

## Retail Outlet Attributes Influencing Store Choice for Roots and Tubers in Trinidad and Tobago

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### Abstract

From a retail outlet perspective, traditionally fresh produce, including Roots and Tuber (R&Ts) was predominantly sold in the public markets and roadside stalls in the Caribbean. Today a casual stroll in the supermarket will reveal the wide array of R&Ts available to consumers. A review of the food marketing literature reveals that though there have been extensive studies undertaken in developed countries on patronage of traditional and modern food retail outlets, there is a dearth of research on the changing food market in the Caribbean and why some people still visit the public markets. This study focuses on the outlet attributes as factors influencing shoppers' retail outlet choice for R&Ts in Trinidad and Tobago. The results obtained indicated that the traditional outlet is still the preferred outlet for R&Ts. In the opinion of the customers Price of R&Ts, Variety of R&Ts, Quality of R&Ts, Ability to self select R&Ts, Ability to haggle over price, Outlet near home, and Friendliness of sales persons were statistically different and play an important role in the customers' decision regarding the choice of retail outlet.

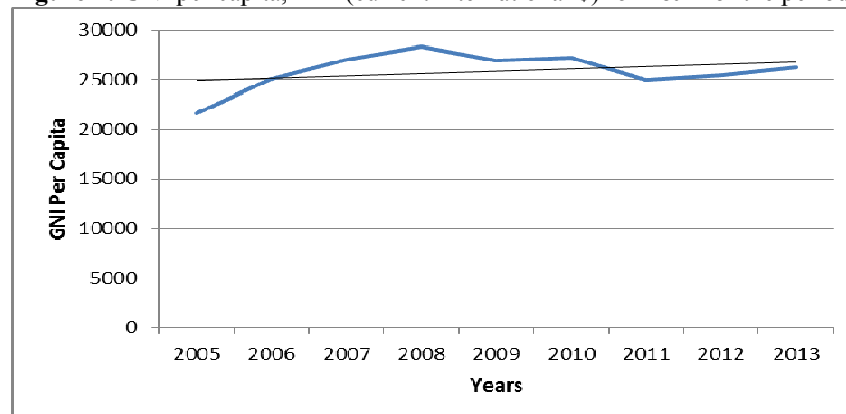
**Keywords:** Retail outlet attributes, Retail outlet choice, Roots and Tubers, Traditional outlet, Modern outlet

### Introduction

The proliferation of roadside retailers in Trinidad and Tobago (T&T) in the last decade or so makes one wonder if T&T is trying to become the 'retailing capital of the Caribbean'. Of particular importance in this regard is the establishment of many of these roadside retailers in very close proximity to established registered similar businesses. The food and grocery sector is a good example, with numerous roadside fresh fruit, vegetable and roots and tubers (R&Ts) stalls springing up right around supermarkets. The survival and profitability of such ventures as they try to compete with the modern retailers makes for an exciting and informative area of research as the retailing sector in many developing countries is being transformed. This paper represents just one in a series of planned studies, as we try to explore food and grocery retailing in the Caribbean: Where do Trinidadian consumers purchase R&Ts and why? For purposes of this research the R&Ts that are being considered are the starchy ones – Cassava (*Manihot esculenta*), Dasheen (*Colocasia esculenta*), Edo (eddoe) (*Xanthosoma spp.*; *Colocasia spp.*), Potato (*Solanum tuberosum*), Potato, sweet (*Ipomoea batatas*), Yam (*Dioscorea spp.*) Tannia (*Xanthosoma sagittifolium*).

The importance of R&Ts consumption cannot be overemphasized in the Caribbean region given the rising level of the food import bill in recent years. Traditionally, the bulk of the carbohydrates in the diet of Caribbean people were supplied by the R&Ts. As Bennett's Law states: The ratio of starchy foods in the diet falls as income rises. Further, as income rises and people become more time pressured "one stop shopping" should also increase. So what factors influences the shopper's choice of retail outlet is of paramount importance to business operators as they vie for market share. Figure 1 illustrates the Gross National Income (GNI) per capita, PPP (current international \$) for T&T for the period 2005 to 2013, with a trendline. As can be observed in this graph there was an upward trend for the period, suggesting a reduction in the consumption of starchy R&Ts and an increase in supermarket shopping might be taking place.

**Figure 1:** GNI per capita, PPP (current international \$) for T&T for the period 2005 to 2013.



Source: World Development Indicators

Consumer behavior can be defined as the study of how, where, when and why people buy, use and get rid of products or services. This study attempts to identify the retail outlet attributes that influence the shoppers' choice between modern outlets (supermarkets) and Traditional outlets (public market and roadside stalls). It is well documented in the literature that supermarkets are impacting on food retailing in both developed and some developing countries, so what is the position in T&T?

The rest of the paper is organized as follows. The next section provides a brief review of some relevant literature to this study. This is followed by a statement of the problems addressed in the study. Thereafter the analytical approach and data used in the study is described. This is followed by the results, and finally the conclusions and discussion.

### **Literature Review**

In a very early study on store image and choice Martineau (1958) in a paper titled 'The Personality of the Retail Store' opined that the store's personality or image has two components, its functional qualities and its psychological attributes. The functional attributes included such attributes as, location, assortment of products and store layout, while the psychological attributes related to the feelings generated by functional factors such as spacious, not crowded etc. Since then there has been many other aspects of the store that have been identified as influencing retail outlet choice.

In a subsequent study Kunkel J. H. and Berry L. L. (1968) suggested that part of the problem academics and practitioners encountered while researching retail image was due to the difficulty in arriving at a consensus of what exactly is store image. They suggested the following definition: 'retail store image is the total conceptualized or expected reinforcement that a person associates with shopping at a particular store'. In an attempt to operationalize their definition they suggested the following twelve components of store image: Price of merchandise; Quality of merchandise; Assortment of merchandise; Fashion of merchandise; Sales personnel; Locational convenience, Other convenience factors; Services; Sales promotions; Advertising; Store atmosphere and Reputation on adjustments. Others, for example, Saraswat M. et al (2010) define store image as the symbolic, experiential expression of the manner in which consumers see or visualize a store.

Prashar M. (2013) examined retail outlet attributes that acted as drivers of store selection in the Indian food and grocery sector for three formats, convenience stores, supermarkets and hypermarkets. This study found that availability and variety of products at store, store ambience, service and facilities, and value for money were the key factors in store selection. Further, this study found that store location was outperformed by other store atmospherics. Zameer A. and Mukherjee D. (2013) also studied the food and grocery retail patronage behavior in India between Kirana stores and modern retailers; however, they focused on urban consumers. In this study seventeen factors were analyzed: Distance (convenience of location), Parking facility, Product variety, Product quantity to be purchased, Expected prices, Phone order facility, Home delivery facility, Sales promotion schemes, Credit facility, Bargaining facility, Product quality, Self-service facility, Time required for shopping (convenience of quick purchase), Goods return facility, Goods exchange facility and Availability of loyalty programs. In this study they found that there was a significant difference in the role played by convenience of location, parking facility, product variety, product quantity, home-delivery facility, sales promotion schemes, bargaining facility, self-service facility, goods return facility, goods exchange facility and availability of loyalty programs between the two formats.

Panda A. (2013) analyzed fifteen variable thought to influence selection between traditional outlets and modern outlets in Odisha state in India, using the Paired t-test approach. Many of the variables were similar to those analyzed by Zameer A. and Mukherjee D. (2011). In this study location convenience, parking facility, product variety, product volume, home delivery facility, good return facility, goods exchange policy and customer loyalty programs were again found to be different between the two formats.

Carpenter, M. and Moore, M. (2006) looked at consumer demographics, store attributes and retail outlet choice in the US grocery market. In this study they specified four outlet types, specialty stores, supermarkets, supercenters and warehouse clubs. They found that cleanliness was the single most important attribute influencing retail outlet choice across all retail formats. The second most important attribute for frequent shoppers for specialty grocery, in the supermarket and warehouse club formats was product selection. Several other researchers such as, Atul, K. & Sanjoy, R. (2013), Dhurup, M. et al (2013) have contributed to the debate on what drives retail outlet choice.

From very early, Lindquist J. D. (1974) recognized the expansion of the list of attributes being considered in the pursuit of knowledge of the influence of store attributes on consumer attitudes. As an alternative the following nine general groups were offered for consideration: merchandise, service, clientele, physical facilities, convenience, promotion, store atmosphere, institutional factors, and post-transaction satisfaction. It is against this backdrop the following store attributes were identified for this study: Price of R&Ts, Variety of R&Ts available, Presentation of R&Ts, Quality of R&Ts, Ability to self select R&Ts, Ability to argue over price, Availability of other food products, Outlet near home, Ease of getting to and from outlet, Cleanliness

of place, Appearance of place, Crowdedness of place, Speed of being able to select item, Speed of being able to pay for item, Outlet recommended by friends, Outlet frequented by friends, Customer advice offered by sellers, Friendliness of sales persons, and Operating hours. In an attempt to increase our knowledge on food marketing in the Caribbean in general, and more specifically in T&T, this study focuses on how different the selected attributes were perceived by persons and as such influenced where persons purchased R&Ts - traditional format (public markets and roadside stalls) versus the modern supermarkets.

### Research Problems

- (1) To identify the preferred outlet for the purchase of R&Ts.
- (2) To rank the importance of the identified retail outlet attributes in the choice of retail outlet for the purchase of R&Ts.
- (3) To test if there was a significant difference in the ranking of the attributes between traditional and modern outlet shoppers in T&T.

### Research Hypotheses

*H<sub>01</sub>: There is no significant difference in perception regarding the importance associated with price of R&Ts between traditional and modern outlet shoppers.*

*H<sub>02</sub>: There is no significant difference in perception regarding the importance associated with variety of R&Ts between traditional and modern outlet shoppers.*

*H<sub>03</sub>: There is no significant difference in perception regarding the importance associated with presentation of R&Ts between traditional and modern outlet shoppers.*

*H<sub>04</sub>: There is no significant difference in perception regarding the importance associated with quality of R&Ts between traditional and modern outlet shoppers.*

*H<sub>05</sub>: There is no significant difference in perception regarding the importance associated with ability to self select R&Ts between traditional and modern outlet shoppers.*

*H<sub>06</sub>: There is no significant difference in perception regarding the importance associated with ability to haggle/argue over price of between traditional and modern outlet shoppers.*

*H<sub>07</sub>: There is no significant difference in perception regarding the importance associated with availability of other food products between traditional and modern outlet shoppers.*

*H<sub>08</sub>: There is no significant difference in perception regarding the importance associated with outlet being near home between traditional and modern outlet shoppers.*

*H<sub>09</sub>: There is no significant difference in perception regarding the importance associated with ease of getting to and from the outlet between traditional and modern outlet shoppers.*

*H<sub>010</sub>: There is no significant difference in perception regarding the importance associated with ease of parking between traditional and modern outlet shoppers.*

*H<sub>011</sub>: There is no significant difference in perception regarding the importance associated with cleanliness of place between traditional and modern outlet shoppers.*

*H<sub>012</sub>: There is no significant difference in perception regarding the importance associated with appearance of place between traditional and modern outlet shoppers.*

*H<sub>013</sub>: There is no significant difference in perception regarding the importance associated with crowdedness of place between traditional and modern outlet shoppers.*

*H<sub>014</sub>: There is no significant difference in perception regarding the importance associated with speed of being able to select items between traditional and modern outlet shoppers.*

*H<sub>015</sub>: There is no significant difference in perception regarding the importance associated with speed of being able to pay for items between traditional and modern outlet shoppers.*

*H<sub>016</sub>: There is no significant difference in perception regarding the importance associated with outlet being recommended by a friend between traditional and modern outlet shoppers.*

*H<sub>017</sub>: There is no significant difference in perception regarding the importance associated with outlet being liked by a friend between traditional and modern outlet shoppers.*

*H<sub>018</sub>: There is no significant difference in perception regarding the importance associated with customer advice offered by sellers between traditional and modern outlet shoppers.*

*H<sub>019</sub>: There is no significant difference in perception regarding the importance associated with friendliness of sale persons between traditional and modern outlet shoppers.*

*H<sub>020</sub>: There is no significant difference in perception regarding the importance associated with operating hours between traditional and modern outlet shoppers.*

### Analytical Approach and Data

To investigate if there was a difference in importance between the patrons of modern retail outlets and the traditional formats a questionnaire was developed and pretested in January 2015. The questionnaire tried to

identify the main choice of retail outlet used by respondents when purchasing R&Ts. The respondents were asked to rank the identified variables on a scale of 1 to 5, where 1 was not important and 5 very important. Point Score Analysis, Ilkbery, B. W. (1977) was used to identify the ranking of the identified variables and Independent samples t-test was used to identify if there was a significant difference between the rankings of the attributes for shoppers at the two types of outlets. Equation 1 illustrates the Point Score formula. The decision rule employed in this study is as follows: reject the null hypothesis if the probability of the test statistic is less than or equal to alpha 0.05.

**Equation 1:**

$$\text{Point Score} = \sum_{i=1}^5 r_i n_i$$

Where: r = rank

i = ranking level.....i = 1, 2, 3, 4 or 5

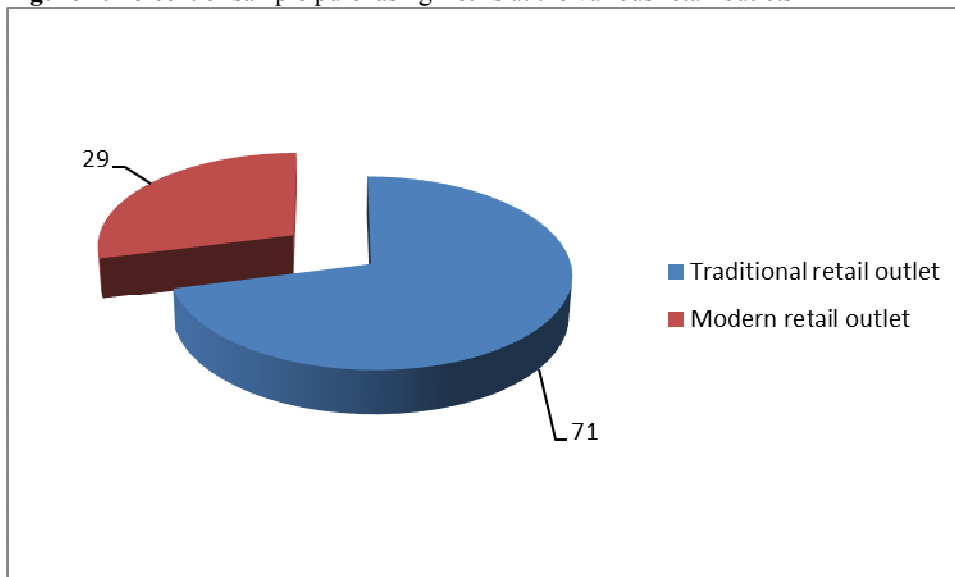
n = number of respondents that choose the respective 'i'

A convenience sampling method was used to collect the data. Questionnaires were administered to prospective respondents who were willing to participate at banks, hospitals, shopping malls and outside supermarkets and in public markets during the months of February and March 2015, in Trinidad and Tobago. A total of 600 questionnaires were administered of which 498 were fully completed and returned, giving a response rate of 83 percent. The relevant data was analyzed using SPSS version 21.

### Results

Figure 2 illustrates the percent of the sample purchasing their R&Ts at the various retail outlets. As is seen in this figure the majority of the sample - 71% - purchased their R&Ts at the traditional retail outlet, public market and roadside fruit stalls.

**Figure 2:** Percent of sample purchasing R&Ts at the various retail outlets



The point score of each variable was calculated using the formula in equation 1 and the results are presented in tables 1 and 2, from most important to least important. There were 354 traditional outlet shoppers; as such the maximum point score possible was 1770 while for supermarket shoppers the maximum possible was 720 (144x5). It is important to note that for both outlets the top 3 ranked attributes were the same, but in different order of importance. In the case of the supermarket shoppers the ability to haggle over price was considered of least importance, while outlet recommended by friends received the lowest rank for traditional market shoppers.

**Table 1:** Point Scores of retail outlet attributes of traditional outlet shoppers

Rank	Attribute	Traditional outlet Point Scores
1	Quality of R&Ts	1543
2	Cleanliness of place	1522
3	Appearance of place	1473
4	Ability to self-select R&Ts	1447
5	Friendliness of sales persons	1430
6	Price of R&Ts	1408
7	Presentation of R&Ts	1379
8	Variety of R&Ts	1314
9	Operating hours	1309
10	Ease of getting to and from outlet	1208
11	Speed of being able to pay	1188
12	Customer advice offered by sellers	1182
13	Crowdedness of place	1180
14	Speed of being able to select item	1131
15	Availability of other food products	1124
16	Ease of parking	1120
17	Outlet near home	1074
18	Ability to argue over price	1038
19	Outlet frequented by friends	993
20	Outlet recommended by friends	977

**Table 2:** Point Scores of retail outlet attributes of supermarket shoppers

Rank	Attribute	Supermarket outlet Point Scores
1	Cleanliness of place	620
2	Appearance of place	588
3	Quality of R&Ts	580
4	Presentation of R&Ts	546
5	Friendliness of sales persons	536
6	Ability to self-select R&Ts	519
7	Operating hours	510
8	Crowdedness of place	502
9	Ease of getting to and from outlet	497
10	Variety of R&Ts	496
11	Price of R&Ts	495
12	Ease of parking	490
13	Speed of being able to pay for items	484
14	Outlet near home	482
15	Customer advice offered by sellers	478
16	Availability of other food products	466
17	Speed of being able to select items	464
18	Outlet recommended by friends	414
19	Outlet frequented by friends	402
20	Ability to argue over price	383

Table 3 illustrates the means and mean difference for the twenty attributes analyzed. There was a difference in the means for all of the attributes, with eleven of the means for the traditional outlet being ranked higher (more important) than that for supermarket outlets. The traditional outlet mean scores fell between 4.36 to 2.76 (important to neutral), a narrower range than the supermarket means, which were between 4.31 to 2.66 (important to neutral).

**Table 3:** Difference in means of outlet attributes between traditional and modern outlet

Attribute	Traditional	Modern	Difference
Price of R&Ts	3.9774	3.4375	0.53990
Variety of R&Ts	3.7119	3.4444	0.26742
Presentation of R&Ts	3.8955	3.7917	0.10381
Quality of R&Ts	4.3588	4.0278	0.33098
Ability to self select R&Ts	4.0876	3.6042	0.48340
Ability to haggle over price	2.9322	2.6597	0.27248
Availability of other food products	3.1751	3.2361	-0.06097
Outlet near home	3.0339	3.3472	-0.31332
Ease of getting to and from outlet	3.4124	3.4514	-0.03896
Ease of parking	3.1638	3.4028	-0.23894
Cleanliness of place	4.2994	4.3056	-0.0062
Appearance of place	4.1610	4.0833	0.07768
Crowdedness of place	3.3333	3.4861	-0.15278
Speed of being able to select items	3.1949	3.2222	-0.02731
Speed of being able to pay for items	3.3559	3.3611	-0.00518
Outlet recommended by friends	2.7599	2.8750	-0.11511
Outlet frequented by friends	2.8051	2.7917	0.01342
Customer advice offered by sellers	3.3390	3.3194	0.01954
Friendliness of sales persons	4.0395	3.7222	0.31733
Operating hours	3.6977	3.5417	0.15607

Table 4 shows the results of the independent sample t-test conducted on the data collected and the hypotheses test results. The Levene's Test for equality of variances was used to check the variance between the two samples. For three of the attributes tested the  $p < 0.05$  were obtained and as a result the null hypotheses are rejected (price of R&Ts, variety of R&Ts and friendliness of sales persons). We can therefore proceed for these three variables on the assumption of inequality of variances. For the remaining seventeen variables we do not reject the null hypotheses for the Levene's Test and proceed with the homogeneity of variance between the two groups.

**Table 4:** Equality of means t-test and hypotheses test results

Attribute	Independent Sample t-test Sig.(2-tailed)	Accept or reject null hypothesis
Price of R&Ts	0.000	Reject
Variety of R&Ts	0.031	Reject
Presentation of R&Ts	0.368	Accept
Quality of R&Ts	0.001	Reject
Ability to self select R&Ts	0.031	Reject
Ability to haggle over price	0.032	Reject
Availability of other food products	0.619	Accept
Outlet near home	0.015	Reject
Ease of getting to and from outlet	0.749	Accept
Ease of parking	0.084	Accept
Cleanliness of place	0.467	Accept
Appearance of place	0.444	Accept
Crowdedness of place	0.186	Accept
Speed of being able to select items	0.824	Accept
Speed of being able to pay for items	0.966	Accept
Outlet recommended by friends	0.336	Accept
Outlet liked by friends	0.913	Accept
Customer advice offered by sellers	0.827	Accept
Friendliness of sale person	0.006	Reject
Operating hours	0.225	Accept

Of the twenty attributes of the outlets tested seven were significantly different for the two groups of shoppers. As such the null hypotheses are rejected and the alternatives are accepted:

*H<sub>A1</sub>*: There is a significant difference in perception regarding the importance associated with price of R&Ts between traditional and modern outlet shoppers.

*H<sub>A2</sub>*: There is a significant difference in perception regarding the importance associated with variety of R&Ts between traditional and modern outlet shoppers.

*H<sub>A4</sub>*: There is a significant difference in perception regarding the importance associated with quality of R&Ts between traditional and modern outlet shoppers.

*H<sub>A5</sub>*: There is a significant difference in perception regarding the importance associated with ability to self select R&Ts between traditional and modern outlet shoppers.

*H<sub>A6</sub>*: There is a significant difference in perception regarding the importance associated with ability to haggle/argue over price of between traditional and modern outlet shoppers.

*H<sub>A8</sub>*: There is a significant difference in perception regarding the importance associated with outlet being near home between traditional and modern outlet shoppers.

*H<sub>A19</sub>*: There is a significant difference in perception regarding the importance associated with friendliness of sale persons between traditional and modern outlet shoppers.

The results suggest that there is sufficient difference in the perceived importance of the attributes for operators of the various outlets to pay close attention to how they target their potential patrons.

### Conclusions and Discussion

This study offers an insight into the choice of retail outlet for R&Ts by Trinidadians and Tobagonians. The results suggest that the traditional format is the preferred retail outlet when shopping for R&Ts, with more than two thirds of the sample choosing this format. The following attributes are considered important by both outlet shoppers, obtaining means scores of equal to and greater than 4 - Quality of R&Ts, Cleanliness of place, Appearance of place, Friendliness of sales persons, and Presentation of R&Ts. However, the results indicate that patrons at both outlets place paramount importance on cleanliness of place, appearance of place and the quality of R&Ts offered, as these attributes occupied the top three positions for both groups.

In the opinion of the customers Price of R&Ts, Variety of R&Ts, Quality of R&Ts, Ability to self select R&Ts, Ability to haggle over price, Outlet near home, and Friendliness of sales persons were statistically different and play an important role in the customers' decision regarding the choice of retail outlet. It can be inferred that the customers prefer the traditional outlets because of Price of R&Ts, Variety of R&Ts, Quality of R&Ts, Ability to self select R&Ts, Friendliness of sales persons, and Ability to haggle over price, as the means were higher than those of the modern outlet. Likewise, the modern outlets were preferred because of Outlet's proximity to home.

A unique outlet image is one of the retailer's most valuable marketing assets. Despite the growing concerns that supermarkets are coercing shoppers from traditional retail formats, this study found that public markets and roadside stalls are still the preferred place for Trinidadians to purchase R&Ts. However, as the results of this study suggests attributes such as cleanliness of place, appearance of place, and presentation of R&Ts are considered important to both group of shoppers and as such should be given special attention. Armed with this information outlet operators should endeavor to enhance their surroundings as they strive to create a unique image and competitive advantage in the T&T food and grocery sector.

### References

- Atul, K. and Sanjoy, R. (2013), Store Attribute and Retail Format Choice. *Advances in Management*, 6 (11), 27 - 33.
- Carpenter, J. & M. Moore (2006), Consumer Demographics, Store Attributes, and Retail Format Choice in the US Grocery Market. *International Journal of Retail & Distribution Management*, 34 (6), 434- 452.
- Dhurup, M. Mafini, C. Mathaba, R. L. (2013), Store Image Factors Influencing Store Choice among Sportswear Consumers: Baseline Findings from South Africa. *Mediterranean Journal of Social Sciences*, 4 (14), 359-370.
- Hansen, R. A. and Deutscher, T. (1977-1978), An Empirical Investigation of Attribute Importance in Retail Store Selection. *Journal of Retailing*, 59-72
- Ilkbery, B. W. (1977), Point Score Analysis: A Methodological Framework for Analyzing the Decision-making Process in Agriculture, *Tijdschrift voor Economische en Sociale Geographie*, 68, 66-71
- Kunkel, J. H. and Berry, L. L (1968) A Behavioral Conception of Retail Image. *Journal of Marketing*. 32 October, 21-26
- Lindquist, J. D. 1974. Meaning of Image: A Survey of Empirical and Hypothetical Evidence. *Journal of Retailing* 50, 29-38.
- Martineau. P. (1958), "The Personality of the retail store", *Harvard Business Review*, 36, 47-55
- Panda, A. (2013). Customer Patronage towards Food and Grocery Retail- A Case Study. *Global Journal of Management and Business Studies*. 3 (9), 955-960
- Polat, C., Kulter, B. (2007). The factors that affect the retail store preferences of consumers: an application on

- the consumers in Niğde. 12th National Marketing Conference, Sakarya, Turkey.
- Prasad C. J. S., & A. R. Aryasri (2011). Effect of Shopper Attributes on Retail Format Choice Behavior for Food and Grocery Retailing in India. *International Journal of Retail & Distribution Management*, 39 (1), 68- 86.
- Prashar, P. (2013). Drivers of Store Choice in an Evolving Market: An empirical study. *International Journal of Advancement in Research & Technology*. 2(8), 195-202.
- Saraswat, A., Mammen, T., Aagja, J. P. & Tewari, R. (2010). Building store brands using image differentiation. *Journal of Indian Business Research*. 2(3), 166-180.
- Sinha, P K, & Banerjee, A. (2004). Store choice behavior in an evolving market. *International Journal of Retail and Distribution Management*. 32(10), 482–494.
- Tandon, Sharad, Maurice R. Landes, and Andrea Woolverton. *The Expansion of Modern Grocery Retailing and Trade in Developing Countries*. ERR-122. U.S. Dept. of Agriculture, Econ. Res. Serv. July 2011.
- Zameer, A and Mukherjee D. (2013). Food and Grocery Retail: Patronage Behavior of Indian Urban Consumers. *South Asian Journal Of Management*. 18 (1), 119-149.



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