

# BRAND EQUITY IN FAST-FOOD BUSINESSES AMONG COPPERBELT UNIVERSITY STUDENTS

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## Abstract

This study identified and investigated the factors that influence brand equity in the fast-food industry among students at Copperbelt University in Zambia. The aspects developed by Aaker (1991) were used to create a clear understanding of the relationships amongst the determinants of brand equity; brand awareness (BW), brand association (BA), perceived value (PV), brand loyalty (BL) and perceived quality (PQ) have been used for testing the hypotheses. Cross-sectional data with a survey approach were used to collect appropriate data for the calculation and analysis of the findings. A sample of 351 students was used and questionnaires were distributed through online forms to acquire valid responses for evaluation and the results were analysed using STATA v17. The reliability test was performed using Cronbach's alpha test, and each item was found to have a threshold above 0.5. The data analysed showed that of the four determinants of brand equity used, only brand awareness had no significant effect on brand equity (BE) in fast food chains at Copperbelt University. There is a need for fast food managers and business stakeholders of fast-food businesses to focus on and expand on the determinants of brand equity outlined in this dataset.

**Keywords:** *Brand awareness, brand equity, cross-sectional, fast-food businesses, students.*

**JEL codes:** *D80, D41, D03, D12, M20, M30.*

## Introduction

Rapid urbanisation, coupled with fast-paced lifestyles and technological advancements, has dramatically changed the way of life of many people, including those in developing countries. The consequences of these changes have changed the tradition of cooking and eating at home. In Zambia, the increase in the number of people who select quick food has driven the rapid development of fast-food outlets, particularly in urban areas. The development of quick nourishment has been an impact of advances in society and changes within the socioeconomic setting, which has led numerous people in Zambia to need more time and vitality to provide themselves with their organised dinners.

In Zambia, around 59% of family units from the most extravagant quintile have been found to purchase fast foods from food chains such as Hungry Lion, Spur, Nandos and so on. The numbers are behind 28% who have resorted to buying their fast-food meals from supermarkets. Due to markets, fast food is usually arranged and sold at a particular station within the

establishment. For the more unfortunate family units, only 2% said that they purchase their meals from fast food chains compared to 4% who said that they purchase from supermarkets (CUTS and WFP, 2018). This pattern could be because fast foods sold in the supermarket will generally be less expensive in comparison with those sold in fast food chains. In this way, the poor can move toward supermarkets (CUTS and WFP, 2018).

According to the 2010 financial report book under the Ministry of Commerce, Trade and Industry, the increase in the number of people who are picking quick food in urban ranges has contributed to the rapid development of quick food offices in these zones. Standard quick-service stores incorporate restaurants and other outlets that serve arranged food in a short period. A study conducted in Malaysia (Alkines & Bowler, 2010), where they attempted to find out why the use of quick nourishment in Malaysia was increasing, found that a third of buyers felt they needed time to plan well-prepared

meals. As a result, they preferred food that could be quickly consumed in the car or at work. It shows how much lifestyles and behaviours related to organisations and money related to the economy have changed in busy lives and families with children and part-time jobs.

More than 80% of the components of these foods originate from agricultural produce. It is this final use of agricultural products that are occasionally prepared from their raw structure, for example, maize in maize meal just as potatoes in chips (Chisanga and Zulu-Mbata, 2018). The development of the fast-food market has had a cultural impact on Zambia and has changed its financial situation, leading numerous people in Zambia, especially Lusaka, to become more involved in these fast-food chains. This is why various eating establishments, especially fast-food chains, came up to consider this lucrative market, which since 1991 has continued to develop at an exceptionally fast rate. Women in Zambia particularly in Lusaka city don't remain at home completing family unit assignments yet, would rather favour compensated work in endeavouring towards equity and monetary freedom (FAO and RUAFA, 2019).

Therefore, this study aims to evaluate the determinants of brand equity in fast food businesses among students of Copperbelt University in the Kitwe district, Zambia. This is an appropriate research topic because the study helps to understand the crucial perceptions and preferences that consumers have about fast food businesses. The dataset answers the following questions: What kind of effect do brand awareness, brand loyalty, perceived quality, perceived value, and brand association have on brand equity in fast food businesses among students at the Copperbelt University in Kitwe, Zambia? The study used a cross-sectional by survey design that involved the collection of primary data using google online forms. The online data were collected sometime in the third quarter of the year 2023 from students at the Copperbelt University in Kitwe district, Zambia.

## **Material and methods**

### **Research design**

This research used a descriptive cross-sectional research design that examined the frequency or severity of the variable of interest

throughout a specific demographic. It involved observing and describing the behaviour of a subject without influencing it in any way. The importance of a descriptive cross-sectional design is that it yields rich data that lead to useful study recommendations. (Fraenkel & Wallen, 2000).

According to (Muijs, 2004), quantitative research aims at explaining phenomena through the collection of numerical data. The research adopted research instruments for data collection and uses a statistical method for data analysis using STATA version 17. The questionnaire had closed-ended questions that were designed with reference to (Aaker, 1991).

### **Design of the Questionnaire**

To capture the 3 research questions, the questionnaire was categorised into 4 sections. The questionnaire was then tested in a few urban dwellers in a neutral part of the Kitwe district. This pre-test was done to pay attention to the consistency, preciseness, and coherence of the questionnaire, and make necessary adjustments prior to the survey.

The first section of the questionnaire captured the demographics of the participants to understand their socioeconomic and demographic profiles.

In relation to the five research questions, the second, third, and up to seventh section of the questionnaire took the statements that captured brand awareness, brand association, perceived value, perceived quality, brand loyalty, and brand equity, respectively. Other items on the likert scale were stated for participants to respond according to the various levels of importance of the items stated.

### **Model specification**

The econometric model used for this study is the multiple linear regression model. This model is best suited for the study because the level of association that the independent variables (i.e., brand awareness, brand association, brand loyalty, perceived value, and perceived quality) have with the dependent variable, which is brand equity, is being tested to determine which among them has the most significant effect on the outcome variable.

### Measurement of variables

The model formula was specified as:

$$Y_i = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \dots + \beta_k x_k + u_i \quad (1)$$

where:  $Y_i$  = Brand equity in fast food businesses, measured on a 1-5 scale of 'not important' to 'very important',

$\beta_0$  = constant,

$\beta_i$  = estimated coefficients of the explanatory variables.

$X_i$  = explanatory variables, measured on a 1-5 scale from 'not important' to 'very important.'

$\mu_i$  = disturbance term.

### Target Population

The inclusion criterion for study participants in this investigation was anyone over 16 years of age and lived at Copperbelt University in Kitwe district, Zambia, and at one point purchased fast food from fast food restaurants. The anonymity and confidentiality of the participants was guaranteed, and they voluntarily participated in the survey. To determine the sample size, the Yamane (1967) sample size formula was employed with a margin of error of 0.05:

$$n = \frac{N}{1 + N(e)^2} = \frac{2,866}{1 + 2,866 (0.05)^2} = 351$$

where:

$n$  = the sample size for the study

$N$  = size of the population

$e$  = the margin of error

### Reliability of the data

The reliability of the data was done to ascertain the degree to which different test items that probe the same construct give similar results. Reliability testing was carried out by testing for Cronbach's alpha, and it was found that the items had a reasonable threshold of greater than 0.5.

### Theoretical framework

#### The Theory of Consumption Values

The definition of value is given by (Zeithaml, 1988) who states, based on exploratory research: Perceived value is the overall evaluation by the consumer of what is given according to his perception of what he receives and the usefulness of the product. She further notes that value refers to “the trade-off between what we give and what we get.” Giving represents the sacrifices consumers are willing to make to obtain products, including monetary costs and non-monetary costs. “Get” represents what the consumer gains by making a sacrifice.

Using the Theory of Consumption Value (T.C.V.) is a fundamental idea in consumer behaviour research and has been favoured in several studies investigating consumer perceived value. Drawing on extensive research in the fields of consumer behaviour, marketing, economics, psychology, and sociology (Sheth, Newman, and Gross, 1991), their article “Why We Buy What We Buy: A theory of consumer values” identifies five values (dimensions) that influence consumer choices, namely functional, social, emotional, cognitive, and national values, which collectively represent the TCV.

TCV as a multidimensional approach examines consumer value from a behavioural perspective and provides types of perceived value. The theory explains the motivation of consumption behaviour by focussing on consumption values and predicts, describes, and explains choice behaviour. The authors of the theory emphasise that the practical context of the theory is limited to individual, systematic, and voluntary decision making.

To this end, the T.C.V. argued that one should not choose binary or grouped, random or haphazard, coercive, or involuntary. The authors set out to answer the following question: “Why do consumers choose to buy or not to buy a particular product?”

Why consumers choose one type over another, why consumers choose one brand over another. T.C.V. proposes five types of consumption value to answer these questions: functional

value, conditional value, affective value, social value, and cognitive value.

The T.C.V. is based on three main axioms, namely:

1. Consumer choice is a function of multiple consumption values.
2. Consumption values contribute differently to a given choice situation.
3. The consumption value is independent.

The theory allows us to understand the motivations for purchasing the values related to the product, the category of the product, and the consumption of the brand; thus, these values come from a given consumption.

The fast-food industry in Zambia is one of the fastest growing. With the advent of delivery services and the ease of obtaining fast food without having to travel long distances, fast food consumption has now been reduced to what people tend to eat based on their health, income, and other reasons.

Therefore, this theory will help us analyse consumer behaviour towards fast food based on values. TCV will also demonstrate how corporate branding in the Zambian fast food industry influences consumer perception and behaviour towards Zambian fast food.

### **The Theory of Organismic Integration**

In Deci & R.M Ryan (1985), which is a subtheory of self-determination theory, is another theory that can be used to explain the motivation of consumer behaviour through the perception of extrinsic motivation and the causal trajectory (Gilal, Paul, et al., 2021). The theory of organic integration is one of the five basic principles of self-determination. Organism integration theory addresses the different forms of extrinsic motivation and their characteristics, determinants, and consequences.

In general, extrinsic motivation is instrumental behaviour, that is, it pursues results other than the behaviour itself. There are four types of regulation that determine extrinsic motivation: external regulation, insertion regulation, recognition regulation, and integrative regulation (Deci and Ryan, Overview of self-determination theory: An organic dialectical perspective 2002), which makes clear the internationalism of behaviours (Gilal and Chandani), Toward a New

Model for Green Consumer Behaviour: A Self-Determination Theory Perspective 2020) These regulations (except omnibus regulations) have been assessed as motivators of green behaviour (Gilal and Zhang, in terms of customer gender and age Connecting Incentive Regulation to Brand Enthusiasm in Regulatory Models: A Perspective from Organic Integration Theory 2019) and the enthusiasm for the brand (Gilal and Chandani), Pathways to New Models of Green Consumption Behaviour: A Self-Determination Theory Perspective 2020). According to the theory of integrative organisms, individuals experience a sense of autonomy even when the behaviour is extrinsically rewarding. Thus, the distinction between autonomous and controlled motivation appears to be more important than the distinction between intrinsic and extrinsic motivation.

The theory explains regulation-driven buying motivation, while the TCV explains this motivation through the perspective of perceived value. Similar statements can be seen for conditioning and identified affective values, as they refer to feelings such as shame avoidance and external conditioning, as well as the social value associated with social status.

It is essential to understand how extrinsic motivation influences consumer perceptions and behaviour toward fast food restaurants in Zambia. Organic integration theory will help us understand how four external motivations influence Zambian consumers' perception of the fast-food industry. For example, how does the need for a greener environment in Zambia affect the behaviour of Zambian consumers toward fast food? The theory will help us determine if they don't mind consuming something, no matter how it was produced.

### **Results and Discussion**

Demographic information at any level, micro or macro, is imperative for every business to thrive. Table 1 below displays the demographic characteristics of the respondents. The table vividly shows that a total of 351 respondents participated in this study, which was skewed toward female participants, with a count of 181, representing a percentage of 51.57%. Of the 351 respondents, 170 of them were male, with a percentage of 48.43%. We can see that most of the

respondents were between 17 and 21 years old, representing 50.71% of the respondents. We can further see from the table that most of the respondents were single, representing 98.86%. Table 1 also shows that most of the respondents

knew more than five fast-food businesses, representing 38.75%. We can see from Table 1 that most of the respondents attained their o-level certificates, representing 72.93%.

**Table 1: Profile of respondents (students)**

<b>Characteristics</b>	<b>Frequency</b>	<b>%</b>
<b>Gender</b>		
Male	170	48.43
Female	181	51.57
Total	351	100
<b>Age range</b>		
17 to 21 years	178	50.71
22 to 26 years	167	47.58
27 to 31 years	6	1.71
Total	351	100
<b>Marital status</b>		
Single	347	98.86
Married	2	0.57
Co-habiting	2	0.57
Total	351	100
<b># of fast-food businesses known</b>		
1 to 2	122	34.76
3 to 5	93	26.50
>5	136	38.75
Total	351	100
<b>Highest level of education</b>		
O-level Certificate	256	72.93
Diploma	1	0.28
Bachelor's Degree	93	26.50
Master's Degree	1	0.28
Total	351	100

Table 2 below shows the summary of descriptive statistics for variables; brand equity (BE), brand awareness (BW), brand association (BA), brand loyalty (BL), perceived value (PV) and perceived quality (PQ). The statistics are outlined in the form of mean, standard deviation,

standard error, skewness, and kurtosis. In addition, many scholars state that if the skewness and kurtosis have values between +2 and -2, one can accept the normal distribution (George and Mallery, 2010; Trochim and Donnelly, 2006; Field, 2009; Gravetter and Wallnow, 2012).

**Table 2: Descriptive statistics**

Statistics	Brand associa- tion	Brand aware- ness	Perceived value	Perceived quality	Brand loy- alty	Brand eq- uity
Mean	4.08927	4.37227	3.88034	4.53941	3.15385	4.13034
SD	0.77477	0.69149	0.79777	0.65679	0.86028	0.74924
se(mean)	0.04135	0.03691	0.04258	0.03506	0.04592	0.03999
Skewness	-1.0194	-1.3869	-0.6693	-1.66	0.11612	-0.9798
Kurtosis	4.13762	5.16899	3.50813	5.32204	2.77193	4.09661

### Brand equity

Concerning Brand equity, the mean was found to be 4.13034, the standard deviation 0.74924, the standard error .03999 0929, the skewness -.9798, and the Kurtosis 4.09661. The skewness for this variable is within the range +/- 2 showing no deviation from normality, and kurtosis was not within this acceptable normal range, indicating that the data were slightly peaked showing a high deviation from normality (George and Mallery, 2010; Trochim and Donnelly, 2006; Field, 2009; Gravetter and Wallnow, 2012).

### Brand awareness

Regarding brand awareness, the mean was found to be 4.37227, the standard deviation 0.69149, the standard error .03691, the skewness -1.3869, and the Kurtosis 5.16899. The skewness for this variable is within the range +/- 2 showing no deviation from normality, and kurtosis was not within this acceptable normal range, indicating that the data were slightly peaked showing a higher deviation from normality (George and Mallery, 2010; Trochim and Donnelly, 2006; Field, 2009; Gravetter and Wallnow, 2012).

### Brand association

Concerning Brand association, the mean was found to be 4.08927, the standard deviation 0.77477, the standard error .04135, the skewness -1.0194, and the Kurtosis 4.13762. The skewness for this variable is within the range +/- 2 showing no deviation from normality, and kurtosis was not within this acceptable normal range, indicating that the data were slightly peaked showing a higher deviation from normality (George and Mallery, 2010; Trochim and Donnelly, 2006; Field, 2009; Gravetter and Wallnow, 2012).

### Perceived Value

Concerning the perceived value, the mean was found to be 3.88034, the standard deviation 0.79777, the standard error .04258, the skewness -.6693, and the Kurtosis 3.50813. The skewness for this variable is within the range +/- 2 showing no deviation from normality, and kurtosis was not within this acceptable normal range, indicating that the data were slightly peaked showing a high deviation from normality (George and Mallery, 2010; Trochim and Donnelly, 2006; Field, 2009; Gravetter and Wallnow, 2012).

### Perceived quality

Concerning perceived quality, the mean was found to be 4.53941, the standard deviation 0.65679, the standard error .03506, the skewness -1.66, and the kurtosis 5.32204. The skewness for this variable is within the range +/- 2 showing no deviation from normality, and kurtosis was not within this acceptable normal range, indicating that the data were slightly peaked showing a higher deviation from normality (George and Mallery, 2010; Trochim and Donnelly, 2006; Field, 2009; Gravetter and Wallnow, 2012).

### Brand loyalty

Regarding brand loyalty, the mean was found to be 3.15385, the standard deviation was 0.86028, the standard error .04592, the skewness was 0.11612, and the Kurtosis 2.77193. The skewness for this variable is within the range +/- 2 showing no deviation from normality, and kurtosis was not within this acceptable normal range, indicating that the data were slightly peaked showing a slight deviation from normality (George and Mallery, 2010; Trochim and Donnelly, 2006; Field, 2009; Gravetter and Wallnow, 2012).

**Factor analysis and internal consistency**  
**Table 3: Factor loading and Cronbach's Alpha**

Variable/Label	Brand awareness	Brand association	Perceived value	Perceived quality	Brand loyalty	Brand equity
BW1	0.8084					
BW2	0.7450					
BW3	0.6811					
BA1		0.7260				
BA2		0.5614				
BA3		0.6033				
PV1			0.7725			
PV2			0.6731			
PV3			0.7256			
PQ1				0.6589		
PQ2				0.7191		
PQ3				0.6317		
BL1					0.6455	
BL2					0.7117	
BL3					0.6256	
BE1						0.6851
BE2						0.7528
BE3						0.6611
BE4						0.5377
<b>Cronbach's alpha</b>	<b>0.5639</b>	<b>0.6748</b>	<b>0.5909</b>	<b>0.7355</b>	<b>0.6563</b>	<b>0.7608</b>

Factor analysis was performed on questionnaire items under the variables Brand awareness, Brand association, Perceived Value, Perceived Quality, Brand Loyalty and Brand Equity, which were 19 in total as shown in Table 3 above. Factor analysis aims to identify the relative roles of the underlying factors in determining variables in data sets (Das, Panchanan, 2019: 208). After the number of factors is set, the findings are interpreted based on specific items. Every item that has a factor loading greater than 0.5 is assigned a factor (Cleff, 2019: 437).

Another important issue concerns the internal consistency of the scale. This refers to the degree to which the scale items 'hang together'. To ensure that all scale elements measure the same underlying construct, the most widely used indicator of internal consistency is Cronbach's alpha coefficient. However, by which the ideal

value is expected to be above 0.5 (DeVellis 2012), it is quite sensitive to the number of items on the scale. Where short scales (e.g., scales with less than 10 items) are expected to have quite low Cronbach values (e.g., .5) (Pallant, 2017: 116). During the factor analysis, all elements were found to be above the 0.5 level and with a relatively high Cronbach alpha. Thus, none of the items were dropped.

### Regression analysis

Multiple regression analysis was performed on the research variables, with brand equity as the dependent variable and brand awareness, brand association, perceived value, and perceived quality as the independent variables of the study. The results of the regression analysis are displayed in Table 4.



**Table 4: STATA regression output**

Source	SS	Df	MS	Number of obs = 351		
Model	70.6316251	5	14.126325	F (5, 345)	=	38.73
Residual	125.842734	345	.364761547	Prob > F	=	0.0000
Total	196.474359	350	.561355311	R-squared	=	0.3595
				Adj R-squared	=	0.3502
				Root MSE	=	.60395
Brand equity	Coefficient	Std. err.	T	P> t	[95% conf. interval]	
Brand awareness	.063302	.0498325	1.27	0.205	-.0347171	01613157
Brand association	.2305559	.0586049	3.93	0.000	.115288	.3458237
Perceived value	.1378686	.0462754	2.98	0.003	.0468511	.228886
Perceived quality	.3580743	.0594541	6.02	0.000	.2411363	.4750124
Brand loyalty	.0964765	.0381936	2.53	0.012	.0213549	.1715982
cons	.3987346	.2738528	1.46	0.146	-.1398967	.9373658

The p-value associated with the F value in the regression output is 0.000 which is less than the level of significance of 0.05 and thus the group of variables, brand awareness, brand association, perceived value, brand loyalty and perceived quality can be used to reliably predict the dependent variable, brand equity. Therefore, the independent variables, brand awareness, brand association, perceived value, and perceived quality show a significant relationship with the dependent variable brand equity.

The R-squared (R<sup>2</sup>) indicates that 35.95% (0.3595) of the variance in brand equity can be predicted from the variables brand awareness, brand loyalty, brand association, perceived value, and perceived quality.

**• Brand awareness**

For every 1% increase in brand awareness, brand equity is expected to be higher by 0.063302.

The brand awareness coefficient (0.063302) is not significantly different from 0 because its p-value of 0.205 is greater than the entire level of significance. Therefore, we fail to reject the null hypothesis that it has no significant effect on brand equity.

**• Brand association**

For every 1% increase in brand association, brand equity is expected to be higher by 0.2305559.

The coefficient of brand association (0.2305559) is not equal to 0 at the 0.05 and 0.01 significance level. However, its p-value of 0.000 is lower than these levels of significance.

Therefore, we reject the null hypothesis at the 0.05 and 0.01 level of significance.

**• Perceived value**

For every 1% increase in perceived value, brand equity is expected to be higher by 0.1378686.

The perceived value coefficient (0.1378686) is significantly different from 0 at the level of significance of 0.05 and 0.01 level of significance levels because its p-value of 0.03 is lower than these significance levels. Therefore, we reject the null hypothesis at the 0.05 and 0.01 level of significance.

**• Perceived quality**

For every percent increase in perceived quality, brand equity is expected to be higher by 0.3580743.

The perceived quality coefficient (0.3580743) is significantly different from 0 because its p-value of 0.000 is lower than all levels of significance. Therefore, we reject the null hypothesis that it has no significant effect on brand equity.

**• Brand loyalty**

For every percent increase in perceived quality, brand equity is expected to be higher by 0.964765.

The brand loyalty coefficient (0.964765) is significantly different from 0 because its p-value of 0.012 is less than the 0.05 level of significance of 0.05. Therefore, we reject the null hypothesis that it has no significant effect on brand equity at the 0.05 significance level.



### Summary of hypotheses findings

As a result of the findings from the multiple regression analysis, the results of the hypothesis testing were summarised as follows:

**Table 5: Summary of Hypotheses**

Var.	Hypotheses	Comment at .05 sig.
BW	H <sub>01</sub> : Brand awareness has no significant effect on brand equity.	Accepted
	H <sub>a1</sub> : Brand awareness has a significant effect on brand equity.	Rejected
BA	H <sub>02</sub> : Brand association has no significant effect on brand equity.	Rejected
	H <sub>a2</sub> : Brand association has a significant effect on brand equity.	Accepted
BL	H <sub>03</sub> : Brand loyalty has no significant effect on brand equity.	Rejected
	H <sub>a3</sub> : Brand loyalty has a significant effect on brand equity.	Accepted
PV	H <sub>04</sub> : Perceived value has no significant effect on brand equity.	Rejected
	H <sub>a4</sub> : Perceived value has a significant effect on brand equity.	Accepted
PQ	H <sub>05</sub> : Perceived quality does not have a significant effect on brand equity.	Rejected
	H <sub>a5</sub> : Perceived quality has a significant effect on brand equity.	Accepted

**H<sub>1</sub>:** Brand awareness was found to have no significant effect on brand equity in fast food businesses at Copperbelt University (p-value >.05). Thus, this hypothesis was rejected.

**H<sub>2</sub>:** The association of brands was found to have a significant effect on brand equity in fast food businesses at Copperbelt University (p-value < .05). Therefore, this hypothesis was accepted.

**H<sub>3</sub>:** Brand loyalty was found to have a significant effect on brand equity in fast-food restaurants at Copperbelt University (p-value < .05). Therefore, this hypothesis was accepted.

**H<sub>4</sub>:** The perceived value was found to have a significant effect on brand equity in fast food businesses at Copperbelt University (p-value < .05). Therefore, this hypothesis was accepted.

**H<sub>5</sub>:** Perceived quality was found to have a significant effect on brand equity in fast food businesses at Copperbelt University (p-value < .05). Therefore, this hypothesis was accepted.

#### Diagnostic tests

The following are the diagnostic tests that were carried out to perform a series of tests on the data used for the study.

#### • Checking Normality of Residuals

The pnorm command plots a standardised normal probability (P-P), whereas qnorm plots the quantiles of a variable against the quantiles of a normal distribution. pnorm is sensitive to non-normality in the middle range of data, and qnorm is sensitive to non-normality near the tails. The results of the pnorm, qnorm, and kdensity charts show a slight deviation from normal at the upper tail, the middle range of the data, and the lower tail.

#### • Checking Heteroscedasticity

The hettest and the white test are based on the null hypothesis that the variance is constant. Therefore, when the probability is large, we will accept the null hypothesis of constant variance. The rvfplot also shows that the variance across fitted values does not change much, as overall speaking we see a band of equal width. On the other hand, the regression below is different. Both the hettest and the white tests were not significant (Prob> chi2 = 0.7447), indicating homoscedasticity.

**Table 6: Breusch pagan test**

H0: Constant variance
Variables: Fitted Value of Brand Equity
chi2(1) = 10.09
Prob > chi2 = 0.74475

• **Checking for Multicollinearity**

When there is a perfect linear relationship among the predictors, the estimates for a regression model cannot be computed uniquely. The term collinearity implies that two variables are near-perfect linear combinations of one another.

When more than two variables are involved, it is often called multicollinearity, although the two terms are often used interchangeably. In Stata, a test for the presence of multicollinearity was used, which is the VIF uncentered command. The findings revealed low effects of multicollinearity with a mean VIF value of 1.36 (i.e., < 10).

**Table 7: Results of the multicollinearity VIF multicollinearity results**

Variable	VIF	1/VIF
Brand association	1.58	0.634597
Perceived quality.	1.46	0.68347
Brand awareness	1.43	0.699157
Perceived value	1.31	0.764692
Brand loyalty	1.04	0.96535
	<b>Mean VIF=1.36</b>	

**Discussion of results**

To determine the kind of effect Brand awareness has on brand equity, the study found that Brand awareness did not have a significant (p-value > 0.05) effect on Brand equity in fast food businesses among students from Copperbelt University but had a low positive coefficient (0.063302). This implies that the more customers are aware of the brand, the more the fast-food business benefits from an increase in brand awareness in terms of brand equity from the customer's perspective and the business owner's perspective. Also, research has shown that the most imperative and critical dimension of brand equity is brand awareness (Macdonald and Sharp, 2000). Thus, from the customer's perspective, an increase in brand awareness creates an uplifting mentality towards the brand and an increase in purchasing intent (Erdem et al., 2006). This in return is beneficial from the business owner's perspective, as an increase in customer purchasing intent would increase sales.

When it comes to brand association, it had a significant effect on brand equity (i.e., p-value < 0.05), though it had a positive effect with a low coefficient (0.2305559). This implies that brand

association has a positive effect which is significant enough to contribute to the overall brand equity of the fast-food business. This is in line with how brand association has been described as anything that connects the customer to the brand and enables them to create a mental relationship with the brand (Fournier, 1998). As in many instances, customers of fast-food businesses mainly look forward to a quick and easily accessible meal of good quality, which creates a relationship with the brand.

Regarding perceived value, the study found that perceived value had a significant effect (i.e., p-value < 0.05) on overall brand equity of fast-food companies. The perceived value produced a positive coefficient (i.e., 0.1378686) and is described as the perceptions of the customer of a product or service compared to the price they have already paid (Anderson et al., 1994). Perceived quality in this study was found to have a significant and positive effect on the overall brand equity of fast-food businesses (p-value = 0.000 i.e., < 0.05). which implied that the higher the perceived value, the higher the overall utility associated with brand equity in a fast-food business. Perceived quality has been defined as the consumer's judgment of the superiority or

excellence of a brand (Konecnik, 2006). That means that customers of fast-food businesses in Kitwe regard their view of the superiority or excellency of the brand of fast-food business as an important attribute when accessing the overall brand equity.

### Conclusions

In this study, the main determinants of brand equity have been identified in the fast-food business in Zambia. The outcome of the statistical analysis supports all the hypotheses and indicates that the five determinants or attributes tested are positively related to brand equity. If fast-food consumers feel that the quality of the food offered is good, it will improve their satisfaction, commitment, and brand loyalty towards the business. This simply implies that consumers will be willing to spend more and intend to repeat their purchase. The ultimate results will be boosting of profit margins. This will in turn attract more competition and setting up of more fast-food businesses. Brand equity in this case becomes one of the key competitive advantages that creates tangible value for the sustainability and continued growth of the fast-food industry in Zambia.

Most customers of fast-food businesses form a strong association with the brand because they managed to find a fast and easily accessible meal to eat, and then they go. This on the other hand creates many customer networks for more sales of fast foods. With the increasing overall number of fast-food businesses in Zambia, every fast-food should aim to stand out and increase their overall brand equity. One direction that businesses can take is one where they invest more money in branding. This leads to additional benefits such as an increase in customer loyalty and the overall brand equity of the fast-food business.

The results of this research can enable practitioners to carry out effective customer-centred strategies and come up with a framework to integrate brand equity with the stakeholders' relationship. The research model can be extended to test other determinants such as customer satisfaction, brand image, brand equity, and impact of brand equity on consumer purchase intentions. Although this research was conducted only in the fast-food industry in Zambia, a future extension of the study could be applied and the research model can be extended to other industries in Zambia.

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