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The significance of key constructs on consumer purchase intention in online retail in a Covid-19 climate

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Abstract

The unexpected outbreak of the COVID pandemic has affected many people and businesses in different ways. As consumers no longer felt safe going to shopping centres they considered online shopping. In South Africa, the online retail market is in its infancy and this presents an opportunity for businesses to capitalise on the current climate. This study investigated the significance of constructs associated with online consumer purchase intention (PI) in South Africa (SA) in a Covid-19 environment. A combination of the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology-2 (UTAUT2) model were used as a basis for the study including COVID-19 as a situational factor. A sample of 368 South African consumers participated in the study through an online survey. The results of this quantitative study revealed that the most significant constructs in determining consumers' online retail PI in the current environment in SA are Covid-19 and Perceived ease of use (PEOU). The moderation impact of Covid-19 was significant on risk, trust, Perceived Usefulness (PU), PEOU, and Price Value (PV). The implications of this study provide many opportunities for businesses to focus on becoming agile and innovative to drive their online sales.

Keywords: Covid-19, E-Commerce, Purchase Intention, TAM, UTAUT2

1 Introduction

The outbreak of Covid-19, , has resulted in 50,266,033 confirmed cases of infection, 1,254,567 confirmed deaths, and 219 affected countries as at November 9, 2020 (WHO, 2020). The global pandemic has led to lockdowns in different countries, where as a precautionary measure, people are expected to wear masks, keep social distancing, and adhere to curfew regulations. The COVID-19 pandemic has been described as the worst humanitarian crisis since World War 2 (Chen, 2020). On the other-hand, Covid-19 provides an opportunity for businesses to drive their online retail, which benefits both consumers and businesses.

There is a significant difference in SA between the percentage of internet users who visit an online store and those who eventually purchase a product (Hootsuite, 2019). The percentage of internet users that use mobile devices to make online purchases is 38% (Hootsuite, 2019). In SA, the online retail market is still immature. In 2018, online retail spending amounted to R14bn, representing a mere 1.4% of the total retail sales (Worx, 2019). This is significantly less than the global share of online retail to total retail sales of about 15% (Steyn and Mawela 2016), which reinforced the considerable underperformance of online retail in SA. However, the Covid-19 environment allows businesses to increase activity and transactions in the online retail market. From a retail perspective, Business to consumer (B2C), Business to Business (B2B), and Consumer to Consumer (C2C) are the primary models in e-commerce (C. S. Lee, 2001). In South Africa, Takealot which is an example of a B2C e-commerce market type and Gumtree, which is an example

of a C2C e-commerce market type rank among the top 10 list of South African leading websites visited, with approximately 7-9 million views a month (Hootsuite, 2019).

According to Clement (2020), online retail is expected to grow at 56% globally. Importantly, in terms of percentage of total retail sales, online retail in SA needs to scale up to be on par with other countries. This study aims to investigate the significance of constructs that influence consumer perceptions in online retail in South Africa.

1.1 Purpose of the Study

To succeed in online retail, businesses need to understand consumer perceptions of online retail. A negative experience on a retail website can have lasting adverse consequences for the business. Therefore, businesses must understand the key constructs that affect consumers' perceptions of online retail, especially under the current COVID climate.

Therefore, the aim of this study is to determine the significance of constructs on consumer perceptions in online retail in the current Covid-19 environment. A combination of TAM model constructs i.e. risk, trust, Perceived Usefulness(PU) , Perceived Ease Of Use(PEOU) will be used by Pavlou (2003). In addition, Price Value, Facilitating Conditions from the Unified Theory of acceptance and use of technology model (Venkatesh et al. (2012) are included in the adapted model as depicted in Figure 1 as key constructs. These constructs are regarded as key because of the potential effect they are likely to have on the purchase intention. The inclusion of Covid-19 as a situational factor in the adapted model will help determine its significance and how it is shaping consumer perceptions in online retail. The moderation impact of Covid-19 on the other constructs will also be analysed. Various e-commerce studies have analysed purchase intention in a multi-faceted manner. Adoption studies continue to focus on consumer purchase intention because of the view that intention can be used to anticipate actual behavior. Covid-19 has not been used to test its effect on consumer purchased intention in the South African context; hence this study was initiated.

This study will provide businesses with insights into the significance of the constructs in consumer perception. It will allow businesses to focus both on positive and negative significant constructs, which will help design methodologies to adapt their online retail channels. Furthermore, it will shed light on the reality of the impact of Covid-19 on consumer perceptions of online retail in SA.

The proposed theoretical model for this study is in section in Figure 1.

The main research questions are:

1a. What is the significance of risk, trust, PU, PEOU, PV, FC, and Covid-19 on consumer Purchase intention(PI) in online retail in SA?

1b. What is the moderation impact of Covid-19 on risk, trust, PU, PEOU, PV, and FC on consumer online PI in SA?

2. Literature review

2.1 Theoretical Background and Research Model

Numerous models have been developed to understand the adoption behavior and intention of individuals (Nedra, Hadhri, & Mezrani, 2019). Table 1 details a few of these models, their development over time, and the authors who developed them. Importantly, this is not an exhaustive list as listing all existing models is beyond the scope of this paper.

Table 1: Adoption frameworks

Model	Date Developed	Main Constructs	Source
Theory of Reasoned Action (TRA)	1980	Attitude Toward Behavior; Subjective Norm	(Fishbein & Ajzen, 1980)
Technology Acceptance Model (TAM)	1989	Perceived Usefulness; Perceived Ease of Use; Subjective Norm	(Davis, 1989)
Theory of Planned Behavior (TPB)	1991	Attitude Toward Behavior; Subjective Norm; Perceived Behavioral Control	(Ajzen, 1991)
TAM 2	2000	Subjective Norm; Image; Job Relevance; Output Quality; Results Demonstrability; Experience; Voluntariness	(Venkatesh & Davis, 2000)
Extended TAM	2003	Perceived Usefulness; Perceived Ease of Use; Trust; Risk	(Pavlou, 2003)
Unified Theory of Acceptance and Use of Technology (UTAUT)	2003	Performance Expectancy; Effort Expectancy; Social Influence; Facilitating Conditions; Gender; Age; Experience, Voluntariness of Use	(Venkatesh et al., 2003)
UTAUT 2	2012	Performance Expectancy; Effort Expectancy; Social Influence; Facilitating Conditions; Hedonic Motivation; Price Value; Habit; Gender; Age; Experience	(Venkatesh et al., 2012)

As can be seen in Table 1, several models aim at predicting an individual's adoptive behaviour. TAM, derived from the Theory of Reasoned Action model, is based on the notion that the adoption of technology is not based solely on intrinsic motivations measured by TRA, such as attitude and subjective norm. Davis (1989) added two external factors, PU and PEOU, into the model. Pavlou (2003) extended the TAM model to include the elements of trust and risk. This extended TAM model by Pavlou (2003) is the most relevant model for understanding the impact of Covid-19 on consumer PI in the current environment. It includes extrinsic factors and intrinsic factors that contribute to a consumer's intention to purchase. The UTAUT model, developed by Venkatesh et al. (2003), combines key constructs from eight other models to understand user acceptance. Venkatesh et al. (2012) developed the UTAUT2 model, which is an extension of the UTAUT model, to analyse intention in a consumer context. The model has been successful and efficient in predicting the behavior and intention of consumers. Many studies have used the model to predict consumer behavior and intention in different contexts. Therefore, two constructs, PV and FC from the UTAUT2 model, are also included in the model used in this study.

Covid-19 is a situational factor affecting the ability of consumers to perform certain activities. Therefore, it is also included in the adapted TAM model. Monsuwé, Dellaert, and De Ruyter (2004) describe situational

factors as exogenous determinants and introduce them into the TAM model, which has a significant impact on consumer online shopping experience.

However, after evaluating these models and applying them to the current context of the pandemic, the extended TAM model by Pavlou (2003), as well as PV and FC from the UTAUT2 model, were more appropriate and relevant as the basis of this study as depicted in Figure 1.

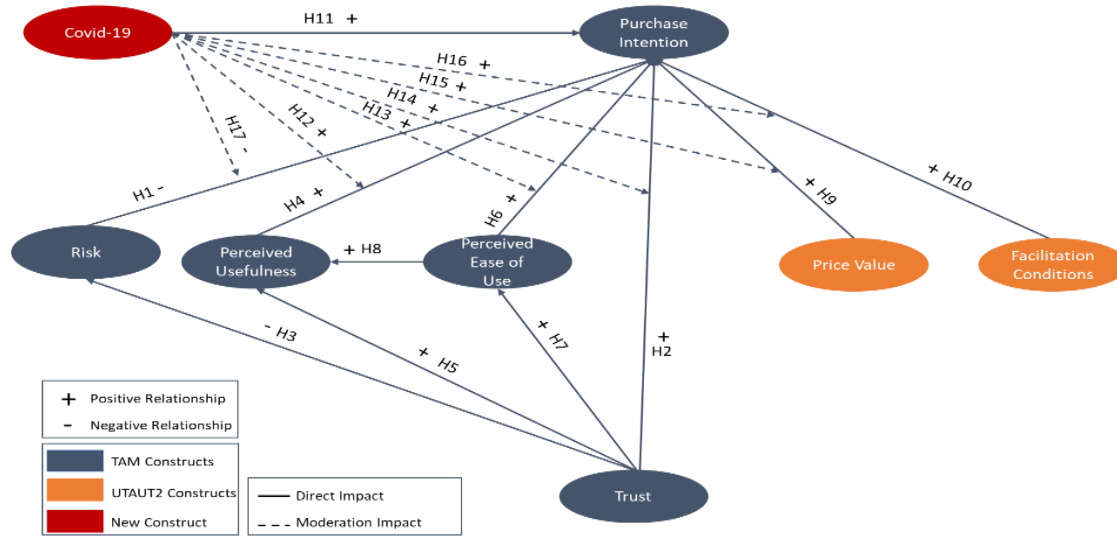


Figure 1: Proposed research model: Adapted from (Pavlou, 2003; Venkatesh et al., 2012)

Based on the research model in Figure 1 and the findings from the literature review from section 2, seventeen hypotheses were proposed based on all the constructs in Figure 1.

2.2 Factors affecting consumer purchase intention

2.2.1 Risk

Certain risks are inherent in online retail businesses (Featherman & Pavlou, 2003; Spiekermann & Paraschiv, 2002). The perceived risk factors affecting online purchases are performance, financial, time, self-esteem, social status, and privacy (Featherman & Pavlou, 2003). Consumer trust in e-commerce can help overcome the risks mentioned above and enhance e-commerce activity. According to Mou, Shin, and Cohen (2017), trust and risk are critical factors in understanding consumer PI in online retailing. The importance of both trust and risk as significant factors in consumer perceptions of e-commerce have been confirmed by Mou et al. (2017). In this study, risk has been Hypothesised as follows:

H1: Risk is negatively associated with consumer PI.

2.2.2 Trust

Trust comprises three primary characteristics: ability, benevolence, and integrity (Mayer et al., 1995). Online trust comprises two constructs, general and specific trust, each having two dimensions (Thatcher, Carter, Li, & Rong, 2013). Technology infrastructure and institutional mechanisms are the two dimensions

of general trust, whereas the merchant and website are the dimensions of specific trust (Thatcher et al., 2013). In SA, the government, industry, and regulatory institutions must focus on general trust constructs to create an environment for e-commerce and m-commerce activity to flourish. In this study, specific trust has been considered. Many studies have highlighted that perceived risk negatively affects a consumer's PI, whereas trust, both directly and indirectly, positively affects buying intent. In addition, trust has a negative effect on risk (Dinev et al., 2006; Featherman & Pavlou, 2003; Garbarino & Strahilevitz, 2004). In SA, a study on consumer online retail PI conducted by Steyn and Mawela (2016) found trust to be a significant factor for consumers to complete transactions online. In this study the following hypothesis statements have been formulated regarding Trust:

H2: Trust is positively associated with consumer PI

H3: Trust is negatively associated with consumer perceived risk

H5: Trust is positively associated with consumer PU

H7: Trust is positively associated with consumer PEOU.

2.2.3 Perceived Usefulness

PU refers to consumer perception of the value of utility derived from using technology. Davis (1989) defines PU as "PU is the extent to which a person believes that using a particular technology will enhance his or her job performance"(p.320). In this context, PU is the utility value, such as convenience, product availability, low cost, and bypassing of physical interaction, that consumers benefit from when shopping online. In a South African context, PU is critical because convenience is an important predictor of PI (Steyn & Mawela, 2016). Perceived usefulness has been hypothesised as follows:

H4: PU is positively associated with consumer PI

2.2.4 Perceived Ease of Use

PEOU refers to consumers' perception of how easy it is to use a particular technology. In online retail, it is the process of learning how to shop online, from visiting relevant websites to completing the transactions and receiving goods and services. The level of difficulty, as perceived by consumers, of completing all of these steps in online retail will influence their PEOU, an essential factor in predicting PI. Taufik and Hanafiah (2019) concluded that PEOU significantly affects consumer intention to adopt self-service technology.

In a Covid-19 environment, the role of PEOU in online retail must be understood for businesses to react appropriately to consumer perceptions. Perceived Ease of Use has been hypothesised as follows

H8: PEOU is positively associated with consumer PU

H6: PEOU is positively associated with consumer PI

2.2.5 Price Value

There are costs associated when a consumer shops online, such as data, convenience, delivery, and transaction expenses. Dodds et al. (1991) describe PV as the "amount of sacrifice needed to purchase a product" (p.308). In this context, PV refers to the trade-off between the perceived benefit of shopping online

and the cost of online shopping. Therefore, the PV is positive when the perceived benefits of shopping online are higher than the cost (Venkatesh et al., 2012). Venkatesh et al. (2012) included PV as a significant construct in the UTAUT2 model to predict consumer adoption of technology. Price value has been hypothesised as follows:

H9: PV is positively associated with consumer PI.

2.2.6 Facilitating Conditions

FC refers to consumers having the necessary access and devices to shop online (Venkatesh et al., 2003; Venkatesh et al., 2012). In a South African context, the digital and economic divide prejudices a large portion of the population from shopping online (Armstrong, 2020a).

Venkatesh et al. (2003) developed the UTAUT model to predict technology acceptance in an organisational context. They discovered that FC was a significant predictor of individuals' adoption of technology. Facilitating Conditions have been hypothesised as follows

H10: FC is positively associated with consumer PI

2.2.7 Situational Factors – Covid-19

The impact of Covid-19 on businesses is still unclear, posing a challenge to predict the future of businesses. The Board of Innovation has compiled a report attempting to provide businesses with a view of what the potential of the low touch economy may look like (Mey & Ridder, 2020). The report states that people and organisations will adapt to new ways of living, challenging traditional behavioral norms (Mey & Ridder, 2020). Bhargava et al. (2020) indicate a considerable increase in digital activities during the period. They also expect a decrease in physical shopping at stores and malls (Bhargava et al., 2020). Covid-19 has also affected consumers' disposable income due to job losses, salary cuts, and increases below inflation (Bhargava et al., 2020).

The environment that consumers are in, referred to as situational factors, plays a significant role in their purchase behaviours (Hand, Riley, Harris, Singh, & Rettie, 2009). The situational factors, which influence and shape consumer behaviours, cannot be controlled or influenced in any way by consumers themselves (Engel & Blackwell, 1982; Haugtvedt, Petty, & Cacioppo, 1992; Monsuwé et al., 2004). Therefore, Covid-19 can be classified as a situational factor as it is shaping businesses, societies, and the lives and behaviour of individuals. The Covid-19 environment has forced customers to find alternative channels to purchase goods and services. COVID-19 has been hypothesised as follows:

H11: Covid-19 is positively associated with consumer PI *H12: Perceptions of the Covid-19 impact act as a moderator such that the relationship between trust and PI is stronger when the effect of the situational factor is higher*

H12: Perceptions of the Covid-19 impact act as a moderator such that the relationship between trust and PI is stronger when the effect of the situational factor is higher

H13: Perceptions of the Covid-19 impact act as a moderator such that the relationship between PU and PI is stronger when the effect of the situational factor is higher

H14: Perceptions of the Covid-19 impact act as a moderator such that the relationship between PEOU and PI is stronger when the effect of the situational factor is higher

H15: Perceptions of the Covid-19 impact act as a moderator such that the relationship between price value and PI is stronger when the effect of the situational factor is higher

H16: Perceptions of the Covid-19 impact act as a moderator such that the relationship between facilitating conditions and PI is stronger when the effect of the situational factor is higher

H17: Perceptions of the COVID-19 impact act as a moderator such that the relationship between risk and PI is weaker when the effect of the situational factor is higher

2.2.8 Purchase Intention

For online retailing to accelerate, factors driving consumer PI must be determined. PI is considered a strong indicator of actual behaviour. Pavlou and Fygenon (2006) found that PI was significant in predicting purchase behaviour in a B2C online environment. The findings were in line with Ajzen (1991) that behaviour intention is a strong predictor of actual behavior. The factor of PI has been applied widely to study user adoption and predict actual behavior.

3. Research methodology

3.1 Research paradigm and approach

A positivist research paradigm was followed for this study which is a quantitative study conducted in South Africa on online retail. Similar studies have been conducted within a positivist paradigm (Awa et. Al., 2016). Qualtrics software was used to design an online questionnaire used for data collection. It was distributed to a total of 368 South African consumers capable of performing online shopping. A snowball and convenience sampling techniques were used to reach the appropriate number of responses required.

3.2 Data analysis

Structural equation modelling formed part of the major analysis methodology to test the main model (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017). The results begin with bivariate Pearson correlations to test for simple linear associations between the constructs, including demographics.

3.3 Validity and reliability

The following reliability and validity issues are relevant to the study.

3.3.1 Reliability

The internal reliability of the constructs is directly assessed through Cronbach alpha and factor analyses. An alpha value of 0.7 is the acceptable threshold for reliability (Lee, 2015). Generalisability is limited due to the focus on South African consumers. However, the results can be extrapolated to other contexts worldwide because digitally connected consumers often share similar preferences.

3.3.2 Internal validity

The closed-form questions were selected for their content validity and prior use in similar studies. Construct validity is tested directly in this study using CFA. The structural equation model can test predictive validity against a known model and theory set, therefore testing directly for model validity.

4. RESULTS

4.1 Sample Demographics

Table 2 details the demographic distribution of the surveyed sample.

Table 2: Demographic and Other Variables of the Sample Population.

Demographics & Other Variables	Category	N(n=376)	% Contribution
Gender	Male	139	37%
	Female	237	63%
Age	20 to 24	97	26%
	25 to 29	85	23%
	30 to 34	70	19%
	35 to 39	54	14%
	36 to 39	57	15%
	50 to 64	12	3%
	>65	1	0%
Education	Completed high school	36	10%
	Diploma	6	2%
	Bachelors degree	93	25%
	Honours/Post Graduate	132	35%
	Masters	97	26%
	PHD	12	3%
Household Income	0 to R4,999	24	6%
	R5,000 to R9,999	23	6%
	R10,000 to R19,999	31	8%
	R20,000 to R39,999	74	20%
	R40,000 to R69,999	84	22%
	R70,000 to R99,999	32	8%
	>R99,999	59	16%
	Prefer not to say	48	13%
Online Shopping Experience	No experience	21	5%
	Limited experience	47	13%
	Moderate experience	126	33%
	Above average experience	82	22%
	Extensive experience	101	27%

4.2 Correlational Analysis

The first analyses presented utilise Pearson correlations to investigate bivariate correlations between construct pairs. Table 3 shows the correlation coefficients as well as basic descriptive statistics, noting that these analyses are based on construct factor scores from the CFA. In addition, the control variables were also included in the correlation matrix to identify any significant impacts that they may have on PI or any of the other constructs. Online PI is highly correlated with PU ($r = .73, p < .01$), PEOU ($r = .73, p < .01$), COVID-19 ($r = .63, p < .01$), trust ($r = .61, p < .01$), and PV ($r = .57, p < .01$), and moderately correlated with FC ($r = .49, p < .01$) and prior experience ($r = .52, p < .01$). As also expected by the model, trust is positively correlated with PU ($r = .70, p < .01$) and PEOU ($r = .72, p < .01$), although surprisingly trust and risk are also positively correlated ($r = .38, p < .01$) which is contrary to H3. A final path in the model involves an expected association between PU and PEOU, which is strongly supported with $r = .83, p < .01$.

Table 3: Correlation analysis

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10	11	12
1. PI	.00	.95	1.00											
2. PU	.00	.92	.73***	1.00										
3. Risk	.40	1.54	.35***	.30***	1.00									
4. PEOU	.00	.93	.73***	.83***	.35***	1.00								
5. PV	.00	.90	.57***	.82***	.31***	.69***	1.00							
6. FC	4.21	2.78	.49***	.57***	.27***	.63***	.47***	1.00						
7. Trust	.00	.91	.61***	.70***	.38***	.72***	.64***	.50***	1.00					
8. COVID-19	.00	.89	.63***	.54***	.20***	.42***	.38***	.29***	.37***	1.00				
9. Female	.37	.48	.06	.07	.07	.08	.07	.04	.07	-.05	1.00			
10. Age	3.98	1.06	.05	.05	.04	.02	.08	.02	.10*	.02	.13**	1.00		
11. Education	5.77	1.23	.03	.00	.00	.01	.08	-.01	.03	-.05	.07	.45***	1.00	
12. Income	5.51	1.74	.27***	.27***	.08	.25***	.29***	.30***	.26***	.23***	-.03	.35***	.15***	1.00
13. Experience	3.56	1.14	.52***	.49***	.31***	.53***	.38***	.42***	.41***	.23***	.05	.11**	.12**	.34***

Notes: M = Variable mean, SD = standard deviation, *** = $p < .01$, ** = $p < .05$, * = $p < .10$

5. DISCUSSION

5.1 Summary of Results

Table 4 gives a high-level view of each hypothesis and the outcome of the research. Each hypothesis will be discussed in detail:

Table 4: Summary of results

<i>Hypothesis</i>	<i>Measure</i>	<i>Result</i>	<i>Outcome</i>
<i>H1</i>	<i>Risk is negatively associated with consumer PI</i>	$\beta = -0.03$; p-value >0.10	Not Supported
<i>H2</i>	<i>Trust is positively associated with consumer PI</i>	$\beta = 0.11$; p-value > 0.10	Not Supported
<i>H3</i>	<i>Trust is negatively associated with consumer perceived risk</i>	$\beta = 0.02$; p-value > 0.10	Not Supported
<i>H4</i>	<i>PU is positively associated with consumer PI</i>	$\beta = 0.17$; p-value < 0.10	Not Supported
<i>H5</i>	<i>Trust is positively associated with consumer PU</i>	$\beta = 0.02$; p-value > 0.10	Not Supported
<i>H6</i>	<i>PEOU is positively associated with PI</i>	$\beta = 0.26$; p < 0.01	Supported
<i>H7</i>	<i>Trust is positively associated with consumer PEOU</i>	$\beta = 0.46$; p < 0.01	Supported
<i>H8</i>	<i>PEOU is positively associated with consumer PU</i>	$\beta = 0.49$; p < 0.01	Supported
<i>H9</i>	<i>PV is positively associated with PI</i>	$\beta = 0.00$; p-value > 0.10	Not Supported
<i>H10</i>	<i>FC is positively associated with consumer PI</i>	$\beta = -0.02$; p-value > 0.10	Not Supported
<i>H11</i>	<i>Covid-19 is positively associated with consumer PI</i>	$\beta = 0.32$; p < 0.01	Supported
<i>H12</i>	<i>Perceptions of the Covid-19 impact act as a moderator such that the relationship between trust and PI is stronger when Covid-19 impact is higher</i>	$\beta = -0.08$; p < 0.01	Moderation Impact Supported;
<i>H13</i>	<i>Perceptions of the Covid-19 impact act as a moderator such that the relationship between PU and PI is stronger when Covid-19 impact is higher</i>	$\beta = -0.11$; p < 0.01	Moderation Impact Supported;
<i>H14</i>	<i>Perceptions of the Covid-19 impact act as a moderator such that the relationship between PEOU and PI is stronger when Covid-19 impact is higher</i>	$\beta = -0.07$; p < 0.01	Moderation Impact Supported;
<i>H15</i>	<i>Perceptions of the Covid-19 impact act as a moderator such that the relationship between PV and PI is stronger when Covid-19 impact is higher</i>	$\beta = -0.09$; p < 0.01	Moderation Impact Supported;
<i>H16</i>	<i>Perceptions of the Covid-19 impact act as a moderator such that the relationship between FC and PI is stronger when Covid-19 impact is higher</i>	$\beta = -0.01$; p-value >0.10	Not Supported
<i>H17</i>	<i>Perceptions of the COVID-19 impact act as a moderator such that the relationship between risk and PI is weaker when COVID-19 impact is higher</i>	$\beta = -0.09$; p-value <0.01	Moderation Impact Supported;

5.2 Findings discussions

H₁: Risk is negatively associated with consumer purchase intention

The results of the research do not support H1. Under the COVID climate, even though consumers may perceive online shopping as risky, they do not have much choice but to buy online. This finding is similar to Suh, Ahn, Lee, and Pedersen (2015) and Ventre and Kolbe (2020).

H₂: Trust is positively associated with consumer PI

The results of the research do not support H2. This can be attributed to the circumstances of the COVID climate trust in online retail seems to have little influence on whether customers intend to purchase online or not. This is contrary to many studies over the years that have shown that trust is a critical construct in positively influencing consumers PI (Dinev et al., 2006; Glover & Benbasat, 2010; Hong, 2015).

H₃: Trust is negatively associated with consumer perceived risk

The results of the research do not support H3. Again, this is in line with the findings from H1 and H2 because both risk and trust do not impact consumers PI in online retail.

H₄: PU is positively associated with consumer PI

There is limited support for H4 in this research, albeit it is insignificant at a p-value of <0.05 and <0.01. Therefore, for the purposes of this research, H4 is rejected. Other studies also found similar results in their study on online shopping, found that PU was also not a significant factor in consumer PI (Dachyar & Banjarnahor, 2017).

H₅: Trust is positively associated with consumer PU

The research does not support H5. This is in line with the findings of H3 in which trust does not impact risk. The overriding environment in which the Covid-19 pandemic is dictating consumer behaviour is what driving consumers' intention to purchase online is.

H₆: PEOU is positively associated with PI

The research supports H6. This finding validates previous research that shows PEOU impacts consumers online PI positively (Cho & Sagynov, 2015; Guritno & Siringoringo, 2013; Hansen et al., 2018)

H₇: Trust is positively associated with consumer PEOU

There is support for H7 in this research. Although trust does not impact PI, risk and PU in this study, it does significantly impact PEOU positively and this agrees with the outcome of the research by Pavlou (2003).

H₈: PEOU is positively associated with consumer PU

The research supports H8 significantly. PEOU does impact consumers PI not only directly but also indirectly through its impact on PU. The positive impact of PEOU on PU is in line with previous studies (Cho & Sagynov, 2015; Pavlou, 2003).

H₉: Price Value is positively associated with PI

There was no support for H8 in this research. PV does not impact consumers online PI because consumers may be forced to shop online, whether their PV from shopping online is positive or negative. This is contrary

to previous studies outcomes (Kim et al., 2007; Venkatesh et al., 2012). Additional Relationship 1: Price Value is positively associated with perceived usefulness. However, during the analyses of the data using the Structural Equation Modelling, a relationship between PV and PU was identified. The relationship is significant and directionally is expected. If consumers perceive high PV, then their PU will also be high. This is because both constructs encapsulate the positive utility of shopping online versus the negative utility. It follows the valence framework theory, which states that consumers perceive positive and negative utility value from completing a transaction (Mou et al., 2019). Therefore, the findings in this study support the relationship of PV positively impacting PU.

H₁₀: Facilitating conditions is positively associated with consumer PI. The research does not support H10. Additional Relationship 2 has been identified of facilitating Conditions which is positively associated with perceived ease of use, and it is supported by findings in previous research (Venkatesh, 2000).

H₁₁: Covid-19 is positively associated with consumer PI

There is support in this research for H11. Covid-19 has the most significant direct impact on consumers online PI. Situational factors act as a motivator that influences consumers to take a specific action (Haugtvedt et al., 1992). The situational factor Covid-19 is the motivational factor in the current climate that is driving consumers PI. This is a critical finding because Covid-19 will still have a major impact in SA and around the world in the short- to medium-term. Therefore, retailers need to ensure that they can capitalise on the opportunity to grow their sales through online retail.

Additional Relationship 3: Consumer online shopping experience is positively associated with PI

During the analyses of the data, a significant relationship between consumer online shopping experience and PI was discovered. Venkatesh (2000) and Venkatesh et al. (2012) found in their study that experience plays a significant role in determining consumers behavior intention. Consumer online shopping experience is an important factor that is significant in determining PI.

Moderation Impacts

H₁₂: Perceptions of the Covid-19 impact act as a moderator such that the relationship between trust and PI is stronger when Covid-19 impact is higher

There is support for the moderation impact of Covid-19 on trust in this research; however, contrary to H12 Covid-19 moderates the relationship between trust and PI such that it is weaker when the Covid-19 impact is higher. Therefore, a critical insight is that trust is a more important construct the less consumers perceive Covid-19 as a threat. The research shows that under a high consumer perception of Covid-19 as a threat that trust plays a minimal role in consumer's intention to purchase online. This research confirms other research on situational factors, and it's importance in predicting consumer behavior (Ajzen et al., 1982; Baron & Kenny, 1986)

H₁₃: Perceptions of the Covid-19 impact act as a moderator such that the relationship between PU and PI is stronger when Covid-19 impact is higher

There is support for the moderation impact of Covid-19 on PU in this research; however, contrary to H13 Covid-19 moderates the relationship between PU and PI such that it is weaker when the Covid-19 impact is higher. The findings support other research on the impact of situational factors on moderating the impact of other constructs on consumer behaviour (Ajzen et al., 1982; Monsuwé et al., 2004)

H₁₄: Perceptions of the Covid-19 impact act as a moderator such that the relationship between PEOU and PI is stronger when Covid-19 impact is higher

There is support for the moderation impact of Covid-19 on PEOU in this research; however, contrary to H14, Covid-19 moderates the relationship between PEOU and PI such that it is weaker when the Covid-19 impact is higher. The research shows that Covid-19 is the main driver of online consumer PI in a high threat of Covid-19 environment. The findings support other research on the impact of situational factors on moderating the impact of other constructs on consumer behavior (Monsuwé et al., 2004). This reiterates the findings discussed in this study which substantiate that Covid-19 is a stronger predictor of PI overall when consumers perceive a high threat of Covid-19.

H₁₅: Perceptions of the Covid-19 impact act as a moderator such that the relationship between PV and PI is stronger when Covid-19 impact is higher

There is support for the moderation impact of Covid-19 on PV in this research; however, contrary to H15 Covid-19 moderates the relationship between PV and PI such that it weakens the relationship when the Covid-19 impact is higher. Therefore, under a high threat of Covid-19 environment, a higher perception of PV results in lower PI.

H₁₆: Perceptions of the Covid-19 impact act as a moderator such that the relationship between FC and PI is stronger when Covid-19 impact is higher

There was no support for H16 in this research. This is due to the fact that FC involves the external environment that consumers find themselves in. Covid-19 is a situational factor that has no bearing on consumers FC to conduct online retail.

H₁₇: Perceptions of the COVID-19 impact act as a moderator such that the relationship between risk and PI is weaker when COVID-19 impact is higher.

There is support for the moderation impact of risk in this research; however, contrary to H17 Covid-19 moderates the relationship between risk and PI such that it is stronger when the Covid-19 impact is higher. When consumers perceive Covid-19 as a threat, then under a high-risk perception, their intention to purchase is lower than when their risk perception is low. The results from this study support the findings of other researchers on the moderating impact of situational factors impacting consumer behavior (Ajzen et al., 1982). This finding substantiates that Covid-19 has the largest impact on consumers PI in the current environment that consumers find themselves in.

5.2 Limitations of the study

The study followed a quantitative approach and there are several subtle and even unknown factors in the unfolding impact of Covid-19 on businesses and consumers, all of which cannot be analysed in this study. As such, supplementary qualitative research may be used to examine these broader issues.

6. Conclusion

The findings of this study, as depicted in tables 3 and 4 show that Covid-19 and PEOU are the most significant constructs for determining consumer online retail PI under the current pandemic setting in SA. In addition, online shopping experience was found to affect PI significantly. The situational construct Covid-19 had the most significant direct effect on consumer PI in this study. PEOU had the most significant impact when assessing both its direct and indirect influence on consumer online PI. Although Covid-19 was an overriding factor for consumers to shop online, the PEOU of online retailers seemed to be a critical construct for encouraging online purchases. Online shopping experience was also a significant construct impacting the PI of consumers. The moderation impact of Covid-19 was significant on risk, trust, PU, PEOU, and PV. Covid-19 moderated the effect of trust, PEOU, and PU such that the relationship between

these constructs and PI overall are weak under a high-threat environment compared to a low-threat Covid-19 scenario. The findings in this study confirm the significant direct impact of Covid-19 on consumer PI. The situational factor moderates the relationships of consumer PI and validates previous research on situational factors acting as a moderator (Monsuwé et al., 2004). This study is relevant for business in the pandemic environment and into the future to continuously test consumer perceptions that impact their PI.

7. References

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