

THE IMPACT OF THE GROCERY SHOPPING ENVIRONMENT ON CUSTOMER DWELL TIME WITH SPECIAL REFERENCE TO SUPERMARKETS IN WESTERN PROVINCE, SRI LANKA

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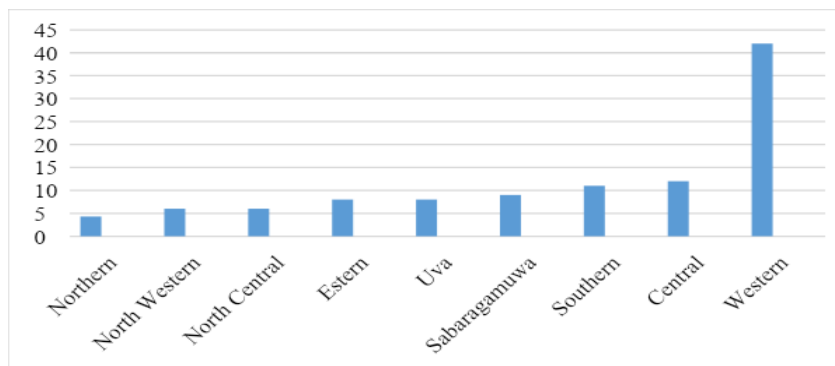
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INTRODUCTION

The term "retail" consists of the activities used to sell goods and services to the public for consumption. This study focuses on grocery shopping in the Sri Lankan context. About 325 supermarket stores in the country's largest cities sell FMCG goods like supermarket chains. Around 200,000 retail and wholesale trading businesses and about 2,500 supermarkets are dispersed nationwide (Anuradhi & Randinu, 2020).

This study focuses on the concept of "Customer Dwell Time." Customer dwell time is how long people are likely to spend looking at signage and display, comparing goods, buying goods, and other activities. This research focuses on the in-store retailing dwell time of the customer in the grocery store context because today's customers are very busy, prefer to stay in one place for a short time, avoid store traffic, and buy online a lot. To overcome the challenge, grocery stores are paying particular attention to the store environment. According to Jochen and Ronja (2018), the one-way business may stand out by offering a shopping environment that is tailored to match customers' requirements and expectations, not just in terms of the goods, the ease of use, and the price, but also in terms of a welcoming and exciting environment. This study examines supermarkets in the Western province of Sri Lanka because, according to Figure 1, the most significant number of supermarkets in Sri Lanka is in the Western province.

Figure 1
Supermarkets in Sri Lanka



The study outcomes would be more important to retailers, retail managers, and entrepreneurs who engage with the retail industry in Sri Lanka or the global context. Similarly, this research will contribute to the Sri Lankan government to prepare policies and regulations for the retail industry. This study will benefit future researchers when researching the retail industry and

future academicians to understand better the retail industry, grocery shopping environment, and customer dwell time.

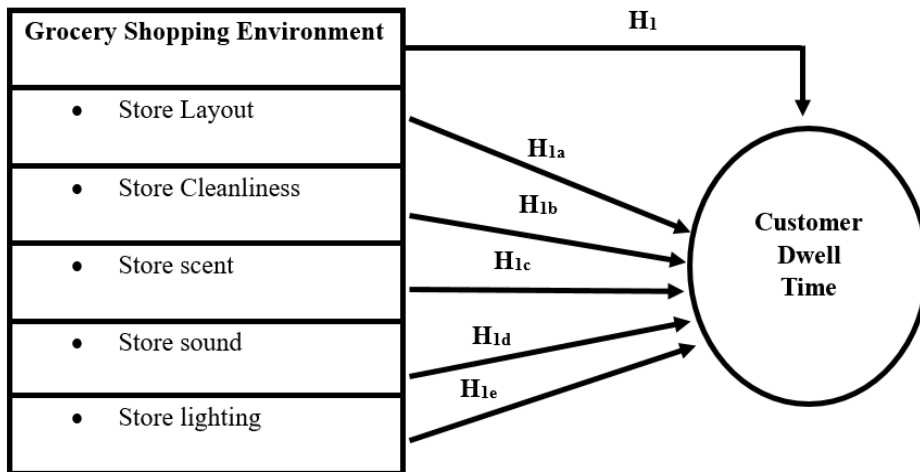
The sample will only include 384 residents in Sri Lanka's Western province due to accessibility issues. As an individual does this research, getting a large sample size is not manageable, thus resulting in less representation of the population. The lack of substantial secondary literature on the subject is another limitation of this study.

METHODOLOGY

The reasoned action approach is a well-known and often-used framework for deciphering and forecasting human behavior (Fishbein & Ajzen, 2010). Applying the TRA model, this study suggests that different behavioral beliefs of consumers on the grocery shopping environment will impact customer dwell time, and the researcher used the following conceptual framework.

Figure 2

Conceptual Framework



Sources (Richard & Eric, 2000)

The Hypotheses of the Study

H₁: The grocery shopping environment impacts customer dwell time towards supermarkets in Sri Lanka.

H_{1a}: Store layout impacts customer dwell time towards supermarkets in Sri Lanka.

H_{1b}: Store cleanliness impacts customer dwell time towards supermarkets in Sri Lanka.

H_{1c}: Store scent impacts customer dwell time towards supermarkets in Sri Lanka.

H_{1d}: Store sound impacts customer dwell time towards supermarkets in Sri Lanka.

H_{1e}: Store lighting impacts customer dwell time towards supermarkets in Sri Lanka.

Operationalization of Variables

Table 1 describes and indicates measures relevant to each variable.

Table 1
Operationalization Table

Variable	Dimension	Indicator	Source	Measurement Scale
Customer Dwell Time		I like to spend extra time searching for information in the supermarket.	(Silvia & Rodolfo, 2018)	Five Point Likert Scale
		I would stay in the supermarket longer if I had more time.		
		The time I spend in this supermarket has been worth me.		
Grocery Shopping Environment	Store Layout (SLY)	The space for customer shopping inside the supermarket and across the racks is good.	(V V Devi, 2016)	Five Point Likert Scale
		The way product categories/departments are arranged in the supermarket is good.		
		The arrangement of fixtures makes all the products in the supermarket accessible.		
		Sufficient space is allocated for trolley movement within the supermarket.		
	Store Cleanliness (SC)	The cleanliness of the supermarket's floor motivates me to buy more.	(Hussain & Ali, 2015)	Five Point Likert Scale
		The clean shelves of a supermarket motivate me to stay more.		
		The cleanliness of the supermarket outlet attracts me to visit again.		
		The supermarket's cleanliness creates a positive image in my mind.		
	Store Scent (SSNT)	The scent in the supermarket encourages me to purchase more.	(Hussain & Ali, 2015)	Five Point Likert Scale
		The scent in the supermarket makes me revisit the retail chain outlet again.		
		The smell of the supermarket makes me stay there more time.		
	Store Sound (SS)	The sufficient volume of the background music of the supermarket makes me stay more time.	(Hussain & Ali, 2015)	Five Point Likert Scale

		Listening to music creates a relaxed atmosphere while shopping in the supermarket.		
		The adequate rhythm of the background music in the supermarket makes me comfortable while shopping.		
		The sufficient volume of the background music in the supermarket makes me stay for more time in the outlet.		
	Store Lighting (SL)	The lighting in the supermarket is pleasing to the eyes and encourages me to stay longer.	(Hussain & Ali, 2015)	Five Point Likert Scale
		The lighting inside the supermarket makes things more visible and attractive to me.		
		The lighting in the area of products in the supermarket allows me to evaluate the quality of the product.		
		The different lighting used in different areas inside the supermarket is important when shopping.		

Population and Sample

The population for this study was identified as the customers who shop in grocery stores in Western province, Sri Lanka. The researcher will employ convenient sampling as a non-probability sampling technique in this study. As the population is unknown, the researcher will select a sample size 384 to distribute questionnaires according to the Morgan Table.

Pilot Survey Result

The pilot study is conducted using 50 questionnaires among Western province supermarket customers. Table 2 shows the reliability analysis results with Cronbach's Alpha values, which are more significant than 0.7, to be considered reliable.

Table 2

Results of Pilot Study

Variable	Dimensions	Cronbach's Alpha Value
Grocery Shopping Environment	Layout	0.867
	Cleanliness	0.914
	Scent	0.831
	Sound	0.907
	Lighting	0.892
Customer Dwell Time		0.869

RESULTS AND DISCUSSION

Validity of the Data

According to Table 3, KMO values of all are more significant than 0.5, and significance value (P-value) of the Bartlett's were below 0.05. Therefore, the convergent validity of all the dimensions was satisfied.

Table 3

Validity of the Data

Instruments	Validity	
	KMO	Sig. Value
Layout	0.838	0.000
Cleanliness	0.850	0.000
Scent	0.737	0.000
Sound	0.846	0.000
Lighting	0.839	0.000
Customer Dwell Time	0.745	0.000

Pearson's Correlation Analysis

According to Table 4, there are strong positive relationships between customer's dwell time and grocery shopping environment dimensions because the correlation coefficient value falls under the coefficient range of ± 0.5 to ± 1.0 , and the p-value is equal to 0.000 and less than the alpha value.

Table 4

Correlation of Grocery Shopping Environment & Customer Dwell Time

	Layout	Cleanliness	Scent	Sound	Lighting
Pearson Correlation	0.821**	0.812**	0.818**	0.842**	0.831**

N= 396, **P<0.01

Regression Analysis

The Durbin-Waston statistic was 1.953 and between +1 and +3, which means that the independence of the observations has been met.

Table 5

Model Summary

Model	R	R ²	Adj. R ²	Std. Error	Change Statistics					Durbin Waston
					R ² Change	F Change	df1	df2	Sig.F	
1	0.876	0.768	0.765	0.461	0.768	258.359	5	390	0.000	1.953

The F-ratio in the ANOVA Table 6 shows that the independent variables statistically significantly predict the dependent variable, $F(3,389) = 258.359$ $P < 0.001$. That is, the regression model is a good fit for the data.

Table 6*ANOVA Table*

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	274.555	5	54.911	258.359	0.000 ^b
Residual	82.890	390	0.213		
Total	357.444	395			

b. Predictors: (Constant), Independent Variable

For the Standardized Beta values, the P-value must be $P < 0.05$; that is, the variable makes a significant unique contribution to the prediction of the dependent variable.

Table 7*Coefficient Analysis Table*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	β	Std. Error	β		
(Constant)	0.154	0.104		1.487	0.038
Layout	0.183	0.061	0.175	2.993	0.003
Cleanliness	0.117	0.058	0.117	2.001	0.046
Scent	0.153	0.061	0.146	2.514	0.012
Sound	0.266	0.062	0.268	4.259	0.000
Lighting	0.223	0.059	0.222	3.774	0.000

Hypotheses Testing

H_{1a} : Store layout impacts customer dwell time towards supermarkets in Sri Lanka.

H_{1b} : Store cleanliness impacts customer dwell time towards supermarkets in Sri Lanka.

H_{1c} : Store scent impacts customer dwell time towards supermarkets in Sri Lanka.

H_{1d} : Store sound impacts customer dwell time towards supermarkets in Sri Lanka.

H_{1e} : Store lighting impacts customer dwell time towards supermarkets in Sri Lanka.

Table 8*Hypotheses Testing*

Hypothesis	Pearson's Correlation	β Value	Sig.	Decision
SLY \rightarrow CDT	0.821	0.175	0.003	Accepted
SC \rightarrow CDT	0.812	0.117	0.046	Accepted
SSNT \rightarrow CDT	0.818	0.146	0.012	Accepted
SS \rightarrow CDT	0.842	0.268	0.000	Accepted
SL \rightarrow CDT	0.831	0.222	0.000	Accepted

CONCLUSION AND IMPLICATIONS

According to this study, a crucial aspect of the retail industry in Sri Lanka was discussed: how the grocery store environment affects the time customers stay there. According to that, the following are the recommendations related to the grocery shopping environment and increased customer dwell time.

Griffith (2005) states that customer elaboration and favorable outcomes rise due to retailer store layout. Hussain and Ali (2015) said customers are more likely to stay in a store longer when it is clean, which positively impacts them. Correspondingly, Banat and Wandebori (2012) said that a pleasing fragrance known as scent can positively affect a customer's emotions and mood, causing them to remain longer and feel more enthused. Proving the positive relationship between store music and customer dwell time, Yalch and Spangenberg (2000) said customers spend more extended shopping when there is pleasant music and a pleasant aroma. The result of this hypothesis test is consistent with the findings of O'nder, Mehmet, Bilsen, and Senol (2011), who similarly said store lighting and in-store color positively impact the customer spent time within the store.

Keywords: Customer dwell time, grocery shopping environment, retail industry, supermarkets

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