

Will Household Consumption Ever be the Same Again? The New Normal Post COVID-19

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Abstract: *The primary purpose of the study was to identify and explore the impact of the global COVID-19 crisis on consumers' purchase behaviour in the context of South Africa. A nonprobability convenience sampling technique was used to collect data using a structured questionnaire. The quantitative data analysis of the responses of 200 respondents reveals that the perception of the COVID-19 crisis significantly influences economic crisis and household consumption at $P < 0.05$ and financial difficulties at the $P < 0.10$ level. Moreover, analysis of variance (ANOVA) tests showed that responses on the perception of the COVID-19 crisis, economic crisis and household consumption are not statistically different across different income groups. However, responses to financial difficulties are statistically different across different income groups. It indicates that people with lower income levels have more financial challenges than those with higher levels of income and need to adapt their purchase behaviour accordingly to make ends meet. The study makes a contribution to the existing literature related to the pandemic and consumer behaviour. In addition, academics, marketers and decision-makers will benefit from a better understanding regarding consumer behaviour during the time of a crisis or pandemic.*

Keywords: *Household consumption; Covid 19; consumer behaviour*

Introduction

It has been stated in many research studies that there are many factors that influence a consumer's buying behaviour. There is, however, not a precedent for what transpired in 2020 with the occurrence of a global pandemic. The Coronavirus disease 2019 (COVID-19) outbreak has had a tremendous impact on consumer purchase behaviour as a result of the lockdowns that have been introduced in many countries worldwide – with more than 50% of the world's population affected. The COVID-19 pandemic started in December 2019 in Wuhan, China, and the crisis continued to spread across the world (Fernandes, 2020). According to the World Health Organization (WHO) (2020), the total global number of COVID-19 cases has surpassed 4 million as of 20 May 2020. Several initiatives have

been instituted in a number of countries to implement contingency plans and aid packages to assist and sustain their economies (Fernandes, 2020). One such contingency plan has been the approval of an aid package for small businesses in the United States of America (USA) of more than three trillion dollars. The impact of the COVID-19 outbreak has also led to many changes in the behaviour of consumers and businesses, such as a decrease in consumption, interruptions to production and global supply chain systems which have an impact on businesses worldwide (Fernandes, 2020). Consumption patterns of consumers around the world have been altered resulting in shortages of many goods in supermarkets – many of which were bought out of panic (Fernandes, 2020). As natural disasters will come and go, a central question, "how to live

in times of crises?" is frequently asked by politicians, economists, journalists and consumers around the world (Jasiulewicz, 2012).

The COVID-19 pandemic has had a tremendous effect on the lives of consumers in South Africa. Not only will there be a long term social and economic impact due to the pandemic, but it will also have both macroeconomic and microeconomic implications for the country. Macroeconomic effects include a decline in Gross Domestic Product (GDP), reduced economic activity, an increase in the inflation rate, an escalation in unemployment and various other economic activities. In addition, some microeconomic impacts include a decrease in consumers' consumption levels as well as financial difficulties that they will experience due to the worldwide lockdown or restrictions placed on economic activity – and a resultant loss of jobs. During an economic crisis in Poland in 2012, Jasiulewicz (2012) found a number of social dimensions that are associated with a crisis, such as an increase in unemployment, a decline in the disposable income of households, concerns of job security and the fear of job losses, difficulties in finding a new job, material status deterioration, and an inability to repay loans. Consequently, consumers' lifestyles will be affected in many ways by a crisis such as COVID-19, probably mostly negative, as these changes go hand in hand with an increase in anxiety and depression. Patterns in consumers' behaviour regarding consumption have been shifted due to COVID-19 (Fernandes, 2020) and the long-lasting effects of COVID-19 on consumer behaviour are obvious (Yendamuri et al. 2020). As found in a survey conducted by Global Web Index in the U.S. and UK, around eight out of ten consumers changed their behaviour patterns due to the virus (Mander, 2020).

To date, very few studies have been found relating to the economic impact of the COVID-19 crisis as this crisis is still new and in its infant stages (Fernandes, 2020; Baldwin & di Mauro, 2020). As far as could be ascertained, only a few studies have been conducted regarding the impact of the global COVID-19 crisis on consumers'

purchase behaviour (Sheth2020; Chronopoulos et al., 2020).

Specific objectives include

- To investigate the impact of the global COVID-19 pandemic on consumers' opinion of the economic crisis.
- To investigate the influence of both the global COVID-19 pandemic and the economic crisis on household consumption and financial situation.
- To identify and validate the observed variables of the COVID-19 crisis perception, the economic crisis perception, household consumption, and financial situation.

This paper consists of four parts. Firstly, it reviews the relevant literature related to the global COVID-19 crisis, the economic crisis, consumer behaviour and so forth. Next, the research methodology and data analysis techniques are discussed. Then the results are discussed and summarised. The study concludes with a discussion of theoretical and practical implications followed by a conclusion, limitations and direction for further research.

Literature Review

In recent decades, tremendous and frequent natural and man-made disasters have occurred. Wen (2015) defines a crisis as an event caused by a sudden change of the external environment and internal factors that pose a threat to the safety of a system or subsystem. A whole system becomes unstable due to a sudden and accidental incident which may bring about enormous damages to the members, general objectives, benefits and prestige of a system (Compiling Group, 2002). During an economic crisis, for example, changes in the way consumers' behaviour are affected can be characterised by them being more economical, responsible and demanding (Voinea & Filip, 2011). It has also been noted that consumers, in times of crisis, tend to focus on value for money purchases– that is, they prefer lower prices. There is also an inclination by consumers to wait for price promotions during a crisis if they are loyal to a certain brand (Voinea & Filip, 2011).

Consumer behaviour can be defined as the process by which individuals or groups make their purchase decisions in order to satisfy their needs (Mansoor & Jalal, 2011). The behaviour of consumers is influenced by external factors, such as social, cultural, reference groups, environmental, family and friends as well as internal factors, such as perception, learning and motivation (Mansoor & Jalal, 2011). In order to meet customer expectations, businesses try to understand the consumers' needs by predicting their behaviour. Thus, this research will assist businesses and professionals around the world to understand the possible changes in consumers' buying behaviour at the time of a natural disaster, such as the COVID-19 pandemic.

Consumer behaviour during times of crisis, such as natural disasters

According to Mansoor and Jalal (2011), changes in purchase patterns of consumers are evidenced during times of crisis (e.g. a global economic crisis). Characteristics in consumer behaviour include, for example, a reduction of consumption level (Jasiulewicz, 2012), reallocation of consumption expenditures (Dutt & Padmanabhan, 2011), a tendency to pay less for higher-priced products or to substitute products with other products (Flatters & Willmott, 2009; Mansoor & Jalal, 2011), a move away from more expensive branded products and organic food (Aguirre & Juan, 2012; Flatters & Willmott, 2009), a redefinition of what is seen as necessities and what is seen as luxuries, and a decline in savings (Mansoor & Jalal, 2011). In addition to these actions, consumers tend to purchase recycled or used goods and tend to cut back on donations to charity institutions (Flatters & Willmott, 2009). As found by Mander (2020), people around the world are trying to adjust to the "New normal" phenomenon. In addition, other changes are happening in people's lifestyles and buying behaviour, and they are looking at products and brands through a new lens. Arnold (2020) also noted that changes are happening in consumers' buying pattern because of the reality of the long-lasting effect of the pandemic.

Past Studies

A number of studies have been conducted on the impact of crises on consumer behaviour and they serve as the basis for understanding what the impact of the COVID-19 pandemic entails. Jasiulewicz (2012) analysed the changes in Polish consumers' behaviour during an economic crisis in 2012. The results showed that Polish consumer behaviour had shifted, due to the economic crisis, in areas such as household consumption, allocation of money for different household needs and so forth. Saby (2009) investigated three different types of Polish consumer behaviour during the 2009 recession. The three types were *belay*, *remedial* and *alternative*. Consumers who limit their consumption to only necessary goods during a time of crisis are categorised as a *belay*. Secondly, consumers who focus on remedial actions primarily seek assistance from family, social organisations or go abroad for work. Finally, consumers may seek employment even if the job is at a lower level, below their qualification level and for a lower salary.

Amalia and Ionut (2009) investigated consumer perceptions in the time of the economic crisis in 2009, and identified various behaviours consumers adopted in order to manage the negative effects of the crisis. Using risk attitude and risk perception factors, they also segmented consumers into four groups, namely *panicked consumers*, *prudent consumers*, *concerned consumers* and *rational consumers*, who all act differently during times of crisis. *Panicked consumers* showed a high-risk attitude and a high-risk perception by cutting spending drastically, reducing consumption and switching brands. *Prudent consumers* showed a high-risk attitude and a low-risk perception by carefully planning their spending, postponing major purchases, etc. The *concerned consumers* demonstrated a low-risk attitude and a high-risk perception by planning their spending and doing major purchases if they find a good deal. Finally, *rational consumers* had a low-risk attitude and a low-risk perception by maintaining their usual behaviour, keeping on spending on favourite

brands, etc. Therefore, that crisis mainly affected consumers in the panicked and prudent segment and had a moderate effect on the concerned consumer segment and a weak effect on the rational consumer segment.

Wen (2015) conducted a study to examine the impact of the SARS virus in 2003 on consumer behaviour among Chinese domestic tourists. The results showed that the SARS virus affected potential domestic tourists in terms of their behaviour towards decisions related to leisure travel, travel intention, concern about safety and public hygiene.

Several quantitative studies have been conducted by Canadian NFO Plog Research, together with its partner the Canadian Tourism Commission (CTC) Market Research, regarding the impact of SARS on American tourists (NFO, 2003). The investigations include (1) what the American travellers think about the safety and the likelihood of travel in Canada; (2) whether they have made a change or cancelled their leisure travel plans; and (3) the changing trends of American preference. For example, the impacts include the changing or cancelling of travel plans, preferring domestic tours rather than outbound travel, etc.

Pennings et al. (2002) analysed why and how consumers react to a crisis by exploring the impact of risk perception and risk attitude related to the mad cow disease crisis in 2002. Their empirical findings showed that when consumers' reactions are mainly driven by risk perception, the measure that should be taken is effective communication to increase the consumers' knowledge about the probabilities of being exposed to the risk. But when consumers' reactions are mainly driven by risk attitude, the only tool available for marketers is to eliminate the risk.

Voinea and Filip (2011) investigated the paramount changes in consumer buying behaviour at a time of economic crisis. From their research, and after examining different studies, they concluded that the recession had a profound economic and social impact on consumers' behaviour.

A study by Mansoor and Jalal (2011) endeavoured to identify the impact of the global financial crisis of 2007 on Bahraini consumers through their perception of the perceived issues relating to the crisis and the changes in consumer behaviour. The results showed a significant impact on the behaviour of consumers; the shifting of their consumption priority from expensive to inexpensive, luxury to necessity, etc.

Research by Pandelica and Pandelica (2011) identified changes in consumers' behaviour during economic crisis conditions as a direct causality of the relationship among the perception of the risks, the risk-generating situation aversion and consumers' behavioural changes.

Tsouriannis et al. (2014) explored the factors that influence consumer buying behaviour during the economic crisis in Greece and found them to be a product's features; psychological issues, such as curiosity and prestige; the attractiveness of the product design; packaging; etc. and economic issues, such as the contribution to the national economy and the production method.

Theodoridou, et al. (2019) conducted another study to detect factors that influence consumers' purchasing behaviour when buying food during a crisis. The identified factors are: (a) the product's features and natural contents, (b) economic issues, (c) identity and sensory appeal, (d) mood, (e) weight control and health and (f) convenience. They also identified five groups of consumers; they include neutrals, those influenced by psychological issues, those influenced by economic issues, the low diet/healthy eaters and those influenced by availability and ease of access. The groups were formed based on different demographic factors such as education level, employment status, etc.

From the above discussion, it is clear that any crisis can, and will, impact the behaviour of consumers. Economic crises are major events and many are brought on by natural disasters as demonstrated by SARS and COVID-19. The main focus of early studies on the prevailing COVID-19 pandemic (April 2020) was based on theoretical analyses and subjective estimations. The

principal aim of this research is to conduct an empirical investigation under the guidance of general consumption and behaviour literature regarding the impact of the COVID-19 crisis.

COVID-19 Crisis Perception

From one perspective, the COVID-19 crisis perception is related to the likelihood of being affected by the crisis (Gerhold, 2020). Pennings et al. (2002) found that consumer behaviour and reaction toward a crisis (e.g. mad cow disease) was influenced by how they perceive the risk and their attitude toward the risk. Therefore, it can be argued that based on the perception toward the COVID crisis, consumers' behavioural patterns can be varied. It is also obvious from past studies that previous crises and diseases (e.g. AIDS) affected household incomes, businesses, governments, investments and so forth (Haacker, 2004). Therefore, one can claim that the perception of an economic crisis, household consumption and financial situation will be influenced by the COVID-19 crisis.

Economic Crisis

McKibbin and Fernando (2020) pointed out that the global economic situation has been tremendously disrupted by the COVID-19 outbreak. The situation also makes it impossible for economists to articulate pertinent policies related to macroeconomics. They also investigated several scenarios which delineated that the global economy will certainly be affected by this outbreak even in the short run. It was also found from the study that higher unemployment rates and uncertainty, lower inflation and mortgage rates were expected in the upcoming years (Coibion et al., 2020).

Household Consumption

Research by Xie et al. (2020) revealed that people's perceptions and attitude regarding organic food and game meat consumptions were affected by the COVID-19 crisis. The study revealed that the COVID-19 crisis perception leads to an increase in future consumption of organic food and reduction in game meat consumption. Therefore, it can be argued that the COVID-19 crisis perception will significantly affect consumers' household-related consumption patterns.

Consumer consumption spending on travel and clothing declined drastically due to COVID-19 as found by Coibion et al., (2020).

Financial Difficulties

As studies showed, people started purchasing and storing more food in their home due to the concern over COVID-19 (Gerhold, 2020). A research conducted by Coibion et al., (2020) which included over 10,000 respondents revealed that around 50% of the respondents reported losses in their income and wealth due to the Coronavirus. It also found that the average losses amounted to \$5,293 and \$33,482 for income and wealth respectively. Therefore, this research argued that COVID-19 will significantly raise financial difficulties among consumers.

Conceptual Framework and Hypotheses

The study investigates the impact of the global COVID-19 crisis on consumers' behaviour in the context of South Africa. After reviewing pertinent literature (Jasiulewicz, 2012; Mansoor & Jalal, 2011), the following model is proposed for structural equation modelling in this study.

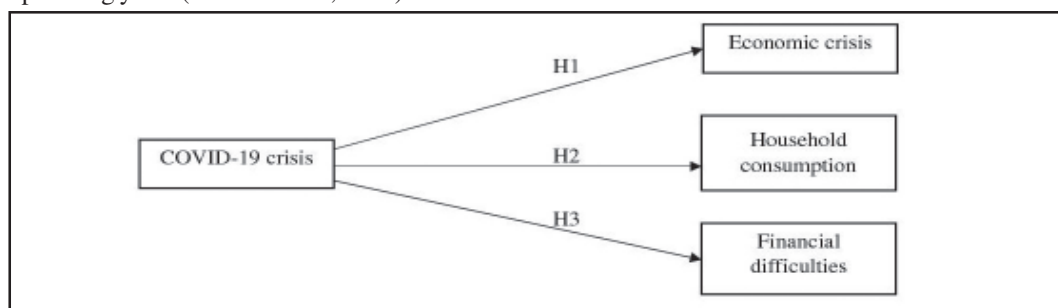


Figure 1. Conceptual framework

From the above discussion, three hypotheses (from H1 to H3) were formulated.

H1: The COVID-19 crisis significantly affects the economic crisis.

H2: The COVID-19 crisis significantly affects household consumption.

H3: The COVID-19 crisis significantly affects financial difficulties.

Methodology

Sampling design and data collection

The sampling design includes determining the sample frame; the source or population from which a representative sample is taken (Akter, 2015). The sample frame for the current study is South African consumers because their COVID cases have been growing steadily. A quantitative research method has been followed to conduct the research and a structured questionnaire has been used to collect survey data. Owing to time and resource limitations and the COVID-19 pandemic, it was not possible to reach the respondents in person. Therefore, an online convenience sampling survey was conducted. However, Malhotra (2010:344) stated that nonprobability sampling may also produce good estimates of population characteristics. The sampling technique followed was convenience and snowball sampling under nonprobability sampling. The researcher distributed the questionnaire to the respondents who are convenient to be reached. When some respondents participated in the study, they were requested to invite others to participate. For

determining the sample size, the guidelines given by Hair et al. (2019:133) have been followed. In addition, researchers suggested using much larger samples (e.g. 200 and larger) as the number of variables and the expected number of factors increase. Therefore, the study included 200 participants from different parts of the country. The individual respondent was the unit of analysis in the study. The data were collected during April and May 2020.

Measurement Instrument

As illustrated in the following table, the scale items for measuring the study constructs were adopted from relevant previous studies (Jasiulewicz, 2012; Wen et al., 2005). First of all, the respondents were screened whether they are from South Africa or not as only South African respondents were the subject matter in this study. The first section of the questionnaire included the respondents' demographic information such as gender, age, education level, and family income. The second section included questions related to COVID-19 and economic crisis perceptions, household consumption and financial difficulties. The survey respondents were asked to rate their degree of agreement or disagreement on a 5-point Likert scale ranging from highly disagree to highly agree with every statement related to COVID-19 and economic crisis perceptions, household consumption and financial difficulties they faced. The 5-point Likert scale was used as the respondent answering the question can, supposedly, better understand what option he or she should choose for his or her answer.

Table 1. Constructs and measured variables

Constructs	Measured variables
COVID-19 crisis perception	I am aware of the global COVID-19 crisis.
	COVID-19 has greatly affected my work and life.
Economic crisis perception	Higher prices on the market
	A decline in the value of money (inflation)
	Property value decline (stock exchange shares, savings, real estate, etc.)
	Less profit for entrepreneurs/businesses
	The loan and credit application refusals by banks

	Dismissal and unemployment increase
Household consumption	Limiting paid services in house and surroundings (repair services, flat cleaning, garden care, etc.).
	Reducing additional medical insurance/paid medical care
	Reducing paid extracurricular activities for small children
	Choosing public transport instead of private transport (car, bike, etc.)
	Reducing expensive durable goods purchases
	Purchasing cheaper foods/ Choosing cheaper offer
	Reducing expenditure on the barber, beautician, gym
	Resigning loan/credit taking
	Reducing consumption of electricity, gas and water
	Reducing expenditure on entertainment (cinema, theatre, etc.)
Financial difficulties	Cancelling holiday trips
	Limiting meals outside the home
	I drastically reduce my expenditures
	I ask for help from social institutions
	I ask my family, relatives, friends for help
	I need to take a loan/credit from friends/banks
	I used all my savings
	I sell my valuable material resources

Data Analysis

Data collected through the survey were primarily analysed using SPSS version 21. Frequency distribution and percentile measures were used primarily for sample distribution. Partial least square structural equation modelling (SEM) was used to test the conceptual model of the study using SmartPLS software version 3 (Ringle et al., 2015).

According to Hair et al. (2019), “Structural equation modelling (SEM) is a family of statistical models that seeks to explain the relationships among multiple variables.” It is not possible in other analysis technique to test the entire model simultaneously considering all the hypotheses of the research. Among the two popularly used SEM techniques (covariance-based SEM or CB-

SEM and partial least squares structural equation modelling or PLS-SEM), this study adopted PLS-SEM as it is considered as soft modelling and works well with the data that are not normally distributed (e.g. highly skewed) and lower sample size (Hair et al., 2019; Hair et al., 2012).

Findings

Demographic Analysis

As shown in Table 2, the respondents consisted of male (71%) and female (29%) participants. Most of the respondents were students in the 21–30 age group range, indicating the participation of mostly young consumers. In education, the undergraduate option was chosen with the highest frequency (76.5%). Finally, the income range showed the participation of people from all kinds of income categories.

Table 2. Demographic breakdown of respondents

Category	Subcategory	Frequency	Per cent (%)
Gender	Female	58	29.0
Age	Male	142	71.0
	21–30	126	63.0
	31–40	6	3.0
	41–50	1	.5
	Below 20	67	33.5
Education	Graduate	21	10.5
	HSC	14	7.0
	Post-graduate and above	11	5.5
	Undergraduate	153	76.5
Occupation	Entrepreneur	4	2.0
	Professional	7	3.5
	Student	180	90.0
Income	Unemployed	9	4.5
	21,000–30,000	43	21.5
	31,000–40,000	25	12.5
	41,000–50,000	23	11.5
	Above 50,000	33	16.5
	Below 20,000	76	38.0

Descriptive Analysis

All the constructs, including the COVID-19 crisis perception (CC), economic crisis perception (EC), household consumption (HC) and financial

difficulties (FD) were primarily analysed using the scores of mean, standard deviation, skewness and Kurtosis. As illustrated in Table 3, all values fall in the acceptable range. Thus, the normality of the data has been established.

Table 3. Descriptive statistics

	Mean	Std. Deviation	Skewness	Kurtosis
COVID-19 crisis perception (CC)	4.5750	.62957	-2.071	6.123
Economic crisis perception (EC)	4.0817	.63777	-1.081	2.243
Household consumption (HC)	3.8342	.58783	-.613	1.367
Financial difficulties (FD)	3.0233	.92578	.096	-.638

Reliability Analysis

Cronbach’s alpha is a common method for examining the reliability of individual construct in research (George, 2011). Table 4 contains all four variables and their observed indicators. The larger Cronbach’s α value ensured the internal consistency among the constructs (Nunnally, 1978). All the Cronbach’s α values, except the

COVID-19 crisis perception, range between 0.780 and 0.735 which is in the acceptable range. Another measure of reliability is composite reliability (CR) (Hair et al., 2019) which is more or less higher for the COVID-19 crisis perception construct (CR = 0.804). This indicates further analyses can be done with the constructs used in the research.

Table 4. Construct Reliability Assessment Results

Constructs	No. of Items	Cronbach’s alpha values
COVID-19 crisis perception (CC)	2	.518
Economic crisis perception (EC)	6	.735
Household consumption (HC)	12	.763
Financial difficulties (FD)	6	.780

Analysis of Variance (ANOVA)

A one-way analysis of variance (ANOVA) has been performed to compare mean values of the COVID-19 crisis perception (CC), economic crisis perception (EC), household consumption (HC) and financial difficulties (FD) across different

income groups. The results showed that only the mean for financial difficulties significantly varied across the different income groups. It indicated that people with lower income faced more financial difficulties than people with a higher income.

Table 5. Descriptive statistics across income

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
C O V I D-19 c r i s i s p e r c e p t i o n (CC)	Below 20,000	76	4.5461	.71264	.08175	4.3832	4.7089	1.00	5.00
	21,000– 30,000	43	4.5814	.59692	.09103	4.3977	4.7651	3.00	5.00
	31,000– 40,000	25	4.5400	.53852	.10770	4.3177	4.7623	3.50	5.00
	41,000– 50,000	23	4.6087	.58303	.12157	4.3566	4.8608	3.00	5.00
	Above 50,000	33	4.6364	.58992	.10269	4.4272	4.8455	2.50	5.00
	Total	200	4.5750	.62957	.04452	4.4872	4.6628	1.00	5.00
E c o n o m i c c r i s i s p e r c e p t i o n (EC)	Below 20,000	76	4.0768	.69145	.07931	3.9188	4.2348	1.33	5.00
	21,000– 30,000	43	4.0233	.71694	.10933	3.8026	4.2439	1.50	5.00
	31,000– 40,000	25	4.0533	.55218	.11044	3.8254	4.2813	3.00	5.00
	41,000– 50,000	23	4.2246	.49392	.10299	4.0110	4.4382	3.00	5.00
	Above 50,000	33	4.0909	.56380	.09814	3.8910	4.2908	2.83	5.00
	Total	200	4.0817	.63777	.04510	3.9927	4.1706	1.33	5.00
H o u s e h o l d c o n s u m p - t i o n (HC)	Below 20,000	76	3.8640	.56451	.06475	3.7350	3.9930	2.33	5.00
	21,000– 30,000	43	3.8198	.67405	.10279	3.6123	4.0272	1.25	4.83
	31,000– 40,000	25	3.8767	.57339	.11468	3.6400	4.1133	2.50	4.83
	41,000– 50,000	23	3.8659	.42099	.08778	3.6839	4.0480	2.75	4.92
	Above 50,000	33	3.7298	.64919	.11301	3.4996	3.9600	2.58	5.00
	Total	200	3.8342	.58783	.04157	3.7522	3.9161	1.25	5.00
	Below 20,000	76	3.4035	.78752	.09034	3.2236	3.5835	1.50	5.00

Financial difficulties (FD)	21,000–30,000	43	3.1434	.89796	.13694	2.8671	3.4198	1.33	5.00
	31,000–40,000	25	3.0267	.98915	.19783	2.6184	3.4350	1.50	5.00
	41,000–50,000	23	2.6159	.68982	.14384	2.3176	2.9142	1.67	4.33
	Above 50,000	33	2.2727	.83314	.14503	1.9773	2.5681	1.00	5.00
	Total	200	3.0233	.92578	.06546	2.8942	3.1524	1.00	5.00

Table 6. ANOVA results

		Sum of Squares	df	Mean Square	F	Sig.
COVID-19 crisis perception (CC)	Between Groups	.246	4	.062	.153	.962
	Within Groups	78.629	195	.403		
	Total	78.875	199			
Economic crisis perception (EC)	Between Groups	.642	4	.160	.389	.816
	Within Groups	80.302	195	.412		
	Total	80.944	199			
Household consumption (HC)	Between Groups	.505	4	.126	.360	.837
	Within Groups	68.259	195	.350		
	Total	68.764	199			
Financial difficulties (FD)	Between Groups	34.015	4	8.504	12.144	.000
	Within Groups	136.543	195	.700		
	Total	170.558	199			

A partial least square structural equation modelling (PLS-SEM) was employed to analyse the data and test the conceptual model. The SEM technique was employed using SmartPLS software, version 3. The goodness of fit measures applied in CB-SEM such as χ^2 , GFI, CFI, RMSEA and so forth do not apply with PLS-SEM (Hair et al., 2019, p.771).

Measurement Model Validity

Confirmatory factor analysis (CFA) is used to assess the validity of each latent construct of the measurement model. It includes two tests – convergent validity and discriminant validity.

Convergent validity is determined by factor loading and average variance extracted (AVE), having a value above 0.50 (Ling & Ding, 2006). An AVE with a value of 0.50 or more means that the latent construct accounts for 50% or more of the variance in the observed variables, on the average. As illustrated in Table 7, all the factor loadings are above 0.50, which is acceptable (Hair et al., 2019). Composite reliability values of all the latent variables are above 0.70. The AVE values of CC and EC are in the acceptable range. Owing to factor loading below 0.50, some items were dropped before estimating the structural model (i.e. EC1, HC4, HC5, and HC9).

Table 7. Summary of the measurement model

Constructs	Measured variables	Factor	AVE loading	CR
COVID-19 crisis perception	CC1	0.771	0.673	0.804
	CC2	0.866		
Economic crisis perception	EC2	0.559	0.457	0.805
	EC3	0.623		
	EC4	0.695		
	EC5	0.606		
	EC6	0.858		
Household consumption	HC1	0.501	0.348	0.826
	HC10	0.532		
	HC11	0.683		
	HC12	0.711		
	HC2	0.552		
	HC3	0.590		
	HC6	0.542		
	HC7	0.628		
	HC8	0.538		
Financial difficulties	FC1	0.712	0.405	0.802
	FC2	0.604		
	FC3	0.645		
	FC4	0.638		
	FC5	0.684		
	FC6	0.519		

Discriminant validity is achieved if the square root of AVE is larger than correlation coefficients among all the constructs (Fornell & Larcker, 1981).

Table 8 shows that all the square root values of AVE are higher than the interconstruct correlations. Thus, the discriminant validity of the constructs has been achieved.

Table 8. Discriminant validity of latent constructs

	COVID crisis	Economic crisis	Financial difficulties	Household consumption
COVID crisis	0.820 ^a			
Economic crisis	0.373	0.676 ^a		
Financial difficulties	0.203	0.193	0.637 ^a	
Household consumption	0.350	0.475	0.170	0.590 ^a

Note: ^a Diagonal element are the square root of AVE, off-diagonal elements are the correlation between constructs.

Analysis of the Structural Model

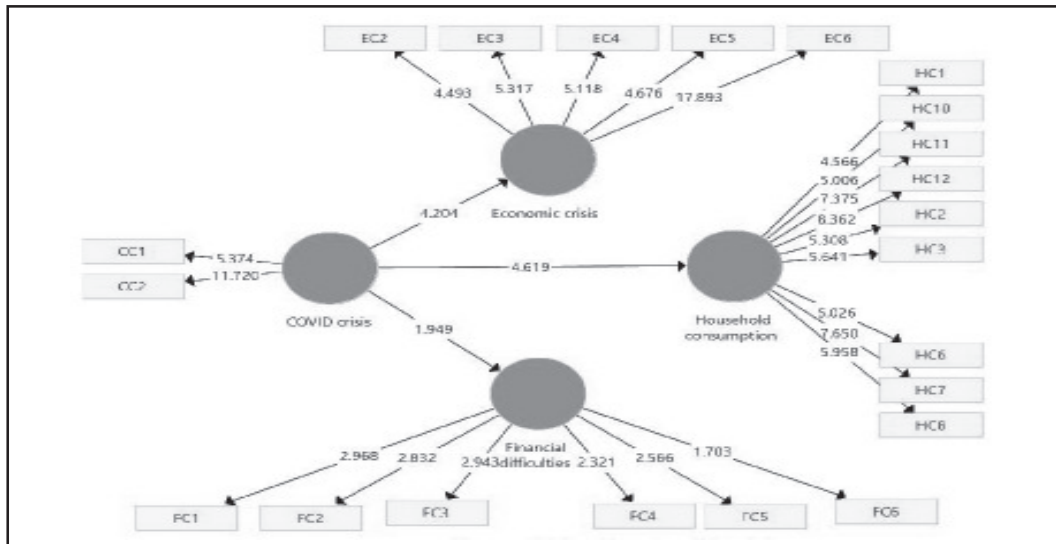


Figure 2. The Structural Model

Table 9 includes all the path coefficients (b), t-values, p-values and significance of the structural paths. The hypotheses were tested using a two-tailed t-test with a significance level of 5% where the path coefficient will be significant if the t-value is greater than 1.96 or less than -1.96. In the two-tailed test, the t value is statistically significant when it is out of the range of -1.96 and +1.96, and the P-value is less than 0.05 (Byrne, 2013). The results indicated that the perception of the COVID-19 crisis significantly influenced economic crisis and household consumption at

$P < 0.05$. The impact of the COVID-19 crisis perception on financial difficulties is only significant at $P < 0.10$, and not at $P < 0.05$. However, all the path coefficients show that the perception of the COVID-19 crisis has a large impact on the economic crisis, household consumption and financial difficulties. In addition, the COVID-19 crisis perception has the largest impact on economic crisis perception where the coefficient (b) is 0.373, which means that if the COVID-19 crisis increases by 1 unit, consumers' perceptions of the economic crisis increases by 0.373.

Table 9. Structural model estimates

	Coefficients (b)	Sample Mean (M)	Standard	T Statistics	P Values	Impact
COVID crisis -> Economic crisis	0.373	0.398	0.089	4.204	0.000	Significant
COVID crisis -> Financial difficulties	0.203	0.230	0.104	1.949	0.052	Nonsignificant
COVID crisis -> Household consumption	0.350	0.386	0.076	4.619	0.000	Significant

Note: * $p < 0.05$, based on two-tailed test; $t = 1.96$

Discussion

The Coronavirus disease 2019 (COVID-19) outbreak has a tremendous impact on different aspects of people's lives as many countries in the whole world are now in lockdown situations. Consumers' behaviour has also been affected by this pandemic.

As noted by Fliegeaufand Ayres (2020), the majority of the South Asian countries are struggling with their economy during the pandemic. Therefore, the study endeavoured to detect the impact of the global COVID-19 crisis on consumers' purchase behaviour in the context of South Africa. A conceptual framework was developed to test specific hypotheses relating to the COVID-19 crisis perception, economic crisis, household and financial situation using structural equation modelling in SmartPLS. The results of the hypotheses testing showed that perception of the COVID-19 crisis significantly influences economic crisis and household consumption at $P < 0.05$ and financial difficulties at $P < 0.10$. It indicates that, as people perceive more of an impact due to the COVID-19 crisis, their perception that an economic crisis exists also increases. In addition, due to this COVID-19 outbreak, consumers significantly reduced their expenditure related to the household. They are also facing different challenges financially.

The findings are in line with previous studies of past crises from around the world, which found a reduction in consumption levels (Jasiulewicz, 2012), reallocation of consumption expenditures (Dutt & Padmanabhan, 2011), a tendency to pay less for higher-priced products or to substitute products with other products (Flatters & Willmott, 2009; Mansoor & Jalal, 2011), a move away from more expensive branded products and organic food (Aguirre & Juan, 2012; Flatters & Willmott, 2009), a redefinition of what is seen as necessities and what is seen as luxuries, and a decline in savings (Mansoor & Jalal, 2011). The findings are also in line with the claim made by (Kogan, 2020) who found that around 7% of overall expenses were reduced by March 2020 among Asian and European consumers due to COVID-19.

Moreover, analysis of variance (ANOVA) tests showed that responses on the perception of the COVID-19 crisis, economic crisis and household consumption are not statistically different across different income groups. However, responses to financial difficulties are statistically different across different income groups. It indicates that people from lower income levels tend to face more financial difficulties than those from higher-income levels.

Analyses of mean values showed more insight into the sample's characteristics. Mean values of the COVID-19 crisis perception and economic crisis perception indicate that people have a very high awareness of the global COVID-19 and economic crisis and the effects of these occurrences. Mean values of household consumption and financial difficulties are also high, indicating a reduction of consumption and the encountering of problems respectively. It has implications for academics, marketers and decision-makers regarding the understanding of consumer behaviour during the time of a crisis or pandemic.

Businesses need to be careful of the changes in consumer behavioural patterns and the larger proportion of changes among lower income people. They need to learn how to improvise during COVID-19 to address the needs of the consumers (Sheth, 2020). As the majority of the consumers already reduced consumption of several categories of products, businesses need to make proper inventory forecasts in order to avoid demand shortages (Sheth, 2020). Government bodies should take necessary measures to reduce the impact of the crisis on consumers' financial situations, e.g. giving interest-free loans, reduction of various taxes, and increasing awareness campaigns to reduce the panic.

Conclusion and Further Research

The study investigates the impact of the global COVID-19 crisis on consumers' purchase behaviour in the context of South Africa. After reviewing the pertinent literature, a conceptual framework was developed and tested with structural equation modelling in SmartPLS. The

findings from the analyses indicated that economic crisis, household consumption and financial difficulties were significantly influenced by COVID-19 crisis perception. The results from the analysis of variance (ANOVA) tests suggested that perception of the COVID-19 crisis, economic crisis and household consumption did not differ significantly across different income groups. In addition, the scores on financial difficulties were statistically different among various income groups. Nonetheless, every study has limitations and scope for further research. Firstly, the results are hard to generalise due to the use of a nonprobability convenience sampling procedure. Therefore, a probability sampling method should be used for the more accurate outcome. Secondly, the current study only considers the crisis' impact on consumer behaviour. Therefore, this study can be replicated to consider how other areas, such as consumer lifestyle and mental health are influenced as a result of the crises. Thirdly, the sample size should be increased for more precision of the research. Regardless of these limitations, the present research has contributed to the existing literature both theoretically and empirically. The study empirically validated the proposed model based on partial least square structural equation modelling, which therefore can be replicated in other contexts and compared with the existing findings.

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