SAJEST Vol 5 Issue (ii) ISSN: 1819-3692
https://dx.doi.org/10.4314/sajest.v5i2.39829
Accepted: 2021
Original Article

THE INFLUENCE OF OUTBOUND LOGISTICS ON UTILITY

P. Mukucha[4], B. E. Mushanyuri, F. Chari

Abstract

Outbound logistics is one of the prime business functions that are pillars in customer value delivery. In this study the investigation sought to determine the influence of outbound logistics on economic utility: form utility, place utility, time utility, and possession utility. A Sample of 300 respondents was surveyed from the residents of Bindura urban area using convenience sampling method. ANOVA and Tukey's HSD post hoc multiple comparisons tests were used for hypotheses testing. The study revealed that outbound logistics for bread has a significant effect on all the forms of economic utility save for possession utility. It was therefore recommended that bakeries must deliver their bread through the use of tuck-shops, convenience stores and supermarkets with their order of importance in order to enhance the perceived value in the form of economic utility that accrues to the customers who buy bread.

Keywords: utility, logistics, physical distribution, supply chain management.

Introduction

Bread is one of the products whose production and distribution is of strategic importance because it is a perishable staple food (Vutete & Bobo, 2015). Bread is one of the outputs of the confectionery industry. The confectionery industry in Zimbabwe is an oligopoly in nature. An oligopoly is a market that is characterised by a large number of buyers (Hubbard & O'Brien, 2013) as evidenced by numerous households that consume bread for breakfast, and a few suppliers who command a large portion of market share (Case, Fair & Oster, 2013). In the Zimbabwean bakery industry the major players are Bakers Inn Ltd, Lobels Ltd, and Proton Ltd who supply bread to the market at recommended and gazetted uniform price with on-spot remittances (Vutete & Bobo, 2015). An oligopoly market structure is also associated with high barriers to entry (Salvatore & Srivastava, 2011). It requires a lot of capital expenditure to set up a bakery whose production output enables a firm to break-even. Lastly, an oligopoly is identified by relatively homogenous products (Mankiw & Taylor, 2008). In the bakery industry bread supplied to the market is basically similar, with very limited differentiation.

Bakeries supply backed standard bread every morning to customers scattered around the country through various logistical configurations. Logistics is the management function that deals with the flow of materials from the places of origin to the place of final consumption (Browersox, Closs & Cooper, 2010). Logistics is divided into two parts, namely inbound logistics and outbound logistics (Porter, 1985). Inbound logistics refers to the movement of resources from several sources to manufacturers, while outbound logistics which

[4] *Corresponding Author: Mukucha Paul*
Department of Marketing,
Bindura University of Science Education
P. Bag 1020,
Bundura, Zimbabwe.
Tel: +263772129585
E-mail: paulmukucha@gmail.com

is also known as marketing logistics, physical distribution or marketing channels pertains to the flow of products from the producer to the final consumers (Kotler & Keller, 2016). Marketing channels are coordinated firms whose functions add utility to a product (Jonsson, 2008; Pride & Ferrell, 2008). Logistics involves the distribution of products through channel members or intermediaries that would eventually interface with the final consumers (Ballou, 2007). In the case of Bakeries, they normally use First-Party Logistics (1PL) in the form of one-level channel intensive distribution that involves the retailers as the only intermediary through different types of retail outlets such as supermarkets, convenience stores, and tuck-shops.

Bakeries' daily use of several retail outlets in the supply chain of bread is likely to generate differential outcomes for customers' perceived value which is also known as economic utility. However, a search in the extant logistics and marketing literature did not yield any empirical study that has sought to determine the differential effects of using several retail outlets in the logistics management system on economic utility. This research gap if filled will provide practical solutions to logistics practitioners in the bakery and confectionery industry on the best physical distribution options for their products. The findings are equally important in providing some theoretical grounding to the body of knowledge in the discipline of logistics. The rest of the article is organised as follows: literature review that leads to the specification of study hypotheses, the methodology that was followed in testing the specified hypotheses, and the presentation of results. The last section of the study focuses on discussion of the results in the context of similar previous researches and managerial implications.

Literature Review

The logistics function has always been a shared responsibility between the procurement department and the marketing department, with the former restrictively relegated to inbound logistics, and the later exclusively confined to outbound and reverse logistics. Outbound logistics is defined as the key component of supply chain management process that involves the planning, organising and controlling the movement of goods and services from the point of production to the point of consumption (Swink, Melnyk, Cooper & Hartley, 2014; Jonsson, 2008) leveraging on different functions such as order processing, packaging, warehousing, information technology, transportation, and customer service (Kotler & Keller, 2016). In other words logistics is the flow of finished products to the market. Retail outlets are part of the most important logistics function configurations. Retail outlets comprises of supermarkets, convenience stores, and tuck-shops.

A supermarket is a form of retail outlet that has a relatively large shop floor, and is associated with grocery and household products that are of low cost and low margins, but sold in large volumes (Kotler & Keller, 2016). A convenience store which is also known locally as a general dealer shop is a relatively small retail outlet that carries a limited line of products that are sold over the counter (Chpora, Meindl, Kalra, 2016; Berman & Evans, 2010). Convenience stores are usually located in the shopping centres that are found in residential areas and they tend to operate for long periods of hours per day (Levy & Weitz, 2012). A tuck-shop also known as a Spaza shop in South Africa is a very small retail outlet with a very limited range of products with short purchase cycles which are confined to low cost grocery items (Basardien, Parker, Bayat, Hendry & Mukaddam, 2018). Tuck-shops are usually located within the residential stands of the operators or along high pedestrian traffic streets in the residential areas (Olawale, 2016).

The importance of retail outlets in the logistics system of supply chain management include, but not limited to cost savings, keeping track of inventory, and enhancing customer value in the form of economic utility (Christopher, 2011). Economic utility is one of the outcomes of logistics management particularly when presented in the form marketing channels (Piennar & Vogt, 2011) and is premised in the orthodox micro-economic and utilitarian theories. Utility is defined as the capacity of goods to meet and satisfy customer needs and wants. In simple terms utility can be regarded as satisfaction, benefit or pleasure derived from the

purchase and consumption of a product. Marketing channels create four types of economic utility: form utility, place utility, time utility, and possession utility (Herin, Hartley & Rudelius, 2009; Pride & Ferrell, 2008).

Form Utility

Form utility refers to the transformation of a product along the logistics channels into a more useful state and condition desired by the customers. Form utility is generated through altering the structure, shape, or composition of a product (Piennar & Vogt, 2011). Form utility is usually associated with the production of a product, but channel members can also create form utility through packaging, preservation, and bulk breaking (Coyle, Bardi & Langley jr, 2003). Bulk-breaking is the splitting of goods into smaller shipping that suit individual orders (Swink *et al*., 2014). While supermarkets, convenience stores and tuck-shops all break bulk (Levy & Weitz, 2012), tuck-shops tend to take the lead in breaking bulk to the smallest possible forms. It is this breaking of bulk that tends to provide more form utility to the customers (Coyle *et al*., 2003). It is therefore expected that the identified channel members provide differential form utility.

H^1: There are significant differences in form utility created by different distribution channels.

Place Utility

Place utility pertains to the provision of products where customers can conveniently purchase them (Jonsson, 2008). This means ensuring the availability of a product at a place that is convenient to the customers through transporting them or causing their transportation from the manufacturers to the retail centres (Piennar & Vogt, 2011). Retail outlets can attain the provision of place utility by having enough stocks that meet demand that may arise at any given time (Fernie & Sparks, 2009). This can be achieved through investing in adequate warehousing facilities that are equipped to hold right quantities of a product or having frequent deliveries (Berman & Evans, 2010). Place utility is also enhanced through conveniently locating the retail outlet in places that customers can easily access (Coyle *et al*., 2003). Place utility derived by customers tends to increase along the closeness with which a retail outlet is located to the customers. It is therefore expected that the place utility of products tend to increase as one drift away from supermarkets to convenience stores and eventually tuck-shops. This is due to the fact that tuck-shops are located very close to the majority of customers, followed by convenience stores, and lastly supermarkets (Levy & Weitz, 2012).

H^2: There are significant differences in place utility created by different distribution channels.

Time Utility

The issue of time is core in the logistics system (Jonsson, 2008). Time utility relates to the value that customers attain as a result of accessing products at convenient times (Piennar & Vogt, 2011). This means making sure of the availability of products when desired by the customers (Coyle *et al*., 2003). Time utility is provided by the retail outlets through investing in appropriate and efficient transport system that ensures that the products are delivered to the customers' access points so that the customers can acquire them without delays (Berman & Evans, 2010), or strategically locating buffer stock warehouses (Piennar & Vogt, 2011). Most retail outlets are now providing time utility through operating 24/7 or at least through opening early and closing late. In developed nations the serendipitous emergence of e-commerce at the turn of this century has also enabled most retail outlets to meet the time utility needs of their customers. Since different types of retail outlets have got varying operating hours per day, they are expected to provide varying levels of time utility. In terms of operating hours tuck-shops tend to open for long periods in terms of hours, followed by convenience stores, and lastly supermarkets (Tereblanche, Beneke, Bruwer, Corbishley, Frazer, Nel, Pentz & Venter, 2017). The same order also applies to their speed of service.

H^3: There are significant differences in time utility created by different distribution channels.

Possession Utility

The place and time utility provided by logistics systems are the pre-requisites for attaining possession utility (Coyle *et al*., 2003).

Possession utility is the value that accrues to the customers as a result of being able to own and use products after purchasing them. It is generated through the transference of ownership from a buyer to a seller (Coyle *et al*., 2003). Possession utility is influenced by the payment terms associated with a product. Possession utility provided by different forms of channel members is expected to vary due to the management systems associated with those channels. Shopping in a supermarket is more formalised (Berman & Evans, 2010) and possession is usually afforded to customers after paying the required amount of money using the prescribed modes of payment. However, convenience stores and a tuck-shop tend to be more amenable to less conventional modes of payment like barter trade and acceptance of credit requests. This makes possession and use of a product faster hence higher possession utility than in the case of supermarkets.

H^4: There are significant differences in possession utility created by different distribution channels.

Methodology

This section presents the surveyed population characteristics and the sampling procedures adopted, as well as the measures adopted for data collection. The section also elaborated the data analysis procedures followed.

Population and Sampling

The population for this study are the residents in the town of Bindura situated 89 km north of the capital city Harare. A sample of 300 respondents was surveyed. The sample size was determined based on the requirements of the statistical tools used for data analysis (Bryman, 2016). Factor analysis which was used for measurement scale validation requires a sample of 300 and above (Hair., Black., Babin., Anderson. & Tathan, 2014). Convenience sampling was used to target the respondents. Ideally a probability based sampling method should have been used (Saunders, Lewis & Thornhill, 2016), but due to the absence of a proper and valid sampling frame attention was turned to more suitable non-probability sampling methods (Struwig & Stead, 2013).

Data Collection Methods and Measures

Data was collected using a self-administered questionnaire from the respondents who were intercepted outside retail outlets soon after purchasing bread over a period of 7 days. The items for measuring all the forms of utility were distilled from the extant logistics and mainstream marketing literature (e.g. Kotler & Keller, 2016; Kotler & Armstrong, 2013; Zeithaml, 1988). However, it must be acknowledged that utility is a slippery concept whose measurement is characterised by ambiguity and lack of consensus amongst both academics and practitioners alike. Earlier attempts by Jeremy Bentham toyed around the idea of a measurement scale termed the utilometer, but which unfortunately never saw the light of the day. To this day utility measurement is still elusive, but proximate measures can be extracted from the synthesised microeconomics, logistics and marketing literature.

Data Analysis Procedures

Data analysis was conducted in three phases. The first phase involved the validation of the measures representing latent variables (constructs) using exploratory factor analysis (EFA). EFA is a multivariate statistical tool that is used in the development of parsimonious psychometric measures through the stages of extraction, rotation, and interpretation (Hair *et al*., 2014; Williams, 2010). Extraction refers to the determination of the number of factors that best explain a data set's observed covariation matrix (Field, 2013). Rotation relates to the maximisation of the factor loadings of the items to their respective factors in order to generate a parsimonious structure (Tabachnick, & Fidell, 2012). Interpretation pertains to the naming of extracted factors using psychological knowledge associated with common feature among the related items (Field, Miles & Field, 2012).

The second phase pertained to the testing of hypotheses. Hypotheses testing were done using the One-way Analysis of Variance (ANOVA). ANOVA is a parametric statistical tool that is used to determine whether there are any significant differences between the arithmetic means of three or more independent groups

(Sekeran & Bougie, 2009; Fisher, 1925). One-way ANOVA comprises of a categorical independent variable which acts a grouping dimension (Salkind, 2010), and a metric dependent variable (Cooper & Schindler, 2008). ANOVA assumptions of normality and homoscedasticity were tested using a Levene's test, and Kolmongrov-Siminov test and Shapiro-Wilk test respectively prior to hypotheses testing.

The third phase relates to post-hoc tests. One-way ANOVA is an *omnibus* test statistic which cannot tell the specific groups that are significantly different from each other (Field, 2013). The rejection of the null hypothesis in ANOVA does not tell where the differences are. It only gives information that at least two groups were different. Therefore, differences on groups were determined using a Tukey's HSD post-hoc test. A Tukey's HSD test is superior over other ANOVA post-hoc tests in that it controls type 1 error. It can also cater for a situation where there is an unequal number of subjects across cells using its extension called the Tukey-Krammer test.

Results

The demographic profile of the respondents are shown in Table 1.

Table 1: Demographic profile of respondents

Attribute	N	%
Age		
18-30	136	45
31-40	63	21
41-50	51	17
51-60	30	10
60+	20	7
Gender		
Male	122	41
Female	178	59
Residential area		
High density	240	80
Low density	60	20

Table 1 reveals that most of the respondents in this study are in the age group of 18-30 (45%), reflecting the demographic age group that mostly buy bread in Zimbabwe. The age group of 31-40 years was represented by 21%, 41-50 (17%), 51-60 (10%), while the 60+ year age group had 7% only. The gender of the respondents was 41% male, and 59% female. Lastly, the majority of the respondents (80%) reside in high density suburbs, while 20% are residents in the low density suburbs.

Measurement Scale Validation

The data was tested for factorability using the Kaiser-Meyer-Olkin (KMO), and the Bartlett's test of sphericity (Bartlett, 1954). As indicated in Table 2, the KMO index was 0.884, and the Bartlett's test of sphericity was $X^2(270)=1247.487$, p=0.00 (Kaiser, 1974). All these tests indicated that the data was suitable for factor analysis.

Having ensured that the data was suitable for factor analysis, all the 13 items measuring economic utility of bread were entered into a dialogue box of factor analysis. Orthogonal rotation was used for extraction of factors. Orthogonal rotation is preferable where factors are expected to be unrelated (Watkins, 2018; Costello & Osborne, 2005). Table 2 shows that 4 factors were extracted with all the items loading on their respective factors.

Table 2: Final Rotated Factor Matrix

	Factors			
	Form	Place	Time	Possession
Bread supplied was fresh	.765			
The bread was in good shape	.761			
The bread was tasty	.745			
I got my preferred pack size of bread	.745			
I always get the bread where I want it		.837		
I travel a short distance to get bread		.832		
My preferred outlet always has bread		.837		
Bread is always available at my usual retail outlet			.822	
My preferred retail outlet sell bread at convenient times			.796	
It is easier to get bread from my preferred retail outlet outside normal hours			.710	
I always get bread after paying				.757
Where I buy my bread they accept different forms of payment				.703
Where I buy bread they accept cert terms for buying bread				.673
Cronbach's alpha coefficient	0.877	0.870	0.794	0.783

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.
b. KMO index 0.884
c. Bartlett's test of sphericity $X^2(270)=1247.487$ (p=0.000)

These extracted components and their naming corresponded with priori constructs in literature. The loading of items on their respective factors and the absence of cross loadings as indicated in Table 2 provided evidence of convergent and discriminant validity respectively for all the factors (Costello & Osborne, 2005). All the four extracted factors shown on Table 2 had a Cronbach's alpha coefficient above 0.7 which is the threshold for reliability (Zikmund & Babin, 2013; Cronbach & Meehl, 1955).

Hypotheses Testing

Hypotheses testing were conducted using ANOVA, after having tested the three ANOVA assumptions which are namely independence, normality and homoscedasticity (Field, 2013). The first assumption of independents was catered for during the sampling design stage Saunders *et al*., 2016). In order to ensure that the was independents among the respondents of different groups the surveyed responds were chosen on the basis of patronising only one type of retail outlet for the purposes of buying bread.

Validating the normality assumption is of paramount importance for statistical analysis using parametric methods (Yap & Sim, 2011). The test of normality was conducted using a Shapiro-Wilk's test (Shapiro & Wilk, 1965). A Shapiro-Wilk test is a regression and correlation based test which asymmetric distribution test (Yap & Sim, 2011).

Table 3: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	**Df**	**Sig.**	**Statistic**	**Df**	**Sig.**
Form_Utility	.175	300	.38	.892	300	.36
Place_Utility	.284	300	.29	.302	300	.27
Time_Utility	.302	300	.47	.292	300	.45
Possession_Utility	.148	300	.36	.935	300	.34

a. Lilliefors Significance Correction

Table 3 indicates that all the dependent variables in this study are normally distributed as evidenced by the insignificant p values (P >0.05) on both Kolmogrov-Smirnov and the Shapiro-Wilk tests for the collected data categories. An insignificant p value implies that the data collected is not normally distributed (Field, 2013; Yap & Sim, 2011).

After the test of data normality, a test for homoscedasticity was carried out. Homoscedasciticity is a requirement for homogeneity of variance in ANOVA tests (Zikmund & Babin, 2013). A Levene's test of equality of variance was used to test for homoscedasticity (Levene, 1960). Levene's test compares the variance of a metric variable across levels of a nonmetric variable (Hair *et al*., 2014). Table 4 reveals the results for homoscedasticity tests. A statistically insignificant level of confidence (i.e., p>0.05) indicate that the group variances are equal.

Table 4: Test of Homogeneity of Variances

	df1	**df2**	**Sig.**
Form_Utility	2	297	.119
Place_Utility	2	297	.114
Time_Utility	2	297	.112
Possession_Utility	2	297	.113

After ensuring that all the assumptions of one-way ANOVA were satisfied (Philips, 1982), the researcher went on to test the postulated hypotheses (Zikmund., Babin., Carr & Griffin, 2010). The results from hypotheses testing are shown in Table 5.

Table 5: Analysis of Variance

		Sum of Squares	df	Mean Square	F	Sig.
Form Utility	Between Groups	248.420	2	124.210	35.737	.000
	Within Groups	1032.260	297	3.476		
	Total	**1280.680**	**299**			
Place Utility	Between Groups	246.167	2	123.083	31.089	.038
	Within Groups	1294.580	297	5.194		
	Total	**1340.747**	**299**			
Time Utility	Between Groups	236.560	2	118.280	27.787	.056
	Within Groups	1896.010	297	5.219		
	Total	**1932.570**	**299**			
Possession Utility	Between Groups	10.007	2	5.003	1.851	.159
	Within Groups	802.910	297	2.703		
	Total	**812.917**	**299**			

After caring out an ANOVA test, a Tukey's HSD post hoc test was conducted to determine the pairs that had the differences (Toothanker, 1993). Table 6 shows the results of post-hoc multiple comparisons test.

Table 6: Turkey's HSD multi-comparisons test

Dependent Variable	(I) Type of outlet	(J) Type of outlet	Mean Difference (I-J)	Std. Error	Sig.
Form Utility	Tuck-shop	Convenience stores	.530	.264	.111
		Supermarket	2.140*	.264	.000
	Convenience stores	Tuck-shop	-.530	.264	.111
		Supermarket	1.610*	.264	.000
	Supermarket	Tuck-shop	-2.140*	.264	.000
		Convenience stores	-1.610*	.264	.000
Place Utility	Tuck-shop	Convenience stores	-.600	.651	.627
		Supermarket	1350	.264	.001
	Convenience stores	Tuck-shop	.600	.651	.627
		Supermarket	1.950	.263	.012
	Supermarket	Tuck-shop	-1.350	.264	.001
		Convenience stores	-1.950	.263	.012
Time Utility	Tuck-shop	Convenience stores	.1680	.267	.012
		Supermarket	-.2150	.262	.000
	Convenience stores	Tuck-shop	-.1680	.267	.012
		Supermarket	-.820	.681	.452
	Supermarket	Tuck-shop	.2150	.262	.000
		Convenience stores	.820	.681	.452
Possession Utility	Tuck-shop	Convenience stores	-.440	.233	.143
		Supermarket	-.290	.233	.426
	Convenience stores	Tuck-shop	.440	.233	.143
		Supermarket	.150	.233	.795
	Supermarket	Tuck-shop	.290	.233	.426
		Convenience stores	-.150	.233	.795

H^1 had indicated that there are significant differences in form utility derived by customers buying bread from different retail outlets. The results from hypotheses testing shown in Table 5 supported that assertion. The study revealed that there are statistically significant differences in the form utility derived by customers from bread bought in different retail outlets (F=35.373, p = 0.000). A Tukey post-hoc test revealed that form utility derived in tuck-shops is not statistically different from the one derived in convenience stores (0.530, p=0.000), while statistically significant differences were recorded on the tuck-shops and supermarkets utility (2.140'p=0.000), and the convenience stores and supermarkets utility (1.610, p=0.000).

H^2 indicated that there are significant differences in place utility derived by customers from buying bread from different retail outlets. The results from hypotheses testing are shown in Table 5 supported that hypothesis. The study revealed that there statistically significant differences in place utility derived by customers

from bread bought in different retail outlets (F=31.089, p = 0.038). A Tukey post-hoc test revealed that place utility derived in tuck-shops is not statistically different from the one derived in convenience stores (600, p=0.627), while statistically significant differences were recorded on the tuck-shops and supermarkets utility (1.350, p=0.001), and the convenience stores and supermarkets utility (1.950, p=0.012).

H^3 indicated that there are significant differences in time utility derived by customers from buying bread from different retail outlets. The results from hypotheses testing shown in Table 5 supported that hypothesis. The study revealed that there statistically significant differences in time utility derived by customers from bread bought in different retail outlets (F=27.787, p = 0.056) at 0.1 level of significance. A Tukey's post-hoc test revealed that time utility derived in tuck-shops is statistically different from the one derived in convenience stores (1.680, p=0.012), and supermarkets (2.150, p = 0.000), while statistically insignificant differences were recorded on convenience stores and supermarkets utility (0.820, p=0.452).

H^4 indicated that there are significant differences in possession utility derived by customers from buying bread from different retail outlets. The results from hypotheses testing are shown in Table 5 did not support that hypothesis. The study revealed that there are no statistically significant differences in possession utility derived by customers from bread bought in different retail outlets (F=1.851, p = 0.159). Given that the alternative hypothesis was rejected and the null hypothesis was accepted, a post-hoc multi-comparison test was no longer necessary.

Discussion

The findings in this study reveal that marketing channels create utility for the customers. These findings lend empirical support to various conceptual models about the relationships between marketing channels and economic utility (e.g. Lambert, Stock & Ellram, 1988) . The findings in this study reveal that the use of tuck-shops as channel members in the distribution of bread creates utility in its various forms than all other conventional distribution channels studied. Convenience stores were ranked second in providing better utility followed by supermarkets.

The fact that tuck-shops are small in size provides them with some form of flexibility that makes it possible for them to break-bulk (Olawale, 2016). Through breaking bulk tuck-shops are able to provide form utility as customers who cannot afford a full loaf of bread can purchase a half-bread. However, convenience stores and supermarkets seem to be unable to offer such a service since it may be too minor for them.

It can also be deduced from this study that the closer the retail outlet is to the customers, the more it provides place utility. This is based on the fact that tuck-shops are located in the residential areas where customers can easily access their bead without travelling for long distances (Olawale, 2016). In most suburbs tuck-shops are located within the vicinity of their clientele base. However, there was no statistically significant difference between place utility derived in tuck-shops and convenience stores. This may be due to the fact that convenience stores are located as closer to the customers as the tuck-shops.

Inferences made from this study are that tuck-shops also provide more time utility since they operate for more hours than other forms of distribution channels. Usually most supermarkets shut-down around 19:00 and convenience stores around 20:00 as regulated by their shop licenses. However, tuck-shops in general are not regulated by any form of licensing; hence they tend to have flexible operating hours which provide more convenience to their customers (Olawale, 2016).

No statistically significant differences were noted on possession utility from the surveyed retail outlets. Tuck-shops were expected to offer more possession utility than other forms of channel members analysed in this study. This stems from the fact that tuck-shops are run along flexible payment terms that can affords customers to purchase on credit, using barter trade, and above all they tend accept most forms of payment like Eco-cash, and non-conventional foreign currencies. However, due to the prevailing hyper inflationary environment and

the disappearance of hard currency, most tuck-shops had side-steped the flexible payment terms they used to offer. More over the fact that possession utility was found not to be significantly different across all the forms of retail outlets support the assertion common in the extant literature that logistics provides all other forms of utility, while possession utility is a function of sales and marketing efforts (e.g. Piennar & Vogt, 2011).

The discussion results attained in this study and the discussion that followed lead to the conclusion that there are varying degrees in all the forms of utility that are generated by different types of retail outlets. It is therefore recommended based on the findings from this study that all bakeries operating in Zimbabwe should make use of tuck-shops as the prime channel members in the distribution of their bread if they are to provide some forms of utility to their customers. External validity of the findings in this study can also be extended to other product lines in the product category of grocery items such as milk and sugar which are inherently complimentary to bread. Suppliers of such products are encouraged to formulate their logistics systems around the findings and recommendations of this study.

Limitations and Future Research Agenda

The study was conducted in the Bindura urban area. However, Bindura town is just one of the several urban settlements in Zimbabwe and the consumption patterns of the consumers in that town might be different from those of customers in other geographical areas. This limitation needs to be ameliorated in future studies by replicating this study in other geographical settlements where there is consumption of commercial bread.

Acknowledgements

The authors would like to extend their heartfelt gratitude to the reviewers whose comments and suggestions vastly improved the quality of this study.

References

Ballou, R. H. 2007. The evolution and future of logistics and supply chain management. *European Business Review*, 19(4):332-348.

Bartlett, M. S. 1954. A note on the multiplying factors for various chi square approximations. *Journal of Royal Statistical Society*, 16 (Series B), 296-298.

Basardien, F., Parker, H., Bayat, S., Hendry, S. & Mukaddam, A, 2018. Comparative entrepreneurial practices in spazza shop industry? Evidence-based practices from a study of local and foreign spaza shop entrepreneurs in Cape Town. *International journal of research in business studies and management*, 5(11):38-48.

Berman, B. & Evans, J. R. 2010. *Retail management. A strategic approach*. 11th edition. Pearson Education, Inc: New Jersey.

Blanca, M. J., Alarcon, R., Arnau, J., Bono, R. & Bendayan, R. 2017. Non-normal data: Is ANOVA still a valid option? *Psicothema*, 29(4):552-557.

Boone, .& Kurtz, D. L. 2016. *Contemporary marketing*. 17th edition. Cengage Learning: Boston.

Bowersox, D. J., Closs, D. J. & Cooper, M. B. 2010. *Supply chain logistics management*. 3rd edition. McGraw-Hill: New York.

Bryman, A. & Bell, E. 2015. *Business Research Methods*. 4th edition. Oxford University Press.

Case, K. E., Fair, R. C. & Oster, S. M. 2013. *Principles of economics*. Horizon edition. Pearson Education.

Chopra, S., Meindi, P. & Kalra, D. V. 2016. *Supply chain management. Strategy, planning, and operation*. 6th edition. Pearson Education Ltd: India.

Christopher, M. 2011. *Logistics & Supply chain Management*. 4th dition. Prentice-hall: New York.

Cooper, D. R. & Schindler, P. S. 2008. *Business research methods*. 10th edition. New York, McGraw-Hill/Irwin.

Costello, A. B. & Osborne, J. W. 2005. Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Practical Assessment Research &Evaluation*, 10(7):1-9.

Coyle, J. J., Bardi, E. J. & Langley, jr, C. J. 2003. *The management of business logistics. A supply chain perspective*. 7th edition. South-Western Thomson Learning.

Cronbach, L. J.,& Meehl, P. E. 1955. Construct validity in psychological tests. *Psychological Bulltin*, 52, 281.

Fernie, J. & Sparks, L. 2009. Retail logistics: changes and challenges. In Fornie & Sparks. Logistics and Retail Management. Emerging issues and new challenges in the retail supply chain. Kogan Page Limited: London.

Field, A. 2013. *Discovering statistics using IBM SPSS statistics*. 4th edition. Sage publications Ltd: London.

Field, A., Miles, J. & Field, Z. 2012. *Discovering statistics using R*. Sage Publications ltd: London.

Fisher, R. A. 1925. *Statistical methods for research workers*. Oliver and Boyd (Edinburgh: ISBN 978-05-002170-5.

Hair, J. F., Black, W. C., Babin, J. B. & Anderson, R. E. 2014. *Multivariate Data Analysis*. 7th edition. Essexx, England: Pearson.

Hubbard, R. G. & O'Brien, A. P. 2013. *Economics*. 4th edition.Pearson Education.

Jonsson, P. 2008. *Logistics and Supply Chain Management*. McGraw-Hill: New York.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39:31-36.

Kerin, R. A., Hartley, S. W. & Rudelius, W. 2009. *Marketing*. 9th edition. McGraw-Hill Irwin: Boston.

Kotler, P. & Armstrong, G. 2013. *Principles of Markting*. 14 edition. Pearson Education Ltd: Boston.

Kotler, P. & Keller, W. L. 2016. *Marketing Management*. 15th edition. Pearson Education limited: Boston.

Lambert, D. M., Stock, J. R. & Ellram, L. M. 1988. *Fundamentals of logistics management*. Irwin McGraw-Hill: New York.

Levene, H. 1960. Robust tests for equality of variances. In. Contributions to probality and statistics:Essays in honour of Horald Hotelling. Edited by Olkin, I & Hotelling, H. Stanford University Press.

Levy, M. Weitz, B. A. 2012. *Retail Management*. 8th edition. McGraw-Hill: New York.

Mankiw, N. M. & Taylor, M. P. 2008. *Economics*. South-Western Cengage.

Olawale, F. 2016. Problems experienced by immigrant spaza shop owners in South Africa. *Journal of Economics*, 7(2,3): 100-106.

Philips, P. C. 1982. The true characteristic function of the F distribution. *Biometrica*, 69:261-264.

Piennar, W. J. & Vogt, J. J. 2011. *Business Logistics Management. A supply chain perspective*. 4th edition. Oxford University Press Southern Africa: Cape Town.

Porter, M. E. 985. Competive advantage. Free Press.

Pride, W. M. & Ferrell, O. C. 2008. *Marketing*. 14th edition. Houghton Mifflin Company: Boston.

Salkind, N. J. 2010. Statistics for people who (think they) hate statistics. 3rd edition. Sage publication, Ltd: London.

Salvatore, R. & Srivastava, R. 2011. *Managerial Economics. Principles and Worldwide Applications*, 6th edition. Oxford University Press.

Saunders, M., Lewis, P. & Thornhill, A. 2016. *Research Methods for Business Students*. 7th edition. Pearson Education Limited, Essexx: England.

Sekeran, U. & Bougie, R. 2009. *Research Methods for Business*. *A skill building approach*. 5th edition. John Wiley & Sons Ltd: UK.

Shapiro, S. S. & Wilik, M. B. 1965. An analysis of variance tests for normality (complete samples). *Biometrika*, 52 (3-4):591-611.

Struwig, F. W. & Stead, G. B. 2013. *Research,designing and reporting*. 2nd edition. Cape Town: Pearson.

Swink, S., Melnyk, S. A., Cooper, M. B. & Hartley, J. L. 2014. *Managing operations across the supply chain*. 2nd edition. McGraw-Hill: New York.

Tabachnick, B. C. & Fidell, L. S. 2012. Multivariate statistics. 6th edition. Boston: Allyn & Bacon.

Terblanche, N., Beneke, J., Bruwer, J., Corbishley, K., Frazer, M., Nel, J., Pentz, C. & Venter, P. 2017. *Retail Management*. *A South African perspective*. 2nd edition. Oxford University Press: Cape Town.

Toothanker, L. E. 1993. Multiple comparison procedures. Sage university Paper Series on Quantitative Applications in the social Sciences, 07-089. Newbury Park, CA: Sage.

Vutete, C. & Bobo, N. 2015. The impact of bakery industry supply chain on the pricing of bread in Zimbabwe. *Greener journal of business and management studies*, 5(1):1-15.

Watkins, M. W. 2018. Exploratory factor analysis: A guide to best practice. *Journal of Black Psychology*, 44(3):219-246.

Williams, B. 2010. Exploratory factor analysis: A five step guide for novices. *Journal of Emergency Primary Health Care*, 8(3):1-14.

Yap, B. W. & Sim, C. H. 2011. Comparisons of various types of normality tests. *Journal of*

statisticsl computation and simulation, 81(12):

Zeithaml, V. A. 1988. Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of marketing*, 52(3):2-22.

Zikmund, W. C. & Babin, B. J. 2013. *Essentials of marketing research*. 5th edition. United States of America: Cengage.

Zikmund, W. G., Babin, B. J., Carr, J. C. & Griffin, M. 2010. *Business Research Methods*. 8th edition. USA: South-Western.