Socioeconomic and customer factors affecting fresh produce trading in Nairobi City Park market

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Abstract

The purpose of this study was to determine the factors that influence and motivate people to engage in fresh produce trading at the Nairobi City Park market. Three objectives guided this study, thus: (i) To determine the relationship between trader socio-economic factors and the decision to trade at the City Park market (ii) To establish the fresh produce related factors that motivate traders to operate at the City Park market (iii) To find out the customer related factors that motivate traders to sell their produce at the City Park market. This study was based on the central place theory of retail outlet location. A case study involving key informant interviews and questionnaires was done. Data were obtained from two key informants, 119 traders, and 20 customers. Systematic sampling was used to select traders, snowball sampling to select consumers and purposive sampling to select key informants. Youth constituted 52.5% of the traders, which should motivate the government to invest in youth agribusinesses. Important reasons for establishing businesses at City Park were space availability (27.2%), security (18.5%) and proximity to customers (16.3%). Significant correlations (P ≤ 0.1) included those between number of employees and number of repeat customers (r = 0.533). Half of the traders who used various ways to attract customers also employed a shop assistant (χ^2 = 6.43, P = 0.011). Policymakers can prioritise creation of more market space, provide security and improve transport infrastructure. Traders value high net-worth customers willing to pay a premium for high quality produce. Customers value diversity and quality of produce, and secure trading environment. The government should formulate policies that encourage traders to establish long term businesses. Fresh produce quality standards should be clearly defined and legalized. Market environments should be improved through construction of well-designed buildings with amenities utilities, and security.

Introduction

The American Marketing Association (2017) defines marketing as *the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large*. Within the context of marketing agricultural produce this definition would encompass actors and activities in the whole agricultural value chain from production to consumption. A simple fresh produce marketing system consists of a group of traders and customers that transact over a specific produce or category of produce (Kotler and Keller, 2006). A fresh produce market, then provides facilities and opportunities for both large scale and small scale producers, traders

and consumers to transact business which they otherwise could not as individual businesses. In this case then, they provide a service to the community without necessarily making a profit (Chikazunga *et al.*, 2008). Globally, fresh produce markets are partially deregulated not only to allow competition and opportunities for growth but also to protect domestic markets (Tropp, 2008). While in Turkey the fresh produce market is regulated (Bignebat *et al.*, 2009), in Kenya it is deregulated and consists of many buyers and sellers. Entry into the fresh produce industry in Kenya is very easy for traders. Capital set-up and transaction costs are minimal and licensing requirements by the local authorities affordable. However, 'invisible' market players tend to have extra-legal control on who is allowed to operate in a certain market place. These 'invisible' players are frequently market intermediaries who determine the price at which wholesalers will sell to retailers and which retailers will trade in the market they control. These intermediaries increase transaction costs along the market channel thus affecting participation of various channel actors (Blandon *et al.*, 2009).

Fresh produce business outlets are typically organized to respond to the needs of the individual buyer, both in rural and in urban areas (Tschirley *et al.*, 2004; Brown and Miller, 2008). This is because fresh produce purchases are mostly consumed at the household level even though large-scale consumers like hotels, educational institutions and hospitals exist. Modern outlets include kiosks, green grocers, large open or covered fresh produce markets, local supermarkets or global retail chains like the South African *Shoprite* or *Leaderprice* of France. Another type of market that has been well documented by Freedman *et al.* (2016) is the farmer's market which may consist of a single-vendor farm stand or a multi-vendor farmers' market that facilitates easy accessibility of fresh fruits and vegetables. While these markets are primarily physical spaces for exchange of goods, they are also recognized as spaces for social interactions (Mele, Ng, and Chim, 2015).

Fresh produce markets in Nairobi, Kenya, tend to operate daily from morning to evening. They are found on the outskirts of the central business district, and they target middle income to low-income earners. These markets provide accessibility to healthy foods to Kenyan and other country urban dwellers who can't grow

them (Kraschnewski *et al.*, 2014). The markets that have protective structures like City Market and Westlands Market are made of concrete, are more attractive, have higher quality produce and are more organized physically because they target middle-income earners. On the other hand, the open-air markets are typically found next to slums and hence focus on low-income earners (Ayieko *et al.*, 2008). In open-air markets, when it is dusty the produce is covered in dust, and when it is rainy the produce is wet and sometimes muddy. Under such conditions, low levels of hygiene are likely to be prevalent (Tschirley *et al.*, 2004). In Kenya, produce quality standards are not officially defined and thus traders and markets are free to define their qualities and accompanying prices (Irungu, 2007). Inadequate quality standards are also a challenge elsewhere. In India, Negi and Anand (2015) report that quality degradation is also high. Where customers are discerning, for example in green grocers and supermarkets, quality is high and prices higher than in open-air markets (Minten, 2007). However, in open-air markets like Gikomba, there is a variation in quality, and hence price differences, to cater for the needs of different income customers.

Purchasing in a particular market outlet may depend on price, type of produce being bought, and shopper convenience. For example, higher income consumers find supermarket presentation of the vegetables to be better (hygienic, organized, and climate controlled) than in the open County government markets (Tschirley *et al*, 2004; Tschirley and Ayieko, 2008). However, supermarkets in Nairobi are not always accessible because they are located along busy streets. Location is important for a fresh produce buyer to access it as suggested by Singleton *et al.* (2017) in their study in Alabama. Several theories have been proposed to explain location of retail stores. Two classical theories (Reilly 1929; Christaller, 1933) and a more recent modification of Christaller's theory is briefly presented. Reilly (1929) proposed the "spatial interaction theory" which suggests that consumers are likely to consider diversity of a store's product and the quality of service rather than its location alone when choosing where to shop. Christaller (1933) proposed the "central place" theory to indicate the importance of location for a retail store. This theory suggests that consumers tend to buy from the nearest outlet when they are limited by transportation costs and accessibility. This theory also assumes

that consumers tend to make single-purpose shopping trips to satisfy their needs and that a store's location is also majorly based on a high population density of customers. In discussing this theory, Litz and Rajaguru (2008) however suggest that consumers also tend to make multipurpose shopping trips, contrary to the theory's assumption. More recently Taylor, Hoyler, and Verbruggen (2010) have proposed a "central flow" theory to take into account the influence of information technology on purchasing behaviour. According to Xu *et al.* (2019), this model does not replace the central place theory but complements it because if focuses more on relationships between cities rather than within a city. Our study, therefore, assumes the validity of the central place theory in the location of small scale fresh produce retail outlets because City Park market is a purely a fresh produce market.

Visual observation of the market's location and physical environment suggests that the level of hygiene is less than acceptable. In spite of the fact that Nairobi City Council has a public health department and local offices nearby, rotting garbage is strewn right next to the market. This environmental pollution is in contravention to the Nairobi City Council bylaws on waste management one of which prohibits placing of solid waste anywhere other than in a designated container (Republic of Kenya, 2015). Despite it being located in a middle-class residential area, the City Park market traders are continually harassed by County government officials, the operating environment has leaking roofs and does not have an adequate waste disposal system, and the floor is dusty. Despite this scenario, middle-income consumers who are likely to make multipurpose shopping trips and purchase high-quality products from well-informed traders in an attractive environment do frequent this market. Finally, published literature available suggests that the most recent case studies on fresh produce markets in Nairobi are by Irungu (2007) and Tschirley and Ayieko (2008). All these issues have motivated this study to look at the interplay between traders, products, and customers to understand current fresh produce business establishment and operation motivators in Nairobi City Park market as a business hub. To investigate this problem and achieve this broad objective, this study has attempted to test the following hypotheses: (i) Trader socio-economic factors do influence traders to establish their businesses at the City Park market (ii) Fresh produce related factors do motivate traders to operate at the City Park market (iii) Customer related factors do motivate traders to sell their produce at the City Park market

Conceptual framework
The three hypotheses to be tested were used to formulate the conceptual framework underpinning a trader's decision to locate his or her fresh produce business (Figure 1). The three factors, found in the outer three circles, are assumed to be independent but inter-related. However, the trader factors are more prominent at the top of the framework because, ultimately, it is the trader who decides on the location of the business. Each of the factors interacts with and influences the other two factors to result in the location of the fresh produce business. The framework assumes rational decision making by the government, the government being the policy maker and regulator. The central circle reflects the central place theory that is guiding this study whereby it is assumed that a location convenient to all is the ultimate result.

Figure 1 Conceptual framework for factors that influence location of a fresh produce store (source: Authors)

Materials and methods

Study site
This study was carried out at the City Park market, which is found along the Nairobi to Limuru road in the Parklands neighbourhood, Highridge location, Westlands sub-county. Parklands is located at coordinates 01°15'36"S

36°49′05″E about five kilometres north-west of the central business district of Nairobi. According to the Kenya National Bureau of Statistics (KNBS), the population of the Westlands sub-county in 2019 was 301,295 individuals made up of 104,980 households. The average household size was 2.9 individuals (KNBS, 2019). Specific census data for Parklands and Highridge are not yet available.

Research design and sample size
This investigation was conducted as a case study during the months of December 2011 and January 2012. Both non-probability and probability procedures for selecting sample units were used. Systematic sampling was the probability procedure used for selecting traders because the trader stalls were arranged in rows in the market. The population size of the City Park market was 400 traders. In order to achieve an error rate of 5% at 95% probability, this study targeted 200 traders for interview as calculated according to Kothari (2004). However, only 119 traders responded. The size was calculated according to Kothari (2004) as presented below.

$$n = \frac{z^2.p.q.N}{e^2\left(N-1\right) + z^2.p.q}$$

Where n is the desired sample size, z is the standard normal variate at a given confidence level (α = 0.05), p is the proportion of the population with the trait of interest, q = 1- p, N is the population size, and e is the level of precision or margin of error. The assumption for this calculation is that the quantitative attributes to be measured are normally distributed within this population.

The non-probability methods used were purposive sampling and snowball sampling. Purposive sampling was used to select the two key informants, one who was a member of the trader management committee and the second who was a tenant trader. Snowball sampling was used to identify 20 customers because of their busy nature and their unavailability to be interviewed.

Data collection
The first stage of the project was a descriptive study. During this stage, two key informant traders were interviewed using an interview guide. The interviews were detailed one-on-one discussions with an official of the Market Management Committee (MMC) and a tenant trader separately. The management committee member was interviewed in December 2011 while the tenant trader was interviewed in January 2012. The second stage of data collection used an interviewer-administered questionnaire that was drafted and pre-tested for clarity and relevance of questions before the actual data collection. This questionnaire contained both structured and semi-structured questions to collect data from the 119 traders who responded. Any trader who was registered to trade in City Park market and sold fresh crops produce was included. The data provides descriptive and explanatory answers to the three research questions. Quantitative and qualitative information from 20 consumers was obtained through self-reporting questionnaires. Traders were interviewed in January while data was obtained from customers in February 2012. The results from this study may have been slightly influenced by the following limitations: (1) the traders were interviewed while going on with their businesses. Therefore, the accuracy of the information obtained depended on the attention paid by the traders. (2) Systematic sampling may suffered from possible periodicity in the population. The study sought to reduce effects of possible periodicity by using multiple interviewers who commenced sampling from different ends of the market rows. (3) It was assumed that the traders and customers were not influenced by gender and age in their decision making.

Data analysis
Before any data were entered, the questionnaires were evaluated for accuracy. Any questionnaire that did not meet the set quality standards was discarded. After cleaning, the data were entered into SPSS v.11.5 (2002) software for analysis. Exploratory data analysis was conducted to eliminate invalid data and make any necessary corrections. Qualitative data from open-ended questions were collated and interpreted to answer the research questions. Qualitative data from structured or close-ended questions were summarized as frequencies and proportions and presented in tabular and graphical formats. Quantitative data were analyzed to provide descriptive statistics. Measures of central tendency like aggregates, means, frequencies, and proportions were derived. Measures of dispersion obtained

include standard deviations and variances. The fundamental question that this study sought to answer is why traders choose City Park market as a business location. The data collected, therefore, does not conform to the independent-dependent variables format. Consequently, the commonly used logit or probit models were not appropriate for this study and hence the data were analysed to provide the following two inferential statistics:

Linear correlations for relationships among quantitative data

A linear correlation (r_{xy}) is a statistical relationship between two quantitative variables (x and y) measured from the same population. It is an estimate of the strength of a linear relationship between two variables (Mukaka, 2012; Samuel and Okey, 2015). The coefficient varies in value from -1 to +1. The stronger the correlation, the closer it is to -1 or +1 and the better x predicts y. When the relationship is positive, an increase in one variable is associated with an increase in the corresponding variable. It may also be negative, where a decrease in one variable is associated with an increase in the corresponding variable and vice versa. This relationship may be significant (not due to chance) or non-significant. Finally, there may be no linear relationship between x and y ($r = 0$), where the relationship is unpredictable or non-linear.

Chi square for relationships between categories of count data

A chi square statistic (χ^2) is used to determine whether there is a relationship between categorical variables. The test is applicable where a population may be classified into two categories (McHugh, 2013; Rana and Singhal, 2015). This statistic, which is always positive, is often used with count data but not with proportions, percentages or other derived statistics. One use of the statistic is to determine whether two categorical variables are independent of each other. The χ^2 statistic is, therefore, used to test for independence and reveal any relationships between responses. According to Rana and Singhal (2015), "the Chi-square test for independence is based on the counts in a contingency (or cross-tabulations) table. It tests whether the counts for the row categories are probabilistically independent of the counts for the column categories." For example traders may be categorized according to their gender and their age group.

Results

Key informant interviews

City Park market was formally established in 1991 by the national government and given to the hawkers who were operating from the City Park land and selling to motorists driving along the nearby highway, Forest Road. The motorists were mainly from the Asian Community living in Parklands. The previous site from where the hawkers operated was given to the Asian Foundation to build a temple of worship for the Asians. In exchange, the Asian Foundation built the market to help hawkers and buyers trade but with a focus on fresh produce alone. Ever since the market was established the NCC has been in charge of cleaning, providing security and collecting levies from traders. Since then, various stakeholders have been involved in governing and facilitating trade in the market by taking up some of the responsibilities.

Relationships among the market stakeholders ranged from unsatisfactory to amicable. The relationship between the traders and the NCC, which previously owned the market before the advent of the County Government of Nairobi, was unsatisfactory because the NCC often issued threats of eviction on the pretext that the market had been sold. On the other hand, the traders and the Asian Foundation had an amicable relationship since both shared a common objective to reconstruct the market to a higher standard. According to the key informants, the traders felt the location of the market was good because of accessibility to reliable high-end customers, which further reinforces the applicability of the central places theory in business location. There was a Market Management Committee (MMC) composed of traders that took care of the welfare of the traders by, for example, providing security and ensuring a hygienic operating environment. This committee was set up to complement the NCC and was elected after every three years to ensure effective leaders are regularly in authority. Further, the MMC served to represent the traders during negotiations with the NCC and other service providers. The MMC also identified any repairs to be made in the market. It also resolved conflicts between and among traders.

Trader socio-economic factors

Among the respondents, 60 (50.4%) were males while 59 (49.6%) were females. Over 98% of the traders had at least primary level education while over two thirds of the respondents had at least secondary level education, thus suggesting a high level of literacy among the traders. This analysis showed that 52.5% of the traders fell into the category of youth (18-35 years). Among these traders, over three quarters (76%) were highly motivated to conduct their business at the City Park market compared to 21% who had average motivation and 3% who had a low motivation. Almost three quarters of the respondents indicated that they had spouses whom they supported. An even larger proportion of the traders (83.9%) supported their children.

Many of the traders were previously hawkers dealing with non-perishable commodities before they acquired trading space at the market. The traders said that this was the only space they could find to conduct their business.

As a result, they had to convert to trading in perishable commodities. The traders were now used to this location and were unwilling to relocate. In fact, 64.1% believed the market had a bright future for them in terms of increased business and hence increased income, and this hope kept them there. Among the traders who were interviewed, 27% stated that the key reason they opened their businesses here was the fact this was the only site available to them (Figure 2). In addition, the traders stated that there was limited or no space in other markets for them to relocate to. Other reasons cited for opening businesses at the City Park were recommendation from others, a secure environment, and proximity to customers. Most of the traders (67.5%) rented the stalls from where they sold their produce while 32.5% owned the stalls. Finally, almost all the traders (91.6%) used public transport to reach the market while only 8.4% could afford private transport.
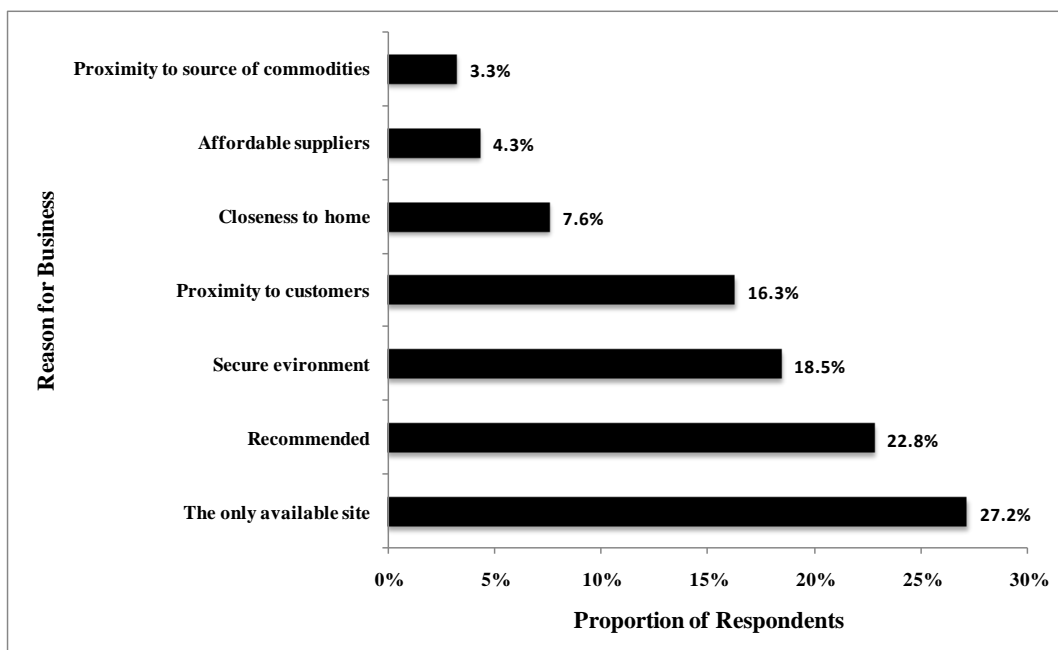

Figure 2: Reason for establishing a business at City Park market (n = 92)

Fresh produce related factors that motivate traders
The type of fresh produce sold in this market included fruits, vegetables, fresh maize, fresh beans, roots and tubers (Table 1). The availability of certain kinds of fruits depended on the season. For example, when this study was conducted mangoes were in season. Consequently, many of the traders stocked

mangoes. Oranges, watermelons and pineapples were other popular fruits. Some traders sourced their pineapples from Uganda because these pineapples were associated with sweetness. Vegetables that were popular included tomatoes, butternut, carrots, onions, and cucumbers. Results show that 89.9% of the traders said they were not restricted on the kind of fresh produce to sell. The ability to sell

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diverse and niche-market fresh produce and availability of repeat business from customers motivate the traders.

Table 1: Selected fresh produce sold at the City Park market

Produce	Number of traders (n)	Volume of produce sold weekly (kg)				
		Mean	Median	Minimum	Maximum	Standard Deviation
Mangoes	46	353.3	200.0	20.0	4000.0	606.0
Pineapples	16	253.8	40.0	10.0	2000.0	500.8
Oranges	30	250.8	125.0	4.0	1120.0	332.5
Chinese cabbage	10	210.0	100.0	50.0	800.0	224.6
Lettuce	8	199.4	107.5	50.0	700.0	219.2
Tomatoes	25	191.2	150.0	10.0	900.0	204.3
Watermelon	29	177.6	100.0	10.0	800.0	189.6
Broccoli	8	136.3	80.0	50.0	500.0	150.3
Beans	9	97.2	30.0	5.0	480.0	148.9
Cucumber	16	95.0	85.0	10.0	200.0	61.9
Onions	20	79.3	45.0	14.0	300.0	77.1
Butternut	22	75.0	30.0	10.0	300.0	95.7
Carrots	20	74.9	65.0	8.0	150.0	41.6
Potatoes	10	74.1	65.0	14.0	200.0	60.4
Courgette	10	64.0	60.0	20.0	100.0	25.9

Customers were also attracted by the diversity and quality of produce found in this market, a market which offered consumers greater choice and greater utility from their purchases. The traders were aware of quality standards that they needed to maintain even though branding of local produce is rare. The standards are generally arbitrary but reflect what the customer needs. Our results show that the ability to realize sizable profits from the sale of quality fruits is a factor that has attracted traders to this market. Examples of quality variables reported are size, colour, surface texture, shape and taste (Table 2). However, not everything about the market was rosy. The general dissatisfaction with the hygiene level in the market demotivated rather than motivated the traders.

More than two thirds (68.1%) of the traders had misgivings (medium to low rating) about the market floor, which was mostly bare soil. Another 53% of the traders had similar negative views about the roof of the market, which leaked during rains. The general feeling among the traders (70.5%) was that physical structures like the floor, fence, drainage system, and roof of the market should be repaired in order to provide a convenient and attractive working atmosphere. When asked about the future of the market, 46.9% of the respondents believed that it will be completely rebuilt and modernized while 17.2% believed it will be renovated. In total, this means 64.1% hope there will be favourable outcome for them.

Table 2: Proportion of respondents (%) looking for particular physical quality characteristics of produce (n = 20)

Quality characteristic	Fruits	Vegetables
Size	90.0	95.0
Colour	100.0	100.0
Shape	90.0	85.0
Taste	100.0	90.0
Skin or surface texture	95.0	65.0
Nutrient Content	90.0	95.0
Other		
Aroma	5.0	0.0
Freshness	0.0	5.0

Customer related factors that motivate traders
Apart from the trader, the other important player in the marketplace is the customer. Since only a small sample size of 20 was interviewed, the responses of the customers are not presented separately but are used to supplement the trader responses. Most traders said that they made most of their sales on Tuesdays and on Fridays, when the produce was fresh. This trend conforms to the delivery schedule of produce, which was done mainly on Mondays and Thursdays. Out of the responding traders, 91.5% of the traders indicated that they had repeat customers, which is an indication of customer loyalty. While most of the customers were households, institutions like restaurants were also regular customers. Most traders (94.8%) identified their customers as residents of the neighbouring middle-income Parklands and Westlands estates and also the affluent nearby Runda and Muthaiga suburbs. Despite the availability of other nearby market outlets like supermarkets, 86.7% of City Park market customers said that they preferred City Park.

Relationships among traders, buyers and produce
Relationships between various quantitative variables were determined using the Pearson correlation coefficient (r) and are presented in Table 3. The objective was to test the hypothesis of there being no relationship between variables. The most significant correlations ($P \leq 0.1$) included those between number of employees and number of repeat customers (r=0.533).

Table 3: Correlation coefficients between trader, commodity and customer variables

Correlated variables	r	P-value	n
1. Number of employees and number of repeat customers	0.533	0.000	46
2. Amount of watermelons sold per week and amount of mangoes sold per week	0.565	0.005	23
3. Total fee paid by trader daily and amount of carrots sold per week	0.588	0.006	20
4. Frequency of commodity supplies per week and maximum customer expenditure per week	0.247	0.010	109
5. Amount of mangoes sold per week and amount of butternut sold per week	0.692	0.013	12
6. Amount of cucumbers sold per week and minimum customer expenditure per week	0.627	0.016	14
7. Amount of oranges sold per week and amount of mangoes sold per week	0.493	0.017	23
8. Amount of butternut sold per week and frequency of commodity supplies per week	-0.496	0.019	22
9. Amount of carrots sold per week and frequency of commodity supplies per week	0.524	0.021	19
10. Fee paid by tenant trader per year and amount of tomatoes sold per week	0.583	0.022	15

Correlated variables	r	P-value	n
11. Fee paid by tenant trader per year and amount of cucumbers sold per week	0.601	0.039	12
12. Fee paid to City council by stall owner and minimum customer expenditure per week	-0.397	0.049	25
13. Number of employees and amount of oranges sold per week	0.496	0.051	16
14. Amount of pineapples sold per week and frequency of commodity supplies per week	-0.447	0.082	16
15. Amount of cucumbers sold per week and frequency of commodity supplies per week	0.460	0.085	15
16. Age of business (years) and amount of onions sold per week	0.403	0.087	19
17. Age of business (years) and number of employees	0.223	0.096	57
18. Fee paid to tenant trader per year and amount of pineapples sold per week	0.476	0.100	13

Some products were also strongly correlated. For example, the amount of melons and amount of mangoes sold had a positive and significant association (r=0.565). There was a positive, though weak, correlation between the age of the business and the number of employees (0.403). Traders who had larger businesses, hence paid more fees per day, also sold more produce (r=0.588). Associations between categorical variables were determined using Chi square analysis. The objective was to test the hypothesis that certain variables were independent of each other. For this study, the significance level was set at $P \leq 0.1$. There was strong motivation by traders to do business at City Park on the one hand and willingness by buyers to pay more for quality produce, satisfaction with market hygiene and stall ownership (Table 4).

Table 4: Chi Square statistics between trader, commodity and customer variables

Test variables	χ^2	P value	df	n
1. Motivation to do business at City Park and willingness of customers to pay more for higher quality produce	16.700	<0.001	2	118
2. Motivation to do business at City Park and satisfaction with hygiene standards of the market	17.380	0.002	4	117
3. Using techniques to attract customers and employing a shop assistant	6.430	0.011	1	118
4. Vendor competition for customers and using techniques to attract customers	6.320	0.012	1	117
5. Satisfaction with general market structures and trader having quality standards for commodities	7.140	0.028	2	110
6. Customer request for quality produce and willingness of customers to pay more for higher quality	4.120	0.042	1	117
7. Motivation to do business at City Park and status of stall occupation (rented or owned)	5.480	0.065	2	116
8. Previous trading experience in fresh produce and type of business ownership	4.870	0.088	2	115

Traders agreed competing for customers was acceptable and hence used varied methods to attract customers (P = 0.012). About half of the traders who used various ways to attract customers also had employed a shop assistant (P = 0.011). The most important methods cited were attractive displays (28.6%), price or quantity discounts (26.1%), and ensuring produce sold is of good quality (21%). Over 70% of the traders who believed that traders competed for customers also felt that customers were willing to pay more for higher quality

produce. Over 80% of the respondents stated that customers who requested for particular qualities of produce were also willing to pay more for higher quality produce (P = 0.042).

Discussion

The present study found the major market stakeholders to be the traders, customers, the MMC and the NCC. These multi-stakeholder interactions to provide an income generation facility to low income groups is an example of a rudimentary form of public private partnership (Wojewnik-Filipkowska and Węgrzyn, 2019) as well as a form of corporate social responsibility (Ismail, 2009). However, the NCC acted as an authoritarian regulator to the City Park traders rather than a friendly facilitator of business. In this situation, traders not only developed a fear of such authority, but also became antagonistic to it. For example, at the time of the study the market's governance body had a case in court against the NCC with a hope that the verdict will give the MMC more authority over the market. Although the NCC has been providing supportive services to the market, the way it has discharged its responsibilities has created resentment among the traders, hence the court case. Market governance is important because it influences satisfaction levels among those who participate in markets (Betz and Farmer, 2016). It follows that if market governing authorities discharge their mandate well, a market is well managed and a consumer's choice on where to shop would lean towards the more efficient market. In South Africa, fresh produce markets have for long been managed by local authorities since their establishment in 1967 and have also acted as wholesale markets. These local authorities derive their powers from provincial governments (Chikazunga, Deall, Louw, and van Deventer, 2008). The larger markets in Durban and Johannesburg are still governed by local councils that seemingly don't have a clear growth strategy, but the smaller ones have largely been privatized.

Trader socio-economic factors
High levels of literacy among the traders increase the discerning capacity of traders and thus they are able to satisfy the customers better. In addition, the generally high level of education among the traders suggests that the traders have the capacity to quickly grasp changing market needs and to be innovative in order to satisfy the clientele. Many of these traders are categorized

as youth (18-35 years old). The youth in Kenyan urban areas is a very active age group that could be perceived to be attracted to finer ways of doing business and of targeting sophisticated clientele. Further, the youth in agribusiness provide an opportunity for the government to direct its youth empowerment fund to agribusinesses owned by youths.

The desire of traders to provide for their own and for their families' basic needs, although at the bottom of Maslow's hierarchy of needs (Huitt, 2007), was a driving force that inspired the traders to trade here, where the income stream was likely to be higher than in open-air markets. The high proportion of traders with dependants, therefore, suggests that the fresh produce businesses they are involved in are important for the livelihood of their families, an observation that is similar to that of Croft, Marshall, and Hallett (2016) who found produce stalls that supported multiple family members. All the traders have sole occupancy stalls where they sell their goods. This gave the traders a sense of security in that they didn't have to compete for trading space like hawkers. Croft, Marshall, and Hallett (2016) also report that formal vendors, those who have legal ownership or tenancy of stalls as compared to informal vendors who don't have stalls, have better access to investment capital and hence are more stable in their businesses. In order to minimize costs, the traders have to balance between accessibility to public transport and the cost of its use. Although public transport may be convenient to many low-income traders, the cumulative high cost of regularly transporting goods using public means may reduce the profitability of their businesses.

Fresh produce related factors that motivate traders
Diverse and unique fresh produce is the hallmark of this market which is popular with customers. The traders have therefore, due to a favourable location and opportunity to provide a wide variety of produce, established customer loyalty and hence business predictability (de Villiers, Visnenza and Phiri, 2018). Unique and rare vegetables that included the butternut, Chinese cabbage, white gourd, dudhi and kohlrabi were sold to cater for the Asian niche market. This is in addition to the common vegetables like tomatoes, onions and cabbages. There is also a huge market for different types of fruits. Traders easily source from these fruits

within Kenya and also do import. As a result, the opportunity to sell diverse products to a diverse market enabled the traders to spread their risks. Traders valued the opportunity to provide quality produce and, consequently, rated City Park market highly compared to open-air markets in terms of such opportunities. Traders also value the high net-worth customers who are regular and who are willing to pay a premium for high quality produce. Produce qualities similar to those of City Park have also been identified by Castro *et al*. (2018). Contrary to the Kenyan fresh produce market situation, economically developed countries like Australia are advanced in terms of branding fresh produce (Pulker, Thornton and Trapp, 2018). Supermarkets, which are the dominant outlets for fresh produce in Australia, have their own brands although information on nutrition content and quality of the products is yet to be incorporated extensively. Health conscious customers are more likely to buy produce that they perceive to be nutritious or of high quality, for example, organic food (Lian, 2017). Therefore, the opportunity to provide consistently good quality produce to a large clientele is a boon to City Park traders. This is important bearing in mind that the quality of perishable commodities traded in such markets quickly declines soon after harvest, as also noted by Besik and Nagurney (2017). It is worth noting that middle income customers have exacting demands in terms of quality and diversity of produce, demands usually reported in developed countries like Australia (Millichamp and Gallegos, 2012) and Canada (Haghiri, Hobbs, and McNamara, 2009). Moreover, even in less developed countries like Bangladesh, more educated consumers with higher incomes bought organic food because they believed it to be healthier and tastier and hence of higher quality (Iqbal, 2015).

The perishable nature of the fresh produce demands that, for proper planning, the trader should have an idea of how fast and regularly he or she will sell his or her goods so as to minimize post-harvest losses. The present study shows that customers purchased items mostly the day after delivery of produce thus suggesting they are aware of when produce was fresh and nutritious and hence healthier. Although this study did not look at the level of spoilage of fresh produce, it is recognized that higher level of spoilage may be associated with rough handling and unsuitable storage of produce. Ahmed, Idris-Adeniyi, and Lawal (2015) report that the more educated and experienced a vendor is, the lower are the vendor's post-harvest losses, possibly due to his or her higher level of awareness on good handling procedures. The traders did not indicate that a reliable cold chain to maintain freshness of produce was important, although the correlation between delivery and high sales days possibly sensitized the traders to the importance of a cold chain. In another study, Negi and Anand (2015) found that inadequate or lack of cold chain facilities was an impediment to effective and profitable business. This is because produce quality, as noted earlier, declines immediately after harvesting.

City Park market was observed to suffer from inadequate infrastructure. Similarly, fresh produce businesses in Uganda seem to face comparable infrastructure problems. For example, Bear and Goldman (2005) write that traders in Uganda have to contend with less than satisfactory infrastructure (physical space and transport). This led to losses due to poor handling and storage. Despite the negative aspects of the City Park market, tenant-traders and stall-owner traders were optimistic about the future of the market. They looked forward to either a renovated or a completely rebuilt market. The hope that the market will be renovated serves to keep the traders in this market, provides them with stability, and enables them to plan for the future of their business. Since the County Government of Nairobi took over from the Nairobi City Council in 2013, a renovation programme for the market commenced. It would be interesting to compare the results of this study with a similar study after the rebuilding programme is complete.

Customer related factors that motivate traders
Preference for City Park may partly be because customers prefer a location with easy availability of parking space, which is not always the case with supermarkets. Accessibility to the market is important for increased fresh produce purchases by consumers (Lucan, Hillier, Schechter, and Glanz, 2014). The favourable market location near high income residential areas provided an opportunity for traders to attract customers to their stalls. This perspective supports Christaller's central place theory to explain location of a business. The secure environment

is also an important reason for more customers to shop at City Park. Therefore, if 24-hour security could be enhanced, the traders may be motivated to operate beyond the current market closure time of 6pm. The regularity of customers created a certain level of predictability as far as income streams are concerned thus encouraging traders to operate in this environment. The fact that the diversity of produce bought, worth of produce bought, number of times a customer shopped per week, and the relationships between customer and trader were important to traders suggests that the spatial interaction theory by Reilly (1929) is valid for these customers. Our results, therefore, imply that no specific theory can be used to solely explain the customer-trader interactions at City Park market and the market's location.

Relationships among traders, buyers and produce

From the correlation results, a higher number of repeat customers indicated greater workload hence the need for more labour. In some economies, such labour is scarce leading to long working hours, 16-17 hours per day, rather than more labourers (Mayer *et al*., 2016). The strongly correlated products tend to be complementary at the household level, to make fruit salads, hence they are likely to be purchased together. This fact motivates traders to stock them together. The fact that they are all found under one roof also encourages customers to continue shopping in this market. This observation suggests that traders had access to information on which commodities are complementary, and they used such information in order to satisfy customer needs and maximize their profits. In another study, Quaye *et al*, (2009) found that consumer preferences also determine the type or mix of vegetables sold in Ghanaian markets. In New York, Martinez, Rodriguez, Mercurio, Bragg, and Elbel (2018) also suggest that what the consumer demands and the products available to the supplier greatly influence the trader's decision. The fees paid by stall owners and tenant traders were strongly associated with the amounts of various vegetables sold. This is explained by the fact that the larger traders stocked more high quality items and, therefore, attracted more customers who bought more from them. Consequently, these traders had to pay higher market levies for the larger volumes brought into the market and also pay more for the larger space they occupied. In general, correlations between volumes of product sold and other variables were mainly positive thus resulting in the larger traders having enhanced business activity. These associations suggest that there is a complex interrelationship of factors that attract traders to the City Park market and motivate them.

Although City Park is not a perfect market, it is a competitive one that seems to reward efforts to satisfy the market. Caspi *et al*. (2017) suggest that purchasing fresh produce may be associated more with availability of required fresh produce rather than marketing strategies. Nonetheless, enhanced stall features and advertising efforts like labelling of produce may motivate consumers to buy more because of a better understanding of the health benefits of nutritious fresh produce (Moore, Pinard, and Yaroch, 2016). The positive association between business age and the number of its employees may be an indication that the older businesses had stabilized and could afford more employees to serve more customers. Increased frequency of produce supplies per week tended to attract customers to spend more on purchases per week. This attraction could be due to the fact that there were higher chances of getting fresh produce at that time.

An issue that was not considered in this study but reported by Zhang and Huang (2018) is the effect of increased fast-food restaurants close to a fresh produce outlet and the associated decrease in proclivity of consumers to purchase fresh fruits and vegetables. There is a possibility that as more fast-food restaurants open near City Park and other markets, potential consumers are likely to be motivated to eat out rather than buy fresh produce to prepare fresh home-cooked meals.

Conclusions

Over 50% of the traders are youth, thus providing an opportunity for long-term investment for sustainable agribusinesses by the government. The decision on which market to operate in is dictated by a variety of factors in the following priority order of: availability of trading space, security, proximity to high income customers, and the quality of produce that the trader accesses. The level of profitability is also a key determinant since traders in high-end markets tend to realize greater returns than traders in the lower-end markets. Demand for diverse high quality fresh and nutritious

produce by customers is a key driver that influences trader decisions. Despite poor market structures, the traders were resilient and identified a niche market that demanded diversity, quality and uncommon products. As a result, traders have exploited opportunities to serve this market and maximize their profits. Customers who patronize this market are well informed about nutrition and health issues. They are influenced by quality rather than price, and they seek a source of produce that is reliable and which provides good quality. These customers are middle-income to high-income earners that provide a regular and decent income to traders. In addition, most of these customers live close to the market and are loyal to the traders.

Therefore, for City Park market to function more efficiently and effectively, it is recommended that since most of the traders have families to support and are greatly motivated by the need to provide for their families, the government should formulate policies that encourage traders to establish long term businesses. Furthermore, fresh produce quality standards need to be clearly defined by and legalized so that traders have a guideline to adhere to. Market infrastructure should also be improved in order to provide a hygienic environment, refrigeration, and air conditioned facilities that keep produce fresh. Finally, produce suppliers should work together with other stakeholders along the value chain to brand their produce in order to satisfy consumer needs and raise the profile of their products. Looking into the future, a market study to learn from other more established sectors should be conducted to assist in implementing branding, establishment and enforcing of local produce and market quality for fresh produce marketing in Kenya. Once the ongoing renovations of the City Park market are completed, a similar study to this one should be done to assess the effect of this renovation on the trading environment.

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