MOTORISTS ATTITUDE TOWARDS DIFFERENT TYPES OF PARKING SERVICES: THE CASE OF NAIROBI CENTRAL BUSINESS DISTRICT (CBD)

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ABSTRACT

The purpose of this paper is to analyze consumers' attitudes towards private and public parking services in Kenya. Based on Fishbein Multi-attribute Model, the study employed a survey design, and primary data, where samples of 500 motorists were interviewed. The results shown that, apart from those who chose in-side building parking, most motorists consider security, price accessibility from main road and closeness to the destination as very important. Additional services at the parking bay are only important to those who choose in-side building parking. In-side building parking was not cheap, but it had additional services. Off-road parking bays are cheap, but less secure, and are not so close to the motorists' final destination. However they are usually accessible compared to on-road parking. All outside parking whether private or public, lacked additional services. Attitude for private in-side buildings parking was the most favorable, meaning it had most desired attributes. It was followed by public on-road parking and private outside parking in that order. Public off-road had the most unfavorable attribute attitude. This study contributes to the body of knowledge on the motorists' behavior towards different types of parking. This would be important to city planners because they could include attributes lacking in off-road parking bays to make them more attractive. Furthermore, the theory of attitude was tested in regard to motorists' behavior. In view of this, the findings are of importance to researchers who may want to extend attitude theory in the area of parking services.

Keywords: Central Business District (CBD), Multi-attribute Model, Off-road Parking, On-road Parking, In-side Buildings Parking

1.0 INTRODUCTION

According to Mathanu, (2011), 65% of Kenyans will be living in the urban centers by the year 2030. Urbanization is taking place at a very high rate, and as a result, urbanizing service delivery

is the main agenda of all local and urban authorities which by law are mandated to provide these services in the urban areas. A key component of urban development in Kenya is urban transportation, and it is estimated that 78% of urban residents commute by road (Mathanu, 2011). This can be attributed to the fact that, the low income group travels by public transport, and the fact that the growing middle and the high income groups prefer private vehicles. Road transport being the most preferred mode of transport within many Kenyan cities, parking problem is evident in most of them, and in the recent years it has continued to be the most powerful means of traffic restraint. As the dream of Kenya becoming a middle income country becomes a reality, more and more Kenyans are expected to enter into the middle income bracket and preference of private transport will increase. This means the parking problem being experienced in the urban centers like Nairobi will even be more severe, an implication that, proper management of transportation becomes more and more urgent (Mathanu 2011).

Many businesses view adequate supply of parking, especially for their clients, as crucial for their competitive growth (Mathanu, 2011). The government has tried to address parking problem by using mobile money systems to make it easy for motorists when paying parking charges. Of rate, they have also contemplating to develop a policy where14-seater commuter service vehicles will not be allowed to enter the CBD. For commuters entering the Nairobi city from Mombasa road, the train station near Syokimau provides packing space to enable motorists with private cars to use the commuter train to the city as a way of reducing congestion.

According to www.jambonairobi.co.ke, private parking in Nairobi is seriously underutilized, and yet, a parking survey by IBM in (2011) found that motorist on average take 32 minutes against a global average of 20 minutes to find a vacant parking slot. The Nairobi City Council now allows double parking within the off street car parks and charges Ksh 400 per day, while those parking on the streets pay Ksh 300 per day. Previously one would pay ksh 140, however this was increased in February 2014 and ksh 70 in November 2008. Prior to that, the city had parking meters that were removed in the late 1990's and a flat rate of ksh 70 per day introduced. Previously, studies had indicated that private parking are seriously underutilized due to prohibitive charges. However, now that the council charges and the private park operators are generally high, it is important to try and understand whether there is difference in attitude towards the two park operators services based on the price and other the key variables of interest to the motorists which have not been investigated.

To both Nairobi City Council and private parking providers, this study fills an identified need by shedding light on parking characteristics that should be taken into account when designing their parking. With this understanding, both parking providers can adjust their parking accordingly in order to meet motorists' needs. This will reduce under-utilization of parking space particularly in

the case of private parking providers, and also guide the Nairobi city planners as they develop new parking lots in and outside the city in attempt to reduce congestion in the city.

This research investigates the car parking sector from the motorists' point of view. The aim is to investigate whether there is a difference in attitude towards the private parking services and public parking services based on the price and other key variables of interest to the motorists. Specifically, the study aimed at:

a) Identifying the attributes of parking that motorists in Nairobi's CBD consider as important
b) To evaluate how strong is the shoppers' believe in the presence of selected parking characteristics in each type of parking
c) Determine the multi-attribute attitude towards both private and public parking services in Kenya

Limitations of the study refer to the challenges encountered when carrying out the study. One of the challenges faced when carrying out this study was the fear of the motorists being approached by a stranger given the insecurity being experienced by motorist today in Nairobi city. The introductory letter given to them before filling the questionnaire well indicated that the information required from the respondent was purely for academic purposes.

The other challenge experienced was that, motorists were usually in a hurry, especially in the evenings after work and morning as they head to work. Majority were not ready to be interviewed during such times. To address this challenge, I requested for their telephone numbers and called them in the evening to be able to fill in the questionnaire. The interviews were staggered in all days of the week including weekends so that relaxed week-end motorists looking for parking could be captured.

The other challenge was that the questionnaire was in English and not all respondents could understand English. Kiswahili which is the national language in Kenya was used to clarify questions where necessary.

2.0 LITERATURE REVIEW

Theory of Attitude

Attitudes influences consumer's opinion of a product or service. Attitudes are relatively enduring (Oskamp & Schultz, 2005, p. 8). Attitudes are a learned predisposition to proceed in favor of or opposed to a given object. In the context of marketing, an attitude is the filter to which every product and service is scrutinized.

The functional theory of attitudes—developed by Daniel Katz—offers an explanation as to the functional motives of attitudes to consumers (Solomon, 2008). Katz theorizes four possible functions of attitudes. Each function attempts to explain the source and purpose a particular attitude might have to the consumer. Understanding the purpose of a consumer's attitude is an imperative step toward changing an attitude. Unlike Katz's explanation of attitude—as it relates to social psychology, specifically the ideological or subjective side of man—consumer attitudes exist to satisfy a function (Katz, 1937).

The utilitarian function is one of the most recognized of Katz's four defined functions. The utilitarian function is based on the ethical theory of utilitarianism, whereas an individual will make decisions based entirely on the producing the greatest amount of happiness as a whole (Sidgwick, 1907). A consumer's attitude is clearly based on a utility function when the decision revolves around the amount of pain or pleasure in brings.

The value-expressive function is employed when a consumer is basing their attitude regarding a product or service on self-concept or central values. The association or reflection that a product or service has on the consumer is the main concern of an individual embracing the value expressive function (Solomon, 2008). This particular function is used when a consumer accepts a product or service with the intention of affecting their social identity.

The ego-defensive function is apparent when a consumer feels that the use of a product or service might compromise their self-image. Moreover, the ego-defensive attitude is difficult to change. The ego-defensive attitude—in general psychology—is a way for individuals dendeny their own disconcerting aspects (Narayan, 2010). A marketer must tread lightly when considering a message strategy to a consumer with an attitude based on the ego-defensive function.

The knowledge function is prevalent in individuals who are careful about organizing and providing structure regarding their attitude or opinion of a product or service (Solomon, 2008). A marketer can change a consumer's knowledge function based attitude by using fact-based comparisons and real-world statistics in the message strategy. The knowledge about presence of certain attributes of interest to motorists may change the attitude that motorists previously had towards different types of parking.

Advertising campaigns that appeal to consumer behaviors based on the value-expressive or utilitarian functions are the most common (Sirgy, 1991). Utilitarian advertisements deliver a message regarding the benefits of using a product or service. Advertising targeted to consumers with value-expressive attitudes will typically include product symbolism and an image strategy.

In either case, it is important to understand why a consumer holds a particular attitude toward the product or service.

Parking in Nairobi CBD

Parking makes up just 3.5 per cent, which is "too low" as a percentage of floor space use. The CBD has only about 6,154 parking spaces - both multi-level and open-air - creating a gap of over 120,000 parking spaces between existing lots and the obligatory space, www-Allafrica.com. The survey recommended that land owners with undeveloped land should allowed to sell or lend development rights to maximize land utilization, while private developers should be encouraged to build car parks.

Many studies and surveys have been done on how to improve the efficiency in collection of parking charges in Nairobi's CBD. Waema and Mitulah, (2008), investigated the role of ICT in local government, and the finding indicated the role ICT would play in managing various roles of local government including parking charges collection. Rashid, Ataur, Farhana &.Fahana (2012) studied the automatic parking management system and parking fee collection based on number plate recognition.

Other studies have focused on the condition of parking in the Nairobi's CBD. For example, a study by Katahira Engineers International, (2005) found that, in Kenya, parking development interventions have not contained demand for parking, this has far-much outstripped supply, this was found by Katahira Engineers International, (2005). The study was based on aerial photos, site surveys in the Central Business District (CBD) and interviews from relevant agencies/organizations, the capacity and demand was summarized as below

	Items	capacity	demand	difference
Off-road	Parking Building	4035	3158	877
	Parking lot	1702	1484	218
	Sub-total	1702	4642	1095
On-road	Parking lot	4480	4480	0
	Curb	-	2278	-2278
	Sub-total	4480	6758	-2278
	Total	10217	11,400	1.183

Parking space and demand in Nairobi CBD (2005): An Extract from Mathanu, 2011

Table 1: From the field survey and Mathanu, (2011) observations, on-road parking demand is higher than off-road parking, due to the following reasons:

i) It is more convenient because a driver may park very close to his/her destination depending on the availability of parking space.

ii. On street parking is cheaper since it is not time based or space based and one can park anywhere and at any time since the charge is flat rate (at the time Sh.70 and now Sh. 140).

iii. Some of the off-street parking are basement parking and are reserved for building tenants. From the above data and reason then parking demand at the time exceeded capacity and the study projected estimates of generated car traffic to and from CBD as shown in the Table 2 below.

From the above data and reasoning by Muthanu (2011), parking demand at the time exceeded capacity. Further the study by Muthanu (2011) projected estimates of car traffic to and from CBD as shown below:

Year	2004	2010	2015	2025
Cars	231948	236583	241218	317,674
Increase Rate	-	1.02	1.04	1.37

Projected Estimates of generated Car traffic to and from Nairobi CBD (An Extract from Mathanu, 2011)

From the above results, Mathanu (2011) explains that, if we assume that the increase rate of generated traffic and car parking is the same, the future demand can be projected as follows:

Item	2004	2010	2015	2025
Off-road	46400	4,73300	482600	6,357,00
On- road	6,76000	689500	7,03000	9,26100
Total	11,400	11,628	1185600	15,61800

Generated Traffic and Car Parking Demand in Nairobi CBD Extract from Mathanu, 2011

Based on the above analysis of parking condition in Nairobi's CBD and expected future demand by Mathanu, (2011), and the argument of underutilization of privately owned parking space in this city, it was found necessary to study the attitude towards different parking services according to the type of providers(either private or public owned parking). In his study,

Mathanu, (2011) identified various reasons why people prefer off-street parking to on-road parking as indicated above. He also proposed sensitivity analysis of parking fees in CBD as one of the counter measures aimed at improving the parking conditions in Nairobi CBD, both in short-term and in the long-term. It is important to note that, parking charges adjustments for public-parking were implemented in 2014 by city and local authorities. He also proposed development of Multi-story parking system as another solution to the parking condition in Nairobi CBD.

According to a survey by jambonairobi.co.ke, the city council also permits private investment in the parking business. Below is a list of car parks in the CBD operated by the County Government and private organizations. Some of the private ones are seriously underutilized due to prohibitive charges www.jambonairobi.co.ke

Location	Capacity	Ownership
Sunken car park	243	Nairobi City Council
Taifa Rd, open air		
Law Courts car park	220	Nairobi City Council
Taifa Rd ,open air		
Taifa Rd car park	-	Private
Near Reinsurance plaza ,open air		
Gichamu lane car park		
Near Shell/BP house, open air		
KICC Grounds	-	Private
Parliament Rd ,open air		
Kenyatta Avenue car park	-	Private
Loita Street opposite GPO, open air		
Loita Street car park behind	-	Private
Laico Regency ,open air		
Utalii Street car park ,open air	-	Private
Intercontinental Hotel on Parliament Rd	70	Private
In building		
Nakumatt lifestyle Monrovia street,	-	Private
In building		
KEMU Towers Monrovia street,	-	Private
In building		

(Source; www.jambonairobi.co.ke)

Multi-storey type of parking proposed by Mathanu, (2011) to a larger extent will be privately owned, thus the need to further identify the attributes influencing motorists' attitude towards private parking Vs public parking considering that utilization of private parking is still an issue. From the accessible literature, there is no study that has investigated motorists' behavior in regard to this and thus this project is justified.

3.0 METHODOLOGY

This study was based on the primary data collected from motorists in Nairobi's CBD. The sample as randomly selected in the parking bays, and it comprised of 500 motorists. Five attributes of parking were considered in the questionnaire used when collecting the data. They included; Security, fair charges, closeness to motorists destination and additional features/services. Multi-attribute models are used to understand and measure attitudes. Motorists were asked to rate the importance of each parking characteristic on a 5-point scale (where 1= not very important, and 5= very important) The belief of the presence of each of the characteristic in the parking chosen was also rated using the same scale. The basic multi-attribute model has three elements—attributes, beliefs, and weights. Attributes are the characteristics of the attitude object. Beliefs are a measurement of a particular attribute. Weights are the indications of importance or priority of a particular attribute. A multi-attribute model can be used to measure a consumer's overall attitude.

The most influential multi-attribute model—the Fishbein model—also uses three components of attitude.

$$A_0 = \sum_{i}^{n} biei \text{ Where}$$

$A_O =$ The overall attitude towards type of parking

$b_i =$ The strength of the belief that parking type possesses a particular characteristic

$e_i =$ The importance of that parking characteristic to the motorist

The first, salient beliefs, is a reference to the beliefs a person might gain during the evaluation of a product or service. Second, object-attribute linkages, is an indicator of the probability of importance for a particular characteristic associated with an attitude object. Evaluation, the third component, is a measurement of importance for the attribute. The goal of the Fishbein model is to reduce overall attitudes into a score. Past and predicted consumer behavior can be used to enhance the Fishbein model (Wambugu, 2014).

Results from a multi-attribute will reveal several pieces of information that can be used in various policy applications when planning parking in Nairobi's CBD. If the one type of parking scores higher on a particular attribute, city planners and private parking developers should downplay the attribute and emphasize the importance of a high-scoring attribute.

4.0 RESULTS AND DISCUSSIONS

Table 1: Descriptive Statistics

	Frequency	Percentage
Gender		
Male	350	70%
Female	150	30%
Age		
Over 50	100	20%
41-50	150	30%
31-40	120	24%
21-30	80	16%
18-20	50	10%
Education		
Above secondary	250	50%
Secondary	150	30%
Primary	65	13%
Below primary	35	7%

Table 1 shows the descriptive statistics for the sample of 500 motorists sampled for the study. Out of 500 respondents, 70% were male and 30& female. Majority (74%) were above 40 years old, and majority (80%) of the motorists had secondary education and above.

Table 2: Motorists' Choice of Parking

Type of Parking	Frequency	Percentage
Private in-side building	40	8%
Private outside building	125	25%
Public Off-road	200	40%
Public On-road	135	27%

Majority (67%) of the respondents chose public off-road and public on-road. Only 8% of the respondent chose private in-side building.

Table 3: Results for private In-side Building Parking

Attributes	Importance for each attribute e_i	Belief for presence of each attribute b_i	Importance for attributes X Belief of presence of each attribute in this type of parking $e_i b_i$
Security	5	5	25
Fair charges	3	2	6
Closeness to the destination	5	5	25
Accessibility from main road	5	3	15
Additional services	4	4	16
Overall attitude $\sum_{i}^{n} biei$			87

A result in Table 3 indicates fair charges and additional services are important to motorists who choose this type of In-side Building Parking**.** The parking was secure, close to the motorist destination- all rated at 5 and had additional services was rated at 4.The overall attitude towards this parking was 87.

Table 4: Results for Private Outside Building Parking

Attributes	Importance for each attribute e_i	Belief for presence of each attribute b_i	Importance for attributes X Belief of presence of each attribute in this type of parking $e_i b_i$
Security	5	4	25
Fair charges	4	3	12
Closeness to the destination	5	4	16
Accessibility from main road	5	4	15

Additional services	2	2	4
$\sum\limits_{i}^{n} biei$			72

Results in table 4 indicates that, security, closeness to the destination, accessibility from main road and price were all important to the motorists who chose private outside building parking, all rated at 5. While the three factors were found to be present in this type of parking, price was not considered fair- rated at 3. The overall attitude towards this type of parking was 72.

Table 5: Results for Public On-road Parking

Attributes	Importance for each attribute e_i	Belief for presence of each attribute b_i	Importance for attributes X Belief of presence of each attribute in this type of parking $e_i \, b_i$
Security	5	3	15
Fair charges	5	4	20
Closeness to the destination	5	5	25
Accessibility from main road	5	3	15
Additional services	2	1	2
Overall attitude $\sum\limits_{i}^{n} biei$			77

Table 7 indicates that, all the attributes except for additional services are important. However, although the charges are fair, this type of parking is not secure (rated at scale of 3), but motorists who choose it did found it to be close to their destination. Accessibility from main road is power, rated at 3. The overall attitude towards this type of parking was 77.

Table 6: Results for Public Off-road Parking

Attributes	Importance for each attribute e_i	Belief for presence of each attribute b_i	Importance for attributes X Belief of presence of each attribute in this type of parking $e_i\,b_i$
Security	5	3	15
Fair charges	5	3	15
Closeness to the destination	5	3	15
Accessibility from main road	5	4	20
Additional services	2	1	2
Overall attitude $\sum_{i}^{n} biei$			67

Table 6 indicates that, all the attributes except for additional services are important. However, although the charges are fair, this type of parking is not secure (rated at 3), and motorists who choose it did not find it to be close to their destination. The overall attitude towards this type of parking was 67.

5.0 CONCLUSIONS

Apart from those who chose in-side building parking, most motorists consider security, price accessibility from main road and closeness to the destination as very important. Additional services at the parking bay are only important to those who choose in-side building parking. In-side building parking was not cheap, but it had additional services. Off-road parking is cheap, but less secure, and is not so close to the motorists final destination. However they are usually accessible compared to on-road parking. All outside parking whether private or public, lacked additional services. Private in-side parking had the most favorable multi-attribute attitude, mainly because of presence of security, close to destinations and other presence of other services.

When town council will be planning new parking within the city it will be important to factor in security, other services, and even if the parking bay could be away from the city, other means to

enable people to move faster to their destinations including work ways and cycle paths would be very important.

REFERENCES

Blackwell, R. D., Miniard, P.W.& Engel, J. F. (2009), Consumer Behavior 9th Edition, *Cengage Learning Products, McGraw-Hill;* Harcourt College Publishers, London

Carlos, F. Yoweli, L., Eric, J.G. & Nikulus, G. (2007). City-Scale Transport Modeling: An Approach For Nairobi Kenya, Volvo Working Paper, IDD, University of Nairobi

Donald S. (2003), "Truth in Transportation Planning," *Journal of Transportation andStatistics,* vol. 6, no. 1, pp. 1–16Kardes, F. R., Maria, C.L., & Thomas, W. (2011), *Consumer Behavior*, Mason, OH: South-Western, Cengage Learning

Government of the Republic of Kenya (2007), Kenya Vision 2030 popular version

Hair, J. F, Jr, Anderson, R. E., Tathem, R. L. & Black, W.C.(1998), *Multivariate Data Analysis with Readings*, 5th Edition, Englewood Cliffs, Prentice Hall, London

Https//Nairobiplanninginnovations.com

Jeffrey, F. P. (2007), Federal highway administration, Advanced Parking Management systems, a cross cutting study, Taking the Stress Out of Parking, USA

Katahira & Engineers International, recs International Inc (2005). The Study on master plan for urban transport in Nairobi Metropolitan Area in the Republic of Kenya Nairobi Kenya

Mathanu, M.H. (2011), Mobile- GIS Based Vehicle Parking Management System, A case study of Garrissa Bus Park in the Garissa Urban Authority, Garissa County, School of Engineering, University of Nairobi

Monirul, I.S.M. & Bulbul, A.(2011), Customers' Attitude towards Wireless, Internet Services in Bangladesh, An Emprical Study Comparing WIMAX Based and EDGE/EVDO Based Internet Service, *Journal of Business and Technology (Dhaka) Volume VI, no. 01 pp 50-60*

Rashid M.M., Musa A., Rahman M.A, Farhana N. and Fahana A (2012). Automatic Parking Management System and Parking Fee Collection Based on Number Plate Recognition, *Engineering department, The University of Nairobi*

Renee, K. (2010), A multi-attribute Model of Japanese consumers' purchase decision for GM Foods. *Journal of Agricultural Research Vol. 10 pp 449–459*

Ricardo, P. G. (2008), Consumer Behaviour: Product Characteristics and Quality, *University of Autonoma de Barcelona MPRA Paper No 11142*

Waema & Mitulah, (2008), Role of ICT in Local Government, A Case Study of City Council of Nairobi.

Wambugu H. W.(2014)   Customers' Attitude towards milk Packaging Designs in Kenya, *European Journal of Business and Management*, Vol.6, No.19, pp 163-173