43	3478.32808

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2414442.15	3	804814.050	5.73136954	0.00534152	3.09839121
Within Groups	2808452.82	20	140422.641			
Total	5222894.98	23				

The above results indicate the significant changes in the financial indicators based on advertising expenditure. On the principal point the **P-value** over here is **0.005** which is quite below then 0.05 significance level, reflecting that the advertising expenses having a statistically significant impact on the financial indicators. The results' validity is further supported by the **critical value of F of 3.098**, which shows that differences in advertising expenditures have an impact on each group's financial success.



Tukey multiple comparisons of means 95% family-wise confidence level

	diff	lwr	upr	p adj
Sales-Advertising expenses	111.22	-494.33	716.77	0.95475
Total expenses-Advertising expenses	807.10	201.55	1412.65	0.00665
Total income-Advertising expenses	143.91	-461.64	749.46	0.90892
Total expenses-Sales	695.88	90.33	1301.43	0.02073
Total income-Sales	32.68	-572.87	638.23	0.99872
Total income-Total expenses	-663.19	-1268.74	-57.64	0.02867

- The majority of the groupings differ significantly from one another, particularly between "Total income", "Total expenditures", "Sales" and "Advertising expenses."
- The only non-significant variation is between sales and total income.

C. One-Way ANOVA results of Bundl Technologies Pvt. Ltd. (SWIGGY INSTAMART)

Anova: Single Factor (SWIGGY INSTAMART)

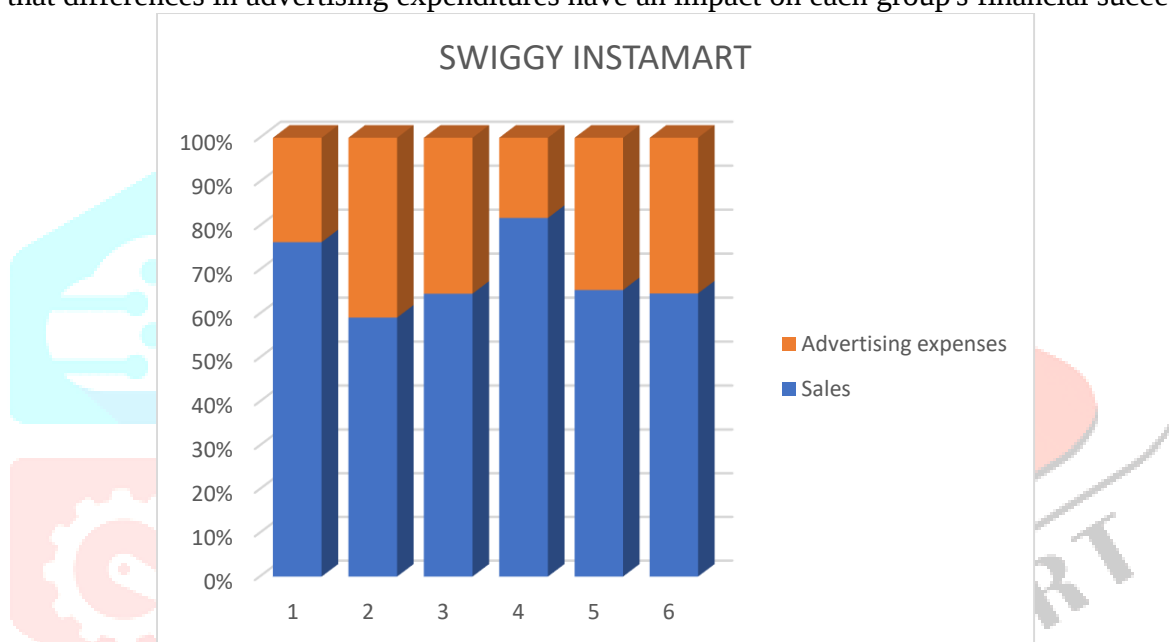
SUMMARY

Groups	Count	Sum	Average	Variance
Total income	6	16849.5	2808.25	3373639.45
Sales	6	15044.3	2507.43333	2570929.98
Total expenses	6	32189.3	5364.86666	10215219.8
Advertising expenses	6	7593.8	1265.63333	904616.122

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	53275728.0	3	17758576.0	4.1627178	0.01916409	3.09839121
Within Groups	85322026.9	20	4266101.34			
Total	138597755	23				

The above results indicate the significant changes in the financial indicators based on advertising expenditure. On the principal point the **P-value** over here is **0.019** which is quite below then 0.05 significance level, reflecting that the advertising expenses having a statistically significant impact on the financial indicators. The results' validity is further supported by the **critical value of F of 3.098**, which shows that differences in advertising expenditures have an impact on each group's financial success.



Tukey multiple comparisons of means 95% family-wise confidence level

	diff	lwr	upr	p adj
Sales-Advertising expenses	1241.80	-2095.91	4579.51	0.7277
Total expenses-Advertising expenses	4099.23	761.53	7436.94	0.0127
Total income-Advertising expenses	1542.62	-1795.09	4880.32	0.5774
Total expenses-Sales	2857.43	-480.27	6195.13	0.1101
Total income-Sales	300.82	-3036.89	3638.52	0.9942
Total income-Total expenses	-2556.62	-5894.32	781.09	0.1736

- The majority of the groupings differ significantly from one another, particularly between "Total expenditures" and "Advertising expenses."
- Regarding "Swiggy Instamart," the other variables appear to be insignificant. This can be the result of merely taking a few factors into account. The findings can be altered by adding more influencing factors.

VI. FINDINGS & CONCLUSION

Since the overall null hypothesis H_0 has been obtained as Advertising Expenses do not significantly affect the financial indicators over the years 2018–2023, discussing the above results of all the three selected e-grocery platforms the significant **p & the critical value of F** suggest, we may **reject the null hypothesis (H_0)** i.e. the advertising expense significantly affects the financial indicators. This indicates that the research title is justified. Amongst the chosen e-grocery platforms **BIG BASKET tends to have biggest influence while SWIGGY INSTAMART is having the lowest one**. Although the current study only includes the three specific e-grocery platforms and the three primary financial metrics (total income, sales, and expenses), other players in the online grocery shopping market may have more detailed and accurate

information which can be taken as future scope of the study. The one - way ANOVA indicating that the independent variable — digital marketing (advertising) expenses — is having an influence on one or more of the dependent variables, which are financial indicators. Additionally in the **Post Hoc test** we can confirm that “Advertisement expense” is one of the most impactful factors. E-grocery players should thus carefully evaluate their advertising costs, especially in the post-COVID environment where marketing initiatives can have a big influence on customer demand and long-term financial viability.

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