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TOHOKU MANAGEMENT & ACCOUNTING RESEARCH GROUP

Discussion Paper

Trends of the Crisis Consumer: Case of Angola

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Purpose:
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Executive Summary:
The world is no stranger to crises, and these events often mark the turning point of consumer behavior. Consumer behavior is well understood in stable environments; however, in unstable environments, little is understood. Current empirical research focuses on consumers from developed economies, but little to nothing is known about consumers from developing economies. Developed economy consumers share many similarities because the structure of their economies are similar, especially with the majority in the middle class. Consumers of developing economies are mostly in the low class, and with the economies growing rapidly, consumers switch classes often and mix old and new habits. However, when the crisis hits, many consumers are forced to switch back to a lower class. This constant shifting in income classes is evident in Angola, forming the basis of consumer behavior. A perception analysis was conducted based on Amalia and Ionut's research (2009). The consumers in Angola perceive the danger of the crisis and then judge, based on their standard of living and other determining factors (income class shifts, age and income history, and household structure), whether to take action and how intense the action should be. The actions taken can be grouped by their 4 different types of perception Groups: Group A, intense market research and focusing on using purchasing power to drive down costs; Group B, focusing on in-home consumption management strategies; Group C, increasing mixed cost cutting methods at high percentage price increases of over 40%; Group D, focus on quality, brands, and buy in small quantities from formal establishments. Crisis consumers in Angola have very different buying behavior from crisis consumers from developed economies, especially because of the structure of the economy.

Introduction

Unstable markets are marked by constantly fluctuating variables that deviate from the standard norm. These variables are difficult to predict, and they don't conform to acceptable behavior. These changes can be brought about by economic or political instability in the host country; natural disasters; shock events in the host country or in neighboring countries or regions that are directly/indirectly connected to the host country. The world has had its fair share of instabilities (especially the recent covid-19 era), and Africa is known for its own unpredictability at times. And for this study, attention will be given to economic instability, which forces drastic changes on consumer behavior. Consumers tend, in stable environments, to align themselves within commonly believed frameworks which divide them into segments that follow certain patterns of buying. However, this framework is completely disrupted in unstable environments, thus forming new patterns which one must organize into new segments to better understand and adapt to newly created patterns. New buying patterns need to be thoroughly researched, upon understanding these patterns, businesses will be better informed about consumers, have a higher likelihood of avoiding loss, improving adaptability, and taking advantage of these changes to make financial gains. Consumers themselves can also gain from the knowledge for better understanding of the situation and improve their situation. The government will also gain from the knowledge and be better equipped at guiding the market. There have been many events that caused instabilities in economies, such as, but not limited to, hurricanes, earthquakes, the global financial crisis of 2008, and the covid-9 pandemic (Loxton et al., 2020). Little research was dedicated to understanding the shifts in buying behavior of consumers during various crises, this brings about a lack of literature on which to base current management decisions and future research papers. Consumer behavior literature which focuses on the African consumer is scarcely found, much less so for changing consumer behaviors in unstable markets. The changes in consumer behavior in unstable markets have been studied in western countries and much of Europe. However, these studies cannot be assumed to accurately represent the African consumer in similarly volatile environments. Kuada and Bujac, (2018) clearly demonstrate that the African consumer (a consumer in a developing economy) has certain distinct differences from the consumer of a developed economy, therefore one cannot use the same marking strategies when dealing with African markets; however, in this study, focus is placed on stable and growing economies instead. Nevertheless, the study highlights that distinctions should be made between consumers in Africa and those in developed economies when characterizing consumers.

The purpose of this research is to identify the changes in consumer buying behavior of grocery shoppers in Angola, thus revealing similarities and/or differences between the crisis consumers of developed economies and the developing economies (Namely Angola) in the context of high inflation. Once changes have been identified, one will the determining factors which drive these trends. The trends in grocery shoppers may provide a base from which people can review consumer behavior as it accommodates consumers of various income levels, ages and gender and other behavior determining factors. Studying grocery shoppers will also provide a basic, albeit somewhat limited, representation of the consumers in Angola. The grocery shopping consumer in Angola has been chosen as the focus of this research since there has been an observed shift of the regular consumer buying behavior. Thus, with grocery shoppers, one may expect more of the sought-out trends. The consumers involved in the study will only be those who participate in the household grocery shopping; are very knowledgeable with grocery shopping and have been participating in grocery shopping throughout the study periods in question, pre-crisis (pre-2014), mid-crisis (2014-2018) and mid-covid (2019-2021).

Previous studies have revealed much about the consumer during economic crises (the crisis consumer) and times of instability. The trends that were identified in previous studies do not present much insight

into consumers from developing economies, thus this study will identify similarities and differences in buying behavior amid instability; and see how the determining factors play a role in shaping consumer behavior. Sub-Saharan African economies have some similarities, Angola may provide a basis for viewing the crisis consumer in this regional area since it has been in this crisis since 2014, unlike other neighboring economies. However, the study suggests that one cannot assume a high level of similarities because of the way the economy is shaped and its changes over the last 20 years. The findings will greatly improve the adaptability of businesses when dealing with the extreme changes in buying behavior of the crisis consumer, thus limiting its adverse negative effects on businesses and the economy.

Theoretical Framework

Following extensive research into consumer behaviors, the world gained much knowledge of the consumer and created an image of the consumer known as" the traditional consumer" a few decades ago. Maslow and Lewis (1987) showed how consumers first satisfy basic needs for survival before going on to satisfying other needs. Simply put it, first take care of the needs then follow with the wants. The traditional view of the consumer was later expanded based on Maslow's hierarchy of needs. The traditional consumer is completely different from one facing economic instability. As the world experienced more and more crises, research interest began arising in understanding consumer behaviors in economic instability.
In Angola, after the civil war ended in 2002, the consumer developed recognizable traditional consumer trends which continued until 2012.
2008 US crisis affecting the whole world

In 2008, the Frinancial Crisis which started in the US caused a major change in economies around the world. Economic activity declined in half of all countries in the world (IMF, 2018). This drastically affected global demand of crude oil, having a reducing effect on crude oil prices and general economic activities. This also influenced Angola since Angola is one of the largest crude oil producers in Africa. Therefore, the start of Angola's predicaments can be seen from the 2008 crisis.

GDP (current US$) – Angola
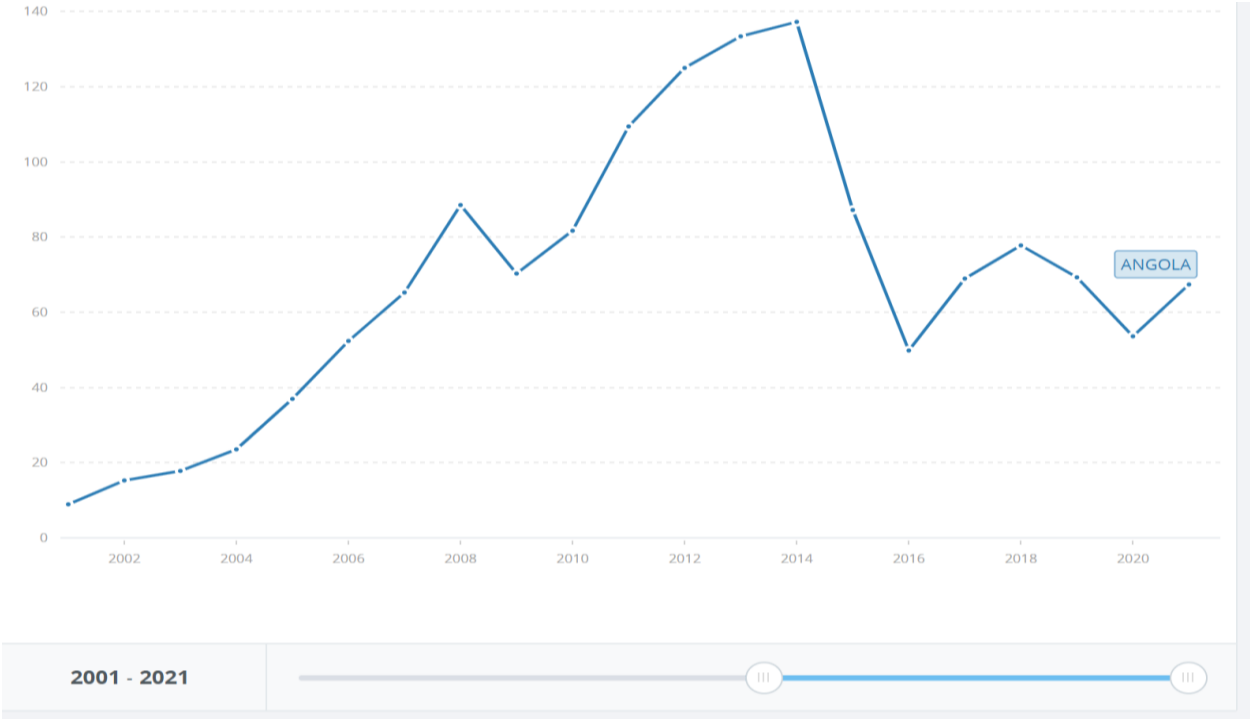
Angola's GDP dropped from 2008 (88B USD) to 2009 (70B USD) by 20%. This shows how the US crisis affected many things in Angola. Despite Angola regaining, and later surpassing, the lost GDP level, things did not bode well for Angola.

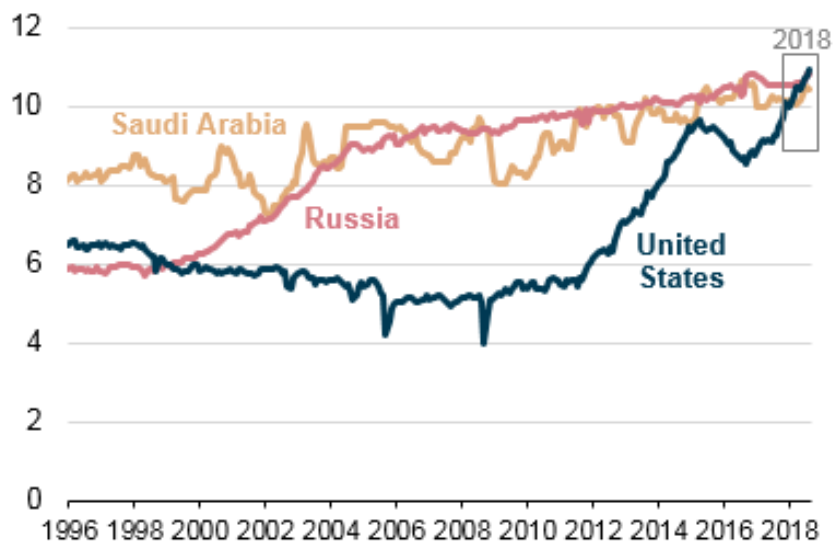**World Real Oil Prices, in USD per Barrel**

(World Bank, 2018)

The data above from the World bank shows that the crisis in 2008 caused a major drop in crude oil prices. However, an even bigger drop of 70% can be seen starting from late 2014 to 2016, thus becoming the biggest drop in real crude oil prices since World War 2 (World Bank, 2018). Crude oil is Angola's major export, accounting for 90% of total exports (Statista, 2023). With such brig drops in crude oil prices, the entire economy of Angola will certainly feel the backlashes.
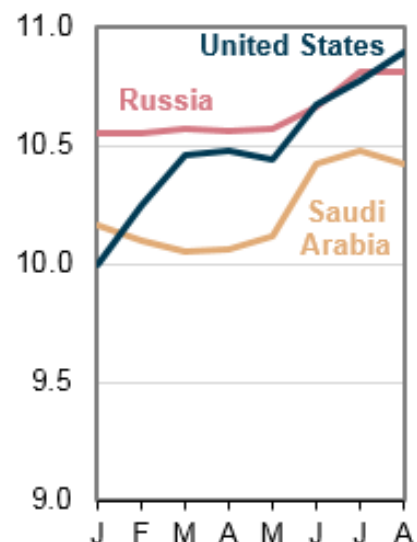
Monthly crude oil production

Monthly crude oil production (Jan 1996-Aug 2018)
million barrels per day

(U.S. EIA, 2018)

The US had an oil boom in 2013, and steadily increased production. The production even surpassed other producers, making the US the largest oil producer in 2018 (U.S. EIA, 2018). The supply of crude oil was so vast that it is what was responsible for the big drop in real crude oil prices in 2014, thereby affecting Angola immensely. Booming U.S. shale oil production was a major factor in the oil price plunge from mid-2014 to early 2016 (Worl Bank, 2018).

The prices of crude oil first dropped because of a significant decrease in global demand due to the 2008 crisis. The prices started to increase again, but later dropped due to the US oil boom. The lack of demand and low crude oil prices lead to Angola selling less crude oil, and also selling it at a cheaper price, resulting in a massive drop in economic level. GDP fell from 2014 (at 137B USD) to 2015 (at 49B USD) by 63%. This drop was much worse than the 2009 20% drop. Things spiraled out of control in Angola. With less revenue gained from crude oil exports, the availability of foreign currency (USD) in the country became scarce. Imports need to be paid for with foreign currency, and if much of that foreign currency is gained from crude oil sales, then Angola becomes very reliant on crude oil sales in order to perform imports. Angola is still largely dependent on imports, even over 50% of its food is still imported (the US Department of commerce International Trade administration, 2022). Therefore, all import dependent industries were directly affected. And since the majority of groceries are still imported, then all grocery shoppers felt the backlash of the reduced oil sales.

1 USD to AOA (Angolan Kwanza)
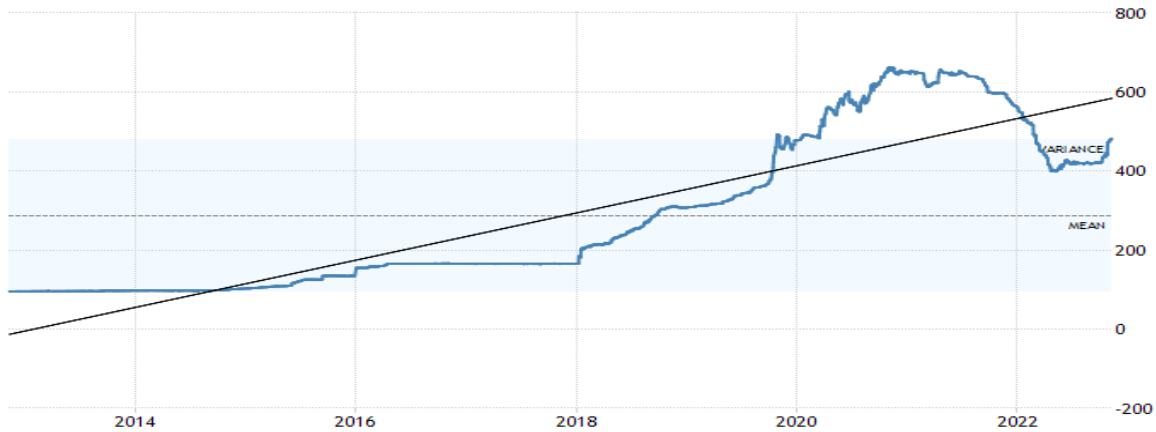
(Trading Economics, 2022)

One can judge the state of the economy of Angola, and even the groceries, by looking at the exchange rate. It was quite stable before 2014. It started rising from late 2014; and underwent volatile fluctuations during the covid-19 era. Seeing as how Covid-19 drastically affected the exchange rate, close attention will be paid to how this affected the consumer behavior of Angolans. The food inflation in Angola went rampant and groceries saw many hikes in prices.

Luanda Angola Food Inflation
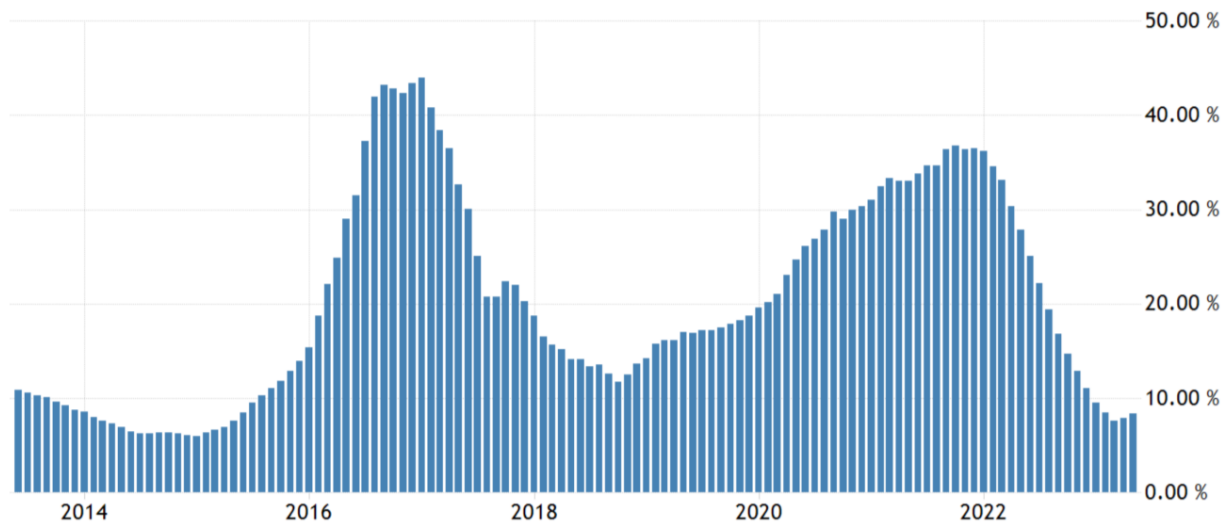
TRADINGECONOMICS.COM | INSTITUTO NACIONAL DE ESTATÍSTICA, ANGOLA

(Trading Economics, 2023)

One can see that the crisis in Angola heavily affected the groceries, with food inflation going over 40% in 2016 and 2017. Moreover, since prices just kept increasing, if one looks at an item's price in 2013 and the same item in 2021, one could regularly see a price increase of over 700%, since items' prices increase in every period by over 10%.

Therefore, the 2008 crisis and US oil boom played major roles in bringing high inflation in Angola. The Angolan consumer will be studied in this high inflation context. One will then understand the shifts in consumer behavior in Angola and have a basis of comparison with consumers from developed countries. Additionally, the income situation in Angola should also be understood and how the shifts in income classes played a role in shaping consumer behavior in Angola.

World Bank Analytical Classifications for Angola

World Bank Analytical Classifications											
(presented in World Development Indicators)											
GNI per capita in US$ (Atlas methodology)											
Bank's fiscal year:	**FY89**	**FY90**	**FY97**	**FY06**	**FY13**	**FY18**	**FY19**	**FY20**	**FY21**	**FY22**	**FY23**
Data for calendar year :	**1987**	**1988**	**1995**	**2004**	**2011**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Low income (L)	<= 480	<= 545	<= 765	<= 825	<= 1,025	<= 1,005	<= 995	<= 1,025	<= 1,035	<= 1,045	<= 1,085
Lower middle income (LM)	481-1,940	546-2,200	766-3,035	826-3,255	1,026-4,035	1,006-3,955	996-3,895	1,026-3,995	1,036 - 4,045	1,046 - 4,095	1,086 - 4,255
Upper middle income (UM)	1,941-6,000	2,201-6,000	3,036-9,385	3,256-10,065	4,036-12,475	3,956-12,235	3,896-12,055	3,996-12,375	4,046 - 12,535	4,096 - 12,695	4,256 - 13,205
High income (H)	> 6,000	> 6,000	> 9,385	> 10,065	> 12,475	> 12,235	> 12,055	> 12,375	> 12,535	> 12,695	> 13,205
AGO Angola	..	LM	L	LM	UM	LM	LM	LM	LM	LM	LM

(World Bank, 2023)

The world bank assigns 4 different income classifications of income levels to world economies. Angola has been going through changes in classifications as time passes. Angola became independent from Portuguese rule in 1975; however, records available for its economic conditions are only available in the World Bank starting from 1987. Through the different phases of the civil war from 1975 to 2002, Angola was slowly degrading from lower-middle income country (726-2,895 USD Atlas GNI per capita in 1994) to lower-income country until 2003 (less than 765 USD Atlas GNI per capita in 2003) (World Bank, 2023). The economy started to stabilize and grow after the civil war ended in 2002. Angola rose to a lower-middle-income country in 2004 (826-3,255 USD Atlas GNI per capita) and even reached upper-middle income status in 2011 (4,036-12,475 USD Atlas GNI per capita). However, in 2016, it reverted once again to lower-middle income status (1,006-3,955 USD Atlas GNI per capita) as a result of the crisis and has been in the same state ever since. Therefore, many of those who were considered of a higher class, were suddenly lowered into a different class due to excessive increases in prices of consumer goods. As of 2021, Angola is still considered a lower-middle class country (1,086 - 4,255 USD Atlas GNI per capita). Many people, over 400 000, lost their jobs due to the crisis (VAO Portugues, 2021) and some had their income reduced (salary reduction and business difficulties) while others were able to maintain the same income. People faced their income difficulties while still dealing with the drastic increase in prices. Inflation was just exacerbating the income problem as one notes below, the inflation rates of food in the capital city of Luanda. The income was not rising as fast as the prices were. Therefore many (as respondents describe) had to find other ways to increase income.

Luanda Food Inflation
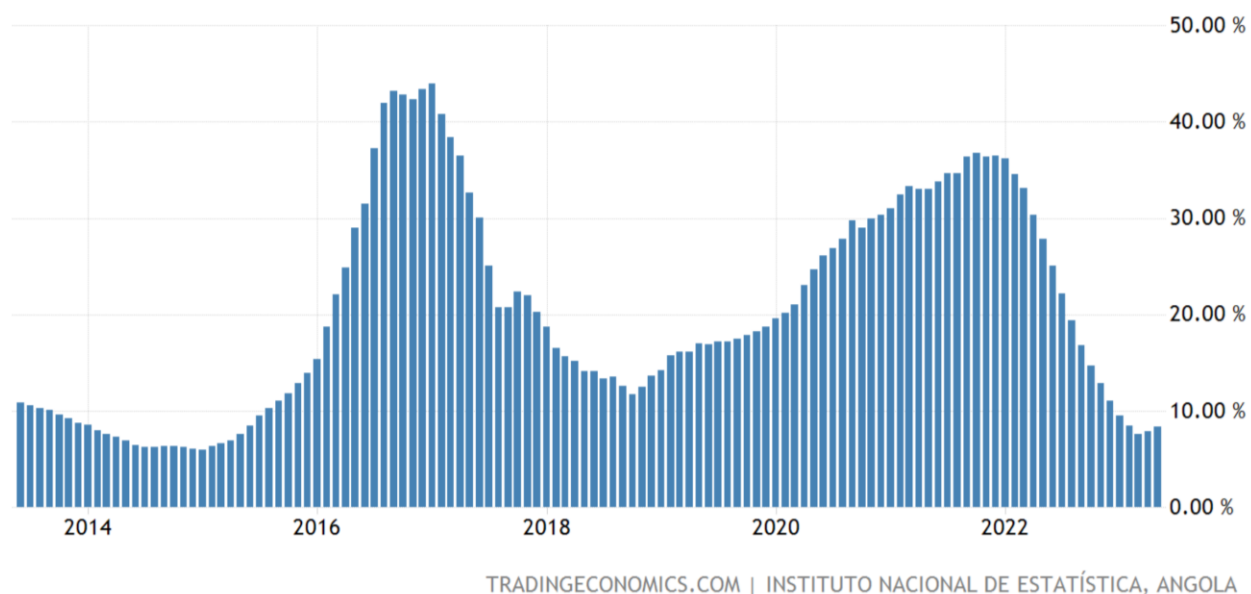
(Trading Economics, 2023)

In 2018, the world bank set the poverty line at 482 in Angolan kwanza or AOA (2018) or USD3.65 (2017 PPP) per day per capita. That is 52% of the population (about 16.5 million people). Therefore, a monthly income of 14 460 AOA was considered very low income (poverty income) in 2018. Despite the situation of the crisis going on since late 2014, the national minimum monthly salary was only raised in February 2022 by 50% from 21 454 kwanzas (36 euros) to 32 181 kwanzas (54 euros) (DW, 2022). This shows a better, but not yet appropriate picture of how much income is needed for basic needs. However, RTP (2015) shows that middle income class starts at around 14 400 AOA which is about 120 USD (120 AOA per USD as per the World bank in 2015) monthly income which may be a better representation of what could be considered enough for basic needs before the crisis. The crisis started towards the end of the year 2014. It got a little bad in 2015, but wasn't at its fiercest until a few years later. However, during its fiercest times in 2017 and 2018, the protest for higher wages would give us an understanding of necessary income for handling the crisis. A Worker's Union organized a protest in 2019 saying that 80 000 kwanzas (152 euros) is an acceptable amount to counter the harsh reality of the cost of living (DW, 2019).

Annual Income Distribution by Quintile

Income distribution by Quintile	% of Share of income 2018	USD per Group in 2018	AOA per Group (252.86 AOA per USD) in 2018	% of Share of income 2008	USD per Group in 2008	AOA per Group (75.03AOA per USD) in 2008
First and lowest 20%	3.80	355.67	89,934.57	5.40	817.30	61,322.16
Second 20%	7.70	720.70	182,235.84	9.60	1,452.98	109,017.17
Third 20%	12.60	1,179.32	298,204.11	14.50	2,194.61	164,661.35
Fourth 20%	20.40	1,909.38	482,806.65	21.90	3,314.61	248,695.42
Fifth and highest 20%	55.60	5,204.01	1,315,884.80	48.50	7,340.58	550,763.84

(Source: World Bank 2018, 2008, etc)

[Note: The percentage share of income and USD to AOA rate was acquired from the World Bank Database for the respective years. The USD per Group was acquired by multiplying the percentage share in come

with the GNI Atlas Method (Also acquired from the World bank database) of that given year and dividing the result by the 20% of the population of that same year. Example: (0.038 percentage share in income X 58 542 314 267 GNI) / 6 254 706.60 the 20% of the population = 355.67]

The table above can give us a clear picture of the income distribution between two periods, 2008 and 2018. The World Bank database does not contain data for more recent years. However, assuming that the income distribution for 2018 remained the same in 2021, while applying the GNI and USD to AOA rates of 2021 as provided by the World Bank, one can estimate the income distribution for 2021 as follows:

Annual Income Distribution Estimate for 2021

Income distribution by Quintile	% of Share of income 2021	USD per group 2021	AOA per Group (631.44USD/AOA) in 2021
First and lowest 20%	3.80	357.71	225,874.72
Second 20%	7.70	724.84	457,693.52
Third 20%	12.60	1,186.10	748,953.03
Fourth 20%	20.40	1,920.36	1,212,590.61
Fifth and highest 20%	55.60	5,233.92	3,304,903.83

(Estimate of 2021 Income distribution)

Therefore, one can clearly see that within one generation, it is possible to shift in economic classes more than once.

Annual Income Distribution for 2021, 2018 and 2008

Income distribution by Quintile	AOA per Group (631.44USD/AOA) in 2021	AOA per Group (252.86 AOA per USD) in 2018	AOA per Group (75.03AOA per USD) in 2008
First and lowest 20%	225,874.72	89,934.57	61,322.16
Second 20%	457,693.52	182,235.84	109,017.17
Third 20%	748,953.03	298,204.11	164,661.35
Fourth 20%	1,212,590.61	482,806.65	248,695.42
Fifth and highest 20%	3,304,903.83	1,315,884.80	550,763.84

(Income distribution across 3 periods in AOA including the estimate of 2021)

As one can see above, in the local currency, the extent of the shift in income is much more visible in the local currency than when using USD to compare. Especially because of the volatile changes in the currency conversion rates throughout the crisis as one can see below (1 USD to AOA per year).

Angolan Kwanza (AOA) exchange rate

1 USD TO AOA

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
75.03	79.33	91.91	93.93	95.47	96.52	98.30	120.06	163.66	165.92	252.86	364.83	578.26	631.44
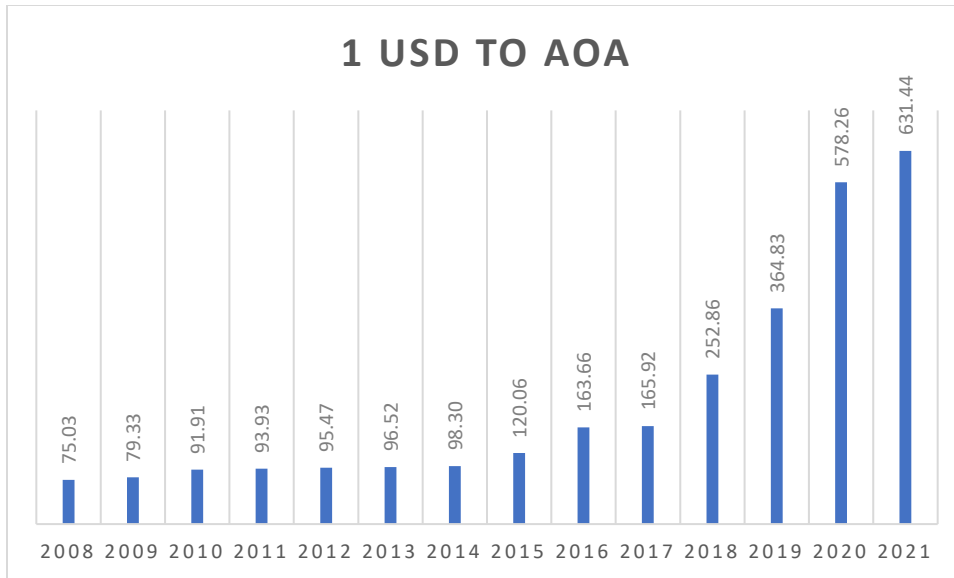
(World Bank, 2022)

The income increases could not keep up with the prices of groceries in the market. As a result, much adaptation was needed from the consumers. Especially since, according to the US Department of commerce International Trade administration (2022), more than 50% of Angola's food is imported. Therefore, since imports are highly susceptive to currency rates, groceries are automatically heavily affected. Moreover, even the locally produced items require inputs that are also imported (such as fertilizers).

The tables above give us a clear indication of the shift in income classes in Angola. For example, depending on your income, you may have moved from the middle to low class. The distribution of income shows how the share of income changed for the worse when the crisis started, which was mostly felt by the population with the lower shares of income.

Defining the social classes in Angola

The distribution of income above shows us how income is dispersed, but not exactly how much income is needed to define the lower, middle and upper classes. Going by what RTP (2015) reported, we can conclude that the low class could be around the range of people earning less than 14 400 AOA (120 USD as at 2015) for before the crisis. Although the crisis had already started by 2015, changes were not that great until later years and data from 2014 was used to estimate the middle class in 2015. The low class could also be estimated to have jumped to people earning around less than 32 181 AOA monthly (69 USD in 2022) once the crisis started because of the new minimum wage starting from 2022 and the fact that the World Bank poverty line for 2018 shows that the low-income earners are earning below 27 688 AOA (109 USD) monthly. In terms of USD, it may seem that the values make little sense because of the exchange rates, therefore careful consideration of the local currency is necessary.

Pre-crisis, the minimum wage might have been enough for basic needs; however, post-crisis, the public argues that the appropriate minimum salary is closer to 80 000 AOA monthly (219 USD) based on the protesting in 2019. This may be the actual case based on two factors: the government admitted that further raises of the national minimum salary in 2022 was not possible due to financial constraints (DW, 2022) and the fact that national minimum monthly salary is lower than the national minimum civil servant

salary which ranges from 67 807 AOA (147 USD in 2022) for the lowest level of civil servants (cleaners) to 98 321 AOA (213 USD in 2022) for the highest level (non-technical administrative personnel) (Jornal de Angola, 2022). Seeing as how these factors are present, we can conclude that currently the national minimum wage of 32 181 AOA monthly (69 in USD in 2022) is far from enough for basic needs during the mid-crisis period, especially for big households. VAO Portugues (2022) shows how one low-income household (Mother, father and 12 children) had to get assistance from another family member (father's sister in a different household) in raising 3 of the children (children sent to live at their aunt's house) in order to reduce expenses. Moreover, the father (earning 25 000 AOA/54 USD monthly in 2022) had to start making a little extra money aside from his regular work as a security guard (washing cars and transportation of goods) and the mother had to start selling at the local market to bring extra income home. The family is able to survive, but the situation grows grim during medical emergencies when expenses are paid for with debt.

In conclusion, although the different income classes are not clearly defined in Angola, we can conclude that before the crisis, the middle class earned above 14 400 AOA (120 USD as at 2015) and post crisis it's above 80 000 AOA monthly (219 USD in 2019). There is insufficient data to include the upper/high income class. These shifts in income classes form a basis for understanding the different types of consumers and why they perceive the crisis as so severe even though their income is high.

This research will endeavor to identify how the consumers in Angola changed their buying behavior as a result of the crisis that caused high inflation in the country. The factors determining their crisis consumer behavior will be identified and the role they play will be explained. Other determining factors will be looked into, namely age, gender, income and shifts in income classes, and how these factors shape the behaviors and perception of the crisis consumer in Angola. Amalia and Ionut's research will be used as a basis for identifying similarities and differences between developed and developing economy consumers. Their study will also be used to study the perception of the crisis that Angolan consumers have and how this perception leads to the chosen behavioral responses that these consumers have to the crisis.

Literature Review

The Traditional Consumer
The traditional consumer was established by earlier studies with Maslow's hierarchy of needs as the foundation.

Maslow's hierarchy of needs

(Maslow and Lewis, 1987)

Maslow established the basis for understanding the traditional consumer. First basic needs are satisfied before moving on to higher needs. Further studies show how consumers mostly concentrated on attaining middle class membership (Drakopoulos, 2008). This showed that most people worked earnestly hard to reach the "love and belonging" section of the hierarchy. The middle class seemed the most stable and desired social class; it seemed to show a comfortable lifestyle, and it was much more easily attainable than higher social classes. Consumers became very concerned about their public image and wanted to belong to a group of consumers seen to have achieved acceptable standards of living.

Sharma and Sonwalkar (2013) reinforced the view, showing how the traditional consumers would work their way up the hierarchy, with most consumers centered around the middle (in developed economies).

The new consumer

The traditional consumer suffered a change; Sharma and Sonwalkar (2013) pointed out that this change came from consumers wanting authenticity. With the general view of the traditional consumers, many manufacturers made products that were of a similar nature, similar quality, and similar usefulness, but with little distinction from other competing brands. This trend was the standard norm, as consumers purchased products that would make them feel part of the middle class, manufacturers only had to meet the standard requirement for products when dealing with the traditional consumer. However, as developed economies grew, more consumers made it to the middle class; and as time passed, consumers wanted to be distinguished within their classes. Thus they demanded products that were authentic: products that are distinguishable from others of a similar nature. Consumers wanted products that are original and innovative that would bring about greater satisfaction, consumers avoided products made for the masses and desired individuality (Voinea and Filip 2011). One can observe this with mobile phones (button phones), many were similar in nature, quality and use; and as time passed a new type of mobile phone appeared (touch screens and onwards to smartphones) as a result of consumers demanding authenticity. The consumers demanding authenticity were seen as "the new consumers".   Bridger and

Lewis (2011) stated that the traditional consumer is looking for comfort, while the new consumer is looking for authenticity.

The crisis consumer

Amid crises, the new consumer took major turns in behavior, creating "the crisis consumer". There is little empirical research on the crisis consumer. However, as the world experiences more and more crises, research interest in this type of consumer will grow. Current research identifies several key characteristics of the crisis consumer who mainly focuses on purchasing cheaper products. Amalia and Ionut (2009) show how the crisis consumer changes behaviors according what actions they take in order to reduce the severity of the risk (risk attitude) and how likely they think they will be exposed to and affected by the risk (risk perception) as seen below:

Risk Perception vs Risk Attitude Matrix
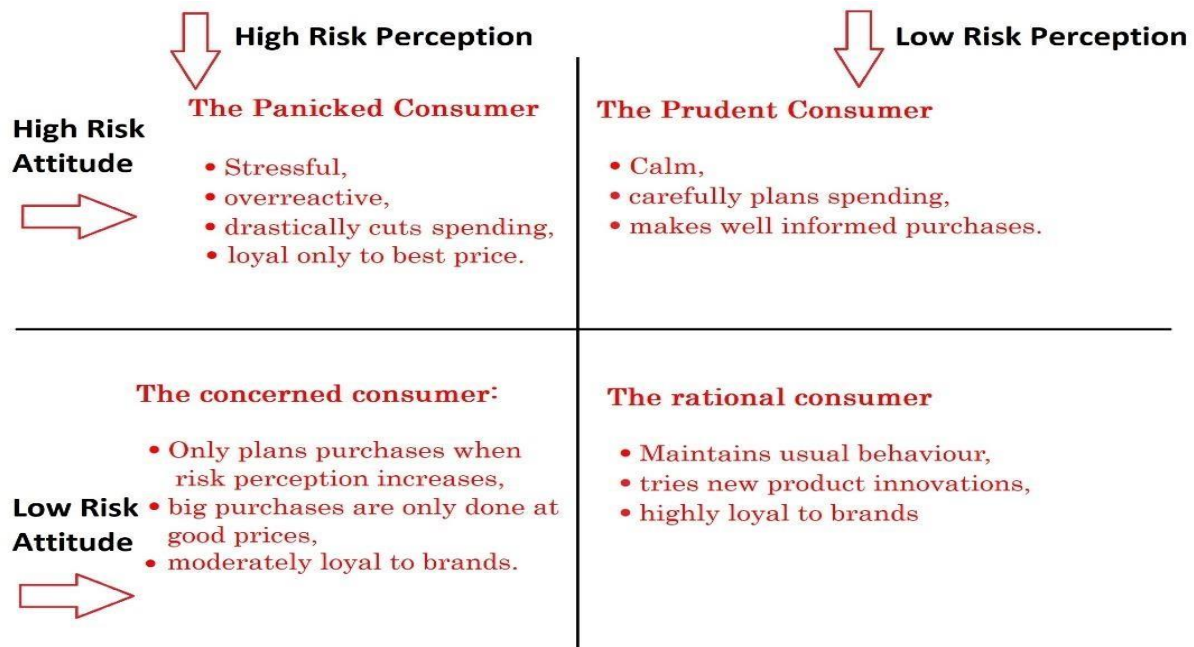
(Amalia and Ionut, 2009)

This study from Romania shows identified this diagram, which shows how people feel about the risk, their perceived likelihood of suffering and their chosen responses of action. These segmentations of consumers reveal that not all consumers behave the same during crises.

Other studies classify trends according to other variables. Flatters and Willmott (2009) give a more holistic view of the crisis consumer and how their trends change over time as shown below.

Crisis Consumer flow of trends

(Flatters and Willmott, 2009)
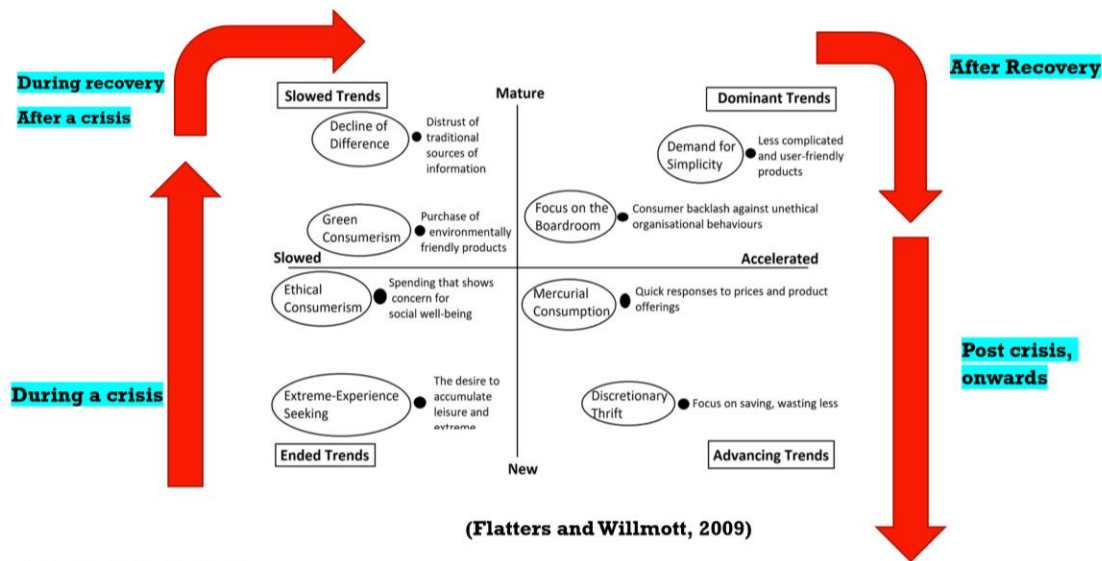
(Flatters and Willmott, 2009)

With this diagram, one can better see the old trends dying out (Ended and Slowed trends) and new trends coming about (Dominant and Advancing Trends).

Valášková and Klieštik (2015) went into greater depth and showed that (in Slovakia) there is significant statistical evidence to conclude that crisis consumer trends are not dependent on age structure of the economy (happens at all age groups). This is going against the rational consumer concept from Amalia and Ionut (2009); which is that the length of the crisis has only a small influence on trends; and that the disposable income, again, has only a small influence on trends. The trends seem to care little about age, crisis length and disposable. It was also concluded that the crisis consumer exhibits the same trends in different types of crises, the only difference would be in product category (earthquakes with building material, pandemics with medicine).

Voinea and Filip (2011) summarized that in all income levels the crisis consumers are economical, responsible, and demanding (the product must clearly show perceived quality advantages in order to justify a purchase); and they became more fragile, intensely reacting to price, brand and quality.

Descals, Molina and Borja (2014) stated that the crisis consumer focuses on necessities and postpones luxury purchases; the buying behavior is dependent on product category (food, personal care and health products).

Granfield (2009) gave quite a comprehensive list of crisis consumer trends.

1. Look for the cheapest supplier of a specific product.
2. Buying cheaper items
3. Consumers make their homes centers of leisure and entertainment and purchase accordingly.
4. Postpone non-essential purchases.
5. Reduce donations and ethical behavior.
6. Financially stable consumers change behaviors as a result of social influence.
7. Consumers do things themselves, rather than paying for services.
8. Consumers avoid credit.
9. consumers will look to companies or brands with fun/light-hearted personalities that offer emotional relief from the economic situation.
10. Spending is done more conservatively.

15

The study of Loxton et al. (2020) revealed quite an interesting result. It showed that the crisis consumer behaved the same way during different types of crises (financial, economic, natural disasters and in all pandemics). The literature on the crisis consumer is little, more so for African crisis consumers, thus necessitating greater interest from scholars to broaden the knowledge available about the crisis consumer in developing economies.

Therefore, Amalia and Ionut's research will be used as basis for studying the Angolan consumer, because it is the only one among the scholars above that place primary focus on risk perception and how it shapes buying behavior in a crisis. The findings justify this by showing how most of the trends of the crisis consumer in Angola are grouped according to perception levels.

Methodology

This research will be both qualitative and quantitative. Qualitative primary data will be gathered from household members of the general public in Angola who participate in the household grocery shopping; are very knowledgeable with grocery shopping and have been participating in grocery shopping throughout the study periods of interest, pre-crisis (pre-2014), mid-crisis (2014-2018) and mid-covid (2019-2021). Angola showed a major shift of buyers from retailers to wholesalers and informal markets. Wholesalers and informal markets accommodate consumers of different ages, income levels and gender, thus allowing the research to reveal more about the possible dependency on the aforementioned variables (age, income and gender). Wholesalers and informal markets also accommodate a larger variety of consumers which may better represent the population from the sample to be drawn. A survey of 20 consumers will be used to gather the primary data needed. This data will reveal much about the crisis consumer in Angola. The trends to be revealed by the survey will also shed light on whether the crisis consumer in developed economies is similar to or different from (and to which extent) that of developing economies, namely Angola.

The qualitative data will come from the surveys. The survey will be structured in such a way that it facilitates the quantification of the data, thus providing quantitative data that will allow one to understand in which type of standard of living consumers may be grouped.
The results of this survey will be necessary as one can see contradicting results in previous studies, different countries revealed different results (despite those countries being developed economies), thus necessitating the correlation between the trends and the variables to be tested in Angola.
Once crisis consumer trends have been identified, determining factors which drive these trends will be looked into. The trends of grocery shoppers may provide a base from which people can review consumer behavior as it accommodates consumers of various income levels, ages and gender and other behavior determining factors. Studying grocery shoppers will also provide a basic, albeit somewhat limited, representation of the consumers in Angola. The grocery shopping consumer in Angola has been chosen as the focus of this research, since there has been observed shifts of the regular consumer buying behavior.

This research will endeavor to identify how the consumers in Angola changed their buying behavior as a result of the high inflation crisis in Angola. The factors determining their crisis consumer behavior will be identified and the role they play will be explained. Other determining factors and how these factors shape the behaviors and perception of the crisis consumer in Angola will be investigated. Amalia and Ionut's research will be used as a basis for identifying similarities and differences between developed and

developing economy consumers. Their study will also be used to study the perception of the crisis that Angolan consumers have and how this perception leads to the chosen behavioral responses that these consumers have to the crisis.

Findings

Findings bases on risk perception

Risk Perception Matrix
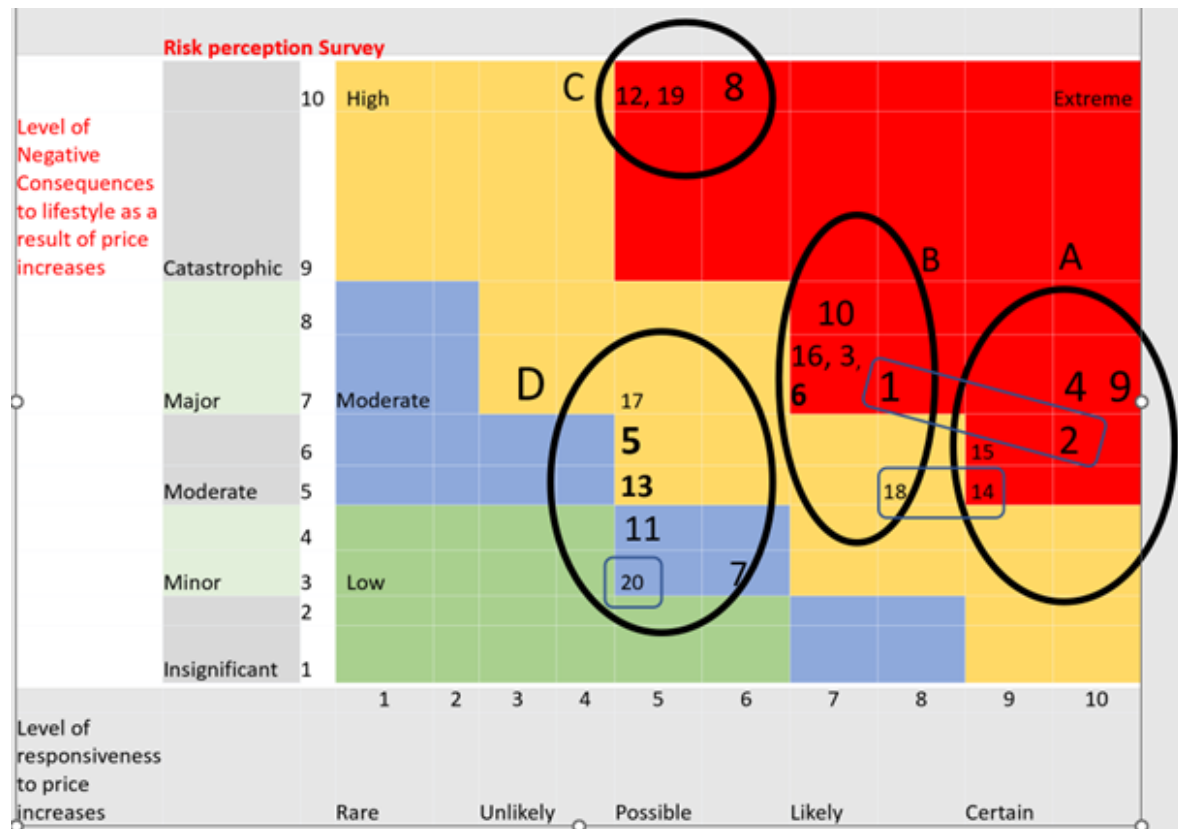
A risk perception survey with 20 respondents was conducted to gauge respondents' perception of the crisis and how it affects them. First, the respondent is asked at what level the price increases affect their decision to buy an item, to determine how sensitive they are to prices. Their response is used to determine how intensely they react to price increases. The results are shown in the horizontal line displaying the levels of responsiveness from a rare 1 to a certain 10. Secondly, the respondent is asked what level of

negative consequences to their general lifestyle (leisure, standard of living, financial stability, etc) they experience when there are price increases. The results are shown by the vertical line displaying the levels of negative consequences to the general lifestyle of the respondents from a insignificant 1 to a catastrophic 10. The risk perception matrix above is further divided into 4 quadrants: low, moderate, high and extreme; the placement of each respondent is determined by the meeting point of the horizonal and vertical axis (price responsiveness and negative consequences). These results are all opinions of the responds and only carry the subjective perception of respondents of the current market conditions when grocery shopping. It is worth noting that not a single respondent is within the lowest quadrant of the risk perception matrix.

The results show that there are 4 basic groups in which one can separate the respondents: A, B, C and D. However, respondents 1 and 2, 18 and 14, and 20 show that they are exceptions to the groups as they do not fit directly into the categories. Upon further investigations and more data, they may create 3 more separate groups. However, due to the limitations of this study, they will be included in their mentioned groups.

Respondents 1 and 2 are respondents who grow up in low-income households but now are middle-income earners with high responsiveness (level 8 to 10) to price but do not employ many cost avoidance techniques which is the same thing that the low-income earners do in Group B (low attitude in avoiding cost). Hence, they may be maintaining low-income attitudes despite being in the middle-income group. This is an example of how the income class shifts affect the behaviors of consumers.

Respondents 18 and 14 are members of household who became a single parent household during the period included in the study and were forced to reduce the amount of spending and rely on their children to contribute whatever they financially could in order to support the household.

Respondent 20 is a low-income earner who lives alone but shares the perception of risk with upper-middle to high income earners. These four exceptions show how more complex the perception of the Angolan consumer can become.

Table of Quantitative results

Respondent	Age	Gender	Spending P/P mid-covid	Pre-crisis spending	Mid-crisis spending	Mid-covid spending	% Change in spending pre-crisis to mid-covid	Cost avoidance starts at %	% of Household income on Food	Estimated Income	Household Size	Risk Perception	Perception group	Risk Attitude A (Cost avoidance)	Risk Attitude B (Visits)
4	50	Female	30	200	300	360	80%	10%			12	High	A	High	High
15	41	Male	25	100	150	180	80%	20%	70%	257	7	High	A	Low	High
9	36	Female	50	100	200	200	100%	5%	90%	222	4	High	A	High	Low
2	34	Male	40	100	180	200	100%				5	High	A	Low	Low
14	25	Female	20	200	150	100	-50%	1%	70%	143	5	High	A	Low	High
3	42	Male	10	15	35	50	233%	10%			5	High	B	Low	Low
1	33	Male	62.5	100	200	250	150%				4	High	B	Low	Low
6	30	Male	20	20	40	80	300%	10%			4	High	B	High	Low
16	28	Male	7	50	30	30	-40%	10%	40%	75	4	High	B	Low	Low
10	28	Female	10	70	50	30	-57%		30%	100	4	High	B	Low	Low
18	26	Male	10	150	100	100	-33%	10%	50%	200	7	High	B	Low	Low
12	36	Male	17	50	100	120	140%	50%	80%	150	7	High	C	High	Low
19	34	Female	50	100	60	150	50%	40%	50%	300	3	High	C	Low	Low
8	33	Female	57	50	200	230	360%		90%	256	4	High	C	High	Low
5	31	Male	20	20	100	100	400%	50%			5	High	D	High	High
20	30	Male	20	40	40	20	-50%	20%	40%	50	1	Low	D	Low	High
13	30	Male	22	110	160	200	82%	30%	60%	333	10	High	D	Low	Low
11	30	Female	66	100	100	200	100%	15%	16%	1250	3	Low	D	High	Low
7	29	Male	25	50	50	100	100%	50%			4	Low	D	Low	Low
17	18	Female	15	170	140	150	-12%	30%	60%	250	10	High	D	Low	High

The table of Quantitative results above gives us the main similarities and differences of the respondents. Below, more details into the different factors will be explained.

Age

The age of the respondent isn't a factor directly influencing consumer behavior. However, due to social conditions withing the country, one notes that it indirectly influences the consumer's behaviors. All households of respondents aged 18 to 28 reduced the total value of their spending on groceries. The only other respondent who reduced spending is number 20, aged 30, who lives alone. The social conditions in Angola do not facilitate people of working age in finding a job or any other way of earning money. Thus, it is typically during one's late 20s or early 30s when one acquires a stable job and becomes financially independent. This is different in developed economies where teenagers can do part-time jobs to help with expenses, while it's nearly impossible to do so in Angola. As a result, it is just natural that younger people reduce their spending and demonstrate few efforts to avoid cost as a result of their low purchasing power and/or lack of financial aid. What these households of low age respondents have in common is that their main reason for reducing spending is that fact that they are mostly single parent households that had much difficulty in raising their earnings and had to resort to other means to counter the rising market prices. Respondent 10, the mother pays 90% and her daughter contributes 10%; respondent 14, mother 80% and children 20%; respondent 16, the father received a big salary deduction and the wife lacks the ability to contribute much financially; respondent 17, mostly mother (no father), but due to the difficulties, the brother to the mother joined the household to reduce burdens and contribute financially; respondent 18, mostly mother (no father), until children reached working age to start helping. Respondent 20, aged 30, also similarly being the only financer in the household (lives alone as well), also reduced spending. The highest income earners all among respondents are in their early 30s, which, again, isn't a direct result of the age, but the social conditions of the country which facilitate acquiring a stable income around that age.

Gender

No significant differences or similarities were found across the two genders. Perhaps with a deeper study, one might find more information as to whether or not there are differences in consumer behaviors across different genders. The only thing the data suggests is that Female respondents are much more likely to shop in multiple places as an effort to reduce costs.

Spending on Groceries

The biggest noticeable change in spending is that the average household doubled their spending on groceries from the pre-crisis to mid-covid era while the actual volume of spending either stayed the same or reduced. The market situation became very difficult to deal with, so increasing spending became the most common choice. Most households wanted to maintain, as much as financially possible, their pre-crisis eating lifestyle; therefore, more luxury and leisure was sacrificed for groceries. Other households decreased spending, as discussed in the 'age factor' above.

The less you spend, the less purchasing power you have, resulting in low cost avoidance attitudes. Eventually as you spend more, your attitude increases and later starts decreasing with greater income levels. Households with an average spending between 100 000 to 180 000 AOA (the lower ranges of the

middle class) had the highest acceptance of price changes. These households would only apply cost evasive methods at the highest percentage average of a 40% price increase (this also shows that they do not perceive the risk as high as other respondents, especially since most of these low-tier middle income respondents are in perception Groups C and D), while low-income households start applying cost evasive methods at a 10% increase. Low-income households apply methods related where they buy and how they eat and manage consumption in the house, while middle and upper-class income households focus on how they buy and use their purchasing power cut costs. This shows that people in the lower ranges of the middle class are more accepting of price increases and people in the middle tier of the middle class are more concerned and sensitive to prices starting at a 10 to 20%% increase, finally with the upper tier of the middle class around 10%.

The volume of spending Is directly related to the behaviors consumers follow, more details are available when you think of the income class and the income and income history of the individual (more details in the perception groups A to D). The volume will show at what percentage price increase respondents will avoid the costs and whether they will apply cost evasive methods.

Income does influence behaviors, but not in the typical "buy the cheapest one" option that we are familiar with; and an example is how despite low-income households (most from perception Group B) starting to apply cost evasive methods at a 10% price increase, it is not directly applied in the purchasing of groceries, rather indirectly in how they restructure dishes, ingredients and how food is cooked, consumption frequencies and where they shop. However, when low-income respondents shop, they usually accept whatever prices the market provides because they cannot afford to search for better options or reduce costs through their purchasing power. This habit of acceptance continues as their income rises to lower tiers of the middle class (similar to respondent 1 and 2). Low-income earners go to a nearby place (the place is usually within a short commuting distance to reduce transportation costs) where they typically find low prices and just accept whatever they are able to. They would re-visit the same place without searching for new and/or better places. Respondents in the middle tier of the middle-income group (most from perception Group A) are the ones that place the greatest effort into searching for the cheapest option of alternatives, finding new buying techniques and going to several market places to do market research for the cheapest places to find certain ingredients (they do the most researching and the most aware of market conditions), thus showing us that they follow the typical "buy the cheapest one" option (one must note that early in the crisis it was "buy the cheapest one, no matter the quality" for Group A; but now it is to buy the cheapest one with the best nutritional quality).

Household Size

The size of the household influences behavior more indirectly, while the structure of the household has a very direct influence of the consumer's buying behavior. In the common way, a larger household leads to higher volumes of purchasing; however, it is the structure of the household (together with the income level) that will dictate the cost evasive methods, the level of attitude towards cost evasion and the perception of risk. There is insufficient data to conclude that the size of the households will directly state the behavioral path the consumer will take. However, the fact of whether or not one's children are in the working age and are able to contribute financially to household expenses (some households will reduce volume if children do not help), the number of children below the age of 10 and compared to the number of adults in the household (there's a reduced shopping frequency for smaller households with only young children and parents), whether of not both parents are present and whether both parents earn an income (some houses focus on in-house consumption strategies if spouse is unavailable financially). These factors are significantly related to the consumers' perception and behaviors.

Risk Perception Analysis

The risk perception matrix is divided into 4 quadrants which resulted in the discovery of 4 groups of consumers, A to D. Further explanations are available in the Risk Perception Group explanations.

Perception group A

Respondent	Age	Gender	Spending P/P mid-covid	Pre-crisis spending	Mid-crisis spending	Mid-covid spending	% Change in spending pre-post crisis	Cost avoidance starts at %	% of Household income on Food	Estimated Income	Household Size	Risk Perception	Perception group	Risk Attitude A (Cost avoidance)	Risk Attitude B (Visits)
2	34	Male	40	100	180	200	100%				5	High	A	Low	Low
4	50	Female	30	200	300	360	80%	10%			12	High	A	High	High
9	36	Female	50	100	200	200	100%	5%	90%	222	4	High	A	High	Low
14	25	Female	20	200	150	100	-50%	1%	70%	143	5	High	A	Low	High
15	41	Male	25	100	150	180	80%	20%	70%	257	7	High	A	Low	High

This group is identified by the following characteristics of their perceived risk of prices and consequences: those whose reaction to price increases are at level 9 and 10, resulting in a very sensitive reaction to price increases; and those who perceive that the consequences as a result of price increases are between level 5 and level 7, resulting in consequences to their lifestyle perceived as moderate to slightly major.

Respondents in this group are market by having the highest shopping frequencies, compared to what was relatively done before the crisis. Although respondent 9 is marked as having a low shopping frequency, respondent 9's is almost considered high frequency, thus possibly showing the frequency minimum of this group. However, respondent 2 shows only a slight increase in shopping frequency compared to what respondents considered as normal during the pre-crisis period. Therefore, a possible explanation to why respondent 2 has such high responsiveness to price may be the fact that respondent 2 has a greater shock than others because of the change in social classes. Respondent 2 grew up in a low-income household, eventually became educated and started a family in a middle-income household and was seeing a steady rise in income; but, lost a lot of ground due to price increases. That big shift in income classes gave respondent 2 such a shock that he became very sensitive to price increases despite having sufficient household income to overcome the situation and maintain a stable household (especially since his wife also earns a middle-class income but only contributes 10% of it to household spendings). Therefore, respondent 2 shows that if a middle-income earner (who grow up in a low-income household) is shocked by price increases, but has still has financial stability, he will have a high responsiveness to price but still low perception of consequences due to income stability. However, if income stability is low then the perception of consequences to lifestyle drastically increases. Despite respondent 2 belonging to the middle class before and after the crisis, there has been a big shift in the amount of expenses. It shows that moving up several levels of income and then experiencing a sudden drop could heavily influence perception and reactions to price increases.

Based on the protest in 2019 and the new minimum wage in 2022, we can conclude that all respondents in group A earn middle-class income and have a shared tendency to increase grocery spending at an attempt to maintain household eating conditions while simultaneously evading costs where possible. Moreover, it may be that most of Group A's respondents have a high perception of the risk of price increases because they shop more frequently. This creates the supposition that middle-income earners who increase their awareness of the constant price hikes are more likely to become more responsive to price changes and have a high responsiveness to price increases. This becomes more apparent due to the fact the Group A respondents conduct the highest amount of market research and investigations, thus

exposing themselves even more to price increases and applying cost evasive methods at lower than usual price increases compared to other respondents. They are the most aware of market conditions and prices, hence they typically accept price increases between 10 to 20%. Respondents only negotiate prices when spending volume per person (mid-covid spending divided by number of household members; this is done to obtain clearer results) is at 30 000 AOA monthly or more despite only commencing cost evasion at 5-10% price increases. Respondents in this group do not shop at the informal markets at the outskirts of the city, but they go to informal markets the most often; they also prioritize maintaining pre-crisis consumption styles. Group A's respondents make the most frequent use of street vendors because they are aware of market prices and can negotiate to get good deals. Group A' respondents have the lowest preference and attention to brands.

In conclusion, Group A are respondents who were middle-income earners at the point before (through most of their lives) and after the crisis and are the most sensitive to prices employing cost evasive strategies at the lowest average price increase of 9% as compared to the other groups (B at 10%, C at 45% and D at 33%) as a result of either one or a mixture of the following: having the highest shopping frequency and high tendency for market research; highest market awareness; percentage difference in increased spending on groceries between 80-100% (except respondent 14 who reduced spending due to the father no longer being around and the mother having to handle 80% of expenses and the children who eventually reached working age during the crisis contributing 20% of spending); or the shock of the difference in the monetary value of spending before and after the crisis due to this group having the highest average of spending (not income) in all 4 perception Groups (A at 208 000 AOA, B at 90 000 AOA, C at 166 000 AOA and D at 128 000 AOA).

Perception Group B

Respondent	Age	Gender	Spending P/P mid-covid	Pre-crisis spending	Mid-crisis spending	Mid-covid spending	% Change in spending pre-post crisis	Cost avoidance starts at %	% of Household income on Food	Estimated Income	Household Size	Risk Perception	Perception group	Risk Attitude A (Cost avoidance)	Risk Attitude B (Visits)
1	33	Male	62.5	100	200	250	150%				4	High	B	Low	Low
3	42	Male	10	15	35	50	233%	10%			5	High	B	Low	Low
6	30	Male	20	20	40	80	300%	10%			4	High	B	High	Low
10	28	Female	10	70	50	30	-57%		30%	100	4	High	B	Low	Low
16	28	Male	7	50	30	30	-40%	10%	40%	75	4	High	B	Low	Low
18	26	Male	10	150	100	100	-33%	10%	50%	200	7	High	B	Low	Low

This group is identified by the following characteristics of their perceived risk of prices and consequences: those whose reaction to price increases are at level 7 and 8, resulting in a sensitive reaction to price increases, but not at its highest levels; and those who perceive that the consequences as a result of price increases are between level 5 and level 8, resulting in consequences perceived as moderate to just below catastrophic.

This group is mostly comprised of individuals who are low-income earners except for two of them. Respondents 1 and 18 are both middle-income earners, despite their income levels, they still share similarities in perception which made them part of group B. Respondent 1 has a similar background to group A's respondent 2, both of whom spent half of their lives first in the low-income group and worked their way up to the middle-income group. Respondent 18 shares similarities with respondent 14, middle-income earners who reduced their spending due to the unavailability of the father resulting in the siblings who are able to work to contribute financially to help the mother handle household expenses. Group B is also marked by low risk attitudes, which include low shopping frequencies and low cost avoidance strategies. Respondent 6 is the only respondent with high cost avoidance strategies. This respondent's income is slightly above low income and has just recently entered the middle-income range (however, this is a development in 2022 and only considerations for the household's overall standing will be taken into

consideration as at 2021), thus showing the respondent's ambitious nature to escape this income group and manage costs more efficiently. Despite each group having many similarities, there are individuals who deviate from the standard norm and exhibit distinctly different behaviors in certain areas. The rest of the respondents share low risk avoidance and low shopping frequencies due to their lack of purchasing power from their low income. In informal marketplaces in Angola, like in most other places, the more you buy, the more you are able to negotiate for lower prices and eventually reduce your cost due to the larger volume of purchases. This cannot be practiced by low-income households, since their purchasing volume is not adequate to gain favorable negotiating conditions. This group rather focuses on in-house consumption management strategies; and only negotiates prices when income increases. Group B respondents are the most likely to stick to plans, accept price increases the most and follow the shopping list during price increases; only negotiate prices when income increases. These respondents also go the least times to informal markets despite these markets having the lowest possible prices, as an effort to reduce transportation costs to and back from the informal market. The majority of B's respondents go to wholesalers only once a month. Group B has the most participants who do **not** go to supermarkets at all.

In conclusion, aside from a few exceptions, Group B is comprised of low-income earners who lack purchasing power to negotiate prices and thus are forced to accept all market conditions that they face and end up exhibiting low cost avoidance attitudes, low market research and low shopping frequencies. This Group also indicates where the larger majority of the population lies, especially since the World Bank (2018) states that 52% of Angolans are within this income range; also with how the data shows that the population in the lower tier of the middle-income range share the same trends.

Perception Group C

Respondent	Age	Gender	Spending P/P mid-covid	Pre-crisis spending	Mid-crisis spending	Mid-covid spending	% Change in spending pre-post crisis	Cost avoidance starts at %	% of Household income on Food	Estimated Income	Household Size	Risk Perception	Perception group	Risk Attitude A (Cost avoidance)	Risk Attitude B (Visits)
8	33	Female	57	50	200	230	360%		90%	256	4	High	C	High	Low
12	36	Male	17	50	100	120	140%	50%	80%	150	7	High	C	High	Low
19	34	Female	50	100	60	150	50%	40%	50%	300	3	High	C	Low	Low

This group is identified by the following characteristics of their perceived risk of prices and consequences: those whose reaction to price increases are at level 5 and 6, resulting in a slightly below sensitive reaction to price increases; and those who perceive that the consequences as a result of price increases at level 10, resulting in consequences perceived as catastrophic. When comparing middle-income earners with high shopping frequencies (such as those in Group A) and middle-income earners with low shopping frequencies (such as in Group C), one notes that the respondents in Group C are less responsive to prices because of their reduced exposure to the current market conditions, but whenever re-exposed to the market conditions after a longer than usual period of time (time period compared between Group A and C) the respondents in Group C perceive the sudden increases in prices to cause catastrophic consequences to their lifestyle if their household size increases. While if the same Group C participants increase their shopping frequency, they reduce the perceived consequences and but in turn increase their responsiveness to prices, thus becoming part of Group A. Furthermore, the 3 participants of Group C all have another thing in common, they are middle-income households with children below the age of 10. The household of respondent 8 has a father, a mother and 2 children (6 and 8); respondent 12's has a father, mother and 5 children (babies, toddlers and young children); and Respondent 19's only a mother and two children. Also, all parents in Group C contribute financially towards household spendings (which has actually become the norm for those who are able to work to contribute for the regular household as a result of the crisis). This shows that the respondents of Group C do not have high shopping frequencies because there is no need for it since children (who are the majority of household members in this group)

do not eat as much as adults do, thus reducing the need for more frequent shopping to replenish household grocery supplies. Since supplies are mostly for the adults within the group, the minority, the shopping frequency is less, resulting in perceiving the price increases as catastrophic once they go shopping after some time. As the children grow, Group C respondents will eventually have to increase shopping frequency and eventually change and become part of Group A. Respondents in this group also show that since they have the least responsiveness to prices (between level 5 and 6, same as Group D), but the highest perception of consequences; they only apply cost evasive methods at the highest percentage price increase between 30 to 50%. Price negotiation does not depend on income or volume, but on percentage of price increase (over 40%).

In conclusion, Group C respondents are middle-income earners with low shopping frequency due to the lack of need to replenish grocery supplies sooner than others since the majority of Group C members are children eating less in volume than adults. This then results in Group C respondents perceiving price increases as catastrophic to their lifestyle after prolonged inexposure to market conditions.

Perception Group D

Respondent	Age	Gender	Spending P/P mid-covid	Pre-crisis spending	Mid-crisis spending	Mid-covid spending	% Change in spending pre-post crisis	Cost avoidance starts at %	% of Household income on Food	Estimated Income	Household Size	Risk Perception	Perception group	Risk Attitude A (Cost avoidance)	Risk Attitude B (Visits)
5	31	Male	20	20	100	100	400%	50%			5	High	D	High	High
7	29	Male	25	50	50	100	100%	50%			4	Low	D	Low	Low
11	30	Female	66	100	100	200	100%	15%	16%	1250	3	Low	D	High	Low
13	30	Male	22	110	160	200	82%	30%	60%	333	10	High	D	Low	Low
17	18	Female	15	170	140	150	-12%	30%	60%	250	10	High	D	Low	High
20	30	Male	20	40	40	20	-50%	20%	40%	50	1	Low	D	Low	High

This group is identified by the following characteristics of their perceived risk of prices and consequences: those whose reaction to price increases are at level 5 and 6, resulting in a slightly below sensitive reaction to price increases; and those who perceive that the consequences as a result of price increases between level 3 and 7, resulting in consequences perceived as minor to slightly major. The respondents of Group C have a similar level of responsiveness to price as the respondents of group C. This shows that when a household has a larger percentage of disposable income available (able to focus on savings) with lower volumes of grocery purchases, the household tends to have a less severe reaction to the increase in prices. Although Group C and D have similar responsiveness to prices, their disposable income and grocery volumes are similar for different reasons: Group C has disposable income and less volume of purchases due to the fact that their households mostly comprise of children; while on the other hand, Group D has higher levels of income which make it resulting in more income available. Both situations of Group C and D (less purchases and larger income) allow for more disposable income. However, Group D has a lower perception of consequences to their lifestyle. This is because of the larger amount of disposable income available. The fact that group C also has a high perception of consequences also shows that their income is not as high as those of Group D. This high disposable income of Group D could be due to various sources of income, or because of fewer financial responsibilities as seen by respondent 20 who lives alone. Respondent 20 from Group D demonstrates that despite being a low-income earner, since he the volume of his expenses are low due to living alone, his level of perception of the consequences is also low similar to those of high-level income earners due to both being able to save a larger percentage of their income. Although the estimates of income of all respondents are not exact, using the shopping frequencies, buying habits, at what level of price increase the respondents start avoiding costs, their spending volumes and percentage of income spent on food, one can conclude that most of Group D's participants are high income earners. Due to the lack of data, a conclusion cannot be drawn between whether Group D's respondents (except number 20) are in the upper ranges of the middle class or in the high class all together. Group D

has the highest range of estimated income, cost avoidance starts at a large percentage price increase, second only to Group C (Group C's cost avoidance is only at a high percentage price change because pf the lack of a need to do high volume purchases, thus making it more apparent that Group D's cost avoidance is due to high income) and has the highest average use of supermarkets (the most expensive place to buy groceries as compared to informal market prices). Respondents in this group, much like in Group C, also show that since they have the least responsiveness to prices between level 5 and 6, they only apply cost evasive methods at the highest percentage price increase between 30 to 50%. Price negotiation does not depend on income or volume, but on percentage of price increase (over 40%); and focus more on buying from formal establishments (supermarkets) over informal ones. Group D, with the highest number of high-income earners, has the most participants with high frequency visits to the supermarket, 1 to 3 times a week. Group D respondents, with the highest average income, are the ones who use convenient stores almost daily. Group D respondents have the highest preference and attention to brands

In conclusion, Group D respondents are mostly upper-middle class to high-class income earners who have the lowest perception of risk due to their higher percentages of disposable income. The higher percentage of disposable income allows these respondents to have a greater ease of mind as to the consequences of the market conditions to their lifestyle, to have a lower responsiveness to price and to only have a react to higher percentages of price increases.

Findings based on risk attitude

Hillson, D., & Murray-Webster, R. (2006, May) give a more complete definition of risk attitude: the chosen response to uncertainty for situations of concern. They further explain that these attitudes are taken as a result of the perception that one has. Therefore, depending on the risk perception above, and the risk perception groups that respondents fall into, they are likely to take certain actions. The rate, intensity, or frequency at which cost evasive actions are applied in order to avoid the risk of the situation (price increases) or reduce the negative impact of the situation will be used to identify whether or not the risk attitude is high or low. There are various ways to identify risk attitude; however, due to resource constraints, only shopping frequency and some common local shopping behaviors will be taken into account. This study is to compare the risk perception and attitude of consumers from developing nations with developed nations. Amalia and Ionut's (2009) research is to be used as a basis for comparison, however, the exact method for identifying high/low risk attitude was not identified in their research. Hence a relative comparison of what the locals of Angola consider high/low risk attitude before and after the crisis will be used in this research: shopping frequency vs common cost evasive methods.

Cost evasion by shopping strategies (Risk Attitude A, Cost avoidance)

Cost Evasion during purchasing	ZERO					
Method	ZERO	1 Rare	2 Seldom	3 Sometimes	4 Usually	5 Always
Price Negociation	11		3	6, 10, 13, 14, 15, 16, 17, 18	1	2, 4, 5, 7, 8, 9, 12, 19, 20
Shop at different places	2, 16, 20			1, 7, 8, 13	6, 12, 19	3, 4, 5, 9, 10, 11, 14, 17, 18
Buy Bulk alone	10, 20		1, 2, 15, 16, 19, 20	5, 18	4, 8, 11, 12, 13, 17	3, 6, 7, 9, 14
Buy at city outskirts	2, 9, 10, 11, 14, 15, 16, 17, 20	4, 18	1, 3, 5, 13	6, 7, 12, 19, 20	8	
Group buying with family/friends	1, 3, 4, 10, 12, 14, 16, 17, 18, 19, 20	2, 7, 11, 20	6, 13	5, 9	8, 15	
Group buying with customers	3, 7, 19, 20	2, 12	1, 13, 15, 17	16, 18	4, 5, 6, 8, 9, 10, 11	14, 20
Only planned purchases				2, 14, 17, 20	4, 7, 9. 11, 12	1, 3, 5, 6, 8, 10, 13, 15, 16, 18, 19
Level of attitude per method						

Cost evasion, list method	Low	High				
Price Negociation	1, 3, 6, 10, 11, 13, 14, 15, 16, 17, 18	4, 5, 7, 8, 9, 12, 19, 20				
Shop at different places	1, 7, 8, 13, 15, 16, 20	3. 4, 5, 6, 9, 10, 11, 12, 14, 17, 18, 19				
Buy Bulk alone	1, 2, 5, 10, 15, 16, 18, 19, 20	3. 4, 6, 7, 8, 9. 11, 12, 13, 14, 17				
Buy at city outskirts	1, 2. 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	8				
Group buying with family/friends	1,2. 3. 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20	8, 15				
Group buying with customers	1, 2. 3, 7, 12, 13, 15, 16, 17, 18, 19	4, 5, 6, 8, 9, 10, 11, 14, 20				
Only planned purchases	2, 14, 17, 20	1, 3. 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 18, 19				
LEVEL	1, 2, 3, 7, 10, 13, 14, 15, 16, 17, 18, 19, 20	4, 5, 6, 8, 9, 11, 12,				

Responses from the first 7 respondents were used to identify common shopping strategies to use as a basis for establishing the level of risk attitude: high or low. Then the relative increase in frequency of use of these strategies before and after the crisis were used in order to establish whether the behavior is normal or different. The Risk Attitude A table above shows us the cost evasion methods and how often each respondent (1 to 20) would perform them. No time period was stipulated, in order to get a sense of how the consumers see their own attitude. The frequency was separated by asking respondents to subjectively gauge the change in their behavior now (2021) as compared to before the crisis and determine the frequency of their shopping strategies. This method establishes a more subjective measurement and tells us what the locals consider as high or low (normal vs different), instead of just using the same measurement for consumers of developed economies (which isn't known because Amalia and Ionut, 2009, didn't present it). This was done in order to test whether the results of risk attitude would be different if an objective measurement were to be used. The red digits indicate the respondents who have the opposite risk attitude result if an objective measurement were to be used (please see further below at "Cost evasion by shopping frequency" for objective measurement): 45% of respondents can have attitudes considered high or low, depending on whether you look at it subjectively or objectively. This demonstrates that the risk attitude can change depending on the method. Therefore, for this study, an objective measurement will be used as well to gauge the differences. The subjective method is believed to incorporate the entire reality of the respondent into the response, which would include factors that the study may have not taken into account, such as how perception Group B respondents mostly have low attitudes in both subjective and objective methods (while low attitude is commonly considered an attribute of those who are hardly affected by the situation) despite being the ones facing the most severe hardships of all respondents in the crisis. Additionally, it allows for a comparison of respondents who see themselves as having a certain level of attitude; also, it allows for a relative comparison of other country's consumers (instead of comparing what they do, better how they think and how this thinking leads to what they do).

"Usually and Always" indicate high attitudes per evasive methods while all other levels are low; and if a respondent has a majority of evasive methods as high/low, the respondent's risk attitude level is then determined by the majority of evasive methods in the same level.

Price Negotiation

In all informal markets and some formal establishments, consumers are able to negotiate the price of items. Negotiation is often facilitated when the customer buys at higher than usual volumes. However, perception Group B respondents are the ones most likely **not** to negotiate the prices, due to their low volume of purchases. Mixed results are obtained from the other groups as to what a significant factor making them decide to negotiate is: some depend on purchasing volume; some depend on the level of price increase; and one in particular shows no clear inducing factor. From Group A, respondents only price

negotiate when spending volume per person (mid-covid spending divided by number of household members; this is done to obtain clearer results) is at 30 000 AOA monthly or more despite only commencing cost evasion at 5-10% price increases. From Group B, only one respondent negotiates price, due to being the only respondent with spending volume p/p over 20 000 AOA (at 62 500 AOA for respondent 1). While Groups A and B show that they negotiate prices based on purchasing volume, Groups C and D are different. All of C's respondents negotiate prices and some of D's respondents negotiate prices. Moreover, Groups C and D show that if the volume of purchases are low, they will still negotiate the prices if the increase is over 40%. The only exception is respondent 20, who despite have both low volume and employing cost evasive strategies at 20%, still negotiates the price. Due to the respondent being the only respondent who lives alone, more data of other single member households is needed to draw clear conclusions. Nevertheless, the remainder of respondents show that either purchasing volume per person should exceed 30 000 AOA or price increases of over 40% must have occurred for a respondent to decide to negotiate the price.

Shopping at different locations

There are markets and shops scattered around the City of Luanda where all respondents reside. The location influences the prices; therefore, certain items can be obtained at cheaper prices depending on where you go. Respondents mentioned that they would occasionally take advantage of this fact and commute around the city to acquire certain items of their groceries at cheaper prices. Of the 20 respondents, 8 are females and 12 are males. Of the 8 females, 7 shop at different places more often while only 1 doesn't as often. Of the 12 males, 5 shop at different places more often while 7 don't as often. This shows that women are highly likely to shop at different places. There is insignificant data to conclude why female respondents have this tendency; additionally, there isn't enough data to conclude why the men do it as well. Although, there is small evidence pointing to the possibility that male respondents would only shop at different places when the volume of spending per person is low, and the income is just enough to pay for commuting to different places. The small evidence is that most low volume per person male respondents with enough expenses for commuting shop at different places; and the fact that only male respondents say that they never shop at different places. However, this evidence has not reached a significant level, and does not refer to female respondents.

Bulk purchases alone

It is quite common for consumers in Angola to buy 1 to 3 months' worth of groceries in one shopping occasion. The crisis changed how often consumers would perform bulk purchases of groceries, signifying that those who are still doing it are trying to maintain pre-crisis attitudes (which would be considered low). Bulk purchases were often done alone, but now a new method (group buying) has arisen to facilitate bulk purchases of groceries: one does so by sharing expenses with family/friends or with random strangers that you find around the same store willing to buy the same. The item is then divided according to the amount added by each party. Currently, some would try to maintain the same habit of buying at least a month's worth of groceries all in one shopping occasion with all groceries; others would only buy bulk of the most expensive ingredients or when prices increase above the acceptable range; some would only buy bulk every other month. However, there is insufficient data to show which type of consumer is likely to make bulk purchases. The data only indicates that among the bulk buyers, all of them have an estimated income of 143 000 AOA or more. Although there are other respondents with similar income who choose not to make bulk purchases, this data at least indicates that those who do decide to make bulk purchases need

a minimum level of income. This is income in the lowest tier of the middle class, showing that making bulk purchases requires at least middle-class income.

Buy at city outskirts

There are grocery markets spread around the city; however, the ones with the greatest variety and cheapest prices are close to the outskirts of the city. Some even cheaper ones are found just before you reach the city limits as you come from other cities. Therefore, it may make sense to do one's grocery shopping in these markets. However, due to their distance; lack of need from some small households; since some households started businesses and have more people employed, there's little time to spend on shopping and go to far places (inconvenient); and the fact that bulky purchases of high volume have reduced generally, the gain from these markets isn't as attractive as it used to be before the crisis. Some respondents even said that they don't go due to transportation costs. Almost all of Group A's respondents say that they do **not** shop at the outskirts, except for 1 who only does so on rare occasions for business purposes (reselling). There are mixed results for B and D, with some never going from both groups. However, Group C has respondents mostly going sometimes and 1 on usual occasions to outskirt markets.

Group buying with friends/family

Because of the crisis, performing bulk purchases for one household has become very difficult due to financial constraints. Therefore, some have decided to share bulk buying costs with people they know in order to take advantage of the discounts offered by purchasing large volumes. However, there is little convenience in using friends or family: they are not always available at the exact same time; they receive salaries at different times of the month and therefore shop at different times; they don't always want to buy the same item. Therefore, only consumers in particular positions would make bulk purchases with friends or family: those who overcome the above-mentioned inconveniences and know the right people wanting to buy the same thing. Because of the general inconveniences of using friends and family, many of the respondents do it with random strangers that they find at the store instead.

Group Buying with customers

Because of the benefits of buying bulk, the population is trying hard to take advantage of the benefits by sharing the cost with others. At wholesalers that are often located near or inside informal markets, there are people looking to buy big items (50kg of sugar for example), and if you find someone else looking to buy the same item (the sugar), an agreement is made to share the cost with this random stranger found at the store. After buying the item, it is divided according to the money added (if the share of the cost was at 60% and 40%, then the sugar, for example, is divided at 30kg and 20kg). However, when dividing the item, it can be difficult sometimes. Therefore, new jobs were created as a result: someone who divides the item, dividing it in the exact quantities that were specified in order to be fair; someone who goes around the market looking for someone else to share the cost with someone at the request of a customer, shouting until someone responds ("I'm looking for someone to share the cost of buying sugar", for example). People who do this charge a fee to facilitate group buying and share items among participants. There is insufficient data to say which type of consumer is likely to perform group purchases with other customers; however, some say that this is done when one cannot perform a bulk purchase because the percentage price increase is above the acceptable amount.

Only planned purchases

Many consumers make a shopping list and focus on buying items only on the list. However, it becomes very difficult to follow the list because of sudden price hikes throughout the month. Respondent 19 even mentioned that she shops in the middle of the month because she noticed that prics hikes happen in the beginning and end of the month when people receive their salaries, and businesses are trying to take advantage of people who are eager to spend since they just got paid. Because prices change on the regular basis, people often deviate from the plans: they reduce intended quantity; they look for alternatives; they switch locations; they remake the list on the spot. There is insufficient data to conclude what type of consumer will absolutely stick to plans; however, All of Group B's respondents say they always stick to plans while other Group's respondents have mixed results. This shows that there may be a relation between risk perception and level of income since Group B's mostly known for low-income earners. This also shows how Group B's respondents focus more on in-home saving efforts that do not have a direct relation to the spending of money and the use of one's buying power to reduce costs.

Cost evasion by shopping frequency (Risk Attitude B, Cost avoidance)

frequency of shop visits	ZERO	Every other month	Once Monthly	2-3 times a month	1-3 times a week	Almost daily+
Informal Market		7	1, 2, 3, 6, 11	8, 10, 12, 13, 16, 18	5, 9, 14, 15, 17, 19	4, 20
Wholesalers (market)	7		1, 2, 3, 4, 5, 6, 10, 11, 15, 16, 19, 20	8, 9, 12, 13, 14, 17, 18		
Supermarket (formal)	2, 3, 4, 6, 10	1, 13, 20		8, 9, 11, 14, 18	5, 7, 12, 15, 16, 17, 19	
Convenience store	19		7, 12	1, 2, 6, 10	9, 12	3, 4, 5, 8, 11, 13, 14, 15, 16, 17, 18, 20
Street vendors	1, 7, 16	11, 12, 13, 17	19	2, 3, 5, 6, 9	8, 10, 14, 15, 18	4, 20

frequency of shop visits	Low	High
Informal Market	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 16, 18	4, 5, 9, 14, 15, 17, 19, 20
Wholesalers	1, 2, 3. 4, 5. 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	
Supermarket	1, 2, 3, 4. 6, 8, 9, 10, 11, 13, 14, 18, 18, 20	5, 7, 12, 15, 16, 17, 19
Convenience store	1, 2, 6, 7, 10, 19	3, 4, 5, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 20
Street vendors	1, 2, 3, 5, 6, 7, 9, 11, 12, 13, 16, 17, 19	4, 8, 10, 14, 15, 18, 20
LEVEL	1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 16, 18, 19	4, 5, 14, 15, 17, 20

Above, the risk attitude is measured by monthly shopping frequencies. This contrasts with the previous method: the current is more objective. The shopping frequency in Angola before the crisis was much lower than the current era (mid-covid). People used to prefer bulk purchases which supply the houses with at least a month's worth of groceries; moreover, doing so had added benefits such as more discounts and less spending on transportation to the market, for example. Therefore, those who deviate from the custom of infrequent purchases by shopping more frequently show that they are responding to the crisis. This response is therefore measured to see how much more frequent the purchases have become. A respondent performing purchases once or more per week is considered having "high attitude"; because it is outside of the normal range of what locals used to do before the crisis. When one respondent has a majority of items as high (3 out of 5), then the respondent is marked as having a high attitude. Therefore, one must first know what was normal before the crisis and use that knowledge to compare and determine what would be considered a high response to the crisis. Using this objective method, 45% of respondents have an opposite attitude result which is market by the red digits.

Informal Market

The informal market plays a big role in Angola. For markets in the outskirts of the city, they serve as a place for local small producers to sell their produce there in large quantities and people will often buy those large quantities for reselling purposes within the same market or different markets. For other markets around the city, they serve as a convenient place to buy local produce at low prices. The markets fill up a large number of jobs and comprise of many micro-small-medium sized businesses that operate informally.

Almost all of Group A's respondents have the highest frequency of informal market visits; only respondent number 2 doesn't frequent as often. None of Group B's respondents have high shopping frequencies at

the informal markets. C and D have mixed results. Respondents 4 and 20 have the highest of all frequencies, but they mentioned that they only go as often because they live within walking distance from a specific informal market. One would assume that if Group A, with the highest responsiveness to price, frequents the informal market much, then the less the responsiveness, the less the frequency. However, we cannot make this assumption because the results show that things operate very differently in Angola. Group B has the second highest responsiveness to prices; however, they have the lowest shopping frequency at informal markets, which are the places where the cheapest produce is sold. Therefore, one cannot make common assumption about Angolan consumers that one would often make about those of developed economies.

Wholesalers

Angola's consumers have a common habit of desiring to perform bulk purchases of groceries. Wholesalers do not commonly provide fruits and vegetables, they focus more on other groceries, such as different types of meats, and supporting ingredients with very long expiration dates that are not often stored in the fridge/freezer such as rice, pasta, oil, etc. There are two types of wholesalers: Mega chain wholesalers that often cater more to those with a higher income (such as AngoMart, Maxi, Alimenta Angola, etc.); and micro-small-medium sized wholesalers that cater more to those with a lower income (they are usually not chain wholesalers) and are usually located near or inside the informal market. However, for this study, a distinction between the two will not be made and they will all be treated as the same. The items bought from wholesalers near or inside the informal market can also be bought from resellers inside the informal market selling them in smaller quantities, but this in turn increases the price per unit compared to when the item is bought directly from the wholesaler. Only one respondent, number 7, does not go to a wholesaler, all others go between 1 to 3 times a month. The frequency of wholesaler visits does not take into account how the respondent would perform the purchases at the wholesalers: alone or by group buying. The Majority of Group B's participants only go once a month while participants of other Groups have mixed results. Based on the percentage of a household's income spent on groceries, the higher the percentage, the more likely that they will visit the wholesaler more than once in a month. Respondents who spend 50% or more of their income on food usually go to wholesalers more than once a month.

Supermarkets

At a supermarket is where people typically think about buying groceries. However, in Angola, the majority of one's groceries are bought from wholesalers and informal sellers in the informal markets, because it is more expensive at a supermarket. However, due to the lack of government regulations, sometimes dealing with untrustworthy quality items and the hassle of dealing with sellers in an informal market, some prefer to shop at supermarkets when their income allows them to. Before the Crisis, there was a mix of supermarket visits with wholesalers and informal sellers. When the crisis started, people generally stopped visiting supermarkets. As people adapted to the crisis a few years later, they found ways to minimize cost, stopped prioritizing cheap items and started prioritizing quality and nutrition over cost. Therefore, if one cannot find something of acceptable quality at informal markets (or when looking for difficult-to-find ingredients, especially for foreign cuisine), they are then willing to pay for low-priced items with acceptable quality at supermarkets. Recently between 2020 to 2023, respondent 19 mentioned that she has noticed the establishment of new types of supermarkets who are trying to cater to low-income earners, namely Arreiou and Freshmart. These supermarkets help those who are looking for cheap items with reliable quality; because during the harshest times of the crisis, these consumers were forced to buy whatever the informal market offered (as long as prices were low), even if the produce was detrimental to one's health (for example: expired items, items with too many indigestible artificial components, damaged items, items

likely to cause food poisoning). These supermarkets guarantee that acceptable level of quality; whereas at an informal market, one would have to use one's own knowledge of food to determine the quality of the item. However, supermarkets are not able to provide prices as low as those found in the informal market; however, the margin is at an acceptable amount to those in the lower tier of the middle class. Group B has the most participants who do **not** go to supermarkets at all, which makes sense they are mostly low-income earners. So these markets have not yet reached the point where they are appealing in price and quality to the low-income earners. Group D, with the highest number of high-income earners, has the most participants with high frequency visits to the supermarket, 1 to 3 times a week. None of the participants go daily/almost daily.

Convenience Store

Convenience stores in Angola are mostly known for selling the most bought items on the average shopper's grocery list: (not limited to the following) soft drinks, juice, common fruits and vegetables, some meats, recharge for mobile data and voice call provided by telecommunications companies for mobile phones using prepaid sim cards (people usually use prepaid sim cards in Angola, and companies usually use contract-based sim cards). Due to their common sighting and availability (average 3-to-5-minute walking distance), convenience stores were nicknamed "cantina", meaning "corner store". They look like mini supermarkets. When respondents do their regular grocery shopping, they mostly go to wholesalers and the informal markets; however, if they run out of supplies before their next planned shopping date, then they would go to a cantina and buy it there in very small quantities, even though the prices in cantinas are generally higher than those in informal markets (but still generally less than supermarkets). In many developed countries, convenience stores would often have higher prices than supermarkets; but in Angola, it is the opposite. Additionally, those new types of Supermarkets catered to low-income earners have now started establishing convenient store chains throughout the city, noticing the increased trend in the use of convenient stores used by Angolan consumers. Group D respondents, with the highest average income, are the ones who use convenient stores almost daily, then followed by Group A respondents. Then comes Group B with less respondents visiting convenient stores almost daily. Group C has a lack of need; therefore, they go to cantinas the fewest times. Convenient stores have prices that are a little higher than those at informal markets, resulting in Group B participants having a lower frequency and Group D with more income at higher frequency. The busy life of most respondents dealing with work and business in order to sustain the household has left many with little time. In the end, those with a little more income would be more willing to replenish small items in the house with items bought from a convenient store, thus postponing grocery shopping day to a more convenient day. The data shows that the middle class is willing to have a high frequency of convenience store visits.

Street Vendors

In the informal market, family members with little to no chances of landing a formal job attempt to make a living by selling their own produce or reselling produce that they purchased in bulk. They often have a food stand or a spot in the informal market where they can do their selling. When the income made from this food stand is insufficient, some sellers prefer to be mobile and carry items, walking around the market in order to increase their encounters with customers. This eventually led to many sellers opting to sell in the streets and in residential neighborhoods. They have now spread to nearly all parts of the capital city. It is very common to come across a street vender selling fruits, vegetables and other items typically found in a convenience store, thus offering more convenience to the customers. Most street vendors mark up the prices, much more than they would in inside the informal market. The mark-up percentage depends on the neighborhood and the perceived income class of the customer. Because of this, their prices may be

unpredictable. However, Group A respondents are the ones who use street vendors the most. Group A respondents do the most market research out of all respondents (by themselves); they are aware when they are getting a good deal and have the knowledge and purchasing power to negotiate for the best possible deal. This is also possible since one is speaking directly to the owner (the street vendor him/herself). Other respondents are hesitant to use street vendors at high frequencies: street vendors are not always available and don't always have the items you need; people are in the streets at times when street vendors are not around; street vendors have cheaper prices when they are close to or inside the informal markets, so if they are near your house then it might be pricey; those who live near informal markets would rather go to food stands inside the market to get the cheapest option. Street vendors have now started creating gatherings, each one selling the same or different items, within a neighborhood. These vendors are instantly able to move to a new location when needed; all items can quickly be carried away with them. These street vendor gatherings are not in all neighborhoods, but the ones with the most leniency and patrol from police officers (street vending is to be done in informal markets). These gatherings serve as a mini-informal market, their prices are close to those of informal markets and have become a place of choice for some looking for cheap produce without needing to commute to go into an informal market. The crisis is shaping the structure of the grocery market, and the majority of the changes are happening within the covid era.

Findings Based on Both Risk perception and Risk Attitude

Risk Perception Vs Attitude Matrix
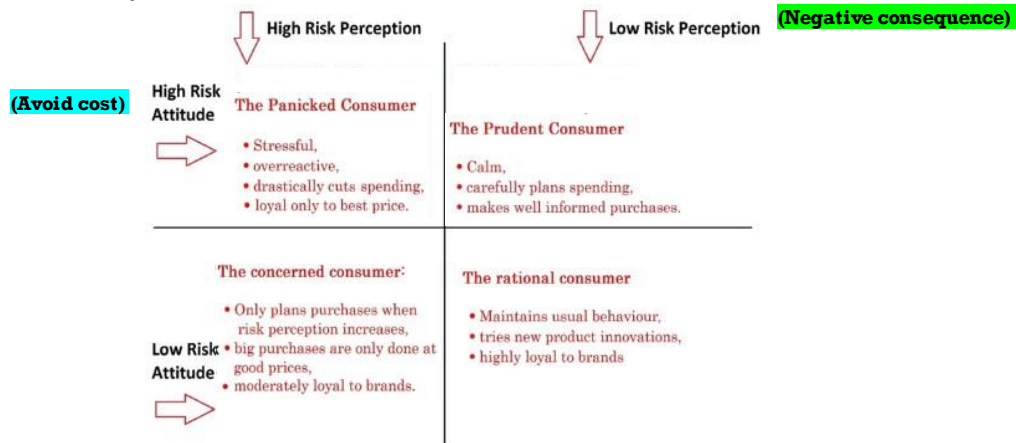
(Amalia and Ionut , 2009)

The above matrix was presented by researchers Amalia and Ionut, 2009, and it shows how the perception and attitude of developed country consumers interact. Based on the Risk Attitude A, Cost avoidance, a representative matrix of the Angolan consumer was created below (developing country consumers).

Risk perception vs risk attitude A

Risk Perception Vs Attitude Matrix
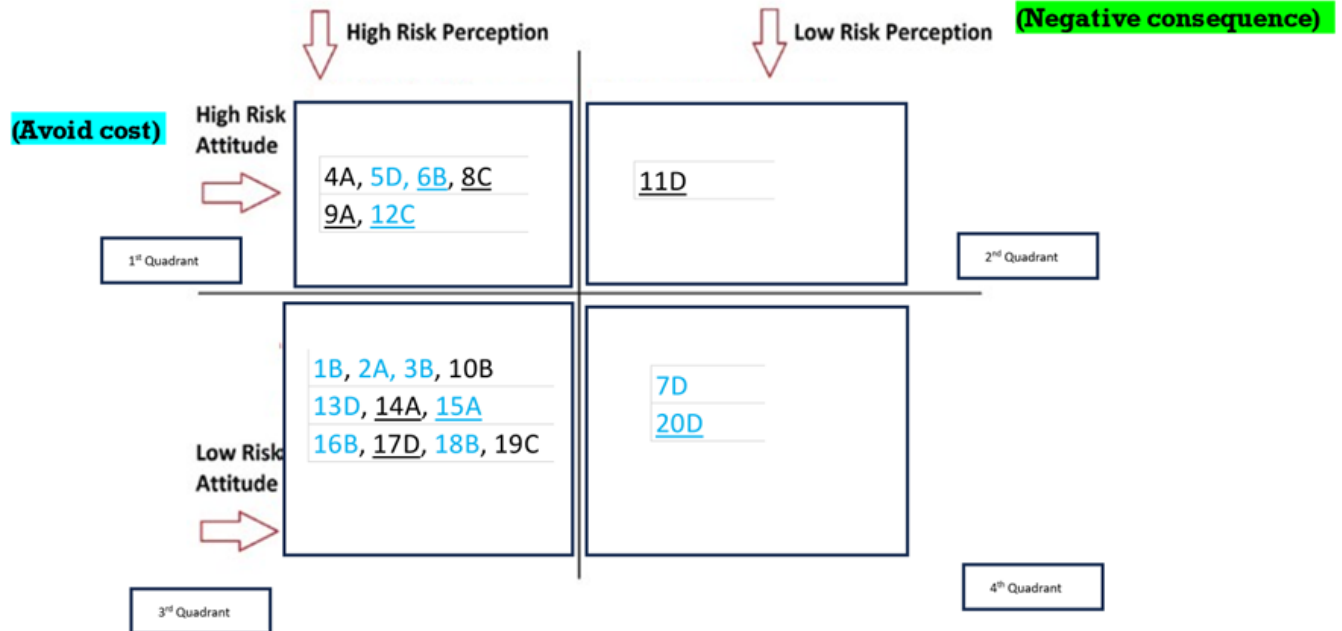
The above matrix uses the subjective attitude of the consumer based on the frequency of use of purchasing strategies. Blue texts represent males, the numbers are the individual respondents with their letters representing the perception groups, and the underlined numbers are the respondents who switch to the opposite attitude level when a different factor is used as a measurement of attitude.

In the first quadrant

When both risk perception and risk attitude is high, the respondents in this quadrant have very few similarities among themselves. The data indicates that they are either in the lower or middle tier of the middle-income class, but such income groups are also found in the third quadrant where risk perception is high and risk attitude is low. However, this first quadrant suggests that these respondents focus on strategizing outside of the house: they focus their cost management efforts on how they shop and actions to employ while shopping. These respondents take advantage of their purchasing power. In comparison to Amalia and Ionut's research, Angolan consumers in the first quadrant are not stressed, they do not overreact, none of them cut spending (30% of all respondents cut spending, and those who cut spending are all in quadrant 3) and the majority are consider quality over price (70% of all respondents consider quality first, and then price follows; they are irregularly spread throughout the perception groups; items priced too low are suspected to be detrimental to one's health so many consider quality first). So, the consumers of developed and developing economies in this quadrant behave totally differently.

In the second quadrant

There's only respondent 11. She has the highest estimated income of all respondents, and lives with only her husband and 3-year-old child. Therefore, high income earners with few dependents are in the second quadrant. In comparison to Amalia and Ionut's research, Angolan consumers in the second quadrant (the following is only based on one respondent, therefore there's insufficient data to confidently determine this) are calm, carefully plan spending but do not make well informed purchases (as compared to other Angolan consumers, such as those from perception Group A). But all respondents are calm, carefully plan spending (since majority have a high frequency of following plans); nevertheless, only 30% of respondents make well informed decisions (these are the respondents with the highest shopping frequencies, they are more aware of market conditions). So, the consumers of developed and developing economies in this quadrant have some similarities in behavior.

In the third quadrant

There is a mix of types of consumers and income levels. However, they all have little reliance on purchasing strategies to reduce costs. There are 11 respondents in this quadrant, 4 choose to focus on where they buy and how often they would go there, the rest of the 7 choose to focus strategies inside the house. In comparison to Amalia and Ionut's research, Angolan consumers in the third quadrant mostly plan purchases, all purchases are done at good prices (this is true for all respondents) and they do have moderate loyalty to brands (50% of all respondents have a brand preference; these are brands that have acceptable quality with low prices; although brand preference is spread throughout all perception groups, most with brand preferences are in group D, C and B are moderate, A with the lowest preference to brand). So, the consumers of developed and developing economies in this quadrant have some similarities in behavior.

In the fourth quadrant

There are only respondents 7 and 20. Respondent 7 is a high-income earner who lives with his wife, mother and child; respondent 20 is a low-income earner who lives alone. This quadrant shows that when either your dependents increase or your income decreases, then your cost management strategies focus more inside the house, in-home consumption management strategies. However, this is stated with little confidence since there are few representatives in both the second and fourth quadrant. In comparison to Amalia and Ionut's research, Angolan consumers in the fourth quadrant do not maintain usual behavior, are willing to try new product innovations (however, all respondents mentioned that they try new products, provided that the products are a cheaper alternative and/or have acceptable quality), but may or may not have a brand loyalty (only 20 pays attention to brands, but only brands of oil). Therefore, despite data being insufficient, results suggest that consumers of developed and developing economies in this quadrant behave differently.

This matrix focuses on how consumers leverage their income and purchasing power to bring the costs down using purchasing strategies.

Risk Perception vs Risk attitude B

Risk Perception Vs Attitude Matrix
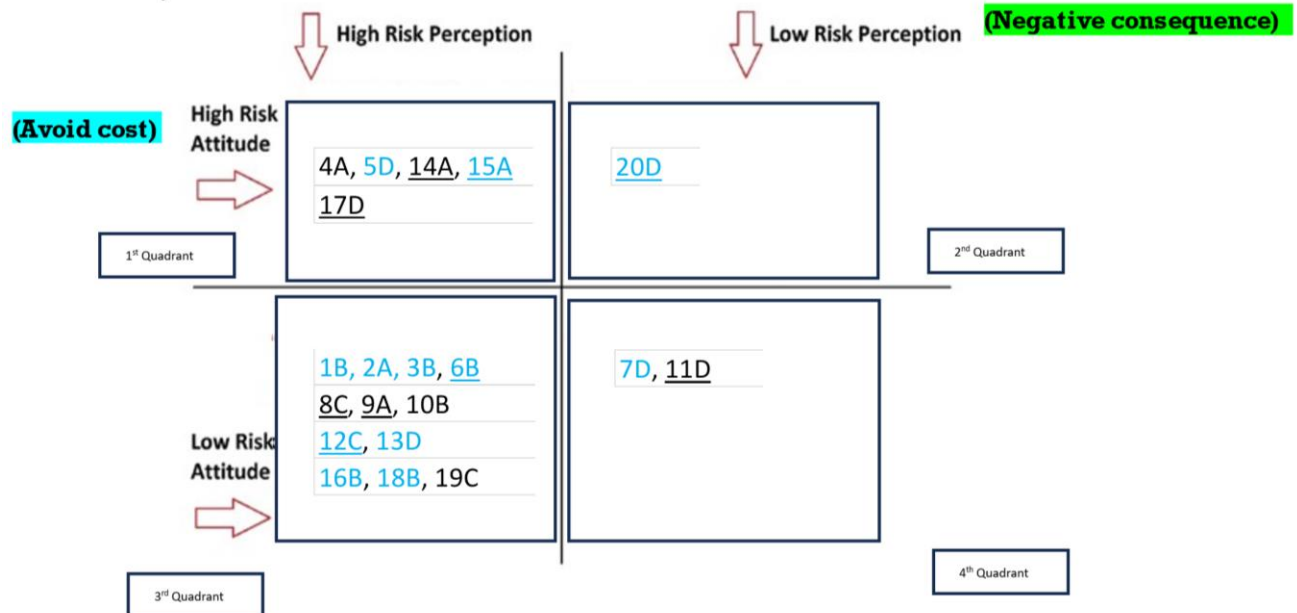
The above matrix uses the objective attitude of the consumer based on how frequently they go shopping and where. Blue texts represent males, the numbers are the individual respondents with their letters representing the perception groups, and the underlined numbers are the respondents who switch to the opposite attitude level when a different factor is used as a measurement of attitude.

In the first quadrant

The first quadrant represents consumers who place the most focus on which type of establishment they go grocery shopping too and how frequently they go there. There is insufficient data to determine why only a few respondents from group A and a few from D are in this quadrant, while none of C's and B's respondents are here. The data only suggests that since B's respondents have the lowest overall attitude, they would focus on cost management in the house; and that C's respondents have the financial capacity to use their purchasing power to drive down costs, hence not being part of this quadrant. The data also suggests that none of the respondents in this quadrant are low- or high-income earners. In comparison to Amalia and Ionut's research, Angolan consumers in the first quadrant are not stressed, they do not overreact, some of them cut spending (30% of all respondents cut spending, and 2 of them are in the first quadrant) and the majority are consider quality over price (70% of all respondents consider quality first, and then price follows; they are irregularly spread throughout the perception groups, but the data shows that almost all respondents with price responsiveness levels at 5 and 6 have a preference for quality over price; All respondents who consider quality say that items priced too low are suspected to be detrimental to one's health so many consider quality first). So, the consumers of developed and developing economies in this quadrant behave mostly differently.

In the second quadrant

There's only one representative. Therefore, there is insufficient data to confidently identify the trends in this quadrant; especially since respondent 20 is considered to the one of the exceptional cases, a respondent living alone. Nevertheless, based on this respondent, the data suggests that the respondents in this quadrant see the risk that exists in the current market conditions and expect it to affect them in the right conditions. However, since the respondent has little to no financial responsibilities with dependents, the risk perception is currently low. But since the respondent has a little more income available due to lack of financial responsibilities, he applies cost management attitudes on where and how often he shops. The respondent is not in a risky situation, but still takes precautionary measures in shopping locations and shopping frequency. In comparison to Amalia and Ionut's research, Angolan consumers in the second quadrant (the following is only based on one respondent, therefore there's insufficient data to confidently determine this) are calm, carefully plan spending but do not make well informed purchases (as compared to other Angolan consumers, such as those from perception Group A). So, the consumers of developed and developing economies in this quadrant are somewhat similar.

In the third quadrant

There are mostly respondents from Groups A, B and C and only one from D. All of Group B and C's respondents are included in this quadrant, showing that for many low- and some middle-income consumers, the use of shopping location and frequency (even shopping strategy as shown in Risk Perception vs Risk attitude A) isn't a preferred option of cost management. They mostly prefer in-home cost management (Group B), and some prefer purchasing strategies (Group C). In comparison to Amalia and Ionut's research, Angolan consumers in the third quadrant mostly plan purchases, all purchases are done at good prices (this is true for all respondents) and they do have moderate loyalty to brands (50% of all respondents have a brand preference; these are brands that have acceptable quality with low prices; although brand preference is spread throughout all perception groups, most respondents with brand preferences are in group D, C and D, A's respondents have the lowest preference to brand). So, the consumers of developed and developing economies in this quadrant have some similarities in behavior.

In the fourth quadrant

There are only 2 respondents; therefore, the data is insufficient for concrete conclusions. However, the 2 respondents are extremely similar, suggesting that consumers with high income and little to no financial responsibilities with dependents are likely to have the least fear of the crisis (within the moderate range of perception, albeit low) and demonstrate the least attitude in shopping frequency. In comparison to Amalia and Ionut's research, Angolan consumers in the fourth quadrant try to maintain usual behavior, are willing to try new product innovations (however, all respondents mentioned that they try new products, provided that the products are a cheaper alternative and have acceptable quality), but only respondent 11 has brand loyalty, which is at a moderate level. Respondents often measure quality by appearance, condition of the item, estimated durability, brand, and price (sometimes consumers just take a risk and buy one for testing to determine quality). The data shows that 80% of all respondents look for quality in one of those ways. Only respondents 16, 1, 4 and 9 do not consider quality. Therefore, despite data being insufficient, results suggest that consumers of developed and developing economies in this quadrant are somewhat similar.

Findings of In-house Strategies (The In-home consumption management methods)

In-house strategies for Cost management (strategies already mentioned by a previous respondent will not be rewritten, all new strategies will be written as they are introduced by each individual respondent).

1. (Respondent 1) If looking for items having quality, avoid foreign brands (they are the priciest).
2. (Respondent 1) Focus on making only local cuisine instead of mixing with foreign cuisine (ingredients for local cuisine are very much cheaper, the average Angolan prefers local dishes anyways out of habit).
3. (Respondent 2) Focus on making more filling dishes with high starchy contents.
4. (Respondent 2) Look for ingredients with similar nutritional content with less price (beef liver for protein instead of beef/chicken, very much cheaper; and under extreme conditions, buy only sardines for protein at the informal market at average 3 adult sized ones for 100 AOA or 0.17 USD in 2020)
5. (Respondent 2) Use exact quantities as needed in the dish to avoid overuse of ingredients and waste.
6. (Respondent 3) Focus on buying multipurpose ingredients in order to increase the variety of dishes one can cook without increasing cost.
7. (Respondent 3) Focus on unpackaged items, or cheapest packaging (paper and plastic). Do not buy canned items.
8. (Respondent 3) Separate ingredients that are essential to the core of the Angolan dishes (tomatoes, potatoes, sugar, beans, cassava powder for example) and non-essential ingredients. For essentials, reduce quantity used in the dish when price increases; for non-essentials, look for alternative ingredients to use in the dish or give up on including it in the dish altogether when price increases.
9. (Respondent 4) Reduce the use of most expensive ingredients.
10. (Respondent 4) When hungry outside of meal hours, focus on nutritious vegetable-based snacks made with local ingredients used for local cuisine that are already available in the house.
11. (Respondent 5) Preserve unfinished food for later use, and only replenish an ingredient when the ingredient is finished.
12. (Respondent 6) Completely restructure the regular local dishes, replacing each item with cheaper alternatives. For example, in breakfast: hot milk is replaced with lemongrass tea (cha de caxinde); bread is replaced with boiled cassava root (mandioca) and boiled banana plantain; sausages, eggs, butter, etc. are forgone. This is done with as many dishes and meals as possible (not just breakfast).
13. (Respondent 7) Switch from highly specialized ingredients to regular ingredients: For example, from salty butter to regular butter; brown rice to white rice.
14. (Respondent 9) Use one's creativity to create new dishes with already present ingredients in order to increase the variety of dishes and make different combinations of the ingredients from the dishes already being made within the house.
15. (Respondent 9) When unexpected visitors come, do not cook more food, share what was already made, thereby reducing everyone's food intake.
16. (Respondent 9) Since fruits are so abundantly available, use them to make different mixtures of fruit drinks instead of buying juice boxes (juice boxes/cartons are expensive).
17. (Respondent 9) Reduce the number of meals per day to 1 or 2 instead of the normal 3.

18. (Respondent 9) Reduce the regular amount of ingredients used for a regular serving of the dish (from 3 tomatoes to one per serving, reduce oil use, cut chicken legs into more pieces, for example)
19. (Respondent 10) In one month's shopping occasion, only use one group of ingredients and make dishes with those ingredients; in another month's shopping occasion, use another group of ingredients. Doing so will make dishes repetitive in each shopping cycle, and the types of dishes eaten will be rotational within the shopping cycle, hence maintaining variety but over longer periods (in one shopping cycle which usually lasts for a month, only fish to be used as a source of protein, all other ingredients should be for fish-based dishes for that period, for example).
20. (Respondent 16) Focus on using ingredients that are more multipurpose and more essential as the core of the dish when planning to make dishes in order to increase the variety of dishes.
21. (Respondent 18) Make one big pot of a single dish and have a big meal once or more times a day of the same dish (repeat the same food once or more times a day).
22. (Respondent 18) Focus on making dishes with a core ingredient that takes a long time to be digested, thus feeling fuller for longer periods.
23. (Respondent 19) When one desires foreign cuisine (typically from Portugal), but the ingredients are expensive, then use local ingredients to make an adaptation of the foreign dish.

Supplementary Findings

Summary of Survey Notes

Below is a table summarizing additional data uncovered during the interviews with respondents, followed by further notes as mentioned by respondents about Purchasing frequency, product characteristics, spending, risk perception and risk attitude.

Supplementary Quantitative table

Respondent	Perception group	% of $ contribution	Responsible for shopping	nearst shop commute	Market Information source	Grocery differences	Change in Grocery volume	Preference for filling	Nutrition And Quality over price	Price Preference	Brand Preference	Multipurpose Ingredients	Local vs Foreign cuisine	Packaging preference	Income Status	First Response to prices
15	A	70% (Rest is wife)	Wife	zero, next door	Word-of-mouth	Yes	Reduce, less waste	No	Yes	No	No	Yes	Local: Due to Habit	Box, Plastic, unpackaged	Salary increasedd, wife started work	Reduce quantity
14	A	70% mother (Rest is siblings)	Mother	1 minute, on foot to cantina	Word-of-mouth	Yes		No	Yes	No	No	Yes	Local: Due to Habit	No cans	More contributions from Siblings	Reduce quantity
9	A	50% (Rest is husband)	Mostly wife, then husband		Self-research	Yes, less volume	Reduce, less waste	No	No	Yes	No	Yes	Local: Due to price	Mostly boxes (wholesalers)		Reduce quantity
4	A	70% father, 10% mother, 20% daughter	Wife	3 minutes, on foot to informal market		Yes, Less fish and meat	Same	Yes	No	Yes	No	Yes	Local: Due to Habit	No cans		Reduce quantity
2	A	90%	Wife	10 minutes, on foot to cantina		Yes	Reduce, less waste	Yes	Yes	No	Yes	Yes	Local: Due to Habit	More Paper		Buy Alternatives
18	B		Mother	10 minutes, on foot to cantina	Word-of-mouth	Yes, less volume	Reduced	Yes	Yes	No	Yes	No	Local: Due to Habit	No cans	Siblings started work to contribute	Reduce quantity
16	B	70% (Rest is wife)	Wife	2 minutes, on foot to cantina	Multiple sources	Yes, many sacrifices	Reduced	Yes	No	Yes	No	No	Local: Due to price	Mostly plastic	Salary decreased, so wife started wirk	Prioritize multipurpose items
10	B	90% mother, 10% respondent	Mostly mother, rest respondent	5 minutes, on foot to cantina	Self-research	Yes, less volume		Yes	Yes	Yes	Yes	Yes	Local: Due to price	Mostly plastic	Income reduced	Reduce quantity
6	B	100%	Mostly wife, then husband	10 minutes, on foot to cantina		Yes, many alternatives	Reduce, less waste	No	Yes	No	No	No	Local: Due to Habit	Mostly plastic		Reduce quantity
3	B	100%	Wife	3 minutes, on foot to cantina		Yes	Same	Yes	Yes	No	Yes	Yes	Local: Due to Habit	More Paper, no cans	Small business, income slowly increased	Buy Alternatives
1	B	100%	Wife				Same	No	No	Yes	No	Yes	Local: Due to Habit			Accept all prices
19	C	80% (Rest is the father who isn't always wround)	Mother	5 minutes, on foot to cantina	Word-of-mouth, self research	Yes	Reduced	No	Yes	No		No	Local		Started a business	
12	C	75% (Rest is wife)	Mostly wife, then husband	10 minutes, on foot to cantina	Word-of-mouth, online	Yes	Reduce, less waste	No	Yes	No	Yes	No	Local: Due to Habit	Mostly Plastic, Rarely buy cans		Reduce quantity
8	C	30% (Rest is husband)	Wife (herself)	3 minutes, on foot to cantina	Word-of-mouth	Yes	Same	Yes	Yes	No	Yes	Yes	Local: Due to price	Mostly boxes (wholesalers)	Started a business (buffet service)	Reduce quantity
20	D	100%	Himself	3 minutes, on foot to cantina	Self-research	Yes	Reduced types of meats		Yes	No	Yes	Yes	Local: Due to Habit	No cans	Income increased	Reduce quantity
17	D	50% mother (Rest mother's brother)	Mother	2 minutes, on foot to cantina	Word-of-mouth	Yes	Reduced	Yes	No	Yes	Yes	Yes	Local: Due to price	Plastic and boxes	Salary decreased	Reduce quantity
13	D	20% (Rest is wife)	Wife	2 minutes, on foot to cantina	Multiple sources	Yes, rotational purchases	Fluctuates, same or less	No	Yes	No	Yes	Yes	Local: Due to Habit	Very few cans	Salary increasedd	Find cheaper place
11	D	50% (Rest is husband)	Wife	zero, attcahed to residence	Word-of-mouth, online	Yes		No	No	Yes	Yes	Yes	Local: Due to Habit	Mostly plastic, less cans	Started businesses (2 of them)	Reduce quantity
7	D	60%	half mother, half respondnet	15 minutes, to supermarket		Yes	Same	No	Yes	No	No	No	Local: Due to Habit	Pastic, unpackaged		Switch place and brand
5	D	80%	Mostly mom, then son	5 minutes, on foot to cantina			Reduce, less waste	No	Yes	No	No	Yes	Local: Due to Habit	More paper, plastic, few cans		Reduce quantity

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Purchasing frequency

Informal market
(Respondent 9) She increased her shopping frequency because the informal market is where one easily finds the freshest ingredients.
(Respondent 20) Goes there for items that go bad quickly (legumes and other vegetables).

Supermarkets
(Respondent 5) Items difficult to find in the informal market are sought after in the supermarkets. (Respondent 9) Uses supermarket for buying milk, cereals, some meats, ketchup and Mayo. (Respondent 12) Only buys a few small items to try and diversify ingredients. (Respondent 14) Only buys special ingredients difficult to find elsewhere.
(Respondent 19) Goes there only for cereals and types of milk, thus discovering low-income supermarkets (Freshmart and Arreiou).
(Respondent 20) Very rare to visit, only on special occasions like when needing specific drinks.

Street vendors
(Respondent 20) Goes to street vendor gatherings within the neighborhood.

How do you acquire market information (prices, good deals and best places)?
(Respondent 9) Go place to place by oneself and use word-of-mouth from friends/family.
(Respondent 11) Market information of foreign brands is available online.
(Respondent 12) Always update knowledge of market conditions on every shopping occasion, and check prices of supermarkets online; some chain Mega wholesalers have prices online too; informal markets are checked in person and by word-of-mouth.
(Respondent 13) Uses multiple sources: TV news/newspapers (Jornal de Angola newspaper or Jornal 24), government announcement of price caps; word-of-mouth; Social media pages for informal markets, Facebook has "mercado 30" and "mercado viana"; group buying Whatsapp and Facebook groups, "bazar", "mercado 30" and "cidade da china"(store owners are also in this group posting their own prices and advertising).
(Respondent 16) Uses multiple sources: he is attentive to market conditions and listens to people talking in the informal market; he is attentive to government news sources "Portal do governo provincial".
(Respondent 18) Information obtained on shopping occasions, listening to rumors, and asking people for information at informal markets.
(Respondent 19) Use word of mouth and do self-research, thus discovering that the middle of the month is when prices are at their lowest (because due to salary payments, people typically shop in the beginning or end of the month) and that wholesalers have started breaking down bulky items in order to facilitate group buying (wholesalers are now a mix of wholesaling and retailing).
(Respondent 20) Conduct self-research, thus discovering that Chinese owned wholesalers adapt better to market conditions over other wholesalers (Chinese wholesalers assist customers with group buying)

Product Characteristics

Difference in groceries per period

(Respondent 3) Less sugar, oil, milk and bologna sausage; more focus on local dishes with sweet potato leaves, the outer leaves of the cabbage plant, beans and cassava powder.

(Respondent 4) More dishes based on outer-cabbage leaves (couve), pumpkin leaves (mengueleka).

(Respondent 5) Cease the use of tuna, sausages and condensed milk.

(Respondent 6) More dishes based on sardines and sesame seeds (Wanguila); cut the use of powdered milk and imported food.

(Respondent 7) Pre-crisis, normally shopped at formal stores; mid-crisis, went only to informal markets, but focused on high quality and low priced alternative products (also reduced beef to buy more chicken and fish); in 2016 got a very high paying job and went back to shopping at formal places but maintained the same cost cutting measures.

(Respondent 8) More focus on filling meals: pancakes made from corn powder or flour, rice and beans as a dish, cassava leaves and beans stew (N'saka Madesu), cassava leaves stew (without the beans it is called Kizaca).

(Respondent 9) From among the meats, use chicken as the most common source of protein.

(Respondent 13) More focus on nutrition rich items like cereals.

(Respondent 14) Drastically reduce preserved/conserved food that was processed.

(Respondent 18) Reduced daily meals and snacks; sometimes only eat once daily; sometimes make one big pot of food to be eaten throughout the day.

(Respondent 19) Early crisis was shocking, massive cuts led to hunger for about a year (usually eating once daily), then adapted well (such as using anime fat instead of oil).

(Respondent 20) Buy only one type of meat per shopping occasion; focus on dishes with sardines, rice, spaghetti, porridge (funge) and leafy vegetables; cook in smaller quantities (use half of an ingredient instead of the intended amount).

Preference for filling

(Respondent 4) Uses many small, dried and salted anchovy fish (Cabuenhas).

(Respondent 5) Uses cassava and rice.

(Respondent 9) Better not focus on filling, focus rather on the nutritional content.

(Respondent 10) Uses rice, spaghetti and corn powder as filling items.

(Respondent 18) Focus on porridge (funge) and beans as fillers, and other items that take long to digest.

Nutrition and quality over price

(Respondent 5) Determines quality through testing then excludes non-durable items and others with little to no nutritional content.

(Respondent 6) Determines quality through price, appearance, and visual comparisons of condition of items.

(Respondent 7) Quality determined by word of mouth or testing.

(Respondent 9) Determines quality by how long an item has been frozen (date of production vs current date vs expiration date) and its appearance.

(Respondent 14) Looks for well conserved items.

(Respondent 18) early crisis, price focus; now, nutrition and quality.

(Respondent 19) Early-crisis, price focused (buy cheap things about to expire; these items were sold inside the informal market by street vendors who acquired it from wholesalers inside the informal market); mid-crisis onwards, quality focused.

(Respondent 20) Quality is sought after because items priced low are suspected of causing health issues; therefore, one group buys expensive items (low priced items will only be trusted if they are from a trusted brand).

Multipurpose ingredients
(Respondent 2) Uses Avocado.
(Respondent 3) Uses Avocado, sweet potatoes and Beans.
(Respondent 4) Cassava, anchovy fish, beans, yam (Malanga root vegetable), sweet potatoes and peanut butter (muamba).
(Respondent 5) Uses cereals, rice, beans, cassava, corn, and baobab fruit (mucua).
(Respondent 8) Many dishes revolving around chicken.
(Respondent 9) Chicken was used to replace some fish and turkey-based dishes (such as using chicken instead of codfish in a dish called Calulu which is a stew made of okra, fish, spinach and palm tree oil).
(Respondent 10) Uses beans, rice, cassava leaves and potatoes in many dishes.
(Respondent 11) Chicken is used with everything; other dishes based on spaghetti (with beans and/or chicken) and milk (For rice pudding or corn porridge).
(Respondent 13) Focus on ingredients to make stews and porridge (funge).
(Respondent 14) Most dishes revolve around chicken.
(Respondent 15) Uses beans frequently as a dish base.

Packaging Preference
(Respondent 5) Buys only cans of tuna, sausages, condensed milk, and powdered milk.
(Respondent 6) Seldom buy cans.
(Respondent 7) Formal places, mostly plastic; informal places, mostly unpackaged.
(Respondent 8) Mostly in boxes and others unpackaged.
(Respondent 9) Among cans, only cans of corn are now bought.
(Respondent 17) Frozen items (especially meats) always come in boxes and rice in plastic.

Brand preference
(Respondent 3) Focus on milk and mineral water brands.
(Respondent 8) Focus on brands of chicken (brand called "USA"), spaghetti (primavera) and rice (Tio Cha).
(Respondent 10) Focuses on brands of beans, rice, oil, condensed milk, butter and green peas.
(Respondent 11) Pays attention to brands from Portugal, Brazil and South Africa.
(Respondent 12) Focuses on brands because of many selling expired items; pay attention to brands of sausages, rice, spaghetti (Dona Xepa is the brand), cassava or corn powder.
(Respondent 13) Focus on nutritious brands.
(Respondent 17) Only pays attention to brand sometimes for items that are often sold at low quality and causes stress (pays attention to spaghetti brands).
(Respondent 18) Focus on low priced brands bearing similar or a little lower quality than pre-crisis purchased items.
(Respondent 20) Focuses on brands of oil and determines quality brands from testing and experiencing it.

Local vs foreign cuisine
(Respondent 8) Focus on local cuisine, but she is longing for foreign cuisine.
(Respondent 9) When there's surplus income on a special month, increase purchases of ingredients for foreign cuisine.
(Respondent 11) Only focuses on foreign cuisine when eating out.

(Respondent 18) Sometimes focus on foreign cuisine if the price is acceptable.
(Respondent 19) Use ingredients of local cuisine to try and make foreign cuisine.

Is there a change in quantity (volume) of groceries per period
(Respondent 5) Reduced due to extreme lean purchasing. (Respondent 6) Reduced a little due to meal restructuring.
(Respondent 9) Due to unexpected visitors being common in Angola, pre-crisis in case visitors came, more food was cooked; now mid-crisis, the consideration for visitors while cooking is ignored and available food is shared if visitors come.
(Respondent 10) Only rice is purchased in Bulk.

Spending

Average Spending
(Respondent 6) Income is only sufficient for essential expenses (groceries, utilities and transportation, etc.), nothing more.
(Respondent 8) Was living with family pre-crisis, then moved out once married mid-crisis.
(Respondent 11) Got married in 2018 and moved out; spending with husband should not surpass budgeted total amount.

Actions taken to increase household income
(Respondent 11) Got a raise at work and started a taxi business and a cocktail bar.
(Respondent 13) Sell sandwiches, started a pharmacy and has a motorcycle operating as a taxi for business.
(Respondent 18) salary of household head remained the same, but siblings started to work to contribute to expenses.
(Respondent 20) Lived with family until covid started; while with family, the respondent (who started working) and his mother (who started a small business) contributed financially to help the father (who occasionally asked people for financial assistance and borrowed money from others)

Risk Perception

Likely action at a sudden price increase
(Respondent 4) Reduce quantity and add more ingredients of local cuisine.
(Respondent 5) Reduce quantity and increase alternatives.
(Respondent 6) Reduce quantity of unessential items and use current ingredients to restructure meals; and next time apply price changes to planning; no alternatives on the spot, stick to plan and only consider alternatives on the next shopping occasion.
(Respondent 8) Reduce quantity of meats and focus on alternatives for other items; replace tomatoes with tomato paste for example.
(Respondent 11) Price increases only affect leisure spending, not necessities.
(Respondent 12) Does not reduce multiple sources of the same nutrient, only one (do not reduce all sources of protein, just one, for example); when prices increase beyond acceptable range, use group buying instead of buying bulk alone; buy less of essentials (never postpone essentials) and postpone inessentials.
(Respondent 13) Reduce grocery budget when money is needed for other matters, such as formal education, contributions for family events (marriage or funeral), remodeling the house.

(Respondent 15) Increase grocery budget by restructuring the entire household budget until up to 20% price increases (reduce finances for pleasure and clothes), start reducing quantity of groceries when prices increase beyond 20% and prioritize essentials.
(Respondent 17) Reduce quantity and cancel non-priority items.
(Respondent 20) For essentials (Like vegetables), reduce quantity and shop more frequently to replenish supplies; for non-essentials (Like rice), focus on alternatives.

Risk Attitude

Price negotiation
(Respondent 3) Buys too little to negotiate.
(Respondent 12) Negotiate mostly in informal markets and supermarkets with point systems such as the supermarket Nosso Super and Fermat.
(Respondent 16) Only negotiates on cheap items (tomatoes, onions, lemon and legumes present more negotiation opportunities; can't negotiate on oil, sugar, spaghetti, rice and beans).

Shop at different places
(Respondent 16) Researching market conditions in different places will cost more, so just accept prices offered in one place of choice.
(Respondent 20) Choose the cheapest place and accept all prices presented there.

Buy bulk alone
(Respondent 17) Buys bulk to ask for discounts.

Buy at the outskirts of the city
(Respondent 4) Only buy here when intending to resell.
(Respondent 11) Will only buy in the outskirts if the household size increases to be a big household.
(Respondent 12) At these markets, one regains their power of choice and diversity.

Group buying with friends/family
(Respondent 7) Only group buys for special events on big purchases (a cow for beef)

Group buying with other customers
(Respondent 18) On months with reduced income, do more group buying then buying bulk alone.

Only buy planned items
(Respondent 4) When hungry during shopping, buy something small to eat.
(Respondent 12) Only change plans if prices of essentials increase over 50%.
(Respondent 20) When prices increase over 20%, focus on substitutes, thus changing the plans.

<u>Conclusions</u>

Risk perception groups

Angola has been having its main economic indicators rapidly changing every few years. Early in the century, these were positive changes; nevertheless, these changes in economic situations (whether good or bad) over short periods of a few years (such as how the economic classifications have changes a few times) are what shape the Angolan consumer to be so different to consumers from developing countries. This lack of consistency in the economy is what is one of the main factors responsible for so many differences. It is best to look at Angolan consumer behavior from the standpoint of their Group perceptions, their behaviors are grouped accordingly, and their attitudes are highly dependent on their perception, which is the starting point of the analysis. However, these perceptions are mostly dependent on determining factors: income level, income history, economic classification shifts and household structure. Once the consumers view the crisis, they pay attention to these determining factors in order to gauge the seriousness of the situation and how it will affect them, thus creating their perception of the crisis. These perceptions created perception groups that lead to certain consumer behaviors.

The Group Perceptions can be summarized as follows:

A: Respondents here go shopping at many places and very frequently; apply cost evasive strategies using their purchasing power; do the most market research and have the most market awareness, allowing them to better recognize good deals; make the most frequent use of street vendors because they are aware of market prices and can negotiate to get good deals; go to informal markets the most; do not shop at the informal markets at the outskirts of the city; have the lowest preference and attention to brands; prioritize maintaining consumption style; are the post responsive to price increases; and only price negotiates if household spending per person increases (spending per person over 30 000 AOA per month).

B: Respondents here prioritize in-home consumption management strategies; typically accept price increases the most and the most likely to stick to plans and follow the shopping list during price increases; typically do not shop at supermarkets; only negotiates prices when income increases; go to wholesalers only once a month; shop the least times and go to the least number of places; go the least number of times to informal markets per shopping occasion, even though informal markets offer the cheapest possible prices; and do the least market research.

C: Respondents here have little need for constant shopping due to typically having a small household, thus have little market exposure and low shopping frequency; perceive the most consequences from the crisis but have the least responsiveness to price thus only responding to 40-50% price increases; and price negotiation does not depend on income or volume, but on percentage of price increase (over 40%).

D: Respondents here are able to save, therefore have reserved cash to respond to prices, only responding to price increases over 15-50%; have the highest preference and attention to brands; have low financial responsibilities with dependents, allowing them to purchase smaller volumes; focus more on buying from formal establishments (they shop at supermarkets the most) over informal ones and frequent convenience stores the most.

Risk perception vs risk attitude A

Consumers are very different in the risk perception vs risk attitude matrix A; but have more similarities in risk perception vs risk attitude B despite still having major differences.

However, performing a risk perception vs risk attitude matrix with shopping frequency and preferred shopping location as a representation of risk attitude levels yields less significant results than when using purchasing strategies as a representation of risk attitude levels.

In the end, whether subjective or objective methods are used, due to the economic conditions of the country which have a history of shifting income classifications 3 times in the last 20 years, the income history of individuals which drastically change with the country and age progression, and the high reliance of the country (over 52% of the population) on the informal markets (all respondents mentioned that they frequent informal markets, with 75% of them going more than once a month), fluctuating income levels due to high dependency on formal and informal businesses to deal with rising costs (since the salary alone isn't usually sufficient for expenses), the Angolan consumer is completely different to those of developed consumers. Since the majority of respondents have low attitudes in both matrices, the majority of Angolans do not use their purchasing power or shopping frequencies to battle the crisis; they rather increase household income and reduce expenses as much as possible with in-house strategies. Moreover, the attitudes of the consumers are more properly observed from the basis of the group perceptions instead of the Perception vs attitude matrices. Group B evolves into Group C or A when income increases; Group C evolves into Group A when the household members increase; Group A evolves into Group D when the income increases or when financial responsibilities reduce.

Main trends

All trends have been listed, nevertheless consumers either use their purchasing power to drive costs down, manage the shopping location and how often they shop or focus on in-home consumption management.

Therefore, in conclusion, perception is heavily influenced by current income level, income history (shifts in income class) and household structure in a way more different than one would expect.

Main behavior determinants

Current income level
At low income, perception is extreme but not at the upper limits; as income increases, so does perception increase and branches to the extremes of either negative consequences or responsiveness to prices. An increase in income increases perception of risk up to a certain point and then starts to decrease after income reaches upper-middle class to high class levels. The decrease in perception eventually becomes the lowest of all participants.

Income history
Low-income household members are more likely to have endured financially harsh conditions at a certain point in their life, thus making it so that their perception of the situation does not reach the highest levels of the extreme despite a rise a income. The fact that they experienced different classes of income shows that they have a hybrid of perception of negative consequences and responsiveness to prices from the different income classes they experienced throughout their life. In this case, age would indirectly affect perception, since one would have had to spend some years at different income levels. Moreover, only after a certain age will one possess the means to change one's own income class (through studies, hard work,

career advancements, business, etc.). The shifts in income classes in Angola within the last 20 years is a basis for how many people perceive the crisis as severe despite having high enough income to maintain stability.

Household structure.
The more people are able to work in a household (teens to adults), the more income is contributed thus altering the perception of the respondents. The perception is also influenced by the number of children as compared to adults. The more children in a middle class, the less responsive they are to prices resulting in a lower risk perception.

Issues with the study

All respondents live in the capital City of Angola, Luanda. Therefore, one may note different findings if respondents from around the whole country were used. However, due to resource constraints, only Luanda residents were considered.

Amalia and Ionut's research does not give a definition of what is considered high and low attitude, and high and low perception; not even how it was measured. Therefore, the matrix for risk perception was used for that. The common attitudes and shopping habits of the first 7 respondents were used as a basis for identifying the rest of the attitude levels of other respondents.

Respondents didn't answer all questions, therefore, there may be missing data in quantitative tables.

The frequency of visits to the stores may also be affected by the customer's proximity to the stores and markets; the closer they are, the more frequent they are likely to visit. The closer they are to markets and shops, the higher their risk attitudes.

Some respondents estimated grocery spending, and percentage of household income spent on groceries while others made more concise calculations.

When estimating household income level, it will be difficult to estimate total household income because several members have different contribution levels to groceries and other expenses.

<u>Applicability</u>

How consumers can apply findings

Exposure to more income sources
Seeing as how many households are relying on the children who have reached working age, or able to do small businesses, children should be occasionally exposed to multiple ways of earning an income. Many households are surviving the crisis in stable conditions due to starting a business. Doing so can also be

helpful in the early stages of adulthood, especially because the findings suggest that consumers typically find stable income in their late 20s to early 30s.

Consumers market information sharing

Seeing as how most of group A's respondents have the most up to date market information, they are ware of good deals and make the best-informed purchases. If Group A consumers share that information on a constant basis with other consumers, that will allow other consumers to be aware of the market conditions. This may tilt the purchasing power in the favor of the general consumer.

How businesses can apply findings

Use consumers as direct sellers

Business are more able to make very bulky purchases. If they allow people to take their products and become direct sellers in the name of the business, it could prove beneficial as many would jump at the chance of a new source of income and the business can take advantage of the increased mobility of direct sellers. People can either make contracts with the business and have it sent directly to their homes and then use their homes as a place of grocery sales; or be a little more mobile, using cars or whatever can allow mobility.

Find cheaper ways of acquiring longed for items

Many consumers mentioned that there are ingredients that they are longing for but cannot buy. Others mentioned many ingredients that they stopped buying because of the prices. If a business can find ways to offer these products to consumers at acceptable prices, consumers are likely to be interested in them because they show signs on wanting to return or maintain pre-crisis consumption habits.

Create new nutritious snacks

Many low-income households cook and eat only once a day; but have vegetable snacks throughout the day. If one can create nutritious snacks that can be eaten throughout the day, it would be appealing to households in this condition. One example is how in Kenya, the commonly bought banana plantain was turned to powder and used to create cheap porridge that the whole family can enjoy throughout the day. And Angola has many such banana plantains available.

Stock less of foreign brands, and more on multipurpose local ones

Foreign brands are always imported and are subject to exchange rates which are mostly volatile. Therefore, they have the most frequent unacceptable price increases. Local brands are more commonly bought; but focus on those local brands which sell items considered essential and multipurpose.

Manufacturing companies should reduce the costs of packaging

Angolan consumers are trying to buy items with the lowest possible price within the acceptable range of quality, therefore items typically chosen are those without packaging or cheap packaging like plastic or paper. Investing money on flashy, must-stand-out, products is unnecessary in Angola, more focus should be placed on offering the cheapest possible product without jeopardizing quality.

Establish convenience store chains

The majority of Angolan consumers are in Group B, the group that goes out shopping the least number of times (even to cheap places), because they want to reduce travelling costs. Providing these consumers with informal market prices (or at least having a mark-up to justify transporting the goods closer to the consumer) much closer to their homes will be very convenient. They are likely to assume that it is worth

it to buy the item closer to home even though it's slightly more expensive, instead of traveling to an informal market and spending time and money. Another recommendation would be to have mobile units (commercial vehicles operating as a mobile retail outlet) selling informal market produce at low prices (or slightly market up). The mark-ups have to take into consideration that these consumers in Group B typically accept up to 10% increase in prices in informal markets and are mostly willing to only go to informal markets and will consider the cost vs benefit factors of rather going to an informal market at a later date. This may also be appealing to Group B consumers since they are likely to go to street vendor gatherings for quick grocery replenishments. Since Group D respondents shop the most at convenience stores, this would also be appealing to high income earners and inside their neighborhoods.

Focus on acceptable quality

Focus on stocking items with acceptable levels of quality, less focus on high quality items. Consumers are only looking for a guarantee that the item is not a safety or health hazard, therefore, restocking accordingly would be beneficial. Respondents mentioned that they look for the cheapest item among the ones with quality and ignore the bad quality items.

Facilitate Bulk purchases

Seeing as how the majority of consumers in Angola focus on in-house consumption strategies, facilitating the purchase of essential and multipurpose ingredients could prove beneficial, especially for group buying.

Place more effort in pricing strategies

Grocery businesses should find the number of perception Group B households in a particular neighborhood and find out their typical shopping place of choice. Knowing that they will accept whatever price increases, one can freely change prices within the acceptable margin (up to 10%) within a shopping cycle without fear of reduced sales. Knowing at what percentage price increase consumers will take action, knowing what the action is, each group's shopping frequency and alternative options will help businesses adjust prices in the right amount, at the right intervals of time and at the right time of the month.

Share market prices

Grocery businesses that share market prices with consumers are more likely to maintain consumers if the prices they offer are worth not going to other options. Taking into account the travel time and cost, and prices of competitors, business can ensure that they offer the best possible choice without the customers (especially from perception group A) feeling the need for further market research. The fact that mostly females shop in different places, and the fact that mostly females do the grocery shopping for households, sharing market prices will have a significant effect in retaining customers.

Stock up on common substitutes when prices of essentials exceed acceptable prices

Seeing as how the majority of consumers still buy essentials at price increases between 10 to 20%, up to that point, alternatives are not that important. When prices increase beyond that point, the awareness of what customers will perceive as a good alternative should be a good reason to stock up on substitutes. Encourage the purchase of substitutes when the prices increase.

Focus on local cuisine

Since not a single respondent is prioritizing ingredients for foreign cuisine, focusing on providing local cuisine ingredients at acceptable pricing can increase foot traffic.

Stock up on cheap alternatives of foreign cuisines ingredients
Many respondents (25%) expressed desires of longing for foreign cuisine and have even started making foreign dishes using local ingredients. Stocking up on substitutes commonly being used could be inviting of some consumers.

Facilitate price negotiations
Seeing as how 50% of respondents have a high frequency of negotiation prices, allowing some form of price negotiation system (discount system) will attract a large number of consumers.

How the government can apply findings

Provide Cheap public transportation to outskirt markets
The informal markets at the outskirts of the city have the cheapest possible prices. However, they are difficult and costly to access. However, if the government has buses (or other transportation methods) that have frequent and direct access to these markets, then it could lighten the burden on low-income households by providing them with cheaper produce. This plan ensures that the government budget will not be affected as much since buses will be operating self-sufficiently.

Establish non-profit grocery establishments
Without the profit initiative, the government could ease the burden of many buy providing groceries without the expected mark ups that other sellers are focused on.

Facilitate the creation of part-time jobs
Seeing as how many families are relying on all household members able to earn an income, facilitating the creation of part-time jobs will help many families which have little to no ways of bettering their financial stability.

Increased production of essentials and their inputs
Seeing how many people were lowered into the lower-income classes, the government will have a sense of the number of people in an economic condition in which they do not have the power to use their finances to drive down costs. Knowing that over 52% of the population is in such a state, the government can place extra focus on which ingredients the lower classes focus on and assist in price caps and national production. Lowering the import of essential ingredients and/or multipurpose ingredients and increasing their local production will have a highly significant benefit for the majority of consumers. Producing the inputs required to produce these essential ingredients should also be encouraged.

Increase national minimum salary
The structures of the family of respondents and how they increased income in order to survive the crisis shows us that the national minimum salary is far from sufficient. Therefore, the government should put forward plans to increase the salary without jeopardizing the economic structure and national budget.

Encourage and expose multiple income sources
The government can encourage the young people to increase their income sources and exposing these sources, since many are surviving the crisis in this way. Education in this matter is important to reduce the risk of failing attempts. Encouraging entrepreneurship from a young age is beneficial for households, especially because many cannot find a stable income within their young adult stage.

Market price posting

Perception Group B respondents often accept market prices, not willing to find cheaper options as searching is costly. However, government monitoring posting of prices could encourage more people to engage in searching since they will have evidence better prices elsewhere. This increased market research behavior will drive prices down as more people become aware of the market conditions and improve their cost management.

Government should monitor informal markets
The Angolan government often turns a blind eye to sellers in the informal market. The government does little to control the price and what is sold. However, if the government monitors all market conditions within the informal market, regularly updates and makes this information publicly available, this could also help many in making sure they have a good deal when making purchases.

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