The quality turn in South Africa: insights from a comprehensive investigation into the food quality behaviours, perceptions and knowledge of South African consumers with a focus on middle and upper socioeconomic groups

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Contributed Paper presented at the Joint 3rd African Association of Agricultural Economists (AAAE) and 48th Agricultural Economists Association of South Africa (AEASA) Conference, Cape Town, South Africa, September 19-23, 2010.

The quality turn in South Africa: insights from a comprehensive investigation into the food quality behaviours, perceptions and knowledge of South African consumers with a focus on middle and upper socioeconomic groups

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Abstract: Internationally, alternative food quality movements have given rise to a quality turn from the mass consumption model toward an increasing qualitative differentiation of products and demand (Allaire, 2002). While food quality trends and their implications have been widely analyzed internationally, little has been written on the local quality dynamics in South Africa, a country with clear dualistic socio-economic features. This paper aims to contribute to the understanding of South African consumers' present food quality evaluation with a specific focus on 'conventional' and 'advanced' quality attributes associated with fresh food produce (fruit / vegetable and meat).
Primary data was collected during 2009 through an extensive nationally representative consumer survey (n=420) (LSM 7 – 10), preceded by focus groups and retailer observations of actual quality claims on fresh food labels. Statistical analysis involved descriptive and comparative analyses and K-means cluster analysis in SPSS 17.0.

The paper substantiates the fact that when selecting food purchase outlets and fresh food products, South African consumers largely apply 'conventional' quality and convenience considerations (e.g. appearance, taste). Even though 'advanced' / credence attributes (e.g. animal welfare, environmental practices, safety) are generally less important the results also demonstrate that they already have a relatively significant foothold in the local market, being more established for higher LSM groups in particular and suggesting potential opportunity for market growth.. The complexity of consumers' behaviours and evaluation towards advanced food quality issues is also pointed out. Implications surrounding guaranteeing bodies and small-scale farmers' market access are also addressed, as well as study limitations and recommendations for future research.

1. Introduction

Internationally, alternative food quality movements have given rise to a quality turn from the mass consumption model toward an increasing qualitative differentiation of products and demand (Allaire, 2002). Changes in the features of food demand and consumption are key drivers of these movements. This goes along with the fact that other factors, in addition to price, are gaining importance in transmitting knowledge about product quality to consumers. As a result, food qualification processes and standards are becoming increasingly prominent.

These trends towards quality-oriented and standard-based supply chains are significantly modifying the modes of coordination within these chains and reshaping the organization of production and trade relations. Giovannucci (2003) states that social and environmental attributes will move from differentiating factors into mainstream market criteria and will become necessary conditions for inclusion in the more developed markets, thereby strongly affecting small-scale farmers (SSF) in particular. In the European and North American context or from an export perspective, it has been shown that these trends can have significant, although varying, implications for market access, in particular for SSF. However, studies are lacking on the local quality dynamics in South Africa with. This paper thus investigates how these trends are developing in South Africa from a consumer perspective as the 'new consumer environment' together with the 'new regulatory environment' and the 'new business environment' (with firms increasingly defining their own standards) has been identified as a main driver behind the so called 'quality turn'. This thus serves to characterise its level of advancement in South Africa as an important input to understand and anticipate the implications of these market changes for small-scale farmers. The importance of exploring the consumers' demand dimension is also emphasized by Ruben et al. (2006) that point out that research on SSF market access in developing countries has traditionally neglected it by predominantly focussing on the supply side.

The dualistic nature of the South African consumer market with the so called first or 'modern' economy consisting of established consumers (28,1%, mostly urban) and emerging consumers (44,3%), and the second or marginalized economy (27,6%, mostly rural) (based on SAARF, 2008) has a strong influence on observed consumption patterns. On the one hand, basic food security in terms of the availability of an adequate quantity of affordable food to satisfy basic nutritional requirements is the major food safety concern among poor consumers in South Africa. On the other hand, the food purchasing and consumption behaviour of middle- and upper income consumers are indicative of food trends based on increasingly complex food requirements, usually reflecting global food consumption trends. According to the Bureau for Food and Agricultural Policy (BFAP) (2009) mega-trends shaping the global agro-food environment could be summarised in four broad categories, being health, convenience, indulgence and ethical / environmental issues. The health trend evolves around consumers' continued focus on improved vitality through their food choices. Convenience is driven by consumers being increasingly challenged with insufficient time in their daily schedules, impacting significantly on their food preparation and consumption behaviour. Indulgence could be described as consumers' need for exciting, diverse and more sophisticated food experiences to ensure more pleasure, intensity and sensation. Ethical and environmental issues focus on consumers' expression of concerns related to various sustainability dimensions.
Botha (2008) also points out that diverse consumption patterns exist that significantly differs in the driving factors. It is critical to develop a comprehensive understanding of the food quality evaluations and perceptions of South African consumers in terms of conventional quality issues and 'new' or alternative food quality attributes manifesting within the food market.

From the outset, it is important to stress that there is no single generally accepted definition of food quality in the literature as has been widely acknowledged (see among others Luning and Marcelis, 2007; Peri, 2006). However Peri (2006) states that quality can be defined in utilitarian terms as ''fitness

for use'' or in the context of food as ''fitness for consumption''. From a consumer perspective, quality is defined as a subjective individual evaluation criterion encompassing the totality of features and characteristics of a product affecting its ability to satisfy the stated or implied needs of the consumers and includes the nature of the product, packaging, labelling, branding as well as warranties and legal protection (Kotler & Keller, 2006; Padberg, Ritson and Albisu, 1997). Nelson (1970) proposed to distinguish between various types of food quality attributes based on the ease with which a product quality attribute can be communicated to consumers. Search attributes can be verified at the time of the transaction (e.g. colour). Experience attributes can be assessed only after the transactions has taken place (e.g. taste, freshness, convenience); and credence attributes cannot be objectively verified and are based on trust (e.g. healthiness, naturalness, animal/environmental friendliness, wholesomeness, method of production). This classification has been extensively used in consumer and supply chain literature, given its implications for quality management and signalling, and is used in this paper. It is also possible to distinguish between intrinsic and extrinsic quality attributes (Oude Ophuis and Van Trijp, 1995). Intrinsic quality attributes cannot be modified without also modifying the physical characteristics of the particular product. According to Caswell (2006), intrinsic quality attributes include food attributes related to food safety, nutrition, sensory attributes, value/function attributes (e.g. convenience or keepability and process attributes such as animal welfare, authenticity of process / place of origin, traceability, biotechnology, biochemistry, organic, environmental impact and worker safety and social welfare. Overall these latter attributes have been important dimensions as part of the quality turn. Extrinsic quality attributes can be modified without changing the physical product (e.g. price, brand, purchase outlet, packaging, nutritional information and production information).

This paper aims to contribute to the understanding of South African consumers' present food quality evaluation with a specific focus on fresh food produce (fruit / vegetable and meat). It encompasses the evaluation of consumer perceptions and behaviours regarding both conventional (such as appearance or price) and advanced quality attributes (such as certification, traceability as well as trust related to the product quality attributes). Questions addressed in this paper regard the manifestations of alternative food quality trends in the South African context and the prospects for their development. It explores which extrinsic and intrinsic quality attributes affect the fresh food decisions of South African consumers and what is the relative importance of these quality attributes for different consumers. After detailing the research methodology in the next section, consumers' views regarding conventional food quality considerations are explored in detail in the first part of the third section by means of a number of key results, including perceived importance of product selection criteria, importance of purchase outlet selection criteria and changes in consumers' shopping behaviour during the past five years. In the second part of the third section, the focus is shifted to more advanced quality considerations strongly related to sustainability, presenting results related to consumers' evaluations and behaviour towards advanced quality criteria and food types with a particular focus on aspects such as free range food, organic food, traceability and trust. The main conclusions are then presented.

2. Research methodology

A questionnaire-based consumer survey of 420 consumers from middle- and upper socio-economic segments (LSM 7, 8, 9 and 10) residing in Gauteng was used to gather primary data from October to December 2009. Respondents were recruited by a contracted professional consumer panel recruitment agency guided by quota sample requirements supplied by the research team, as described below. The sampling was done randomly around Gauteng (in particular Johannesburg and surrounding areas) by means of door-to-door recruiting in a range of areas covering the larger Johannesburg area. Consumers were first screened for shopping roll and demographics profile and, once qualified, invited to participate (via one on one interviews at convenient times at the consumers' homes. A typical interview

lasted about 90 to 120 minutes. A random sample of questionnaires (about 23% of total questionnaires) was back-checked after completion to gauge recruiting accuracy and monitor interview protocol adherence.

A quota sample was designed to reflect the demographic profile of consumers within LSM 7 to LSM 10 in the larger South African population, with specific requirements in terms of LSM category, ethnicity and age. The research focused specifically on consumers from middle- and upper socio-economic segments based on the expectation that these consumers have the basic education and purchasing power (to varying degrees) to present informed opinions on general food quality considerations as well as more advanced and alternative food quality considerations (such as organic, free range, environmental awareness and social awareness) which are usually associated with price premiums. Botha (2008) shows that as disposable income increases, the importance of price in food consumption and purchase decision decreases and other quality factors such as convenience, packaging, become increasingly important. Focus groups conducted across a broader range of LSM groups confirmed that consumers in LSM categories of less than 7 had very seldomly experienced alternative food quality attributes and thus had poor knowledge about it. On the other hand, it also confirmed that these low LSM consumers are very particular about more basic quality attributes to optimize their limited food budget. Financial constraints also prohibited the expansion of the sample to cover the entire LSM spectrum with adequate sub-group sizes. From an ethnic point of view, it was decided to design the quota sample to reflect the shares of black consumers and white consumers within the various LSM groups, given the prominence of these groups within the LSM groups and to present the possibility of ethnic comparisons during data analysis. Thee age categories were decided upon to cover a range of economically active consumers (25 – 34 years, 35 – 49 years and consumers 50 years and older. No formal gender split was included in the sampling and it was expected that the sample would be dominated by female consumers given their traditional dominance in the food purchasing activity for households. A socio-demographic profile of the sample is presented in Table 1.

Table 1: Socio-demographic composition of the sample respondents

Variable:	Levels:	LSM 7 & 8 (n=221)	LSM 9 & 10 (n=199)	Pooled sample (n=420)
LSM	LSM 7 & 8	-	-	52.6%
	LSM 9 & 10	-	-	47.4%
Gender	Female	85.1%	83.9%	84.5%
	Male	14.9%	16.1%	15.5%
Culture	African	67.4%	27.6%	48.6%
	White	32.6%	72.4%	51.4%
Age	25-34 years	31.7%	24.6%	28.3%
	35-49 years	34.4%	41.2%	37.6%
	50+ years	33.9%	34.2%	34.0%
Education level	≤ Grade 7	2.3%	2.0%	2.1%
	Grade 8 – 11	45.5%	23.1%	34.8%
	Grade 12	41.4%	40.7%	41.1%
	Post-matric	10.9%	34.2%	22.0%

A comparison of the ideal quota and actual sample composition revealed that the actual sample is a very accurate representation of the demographical shares present in the actual population of consumers within LSM 7 to 10, broken down in terms of ethnicity and age groups.

The selected sample size (n=420) was based on a number of considerations. Given the complexity of the recruitment process and the length of the interviews, financial constraints prohibited the expansion of the sample to larger magnitudes. However, the sample is adequate to ensure statistical validity at a 95% confidence level and a confidence interval of 5, for the large population (i.e. adults in South

Africa from LSM 7 to LSM 10). Furthermore, according to rules of thumb by Sudman (1976) as applied in recent research by Verbeke and Ward (2006), subsets of at least 50 observations per category could be adequate to draw statistical inferences within the sample. Considering the demographic data presented in Table 1, this requirement was met by the dataset considering the distribution of consumers between the various socio-demographic sub-categories (LSM, ethnic group, education level and age).

The survey questionnaire focused on typically consumed fresh food products, specifically dairy (milk, yoghurt), meat (beef mince, beef steak, chicken) and fresh produce (fruit and vegetables). Consumers' behaviour, knowledge and perceptions were also investigated regarding food safety, organic food, free range food, food produced by small-scale farmers, environmental / social awareness, food labelling terminology and alternative food procurement sources. The questionnaire was developed based on the research objectives as well as inputs from in-store product observations and focus group results, and was pre-tested among role-players and consumers. It contained a wide range of question types including several types of closed questions such as dichotomous choice (yes / no), multiple choice, Likert scale agreement level, importance scale and rating scale questions as well as a few open questions mostly intended to elicit further explanation behind choices. Consumers' perceived importance of an extensive list of product selection criteria[1] (about 25 in each case) was measured through an 11-point interval scale (0 to 10) for two products, a meat and a vegetable product. The lists of criteria were compiled based on the project objectives as well as on results of preparation activities preceding the survey, including the focus groups, literature review and actual observations of food products available at South African retailers. Chicken and tomatoes were selected based on these products' wide consumption across socio-economic groups as well as the wide diversity of attributes associated with these products (wide product range diversity, actual alternative quality claims made for these products in South Africa (organic production, free range attributes)).

Data capturing and cleaning was done in Microsoft Excel. Subsequently SPSS 17.0 was employed for descriptive and comparative analysis (ANOVA and Chi-square) to explore the significance of differences between sub-groups in the dataset, in particular comparisons of the LSM groups, ethnic groups and (where applicable) age and education levels. An acceptable level of significance was set at $p \leq 0.05$. Cluster analysis (K-means) and cluster profiling were applied to develop consumer segments based on consumers' expressed perceived importance of product selection criteria for chicken and tomatoes.

Since the sample consisted of consumers within LSM 7, 8, 9 and 10, initial comparisons involved all four groups separately. However, given the similarities between LSM 7 and 8 as well as between LSM 9 and 10 found within the dataset, comparisons focused on the 'upper-middle' wealth segments (LSM 7 & 8) versus the 'upper' wealth segments (LSM 9 & 10).

[1] Chicken factors: Advertised as free range, Animal friendly production, Appearance, Brand / product reputation, Clean meat, Colour, Country / Region of origin, Deboned, Environmentally friendly production, Expiry date, Fat content, Fed GM free grain, Food safety, Fresh or frozen, Freshness, Indigenous species or not, Intended use, Packaging size, Past purchase experience, Portion type, Price, Quality guarantee, Shelf life / keepability at home, Skinned chicken, Store where purchased, Tenderness, Traceability
Tomatoe factors: Appearance / Blemishes, Brand / Product reputation, Clean tomatoes, Colour, Country / Region of origin, Environmentally friendly production, Expiry date, Firmness, Food safety, Freshness, Intended use, Shelf life / keepability at home, Labelled as natural, Organically produced, Packaging material, Packaging size, Past purchase experience, Price, Quality guarantee, Shape, Size, Store where bought, Traceability, Type / variety

3. Results and discussion

3.1 Product representativity and purchase frequencies

Among the fresh food products covered within the survey, milk, yoghurt, chicken, mince, fruit and vegetables are very widely purchased (by 95% of the sample or more), while steak is somewhat less purchased (76.3% of sample) with beef steak purchasing significantly dominated by LSM 9 & 10 consumers (85.4% within group versus 68.2% for LSM 7 & 8) [χ^2=17.001, df=1, p<0.01].
The products purchased most regularly are milk and more perishable fresh produce, with more than 70% of the sample purchasing these products weekly or more often. Yoghurt and less perishable fresh produce are purchased weekly or more often by about 50% of the sample, while beef steak and mince are generally characterized by less frequent purchasing behaviour (most likely linked to more bulk purchasing). Purchasing patterns revealed from the survey are in accordance with the results from Botha (2008) that states that lower LSM groups tend to purchase fresh produce on a less frequent basis than higher LSM groups. Low LSM groups also tend to purchase less perishable products than higher LSM groups. Furthermore, according to the South African Advertising Research Foundation (SAARF) (2009), the share of consumers engaging in month bulk shopping decreases towards LSM 10, varying from about 68% for LSM 1 to about 40% for LSM 10.

3.2 Overview of consumers' views of conventional and alternative quality attributes.

Figure 1 presents a radar plot of the average rating scores across all product selection attributes for chicken and tomatoes within the total sample, revealing similar patterns between the two products. For both commodities a number of attributes received ratings of eight or more: cleanliness, freshness, expiry date, appearance, colour, quality guarantee, food safety and price. Average scores differ with less than 0.5 for intended use, freshness, keepability at home, colour, appearance, environmentally friendly production, price, packaging size, food safety, traceability, expiry date and quality guarantee. Average scores differ with between 0.5 and 1 for product cleanliness, country or region of origin, past purchase experience, brand / product reputation and store where purchased. For chicken purchase, international literature confirms the importance of attributes such as texture and appearance (e.g. chicken meat skin colour, meat colour) (Fletcher, 2002; Vukasovič, 2009). Furthermore, the importance of factors such as a quality guarantee and expiry date are also illustrated (Vukasovič, 2009; Magdelaine et al, 2009). However, internationally a number of other chicken criteria is also important (in contrast to South Africa) such as brand, origin, and packaging (Vukasovič, 2009; Magdelaine et al, 2009; Pouta et al, 2008).

The relative importance of the conventional and advanced quality attributes presented in Figure 1 are analysed in detail in the following sections.

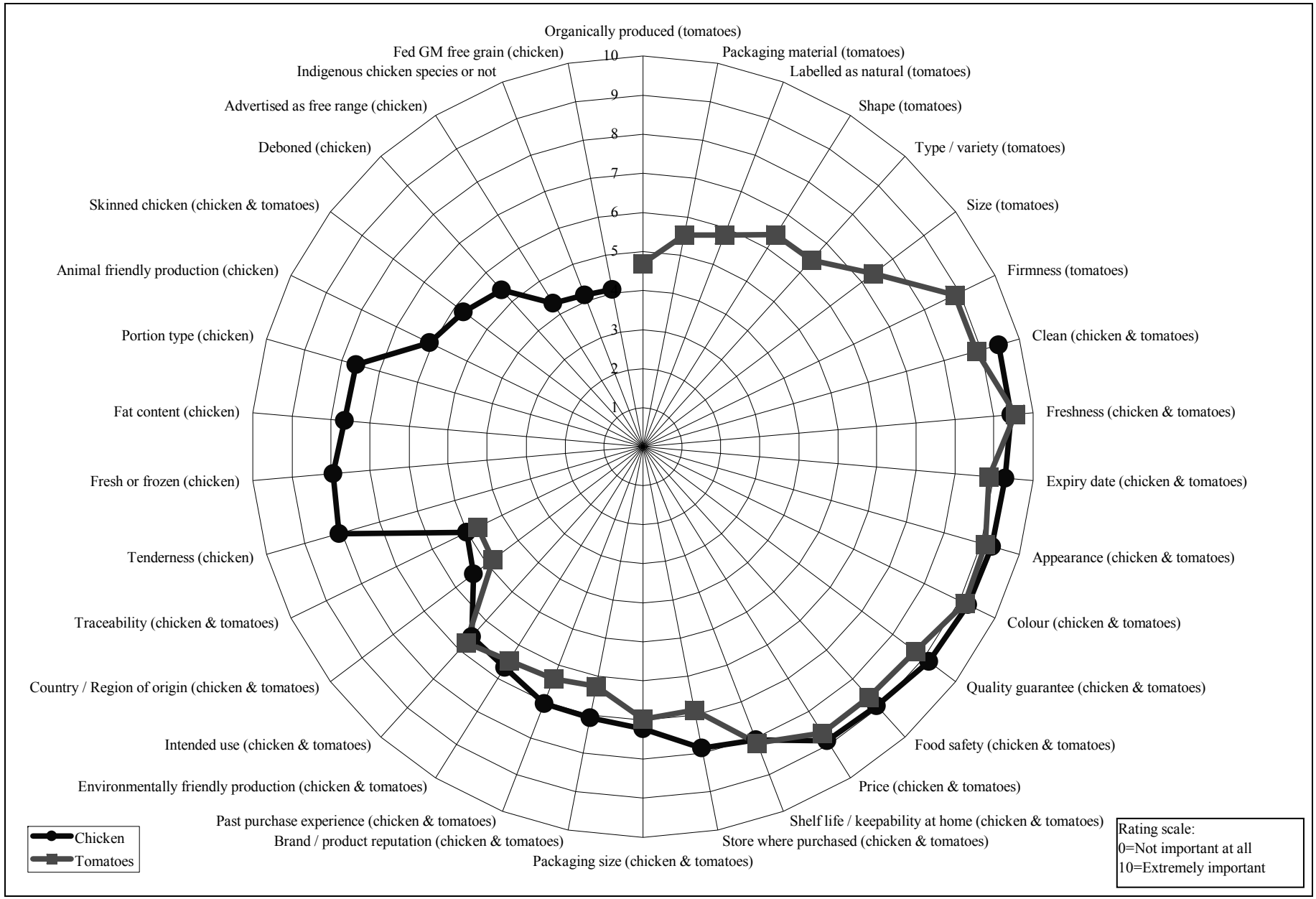

Figure 1: A comparison of the average rating scores across all product selection attributes for chicken and tomatoes

3.3 Consumers' views on conventional quality considerations

Consumers' perceived importance of an extensive list of product selection criteria applicable to purchasing decisions for beef steak, chicken and tomatoes was measured through a ranking approach where consumers were asked to conduct a 'top 3' ranking of the listed criteria[2] as are presented in Table 2.

Table 2: Most important product selection criteria for beef, chicken and tomatoes, based on consumers' 'top 3' perceived importance rankings

Product:	Top 5 Attributes (in order of importance):
Beef steak	Price, Expiry date, Appearance, Quality guarantee, Fat content
Chicken	Freshness, Price, Expiry date, Clean meat, Appearance
Tomatoes	Freshness, Price, Expiry date, Firmness, Quality guarantee

Similarities between the various products are striking, with product selection attributes related to price, expiry date and indications of quality such as visual cues (fresh, clean, firm) and quality guarantees occurring for all product types. The importance of the price attribute for beef steak could be related to the expensive and luxurious nature of the particular product. However, price remains an important factor for chicken and tomatoes as well (in second position after freshness). Even though South African consumers' evaluation of red meat has significant similarities with international literature, it does appear somewhat more limited than those of consumers internationally (especially in Europe) where factors such as purchase location, health concerns, origin, environmental concerns and animal welfare are also important (Grunert, 1997; Alfnes and Rickertsen, 2003; Acebron and Dopico, 2000; Bernue et al, 2003; Verbeke and Ward, 2006).

Consumers' perceived importance scores for the conventional quality attributes of chicken based on the rating through an 11-point Likert scale of an extensive list of product selection criteria applicable to purchasing decisions for chicken and tomatoes, comparing LSM and ethnic groups, are illustrated in Figure 2. These results firstly enforce the factors revealed in the ranking test (as described above) where visual quality cues, freshness, expiry data, price and a quality guarantee dominate consumers' chicken selection criteria. Interestingly the relative importance of these factors varies somewhat between the rating and ranking tests, with in particular price being more dominant in the ranking test. This may be related to the fact that in the rating exercise, consumers evaluated the attributes in isolation while the ranking exercise involved a consideration of the complete attribute set to make the top-three selection, thus possibly providing a closer representation of a purchase situation.

LSM groups only differed significantly in terms of chicken cleanliness, fat content, intended use and level of processing (deboned), with LSM 9 & 10 consumers attaching significantly higher value to these attributes. This may be related with their higher purchasing power and increased possibility of purchasing a diverse range of fresh chicken instead of frozen chicken (mainly individual quick frozen portions). High LSM consumer can thus be more diversified and specific in their appearance and convenience requirements. The ethnic comparisons revealed a wide range of significant differences with white consumer stating significantly higher average ratings for clean meat, freshness, expiry date, colour, quality guarantee, food safety, fat content, intended use and level of processing (skinned and deboned). On the other hand, black consumer revealed significantly higher average ratings for chilling method (fresh or frozen), purchase location, portion type, packaging size and brand / product reputation. This may be related to the fact that the different ethnic groups have different chicken purchase habits with black consumers massively purchasing frozen portions (87.2%) which may be

[2] For beef steak, consumers were presented with a list of 18 selection criteria and asked to indicate which factors were relevant to them and among these factors to indicate the three most important ones.

related to different usage of chicken. Moreover, this also shows that the different ethnic groups have different approaches to quality evaluation, with white consumers focusing on more intrinsic quality cues such as external appearance and product specific attributes such as expiry date while black consumers rely on more external dimensions such as the purchase location and the brand reputation.

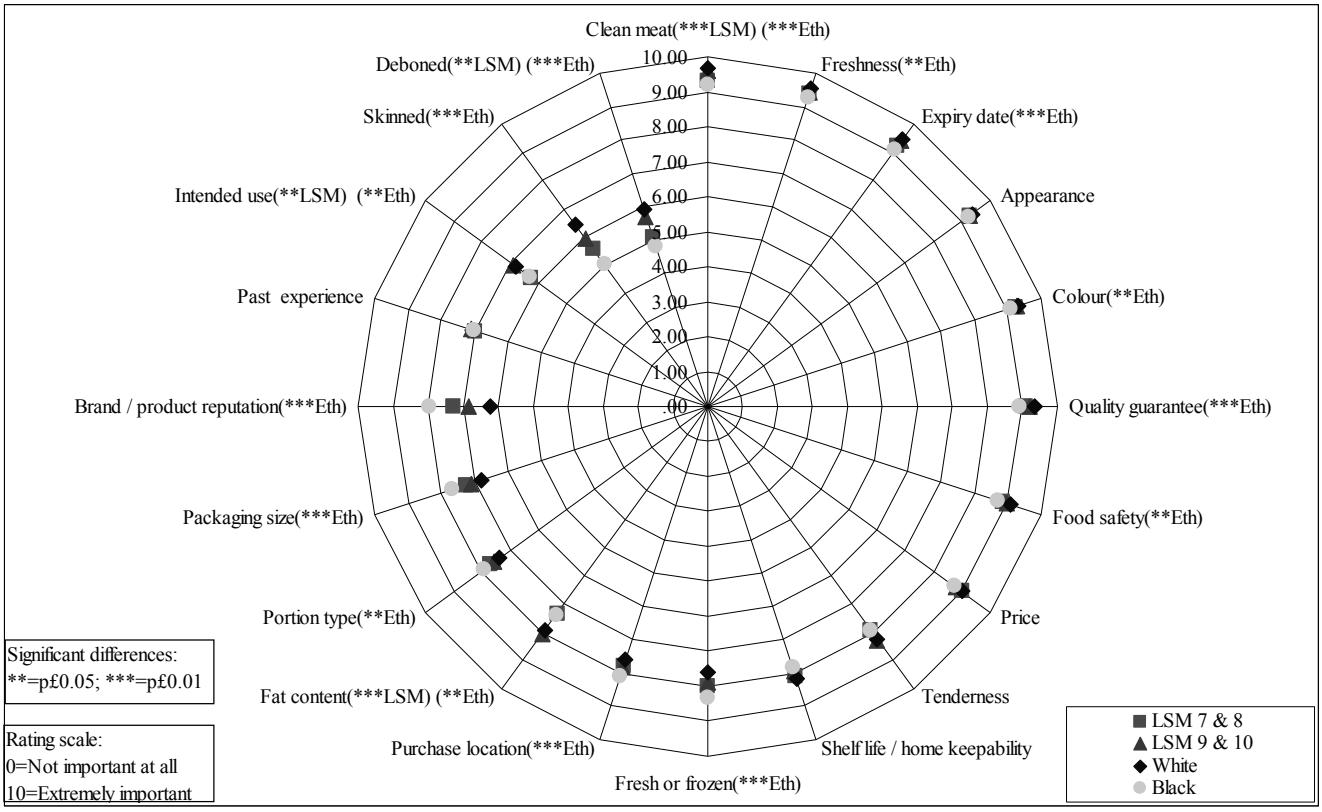

Figure 2: Consumers' average perceived importance scores for the conventional quality attributes of chicken: A comparison between LSM groups (LSM 7 & 8, LSM 9 & 10) and ethnic groups (black consumers, white consumers)

Consumers' perceived importance scores for 'conventional quality attributes of tomatoes, comparing LSM and ethnic groups, are illustrated in Figure 3. These results firstly enforce the factors revealed in the ranking test (as described above) where freshness, visual quality cues, expiry date, quality guarantee and price dominate consumers' tomato selection criteria. As was the case for chicken, the relative importance of these factors varies somewhat between the rating and ranking tests, in particular in terms of price being more dominant in the ranking test again. The LSM groups only differed significantly in terms of freshness, price, packaging material and firmness with LSM 7 & 8 consumers exhibiting significantly higher average ratings for all of these attributes except of firmness. As with chicken, the ethnic comparisons revealed a wide range of significant differences with white consumers revealing significantly higher average ratings for freshness, colour, firmness, quality guarantee and shelf life. Black consumer revealed significantly higher average ratings for tomato size, purchase location, brand / product reputation and packaging material, echoing consumers' chicken preferences to a large degree.

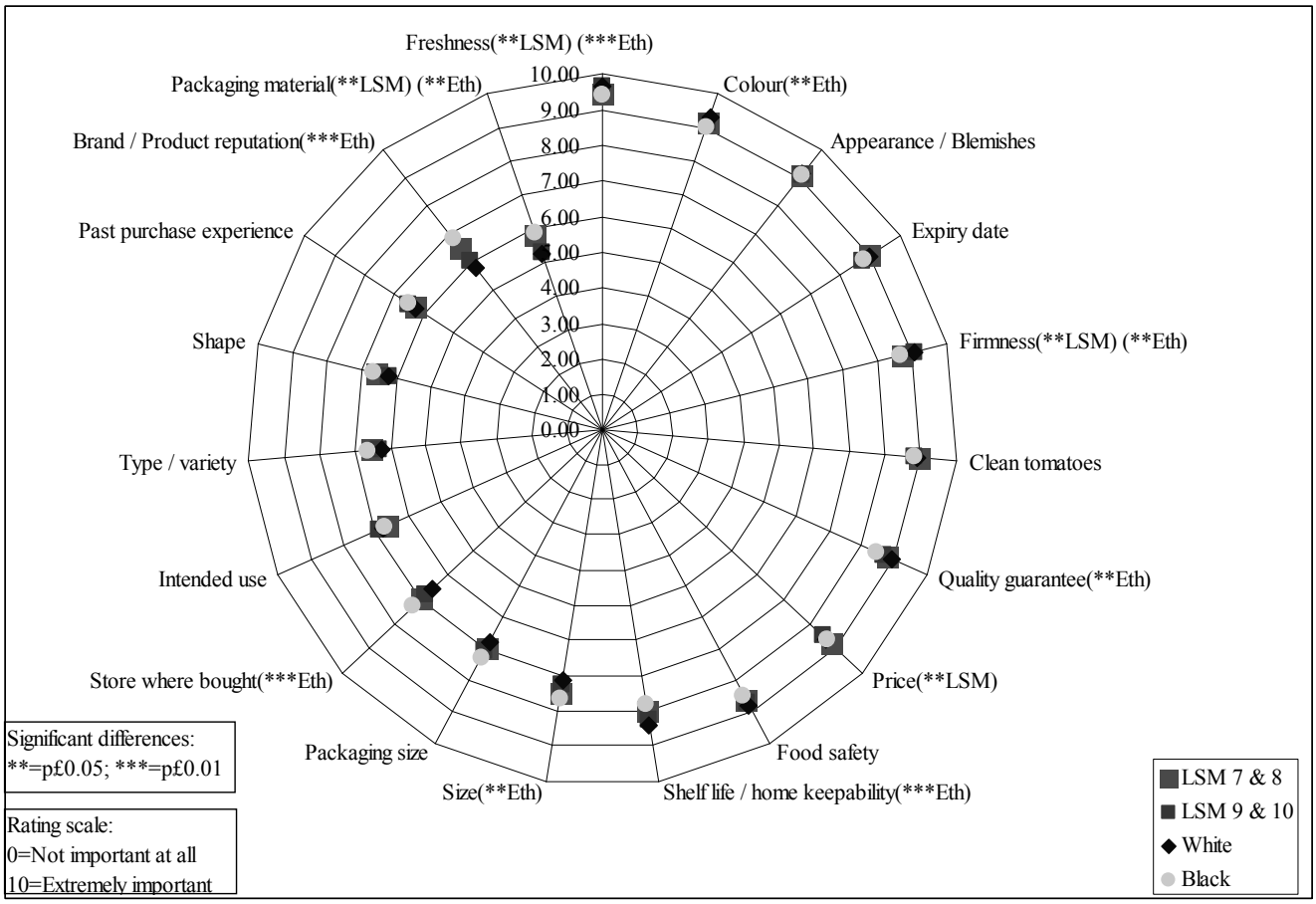

Figure 3: Consumers' average perceived importance scores for the conventional quality attributes of tomatoes: A comparison between LSM groups (LSM 7 & 8, LSM 9 & 10) and ethnic groups (black consumers, white consumers)

Consumers' revealed preferences for purchase locations also support their strong focus on the more conventional quality dimensions. As could be expected, supermarkets are the main source of food for the large majority of sampled consumers. The main purchase locations are Pick 'n Pay and Shoprite/Checkers for dairy; Pick 'n Pay and local butchers for meat; and Pick 'n Pay and Fruit & Veg City for fresh produce. LSM 9 & 10 consumers revealed a dominant preference for Pick 'n Pay, while LSM 7 & 8 consumers revealed preferences for Pick 'n Pay and Shoprite/Checkers. These observations are in accordance with these retail chains' positioning and targeted consumer segments. Shoprite targets LSM 4 to 7, while Checkers stores target LSM 7 to 10 (Shoprite Holdings). Pick 'n Pay targets mainly LSM 8 to 10, with an increasing focus on LSM 4 to 7 (Pick 'n Pay, 2007).

Consumers were asked to indicate the most important criteria for selecting a purchase outlet for the various types of fresh foods covering the categories affordable prices, wide selection, good quality, convenient location, good hygiene and 'other'. Across product categories the prominent factors were good quality, convenient location and affordable prices. The relative importance of these three factors varied somewhat between product categories as indicated in Table 3, with differences between products being to a large degree linked to the sensitive nature of the product (in terms of food safety and food quality) and to the more or less expensive characteristics of the product and type of product (essential or non essential good). The lesser focus on good hygiene can be related to the fact that 81.2% of the sampled consumers trust the safety of the major retailers.

Table 3: Dominant criteria for the selection of fresh food product purchase outlets

Product:	Top 3 purchase outlet selection attributes (in order of importance):
Milk	Convenient location, Good quality, Affordable prices
Yoghurt	Convenient location, Affordable prices, Good quality
Beef mince & steak	Good quality, Affordable prices, Convenient location
Chicken	Affordable prices, Good quality, Convenient location
Fruit & Vegetables	Good quality, Affordable prices, Convenient location

When asked to indicate and explain how their food shopping behaviour have changed in the past 5 years in terms of what they buy and where they buy, 54.3% of the sample indicated experiencing changes in terms of what they buy and 29.8% of the sample experienced changes in terms of food purchase locations. The dominant cause of these change (for 77.2% of consumers stating changes) related to financial pressure, in particular food inflation and the economic recession leading to changes such as purchasing at cheaper stores, shopping around for specials, buying cheaper food and essential food items only. A significantly higher share of consumers in LSM 7 & 8 (52.9% within group versus 29.6% of LSM 9 & 10) [χ^2=31.045, df=9, p<0.01] was affected by these economic factors in terms of the type of food product bought. These results also support the argument that consumers' food purchasing behaviour is still largely driven by more conventional factors, such as economic factors.

3.4 Consumers' views on 'advanced' quality considerations

Figure 3 illustrates the average rating scores of the 'advanced' quality considerations included in the extensive list of product selection criteria for chicken and tomatoes.

Table 4: Consumers' average perceived importance scores for the 'advanced' quality attributes of tomatoes and chicken

Advanced food quality attributes:	Average rating score*:	
	Chicken	Tomatoes
Organically produced	N/A	4.7
Labelled as natural	N/A	5.8
Environmentally friendly production	6.7	6.5
Country / Region of origin	5.4	4.8
Traceability	5.0	4.7
Animal friendly production	6.1	N/A
Advertised as free range	4.3	N/A
Indigenous chicken species or not	4.2	N/A
Fed GM free grain	4.1	N/A

** Scale: 0 = Not important at all; 10 = Extremely important*

As evident from Table 4, even though 'advanced' quality considerations were not rated among the top product selection considerations for the sample as a whole, certain factors such as environmentally friendly production, animal friendly production and naturalness at least received average ratings above 5 (representing the mid-point in the scale). Among the 'advanced' considerations for chicken, environmentally friendly production and animal friendly production dominated. For tomatoes, the most important 'advanced' quality considerations were environmentally friendly production and 'labeled as

natural'. Consumers valued environmental sustainability more strongly than the animal welfare component. Interestingly there is a gap between the values of organic and free range products and those of environmentally friendly and animal friendly production with these latter being more valued than organic and free range. On the one hand, organic and free range products might not fill consumers' expectations regarding environmentally friendly and animal friendly production. On the other hand, consumers do not primarily consume organic and free range products for environmental and animal friendly concerns. Instead, as illustrated later in the paper, respectively 70,5% and 69,0% of the consumers purchase organic and free range for health and taste reasons.

When comparing consumers' average perceived importance scores for the 'advanced' quality attributes of chicken and tomatoes between LSM groups and ethnic groups, it appears that more differences are related to ethnicity than to socioeconomic status (LSM) as shown in Table 5 and Table 6. LSM 9 and 10 attach more value to the 'environmentally friendly production' and 'animal friendly production' 'advanced' quality attributes of chicken as expected. Interestingly the ethnic groups differed significantly for all 'advanced' quality attributes analysed for chicken (except 'indigenous species'), with white consumers attaching more value to these attributes. According to Table 5, the ethnic groups differed significantly in terms of 'environmentally friendly production', origin and traceability with white consumers attaching more value to these attributes for tomatoes. Interestingly no significant differences were observed between LSM groups' evaluation of the 'advanced' quality attributes for tomatoes. This might be related to the fact that these trends are still relatively recent on the South African market and subsequently it could be argued that consumers' market behaviour has not been clearly established yet. While segmentation can be observed in the case of chicken which is a more sensitive product, it is not yet apparent in the tomato case.

Table 5: Consumers' average perceived importance scores for the 'advanced' quality attributes of chicken: A comparison between LSM groups (LSM 7 & 8, LSM 9 & 10) and ethnic groups (black consumers, white consumers)

Advanced food quality attributes:	Average rating score*:			
	LSM groups:		Ethnic groups:	
	LSM 7 & 8 (n=221)	LSM 9 & 10 (n=199)	White (n=216)	Black (n=204)
Environmentally friendly production (***LSM) (***Eth)	6.3	7.1	7.1	6.2
Animal friendly production (**LSM) (***Eth)	5.7	6.4	6.6	5.5
Country / Region of origin (***Eth)	5.2	5.7	5.8	5.0
Traceability (**LSM) (***Eth)	4.6	5.4	5.6	4.4
Advertised as free range (***Eth)	4.0	4.7	5.0	3.6
Indigenous species or not	4.3	4.1	4.0	4.3
Fed GM free grain (***LSM) (***Eth)	3.5	4.7	4.9	3.3

** Scale: 0 = Not important at all; 10 = Extremely important*

**** Statistically significant differences, p<0.01*

Table 6: Consumers' average perceived importance scores for the 'advanced' quality attributes of tomatoes: A comparison between LSM groups (LSM 7 & 8, LSM 9 & 10) and ethnic groups (black consumers, white consumers)

Advanced food quality attributes:	Average rating score*:			
	LSM groups:		Ethnic groups:	
	LSM 7 & 8 (n=221)	LSM 9 & 10 (n=199)	White (n=216)	Black (n=204)
Environmentally friendly production (**Eth)	6.3	6.6	6.7	6.2
Labelled as natural	5.8	5.8	5.8	5.9
Country / Region of origin (**Eth)	4.7	4.9	5.1	4.5
Traceability (***Eth)	4.5	5.0	5.1	4.3
Organically produced	4.4	5.0	4.8	4.6

** Scale: 0 = Not important at all; 10 = Extremely important*

**** Statistically significant differences, $p<0.01$*

To further explore the segmentation patterns in the chicken case where segmentation appears to be more evident, a K-means cluster analysis was conducted on SPSS 17.0 based on consumers' average perceived importance scores. An interesting grouping pattern emerged from a three cluster solution (Discerning / Average / Conventional consumers) as shown in Figure 3. All three segments attached the most value to the more basic attributes (cleanliness, freshness, appearance, expiry date, colour and price), which are all search attributes, with scores between 9 and 10. Quality guarantee, food safety, the store where purchased, tenderness, fresh or frozen chicken, keepability at home, portion type, packaging size, fat content and brand product reputation, which we consider as mass-consumption related criteria, are significantly different. However the scores are still high and not extremely dispersed for the three segments. Huge significant differences (with the average scores of all three segments differing significantly and characterized by large score differences) lie with environmental and animal friendly production, origin, traceability, free range, fed GM-free grain, which are more advanced quality attributes. Hence, the discerning consumer (DC) segment is characterized by overall high score levels across attributes as well as the strongest focus on advanced quality attributes. In addition to the more basic and mass-consumption attributes, the average consumer (AC) segment also value strongly environmental and animal friendly production with rating still well above the mid-point on the scale but revealed low average scores (below mid points) for most of the more advanced quality attributes. The conventional consumer (CC) segment is characterized by relatively high scores for the more basic attributes with significantly lower scores already for most of the so called mass-consumption attributes and very low scores for the advanced quality ones (ranging from 1 to 3). From Figure 4 it can be noted that while the AC segment still represents the dominant group in the sampled population (48.4%) and that the DC segment already represents about a third of the sample. Considering the socio-demographic profiles of the segments, the DC segment is significantly dominated by consumers of LSM 9&10 (55.2% of DC consumers are LSM 9 & 10). For the other socioeconomic variables (age and education levels), no significant differences were observed. It is interesting to note that the DC segment comprises a significant share of the consumers purchasing organic and free range food (e.g. just below 50% of organic purchases is within the DC segment), which shows consistency between evaluation of advanced attributes and stated actual market behaviour in terms of the two best established advanced attributes.

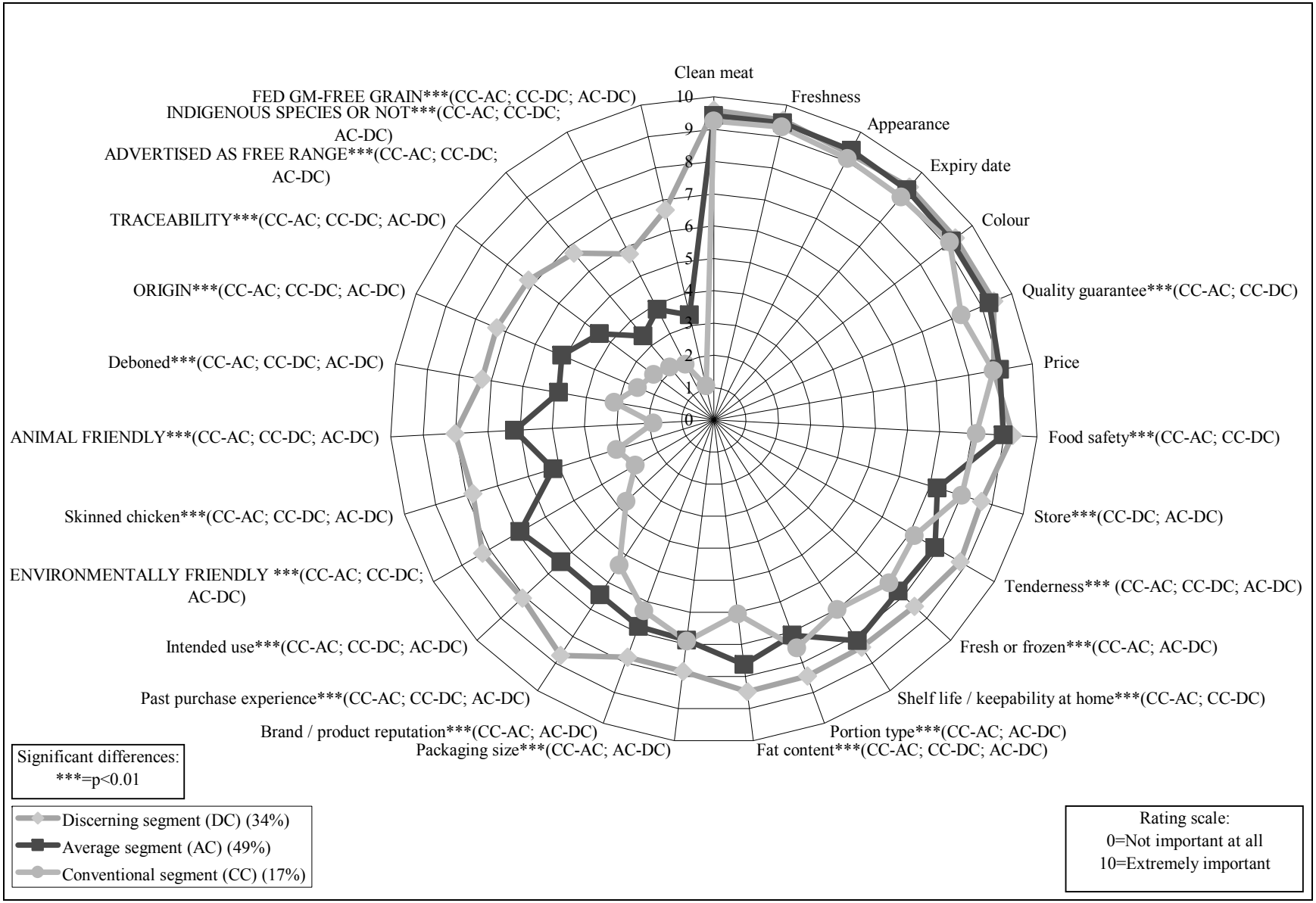

Figure 4: The three prominent market segments for chicken, based on consumers' rating scores obtained through a three-cluster K-means clustering process in SPSS 17.0

To further investigate consumers' views regarding 'alternative' food quality attributes, consumers were asked detailed questions on organic and free range food, which represent the most well-established credence food categories as already mentioned. According to the survey results, these food types are purchased by about a third of the sample population (35.5% for organic and 38.3% for free range food) although on an irregular basis, with 63.1% of organic purchasers and 72.1% of free range purchasers only buying these foods twice per month or less. A significantly higher share of consumers within LSM 9 & 10 purchase these foods compared to LSM 7 & 8 (40.2% versus 31.2% for organic [χ^2=3.688, df=1, p<0.1] and 45.7% versus 31.7% for free range [χ^2=8.342, df=1, p<0.01]. Ethnic groups only differed significantly for free range, with a significantly higher share of white consumers purchasing free range food (51.9% versus 24.0% for black consumers [χ^2=34.457, df=1, p<0.01]. These results are according to expectations in the light of the general niche and expensive nature of these food types. Interestingly, a significant positive association was found between organic and free-range purchases and consumers viewing themselves as being sensitive to environmental issues, even though only a small share of consumers (17.4% of sample) considers itself as being sensitive to environmental issues. Consumers exhibited very similar behaviours and perception towards these two categories of products, as explored below, even though only 24.6% the total sample purchase both organic and free range food while 10.5% purchase only organic food and 13.9% only free range food.

A relatively high share of consumers purchasing organic and free range food understands the terms. It is interesting to note that the term organic is more widely understood than the term free range (84.6% of purchasers for organic and 65.8% of purchasers for free range). Consumers associate 'organic' with concepts such as the absence of chemicals / pesticides / poison during the production process, natural products and healthy / nutritious food. Consumers associate 'free-range' with concepts such as: free roaming animals, animal not being force fed, animal welfare and no hormones given to animals. A significantly higher share of organic purchasers from LSM 9 & 10 compared to LSM 7 & 8 understood these terms (86.3% versus 82.6% [χ^2=24.810, df=1, p<0.01]. As could be expected, a significantly larger share of consumers with a post-matric qualification understand the term organic (72.8% versus less than 50% for the other education level categories [χ^2=44.464, df=6, p<0.01]). Similarly a significantly higher share of free range purchasers from LSM 9 & 10 compared to LSM 7 & 8 understood these terms (76.9% versus 51.4%% [χ^2=26.731, df=2, p<0.01].

When asked to indicate their main reasons for purchasing organic and free range food based on a pre-tested list of factors (better taste, health / nutrition reasons, better appearance, more environmentally friendly, safer, more animal friendly, better traceability and an open category for 'other'), consumers revealed a focus on 'personal gain' factors such as health and taste while environmental awareness is still not a primary consumption driver across categories. This is in accordance with the small share of households that perceive them as being sensitive to environmental issues (17.4% of sample). On the other hand, a significantly large share of the environmentally aware consumers purchases organic and free range food. Nevertheless very few consumers expressed food purchase behaviour as a manifestation of their environmental awareness when asked for characterizing it. Furthermore very few sampled consumers (less than 1%) indicated changes related to more advanced quality considerations when asked about shopping behaviour changes in the last five years, which is both in contrast with the fact that a significant proportion of the population does actually purchase organic and free range and is also in contrast with the changes in retailers' offerings with regard to advanced quality dimensions in

the recent past. This confirms the fact that advanced quality trends have only recently been emerging in South Africa and that there are still important information gaps.

The results also revealed that trust in advanced quality claims and in the associated certification schemes is an important issue, since only about half of purchasers trust organic or free-range labels even though the development of these labels have mainly been driven by retailers (Biénabe, Vermeulen and Bramley, 2009). This is in contrast with the fact that a significantly large share of the total sample (81.2%) perceives the food from major retailers as safe as already mentioned. Consumers' lack of trust in advanced quality claims is likely to be related to a limited understanding of the role of certification bodies and processes that underline retailers' organic or free-range labels as illustrated by the following observations. A public body (SABS) is significantly preferred to retailers for certifying labels while almost not involved in food standards. Furthermore, less than 10% of purchasers perceived aspects such as food safety and traceability as the main reasons for purchasing these foods while certification schemes associated with organic or free-range labels generally provide stronger traceability and food safety guarantee than the conventional market channels. It is also important to note that traceability, which is better known by consumers in developed food markets such as Europe and the United States (Loureiro and Umberger, 2007), was only understood by 38% of the consumers and not seen as a major determinant for purchase. This result is to some extent in line with research results from Europe and the USA, which indicate that traceability is not a stand-alone determinant of food purchases (Loureiro and Umberger, 2007; Verbeke and Ward, 2006; Angulo et al, 2005). However, several of these studies point out the importance of traceability when viewed in relation to other dimensions (e.g. food safety, guaranteeing the authenticity of other attributes). This seems to differ from the current South African consumers' awareness and perception. However, South African consumers' awareness and perceptions regarding the potential benefits associated with proper traceability systems were not investigated in detail within the scope of the project, thus making it difficult to comment further on their specific views in this regard.

Consumers' willingness to buy organic and free range foods at different price levels were also investigated, as summarized in Table 7. These results suggest that organic and free range consumers are price sensitive, especially taking into account that price premiums of 10% to 20% are not uncommon for organic goods. Furthermore the results also suggest that only a share of organic and free range purchasers are regular buyers that are less price sensitive.

Table 7: Consumers' willingness to buy organic and free range food at various price levels

Price level:	**Willingness to buy:** *(Share of existing organic / free range purchasers still willing to buy the product)*	
	Organic	**Free range**
$P_{Org/FreeRange} = P_{conventional} + 10\%$	52%	52%
$P_{Org/FreeRange} = P_{conventional} + 10\%$	26%	29%

For consumers not purchasing organic and free range food, the lack of understanding is perceived as the most critical reason for not purchasing these products (applicable to 70.3% of free range non-purchasers and 58.3% of organic non-purchasers), with price not seen as a major barrier. Additional price discounts of 10% and 20% were associated with only small increases in willingness to buy organic and free range products, which could potentially be interpreted as

mistrust in low priced products as organic and free range products are usually associated in the mind of consumers with higher prices.

International scientific literature illustrates that products such as organic and free range are better established in European countries. However, even though these consumers are generally more aware of environmental and social issues, prominent driving forces behind consumption are also focused on aspects such as freshness, taste and health benefits. Many studies also emphasize the need to improve consumers' information and understanding of products such as organic food as is the case in South Africa (Nielsen Company, 2007; Gracia and De Magistris, 2008; Pirog and Larson, 2007; Wier et al, 2008).

The still emerging nature of the advanced quality trends in South Africa is also clearly reflected in the relatively low understanding of food-related terms and logo's typically observed in the South African food market such as rBST, Fair Trade, Badger Friendly Honey, Ecocert, Sustainable and the SASSI logo, with somewhat higher understanding among wealthier more educated consumers. Terms related to free range meat, including Karoo Lamb, animal welfare, Certified Natural Lamb and the Woolworths free range logo were somewhat more widely understood but still only by less than half of the population (25% to 42% of the sample). This low level of understanding is also to be related to the broad reliance on mass media such as advertisements, magazines and television programs. Food labels are only significantly utilized by LSM 9 & 10 consumers. No significant differences were observed when comparing the food information sources of various education groups in the sample, which can probably be related to the dominant reliance on mass media for sourcing information which are widely accessible, thus not implying significant different skills and ability in sourcing information.

4. Conclusions

Building on an extensive consumer survey on food quality behaviour and evaluation, this paper substantiates the fact that when selecting food purchase outlets and fresh food products, South African consumers largely apply basic quality and convenience considerations (e.g. appearance, taste), while credence attributes (e.g. animal welfare, environmental practices, safety) are being poorly considered across products except for some health attributes. These observations are to a large degree in line with results from international literature, with however some major differences relating to developed country consumers' general stronger focus on more advanced quality attributes. Markets for alternative quality products are much more established in Europe or Northern America (Batte et al., 2007; Wier et al., 2008; Ness et al., 2010). It is however important to note that while advanced quality trends are still not mainstream considerations, our results also demonstrate that they already have a relatively significant foothold in the local market, being more established, as could be expected, for higher LSM groups. The more developed alternative quality products in South Africa, organic and free range food, are being consumed (although mostly at irregular intervals) by about a third of these consumers (LSM 7 to 10) despite lack of knowledge about it and lack of trust and price is not seen as a major barrier for consumption. The increasing importance of alternative quality trends is also reflected in the fact that consumers valuing advanced quality attributes (the discerning consumer segment) already represent a third of the population in the case of chicken, which suggest opportunity for market growth. On the other hand, dimensions such as traceability and logo's typically observed in the South African food marke are still poorly understood by South African consumers stressing the

knowledge gap with regard to advanced quality trends, which is also pointed as the main critical reason for non purchase of organic and free range food.

While consumers' behaviours and perceptions on the one hand and retailers' positioning on the other hand are aligned in terms of conventional quality attributes, more discrepancies are observed with regard to alternative quality attributes, with some of the retailers' offering already being very sophisticated which contrast to some extent with the strong focus of consumers on conventional attributes and their lack of understanding of alternative quality trends but can probably be related to the increasing importance of these dimensions as just pointed out. Another important dimension in relation to exploring the implications for small-scale farmers (SSF)' market access is that while retailers are seen as efficient with regard to ensuring the safety of food, they are not widely trusted for guaranteeing alternative quality claims. Furthermore, SABS (and in some cases, farmers) is preferred to retailers for guaranteeing the labels even though SABS is in fact much more involved in non-food quality standards. This suggests that other options in addition to the established retailers' alternative quality labeling schemes might develop in the market and that consumers might view positively public intervention with regard to labeling scheme in a context where large retailers are largely dominant in the agrofood market for middle and upper income consumers. This could be used to ensure that the development of alternative quality trends in the South African market create opportunities for SSF and not only new entry barriers. Another interesting result in this regard is the fact that half of consumers indicated a willingness to buy food produced by SSF, suggesting a potential market for these produce.

It is also worth pointing out the complexity of consumers' behaviours and evaluation towards advanced food quality issues as differences are only to some degree significantly correlated with socioeconomic variables. More in-depth and qualitative analysis might be important to fully understand consumers' behaviours in this regard. A further limitation of this study relates to the socioeconomic scope (LSM 7 to 10) of the target population.

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