

# Impact of Retail Formats on Consumer Buyer Behavior- A Study of Fast Moving Consumer Goods Market in South Africa

**ABSTRACT:** *Despite retailers around the globe embracing different retail formats to invoke positive consumer responses, little evidence exists of empirical research, that explores the success of a particular retail format in the South African Fast Moving Consumer Goods market. Retail formats are required to be aligned with the changing customer taste and preferences, and the trends in the industry in order to be effective.*

*This research paper explores the impact of retail formats in the Fast Moving Consumer Goods market by surveying a random sample of 96 respondents in the Sandton area of Johannesburg, South Africa. It became evident through the survey that the respondents are aware of the different retail formats, which increases their potential as a customer of Fast Moving Consumer Goods (FMCGs). It is found through empirical research that Hypermarkets followed by Convenience Stores and Super Markets are the most preferred retail stores by the customers for the purchase of FMCGs whereas Independent Retail Stores have an insignificant impact on the customers.*

**Keywords:** *Retail formats, Consumer behavior, Fast Moving Consumer Goods (FMCGs)*

## I. INTRODUCTION

“South Africa is a growing economy and has the largest GDP in Africa, the most established retail market (accounting for 14.34 percent of GDP in 2012), and the most consumer spending in Africa. Modern retail accounts for more than 60 percent of sales.” (A.T. Kearney, 2014). This South African market is in search of an effective retail format that attracts customers and invokes a positive consumer behavior. Sinha and Banerjee (2004) suggests that a variety of formats are being rolled out with no clear verdict as to what may drive the choice of the stores in the longer run. The newly established stores are able to attract shoppers into stores due to its ambience, but they are finding conversions into purchases to be lower than expected.

Modern retail stores of all formats require substantial investment and hence a management debate is required to decide the most effective retail format in the different consumer segments. Wakefield and Baker (1998) suggests that competition between Malls and newer forms of shopping centers has led the mall developers and management to consider alternative methods to build excitement with customers. However every country is unique with its unique set of consumers and consumer behavior. Kim and Jin (2001) are of the view that the difference in retail marketing strategies between multinational versus Korean discount stores illustrates the importance of understanding local customers and business customs while operating in global markets. Little literature is available to decide the most effective retail format for FMCGs market in South Africa and hence a need is identified for conducting a research study.

This research paper aims to study the impact of different retail formats on the consumer behavior and find out the most effective retail formats in the FMCGs market in South Africa.

## II. LITERATURE REVIEW

Several researchers have discussed the importance and appropriate formats that retailers may embrace for various categories of products. Mehta and Wickramasuriya (1989) suggests that small provision shops are indispensable for an economy as well as consumers and it is significant to have some of these as modern upgraded stores. The era of twenty first century has seen modern retail formats being experimented by the retailers all over the world. Researchers have also tried to explore the consumer behavior towards such retail stores. Sinha, Banerjee and Uniyal (2002) maintains that a store is chosen based on the self confidence that a customer has regarding the store about the nature of quality of product and service that he is going to receive. But “retailers need to take up the task of demonstrating the value added by a store. The Format of store could be the prime driver” (Sinha P, 2003). Consumer attracted to the store needs to be retained and as suggested by Kaul S (2007) consumer shopping behavior is seen from a holistic perspective of entire shopping experience and the retailer focus is not on the store itself but on what does the store means to the shoppers. Thus different shoppers, with their dynamic behavior, may perceive the same store differently.

The demographics of the consumers also have a role to play in influencing the consumers’ behavior and as suggested by Prasad and Aryasari (2011) shoppers’ age, gender, occupation, education, monthly household income and family size has an important association with the retail format choice. Other researchers argue that there are other factors that influences consumers’ in selecting the retail formats. Carpenter and Brosdahl (2011) found that unique combinations of store attributes like price competitiveness, location, convenience to home, knowledgeable sales person, well known brand, store atmosphere and shopping orientations like shopping confidence, brand consciousness, price consciousness can predict the format choices of male shoppers. Still there are other researchers who feel that the need of new formats of retail is because of the ever changing customer taste and preferences. “Customer taste and preferences are changing leading to radical transformation in lifestyles and spending patterns, which in turn are giving rise to new business opportunities. There is a change being observed in the shopping pattern of customers.” Jhamb and Kiran (2012). Similarly Platt S (2014) observes that the consumers’ desire to shop anytime, anywhere is forcing retailers to adopt new store formats for the future and may include drive-through pick-up locations, product showrooms, immersive experiential centers, brand stores, community service stores and specialty stores.

## III. RESEARCH DESIGN AND METHODOLOGY

As a first step retail store formats offering Fast Moving Consumer Goods (FMCGs) in the South African market were identified through the desk research. The consumer behavior which the marketers and retailers are primarily concerned with were identified from literature review and as suggested by Shi, Cheung and Prendergast (2005) includes stock piling (SP), purchase acceleration (PA), brand switching (BS), spending more (SM) and product trial (PT). A sixth element of store

visit (SV) was also included in the research. The next step was to conduct a primary research, which involved a structured, and specifically designed questionnaire, which was self-administered in the month of May 2015 to 110 management students of 25-55 years age group. The questionnaires were administered at two BBA and PDM classes and in the college cafeteria. Respondents were randomly selected. 14 questionnaires were omitted from the analysis since they were not properly/completely filled. The questionnaire consisted of 13 questions which were divided in three sections-A, B & C. The first section (Section-A) consisted of 5 questions, which sought to obtain the demographic information. The second section (Section-B) consisted of 2 qualifying questions to ensure that the respondents are representative of the target population, who are aware of the different retail store formats. In cases where the response was negative, the interview was terminated and the questionnaire was discarded. The third section (Section-C) consisted of 6 questions on a 5-point Likert Scale ranging from 1 'Never' to 5 'Always', which were attempted to gain an insight into the consumers' behavior towards different retail store formats. The questions were asked about the most likely consumer response towards a retail store format.

The aim of the survey was to understand the consumers' behavior towards different types of retail formats in the FMCGs segment. A particular consumer behavioral response may be evoked by more than one type of a retail format. For example, brand switching may be induced by a convenience store, a discount store or a hypermarket. Similarly, a particular retail format may induce more than one type of consumer behavioral response. For example, a discount store may induce stock piling, purchase acceleration and brand switching also. Thus the hypothesis was designed to understand the relation between the two.

**TABLE 1: Retail Store Formats Considered In The FMCGs Segment**

| S. No. | Sector                     | Retail store formats considered                                                                                                                                                                       |
|--------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.     | Fast Moving Consumer Goods | Convenience Store, Super Market, Super Store, Hyper Market, Departmental Store, Discount Stores, Flea Market, Petrol Pump Retailing, Retail Chain, Stand Alone Stores and Independent Retail Outlets. |

After collecting the data, the data was prepared for further analysis. Chi Square test and Z- Test Analysis has been performed to study the impact of retail formats on the consumer behavior and to identify the most effective retail store format in the FMCGs segment from among the retail store formats considered. These retail store formats are capable of bringing the consumer responses such as store visit, stock piling, purchase acceleration, brand switching, spending more and product trial. The impact of independent variables (different retail store formats) on dependent variable (consumer response in terms of store visit, stock piling, purchase acceleration, brand switching, spending more and product trial)) was observed using Excel. The association between dependent and independent variable was studied using Chi Square and Z-Test analysis. After analyzing the impact of individual retail formats on the consumer buyer behavior, an in-depth analysis was also conducted using Z-Test to study the overall impact of retail formats on the consumer buyer behavior. The z- score has been calculated on the rankings basis.

144 On the basis of the above, the following hypothesis was developed to be tested-

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146  $H_0$ : In Fast Moving Consumer Goods segment the type of retail store format has no  
147 significant impact on the consumer buyer behavior.

148  $H_1$ : In Fast Moving Consumer Goods segment the type of retail store format has a  
149 significant impact on the consumer buyer behavior.

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151 The hypothesis was tested using Chi-Square and Z-Test analysis and before applying  
152 the tests the internal consistency of the data was verified using Cronbach alpha.

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#### 154 **IV. EMPIRICAL FINDINGS AND DISCUSSION**

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156 Cronbach's  $\alpha$  (alpha) is an important psychometric instrument to measure the  
157 reliability of the data. The reliability coefficient indicates that the type of retail  
158 formats used for analyzing the impact on consumer behavior is reliable. So, various  
159 statistical tools can be applied and tested.

160

**TABLE 2 : Reliability Test Conducted**

| S.NO. | TYPES OF STORES           | CRONBACH<br>$\alpha$ |
|-------|---------------------------|----------------------|
| 1     | Convenience Stores        | 0.67                 |
| 2     | Super Markets             | 0.94                 |
| 3     | Super Stores              | 0.92                 |
| 4     | Hypermarkets              | 0.92                 |
| 5     | Discount Stores           | 0.81                 |
| 6     | Flea Market               | 0.78                 |
| 7     | Petrol Pump Retail Stores | 0.51                 |
| 8     | Stand Alone Stores        | 0.96                 |
| 9     | Independent Stores        | 0.95                 |

161 An alpha value of 0.60 and 0.70 or above is considered to be the criterion for  
162 demonstrating internal consistency of new scales and established scales respectively.  
163 So, various statistical tools can be applied and tested. The cronbach alpha  
164 calculated for the scales is high except Petrol Pump Retail Stores. This indicates the  
165 reliability of the scales is reasonably high thus, depicting high internal consistency  
166 among the measurement items.

167

168 The Goodness of Fit chi-square tests whether the proportions of responses within each  
169 question are significantly different from a uniform distribution. The significance level  
170 where  $p < 0.05$  is used for interpretation.

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**TABLE 3.1: Goodness Of Fit Chi Square Test**

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| Factors                                     | Convenience Stores |                 | Super Markets |                 | Hyper Markets |                 | Super Stores |                 |
|---------------------------------------------|--------------------|-----------------|---------------|-----------------|---------------|-----------------|--------------|-----------------|
|                                             | $\chi^2$           | <i>p</i> -value | $\chi^2$      | <i>p</i> -value | $\chi^2$      | <i>p</i> -value | $\chi^2$     | <i>p</i> -value |
| Visit retail store for purchase             | 31,4               | .0001           | 37,9          | .0001           | 122,6         | .0001           | 24,5         | .0001           |
| Visit retail store for trying a new product | 21,31              | .0001           | 28,5          | .0001           | 41,3          | .0001           | 34,7         | .0001           |
| Retail store induces expenditure            | 19,2               | .0007           | 36,5          | .0001           | 38,2          | .0001           | 34,2         | .0001           |
| Retail store induces brand shifting         | 22,7               | .0001           | 28,7          | .0001           | 40,1          | .0001           | 46,7         | .0001           |
| Retail store accelerates purchase           | 14,1               | .0069           | 21,7          | .0001           | 39,1          | .0001           | 45,7         | .0001           |
| Retail store induces stock piling           | 16,9               | .002            | 20,4          | .0004           | 34,6          | .0001           | 43,7         | .0001           |

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176

177 **TABLE 3.2: Goodness of Fit Chi Square Test**

| Factors                                     | Discount Stores |                 | Flea Markets |                 | Petrol Pump Retailing |                 | Stand alone Stores |                 | Independent Retail Outlets |                 |
|---------------------------------------------|-----------------|-----------------|--------------|-----------------|-----------------------|-----------------|--------------------|-----------------|----------------------------|-----------------|
|                                             | $\chi^2$        | <i>p</i> -value | $\chi^2$     | <i>p</i> -value | $\chi^2$              | <i>p</i> -value | $\chi^2$           | <i>p</i> -value | $\chi^2$                   | <i>p</i> -value |
| Visit Retail store for purchase             | 12,1            | .0166           | 29,3         | .0001           | 77,1                  | .0001           | 11                 | .0265           | 4,34                       | .361            |
| Visit retail store for trying a new product | 9,17            | .0569           | 39,8         | .0001           | 26,5                  | .0001           | 14,0               | .0072           | 28,7                       | .0001           |
| Retail store induces expenditure            | 26,1            | .0001           | 62,0         | .0001           | 17,2                  | .0017           | 11,4               | .0001           | 5,55                       | .2353           |
| Retail store induces brand shifting         | 34,9            | .0001           | 22,7         | .0001           | 12,3                  | .0152           | 16,2               | .0027           | 11,8                       | .0189           |
| Retail store accelerates purchases          | 28,5            | .0001           | 22,7         | .0001           | 3,89                  | .421            | 16,6               | .0001           | 1,29                       | .863            |
| Retail store induces stock piling           | 13,0            | .0112           | 10,2         | .0001           | 5,82                  | .213            | 29,6               | .0001           | 15,8                       | .0001           |

178

179 Chi Square Test compares the observed data to the expected data under the  
 180 assumption of a uniform distribution and calculates the chi - square value and its  
 181 associated *p* value. It is evident that the majority of the respondents agreed  
 182 /stronglyagreed that thetype of retail formatused by the retailers has a significant  
 183 impact on the purchasing behavior of the consumers. This result is statistically  
 184 significant since  $p < 0.05$  **except in Stand-alone stores and petrol pump retail**  
 185 **stores**where the values are in significant.

The Chi square value (122.6) signifies that the Hypermarkets followed by the Convenience Stores and the Supermarkets are the most preferred retail store formats of the consumers for the purchase of FMCGs. On the other hand the  $p$ -value  $>0.05$  (0.361) at Independent Retail Outlets reflects that their influence is insignificant and not preferred by the consumers for the purchase of FMCGs.

It is also evident from the study that consumers want to prefer the Hypermarkets ( $\chi^2=41.3$ ) for trying a new product of daily use. However the impact of Discount Stores ( $p$ -value 0.0569) is least significant on the preference of consumers.

The Hypermarket ( $\chi^2=38.2$ ), the Supermarket ( $\chi^2=34.2$ ), and the Super Stores ( $\chi^2=34.2$ ), have the most significant impact in tempting the consumers for more expenditure. Conversely, the Independent Retail Stores have an insignificant impact ( $p$ -value 0.2353) on the consumers to spend more on FMCGs.

The study confirms that the Super Stores ( $\chi^2=46.7$ ), and the Hypermarkets ( $\chi^2=40.1$ ), have the most significant impact on the customers that induces them to change their brand of FMCGs. The study also suggests that the Independent Stores ( $p$ -value 0.0189) and Petrol Pump Retail Stores ( $p$ -value 0.0152) have lesser impact than the other types of retail stores on the Consumer's brand shifting decision of the FMCGs.

It is revealed from the study that the Hypermarkets ( $\chi^2=45.7$ ), the Super Stores ( $\chi^2=39.1$ ), and the Discount Stores ( $\chi^2=28.5$ ), have a significant influence on the customers, where as the Petrol Pump Retail Stores ( $p$ -value 0.421) and Independent Retail Stores ( $p$ -value 0.863) have an insignificant impact on the consumers to accelerate their purchase of the FMCGs.

It is evident from the data that the Petrol Pump Retail Stores ( $p$ -value 0.213) have no significant impact on the consumers to pile a stock of FMCGs.

## Z TEST

To analyze the data further, and to conclude the findings, Z-test is used as a statistical tool in the research. The Level of significance used is 5%, which is a commonly used level of significance by the researchers.

Z Test was conducted to measure the significant impact of each store on the purchasing behaviour of consumers in South Africa.

**TABLE4: Z-Test scores for individual retail stores**

| S.NO. | TYPES OF STORES           | Z test | $p$ -value |
|-------|---------------------------|--------|------------|
| 1     | Convenience Stores        | 3.82   | .0001      |
| 2     | Super Markets             | 4.27   | .0001      |
| 3     | Super Stores              | 7      | .0001      |
| 4     | Hypermarkets              | -5.55  | .0001      |
| 5     | Discount Stores           | 1.27   | .204       |
| 6     | Flea Market               | 7.45   | .0001      |
| 7     | Petrol Pump Retail Stores | 0.27   | .787       |

|   |                    |      |       |
|---|--------------------|------|-------|
| 8 | Stand Alone Stores | 4.91 | .0001 |
| 9 | Independent Stores | 1.82 | .0687 |

Table 4 above reflects that the Convenience Stores, Super Markets, Super Stores, Hypermarkets, Flea Markets and Stand Alone Stores have significant impact on the consumers' purchasing behavior of FMCGs.

It also emphasizes that the Discount Stores, the Petrol Pump Retail Stores and the Independent Stores don't have a significant influence on the consumers' purchasing behavior of FMCGs.

**TABLE 5: Z-Test Scores**

| X            | f'     | F          | d = (X - $\bar{x}$ ) | d <sup>2</sup>                  | f*d <sup>2</sup> | f*X         |
|--------------|--------|------------|----------------------|---------------------------------|------------------|-------------|
| 1            | 115,67 | 116        | -2                   | 4                               | 464              | 116         |
| 2            | 124,44 | 124        | -1                   | 1                               | 124              | 248         |
| 3            | 148,56 | 149        | 0                    | 0                               | 0                | 447         |
| 4            | 127,56 | 127        | 1                    | 1                               | 127              | 508         |
| 5            | 59,78  | 60         | 2                    | 4                               | 240              | 300         |
| <b>Total</b> |        | <b>576</b> | <b>0</b>             | <b><math>\sum d^2=10</math></b> | <b>955</b>       | <b>1619</b> |

$$\sum f*d^2=955 \quad \sum F*X=1619$$

$$\sigma_x = \sqrt{\sum d^2 / (n-1)} \quad \text{Where } d^2 = (X - \bar{x})^2$$

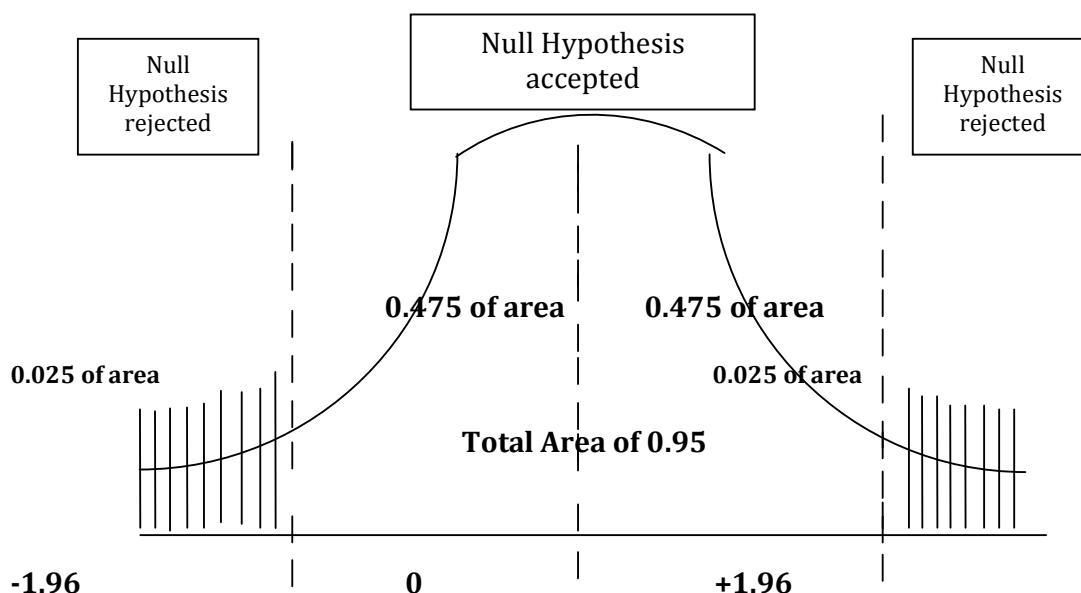
$$\sigma_x = 0,02$$

$$\mu = \sum f*X / n = 2,81$$

$$Z = (X - \mu) / \sigma_x = 9,50$$

However the researcher made an attempt to do an in-depth analysis in Table 5 to study the overall impact of the retail stores of South Africa on the consumers' buying behavior.

**FIGURE 1: Two tailed Z-test( $\alpha=0.05$ )**



Rejection Region for Two-Tailed Z Test ( $H_1: \mu \neq \mu_0$ ) with  $\alpha = 0.05$ . The decision rule is: Reject  $H_0$  if  $Z \leq -1.960$  or if  $Z \geq 1.960$ .

From the calculations done above the findings of the Z-test confirms that the null hypothesis is rejected due to the value of Z lying outside the acceptance region as reflected in Figure 1 above,  **$Z = 9.5$  which is  $> 1.96$ . Hence the alternate hypothesis is accepted.**

## V. DISCUSSION OF THE FINDINGS OF THE STUDY

It is evident from the statistical test conducted that different retail formats invoke different variables of consumer behavior such as store visit, stock piling, purchase acceleration, brand switching, spending more and new product trial. Thus consumers may see the store as an ideal store for trying a new product or for brand switching or for other variables of the consumer behavior.

The above finding is consistent with the findings of Kaul S (2007), who suggests that consumer-shopping behavior is seen from a holistic perspective of entire shopping experience and the retailer focus is not on the store itself but on what does the store means to the shoppers.

The study by Carpenter and Brosdahl (2011) that the unique combinations of store attributes can predict the format choices is reinforced by the research findings that the consumers react differently to the different types of retail store formats.

The study will give the retailers an insight into selecting the most appropriate retail format and would also help them align their retail store format selected with the type of consumer response they would like to evoke.

## VI. LIMITATIONS

314 The research study has certain limitations, for instance the respondents were chosen  
315 from Sandton, Johannesburg area only; it was not conducted in other geographical  
316 regions of the country and hence the results of the study cannot be generalized.

317  
318 The study only considered the Fast Moving Consumer Goods (FMCGs) segment of  
319 the retail industry and ignored other segments; hence the findings of the research  
320 should not be applied to other segments.

321  
322 The study relied on Random sampling. English language was used to draft and design  
323 the questionnaire; regional language was not used in the study.

324  
325 The study is conducted in the year 2015, however the retail store dynamics and the  
326 consequential consumer behavior is very fluid in nature. Thus the research findings  
327 are limited to the present day situation and should not be generalized for future  
328 periods of time.

## 329 330 **VII.CONCLUSION**

331  
332 It became apparent from the exploratory study conducted that the retail store formats  
333 have a significant impact on the consumer buyer behavior in the FMCGs market in  
334 South Africa. However, the degree of impact of different retail formats on consumer  
335 behavior is diverse and some of the retail formats do not have a significant impact on  
336 the consumer buyer behavior.

337  
338 It was noticed that the Hypermarket followed by Convenience Stores and Super  
339 market are the most preferred retail stores of customers for purchase of FMCGs. On  
340 the other hand the  $p$ -value  $>0.05$  (0.361) at the Independent Retail Outlets reflects that  
341 their influence is insignificant and not preferred by customers for purchase of  
342 FMCGs.

343  
344 Thus it becomes evident that the retailers in South Africa cannot overlook the need to  
345 study and analyze the most appropriate retail formats to influence the consumers'  
346 behavior in the FMCGs market. Retailers can choose among the most popular retail  
347 formats in FMCGs that have shown a significant impact on the consumers' behavior.

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