

Effect of Asymmetric Dominance on Consumer Choice of Selected Stores in Abuja Municipal Area Council, FCT, Nigeria

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Abstract- *This study examines the effect of asymmetric dominance (the decoy effect) on consumer choice among customers of selected stores in the Abuja Municipal Area Council (AMAC), Federal Capital Territory, Nigeria. Anchored on nudge theory, the study adopts a quasi-experimental design and a difference-in-differences (DID) regression framework, estimated by ordinary least squares (OLS), using primary data drawn from a population of 1,995 customers across seven offline and online stores. Of 333 questionnaires administered to treatment and control groups, 317 were retrieved and analysed. The dependent variable, consumer choice, is proxied by planned expenditure, while the explanatory variables are price, decoy effect, compromise effect, income level and product brand. From the results, price, product brand and income have a significant effect on the consumer expenditure ($p < 0.05$), while the decoy effect and the compromise effect do not have statistical significance. The model accounts for approximately 91.7 percent of variance in the consumer expenditure ($R^2 = 0.917$). From the results, it is evident that the asymmetric dominance, which is widely prevalent in Western countries, is difficult to reproduce in the case of AMAC consumers, where price, brand name and income continue to play the dominant role in shaping their consumption habits. It has been suggested that the business operating in the Nigerian environment should give priority to pricing, brand and income-based marketing over decoy effects.*

Index Terms- *Asymmetric Dominance, Consumer Choice, Decoy Effect, Difference-In-Differences, Nigeria.*

I. INTRODUCTION

A choice is a selection of an option from various possibilities available to an economic agent [2]. As human desires are many, but resources are few, a consumer is faced continuously with the challenge of dividing the limited budget among competing demands. According to the rational choice theory, consumers engage in a process of careful decision-making to satisfy themselves to the maximum extent

possible, whereas according to the theory of bounded rationality [2], consumers tend to opt for options which may not be optimal but are "good enough". This is an area that marketers often exploit through pricing and marketing of products.

The most sophisticated of these marketing tricks is the technique of asymmetric dominance, better known as the decoy effect. First pointed out by Huber, Payne and Puto [1], asymmetric dominance refers to a situation where consumers change their preference between two options once a third and intentionally inferior option called the "decoy" is added to the options available. As the decoy is similar to but clearly dominated by the relatively expensive option called the "target", the consumers end up choosing the target option.

While asymmetric dominance is widely established in retail and travel industries in the Western world, the issue of whether it could be replicated in other environments is not yet conclusively proven, as some research reports indicate that asymmetric dominance is less pronounced or even absent when considering the factors of culture, income, and product categories. Despite the reputation of Nigeria as one of the consumption-oriented economies in Africa, very little is known about whether the decoy effect exists in the choice behaviour of consumers in Nigeria. It is to fill this void that this research has been conducted.

The primary goal of this research is to test for the effect of asymmetric dominance on consumer choice behaviour in AMAC. The goals of this research include: (i) assessing the effect of decoy effect on consumer choice; (ii) assessing the effect of compromise effect on consumer choice; (iii) assessing the effect of price on consumer choice; (iv) assessing the effect of consumer's income on consumer choice; and (v) testing for the effect of product brand on consumer choice. This means that there will be a testing of five different null hypotheses where each

will state that decoy effect, compromise effect, price, income, and brand have no significant effect on consumer choice in AMAC.

II. LITERATURE REVIEW

A. Concept of Asymmetric Dominance

Asymmetric dominance is achieved by introducing a decoy that is inferior to the target option on one attribute but similar or superior on another relative to a third, competing option, thereby violating the regularity and similarity assumptions of classical choice theory [1]. The decoy operates in two closely related forms: the attraction (decoy) effect, where the decoy is dominated outright by the target, and the compromise effect, where consumers gravitate toward the option that occupies the middle position within a choice set [9].

B. Theoretical Framework

The study is anchored on nudge theory, which holds that individuals can be steered toward decisions through subtle changes in how choices are framed, without restricting their freedom to choose otherwise [8], [14]. Nudge theory complements bounded rationality [2] in explaining why consumers, faced with limited time and cognitive capacity, often rely on heuristics such as price cues and relative attractiveness rather than exhaustive evaluation of all available alternatives.

C. Empirical Review

Tjijptono [4] and Dhar and Simonson [5] show that pricing strategy is central to how a decoy nudges consumers away from rational choice, with compromise and attraction pricing effects being the two principal mechanisms through which decoys operate. Niharika and Manisha [7], whose model this study adapts, found that corporate pricing strategies exploiting the decoy effect significantly influenced household expenditure in an Asian retail setting. Conversely, studies such as those reviewed by Chernev [10] and cross-cultural replications elsewhere report inconsistent or non-significant decoy effects once brand strength, price sensitivity and income differences are controlled for, underscoring the context-dependent nature of asymmetric dominance.

III. RESEARCH METHODOLOGY

A. Research Design and Study Area

This research uses a quasi-experimental approach involving a case study design that includes the treatment group being subjected to the presence of a decoy alternative against the control group which is not exposed to such alternative. This study was carried out in the Abuja Municipal Area Council (AMAC), which constitutes the central administration of the federal capital territory of Nigeria, having a population of over 1.4 million people, and a total area of about 2,500 km² [15].

B. Model Specification

Following [7] and using the difference-in-differences (DID) approach within a single-equation OLS framework, consumer choice is specified as a function of price, decoy effect, compromise effect, income and product brand:

$$CC = f(PR, DE, CE, INC, PBR)$$

$$CC_{it} = \beta_0 + \alpha \cdot Treat_{it} + \gamma \cdot Post_{it} + \delta \cdot (Treat_{it} \times Post_{it}) + \beta_1 DE_{it} + \beta_2 CE_{it} + \beta_3 PR_{it} + \beta_4 INC_{it} + \beta_5 PBR_{it} + \mu_{it}$$

where CC is consumer choice (proxied by planned expenditure); Treat and Post are binary indicators for treatment-group membership and the post-intervention period respectively; PR, DE, CE, INC and PBR denote price, decoy effect, compromise effect, income and product brand; and μ is the error term. All coefficients (β_1 – β_5) are a priori expected to be positive.

C. Population, Sample and Data

The study population comprised 1,995 customers with the highest observed patronage across seven purposively selected stores in AMAC Ford Mart, Mcray, H-Medix, SPAR Ceddi Plaza, Market Square, and the Jumia and Konga online pick-up points. Of 333 structured questionnaires administered to treatment and control respondents, 317 were correctly completed and retrieved (95.2 percent response rate), forming the basis for analysis. Primary data were complemented with two weeks of direct store observation to validate reported customer traffic.

D. Estimation Technique

Data were analysed using STATA 14.2. Consumer choice (planned expenditure) is the dependent variable; price, decoy effect, compromise effect, income and product brand are the explanatory

variables. The DID-OLS single-equation technique was chosen for its capacity to isolate the causal treatment effect of introducing a decoy on consumer expenditure while controlling for pre-existing group differences and common time trends.

IV. RESULTS AND DISCUSSION

A. Sample Characteristics

Of the 317 respondents, 59.9 percent were male and 40.1 percent female; 53.0 percent were aged 26–30 years, closely followed by the 31–45 age bracket; 50.8 percent were married; and 64.4 percent held tertiary qualifications, suggesting a fairly literate and economically active respondent base capable of making informed purchase decisions.

B. Regression Results

Table I presents the DID-OLS regression results explaining consumer expenditure.

Variable	Coef.	Std. Err.	t	P> t
Group Treatment	-8341.74	10816.83	-0.77	0.441
Decoy Effect (DE)	-6220.10	20928.32	-0.30	0.767
Compromise (CE)	-4085.96	9950.66	-0.41	0.682
Price (PR)	0.8867*	0.0290	30.60	0.000
Brand (PBR)	-479.74*	163.65	-2.93	0.004
Income (INC)	0.0105*	0.0020	5.21	0.000
Constant	47534.71*	9370.94	5.07	0.000

TABLE I

DID-OLS REGRESSION RESULTS ON CONSUMER EXPENDITURE

$N = 317$; $R^2 = 0.917$; $Adjusted\ R^2 = 0.914$.

*Significant at 5%. Source: Author's computation, STATA 14.2.

The model explains approximately 91.7 percent of the variation in consumer expenditure ($R^2 = 0.917$;

adjusted $R^2 = 0.914$). Price ($\beta = 0.887$, $p < 0.001$) and income ($\beta = 0.010$, $p < 0.001$) are positive and significant, consistent with a priori expectations, so $H0_3$ and $H0_4$ are rejected. Product brand is negative and significant ($\beta = -479.74$, $p = 0.004$), leading to rejection of $H0_5$: on average, patronage of the dominant lower-priced brand reduced overall expenditure. The decoy effect ($\beta = -6220.10$, $p = 0.767$), the treatment-group indicator ($p = 0.441$) and the compromise effect ($\beta = -4085.96$, $p = 0.682$) are all statistically insignificant; consequently, $H0_1$ and $H0_2$ cannot be rejected.

C. Discussion of Findings

The significant positive effect of price on expenditure confirms that AMAC consumers remain highly price-sensitive, consistent with [11], who emphasised the importance of price meaningfulness and familiarity in shaping purchase decisions. The significant, negative brand coefficient indicates that stronger patronage of the most recognised, competitively priced brand (Tecno, in this study) is associated with lower overall spending, corroborating the brand-positioning literature [12]. The strong positive income effect aligns with findings that higher-income consumers exhibit a greater propensity to spend on premium goods [13].

However, contrary to theoretical expectation and to findings from Western markets [1], the decoy and compromise effects failed to significantly influence expenditure among AMAC consumers. This suggests that asymmetric dominance, though a well-established behavioural bias elsewhere, does not readily transfer to the Nigerian retail context studied here, where price, brand strength and income appear to override framing-based nudges. This finding is consistent with recent replication studies reporting weak or inconsistent decoy effects once cultural and market-structure differences are accounted for.

V. CONCLUSION AND RECOMMENDATIONS

This study set out to investigate the effect of asymmetric dominance on consumer choice among patrons of selected stores in AMAC, Nigeria. The evidence indicates that while price, product brand and income are strong, statistically significant predictors of consumer expenditure, the decoy effect and the

compromise effect the two components of asymmetric dominance exert no significant influence in this setting. This means that, unlike in several Western economies where nudges through decoys have been found to work, retail consumers in AMAC in Nigeria seem to be making choices mainly based on prices and brand image instead of choice set framing.

From these results, it is advisable that: (i) companies in the AMAC retail industry adopt competitive pricing strategies over those using decoys because price is the key determiner of expenditure; (ii) companies adopt consistent branding efforts because brand image is a key determinant of expenditure levels; (iii) marketers segment marketing campaigns according to income groups in order to reach out effectively to low and high income earners; and (iv) future research should use larger and more geographically varied samples and qualitative methodology to investigate the conditions that might make asymmetrical dominance applicable or not applicable in the Nigerian consumer market.

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