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An Investigation into Online Shopping Cart Abandonment in South Africa

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ABSTRACT

The research sought to investigate the factors that impact consumers' online shopping cart abandonment in South Africa. The factors that impact online shopping cart abandonment which were under investigation included perceived security risks, perceived costs and organisation and research. A quantitative research design was adopted in the study and data was collected from respondents. The respondents consisted of consumers who are over the age of 18 and reside in South Africa. Structural equation modelling was used to analyse the data. The resulted showed that perceived security risks, perceived costs and organisation and research have a statistically significant impact on online shopping cart abandonment. The findings of this study offer businesses insight into the consumer motivations for abandoning their online shopping carts. This area of research has not been fully explored in developing countries, including South Africa.

Keywords: Online Shopping, Cart Abandonment, Perceived Security Risk, Organisation and Research
JEL Classifications: M3; M30; M31; M310

1. INTRODUCTION

Across the world, we have seen a digital migration where it can be noted that online transactions are fast replacing the old methods of transacting (Makame et al., 2014). Although there are studies on e-commerce, limited studies investigate the factors influencing the abandonment of online shopping carts (Huang et al., 2018). There is, therefore, a need for online retailers to understand what factors contribute to online shopping cart abandonment so that they can create strategies which will address this behaviour (Kavitha and Kannan, 2020).

In order to survive in the new digital economy, businesses as well as individuals would need to adopt digital technology, and those who do not adopt digital technology will be left behind (Rahayua and Daya, 2015). The study thus seeks to examine the factors which influence the abandonment of online shopping carts, namely perceived cost, perceived security risk and organising and research of products.

Studies by some scholars (Changchit and Cutshall, 2012; Erdil, 2018; Kukar-Kinney and Close, 2009; Javadi et al., 2012; Nair, 2016) have examined one or more of the factors sought to be investigated in this study. The findings in these studies varied and none of these studies were conducted within the South African context. Hence the study will provide insight within the South African context pertaining to this phenomenon. Furthermore, seeking to gain an understanding of consumers' online shopping cart behaviour will add to the understanding of the online decision-making process in the ever-growing digital economy.

2. LITERATURE REVIEW

Kukar-Kinney and Close (2009:3) define online shopping cart abandonment as "consumers' placement of item(s) in their online shopping cart without purchasing any item(s) during that online shopping session". This definition aligns with a newer study that defines online shopping cart abandonment as the placement of objects into a virtual shopping cart to gain

information but abandoning the cart before the transaction is made (Egeln and Joseph, 2012). This phenomenon is also described as the act of consumers placing items into their online baskets and leaving the website before completing the transaction (Erdil, 2018).

Studies conducted by scholars such as Changchit and Cutshall (2012) and Erdil (2018) have found that the five most influential factors which impact on buyer non-completion of online purchases are for the purpose of research or entertainment, perceived security risk, perceived cost and based on transaction inconvenience. In one study, Xu and Huang (2015) found that transaction inconvenience does not have a direct nor an indirect impact on the abandonment of the online shopping cart. They did, however, find that perceived cost and perceived security risk had an impact indirectly. Kukar-Kinney and Close (2009) investigated the various phenomena of why consumers placed shopping items into online carts. In their study, they found multiple justifications for using online shopping in general, which include; securing online discounts, gathering further information on the products, organising purchases, privacy/security concerns and purely for entertainment purposes.

2.1. Perceived Security Risks

Sreya and Raveendran (2016) suggest that consumers are still concerned about financial transactions online and it is important to have secure payment gateways to ensure that consumer confidence is gained. In a study conducted by Tsai and Yeh (2010) it was found that consumers who shop online can gain confidence from information security that enables them to be comfortable to buy online. Perceived risk of information security and privacy are positively impacted by website design style and transaction and delivery capability.

2.2. Perceived Costs

During online purchases, it can be noted online shoppers are acutely mindful of the aggregate total of all the items in the cart. This cost also includes additional costs such as, tax, shipping and handling costs (Kukar-Kinney and Close, 2009). Hence, the concerns that consumers have with the total cost may lead them to wait until they find lower prices on some items (Kukar-Kinney and Close, 2009).

2.3. Organisation and Research of Products

People who shop online may use the shopping cart as a means to sort and view particular items of interest for various reasons, including as a temporary storage place for later purchase (Kukar-Kinney and Close, 2009). Some retailers provide a separate "wishlist" function on their websites, however because not all retailers do so, consumers still tend to use shopping cart function for this purpose based on the convenience (Kukar-Kinney and Close, 2009).

2.4. Theoretical Framework

This study is underpinned by the Expectancy Disconfirmation theory which was developed by Oliver (1977). This theory includes four constructs namely expectations, perceived performance, disconfirmation, and satisfaction. Expectations entail the anticipated performance a customer has for a specific product or service. Perceived performance relates to the perceptions of the actual performance of a product or service by a customer. experience of the performance (Gilbert et al., 1982). Disconfirmation is the difference between the actual performance and initial expectations by a customer. Satisfaction is the outcome of the use of the product in relation to the rewards and cost of the purchase (Gilbert et al., 1982).

2.5. Hypotheses and Proposed Conceptual Model

2.5.1. Perceived security risk

In a study conducted by Erdil (2018), perceived security risk was noted as having an impact on shopping cart abandonment. Furthermore, it was found that if a consumer's expectations about the risk are negative, the consumer is more likely to abandon their shopping cart. Similarly, in a study by Kukar-Kinney and Close (2009) it was found that consumers privacy/security concerns resulted on online cart abandonment. On the other hand, Xu and Huang (2015) suggest that perceived security risk may not lead to cart abandonment, but facilitate more organisation and research within the cart. Research by Gong et al. (2013) indicated that consumers are more likely to choose online platforms if they have confidence in them, and would therefore be more likely to follow through on a purchase if the perceived security risk is low, therefore the opposite would hold true that if the perceived security risk is high, they would be more inclined to abandon their online shopping cart. From the aforementioned, the following hypothesis is proposed:

H1: Perceived security risk has a significant and positive impact on online shopping cart abandonment.

2.5.2. Perceived cost

In the context of mobile commerce services, Rahman and Sloan (2017) assert that perceived cost is the degree to which a prospective user thinks that mobile commerce services are expensive. Throughout existing literature on shopping cart abandonment, authors agree that cost directly or indirectly influences abandonment of online shopping carts. One such study indicated that perceived cost had an effect on shopping cart abandonment having the research and organisation of products in the online shopping cart abandonment as a mediator (Xu and Huang, 2015). Similarly, Kukar-Kinney and Close (2009) found that if a customer finds the price of an item too high, they will search for cheaper options elsewhere.

Kukar-Kinney and Close (2009), agree that certain incentives, such as a promotional offer can convince the customer to revisit their cart and make the purchase. Erdil (2018) found that because online shoppers are cognisant of the total costs of goods, they may be more sensitive to additional costs; (including tax, shipping, handling costs, and other fees). Thus, making them more likely to abandon the shopping cart when the costs are too high. From the aforementioned, the following hypothesis is proposed:

H2: Perceived costs have a significant and positive impact on online shopping cart abandonment.

2.5.3. Organisation and research of products

Kukar-Kinney and Close (2009) propose that online shopping carts can be used as a place to store items to better understand these items, as well as in terms of keeping track of prices for purchase at a later stage. In a study conducted by Xu and Huang (2015) it was found that cart abandonment was directly and positively influenced by organisation and research of products. Similarly, in a study by Erdil (2018) it was found that there was a positive significant influence of research purpose on shopping cart abandonment in online purchases. From the aforementioned, the following hypothesis is proposed:

H3: Organisation and research of products have a significant and positive impact on online shopping cart abandonment.

3. METHODOLOGY

A quantitative cross-sectional approach was employed in the study. Data was collected through a self-administered online questionnaire. The research participants included South Africans above the age of 18 years. The respondents included both individuals who used online shopping and those who did not use online shopping. Non-probability convenience sampling was adopted to select the respondents in the study. The online questionnaire adopted in the study was adapted from previous studies. The items measuring organisation and research were adapted from Kukkar-Kinney and Close (2010) and Erdil (2018). On the other hand, the items measuring perceived cost were adapted from Xu and Huang (2015) and Wu and Wang (2005). Perceived risk included items adapted from Rajamma et al. (2009) and Erdil (2018). Lastly, online shopping cart abandonment included items adapted from Sondhi (2017) and Erdil (2018). Before data collection, ethics clearance was obtained from the Ethics committee of the Faculty of Economic and Management Sciences.

3.1. Data Analysis

In terms of data analysis, SPSS 27 was used to perform descriptive statistics and reliability tests. To ensure reliability of the measurement scales used, Cronbach's alpha coefficient were calculated (Salkind, 2010) as well as composite reliability, which was used to assess the internal consistency of the measurements (Ramayah et al., 2011). This study examined the validity of the constructs based on factor loadings and average variance extracted (AVE) (Hair et al., 2014). AMOS 27 was used to perform structural equation modelling which entailed a two-step procedure, namely confirmatory factor analysis followed by hypothesis testing.

Table 1: Demographics

Variable	Response Category	Sample	Percentage of respondents
Gender	Male	80	41.9
	Female	103	5.9
	Prefer not to answer	8	4.2
Employment status	Student	17	8.9
	Employed	133	69.6
	Self-employed	15	7.9
	Unemployed	18	9.4
Age	18-34 years	90	47.1
	35-44 years	60	31.4
	45-54 years	19	9.9
	55+years	22	11.5

3.2. Results

A sample size of 191 respondents who completed the self-administered online questionnaire was obtained. Table 1, shows that the majority of the respondents were female, accounting for 53.9%, with male respondents accounting for 41.9% and 4.2% respondents preferred not to say. The majority of the respondents were employed (69,6%). The largest number of respondents were in the age categories 18-34 years and 35-44 years, with 47.1% and 31.4% respectively.

Model fit indices are presented below in Table 2. A two stage approach that entailed confirmatory factor analysis and structural equation modelling was conducted. An assessment of the model fit was the first stage followed secondly by testing the proposed conceptual model. The model fit indices that were assessed, included, chi-square (CMIN/DF), goodness of fit index (GFI), Tucker Lewis Index (TLI), Comparative Fit Index (CFI), Relative Fit Index (RFI), Normed Fit Index (NFI), Root Measure Standard Error Approximation (RMSEA). As depicted in Table 2 all the model fit indices met the recommended threshold.

It can be noted from Table 3, that the reliability of the entire scale was above the required threshold of 0.7. Furthermore, the composite reliability values exceeded the acceptable threshold of 0.7 and ranged from 0.745 to 0.904 (Hair et al., 2009). With respect to AVE, it can be noted that the AVE for Organise and Research Purpose (ORE), Perceived Risk (PR) and Perceived Cost (PC) were above the cut-off point of 0.5 (Zikmund et al., 2010). However, the AVE of Online shopping cart abandonment (OSCA) was evidently slightly below the cut-off point. Nevertheless, a Cronbach Alpha above 0.7 implies convergent validity (Nunnally, 1978) and all the factor loadings of the constructs were above 0.5.

3.3. Path Modelling and Hypothesis Testing

Table 4 displays the results of the proposed hypothesis in the study. It can be noted that all the proposed hypothesis in the study were supported and significant. It is evident that H2 and H3 were significant at $P < 0.01$, whilst H1 was significant at $P < 0.05$.

Table 2: Measurement model

Model fit criteria	(CMIN/DF)	GFI	IFI	TLI	CFI	RFI	NFI	RMSEA
Recommended threshold	<3	>0.8	>0.8	>0.8	>0.8	>0.8	>0.8	<0.08
Indicator value	1.767	0.905	0.953	0.939	0.952	0.870	0.898	0.064

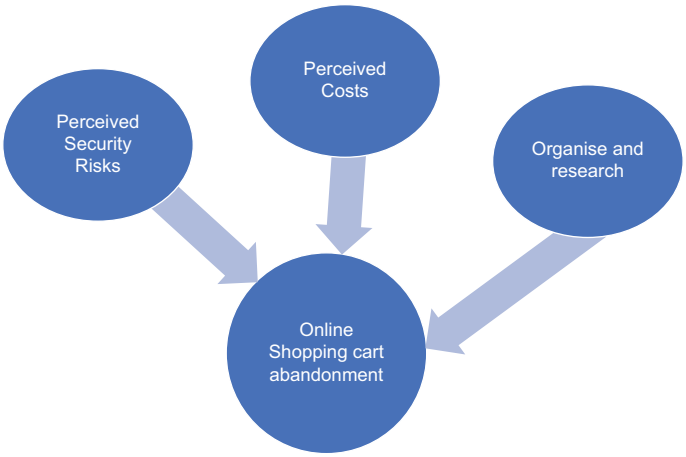
Table 3: Reliability and validity

	Cronbach's alpha	Overall Cronbach's alpha	CR	AVE
ORE	0.829	0.858	0.891	0.564
PR	0.910		0.904	0.617
PC	0.750		0.752	0.505
OSCA	0.746		0.745	0.494

Table 4: Hypothesis results

Proposed hypothesis relationship	Hypothesis	Estimate	P value	Outcome
Perceived Security Risk (PR) → Online Shopping Cart Abandonment (OSCA)	H1	0,173	0.019	Supported and significant
Perceived Cost (PC) → Online Shopping Cart Abandonment (OSCA)	H2	0,418	***	Supported and significant
Organisation and Research (ORE) → Online Shopping Cart Abandonment (OSCA)	H3	0,373	***	Supported and significant

Figure 1: Proposed conceptual model



4. DISCUSSION AND MANAGERIAL IMPLICATIONS

The study set out to examine the factors which influence the abandonment of online shopping carts, namely perceived cost, perceived security risk and the organising and research of products. A need for online retailers to understand what factors contribute to online shopping cart abandonment was identified in order for organisations to create strategies which address this behaviour (Kavitha and Kannan, 2020). The research found that these constructs positively lead to online shopping cart abandonment.

In the study it was found that organisation and research had a significant positive impact on the abandonment of online shopping carts. This finding is in line with the findings by Erdil (2018), who found that research purposes has a positive and significant influence on cart abandonment during online purchases. Similarly, this is similar to the findings by Kukar-Kinney and Close (2009). The findings of this study can further be understood through the argument by Xu and Huang (2015) who suggested that the more consumers researched, the more cautious they were to finalise their online purchases.

In terms of perceived cost, the findings of this study are in line with the findings by Erdil (2018) who found that perceived cost had a statistically significant positive influence on cart abandonment in online purchases. Similarly, Xu and Huang (2015) found that perceived cost. In terms of perceived risk the findings of the study are not in line with the findings by Kukar-Kinney and Close (2009) who found that there was no statistically significant impact of privacy/security risks on online shopping cart abandonment. Where risks were high consumers were more likely to experience discomfort and abandon their cart (Sondhi, 2017). On the other hand, Glavee-Geo, Shaikh, Karjaluoto and Hinson (2019) argued that the anxiety that something may go wrong during the purchase explained the effect of perceived security risk on consumer behaviour.

4.1. Managerial Implications

By the reasoning of the supported hypotheses in this research, it is fair to state that managers should thoroughly examine their strategies as they relate to online shopping platforms. The factors perceived cost, perceived risk and organisation and research of products have an impact on online shopping cart abandonment, and it is therefore be in the best interest of companies to focus their efforts on these factors. Some suggestions on how to aid companies could include setting up stands and hosting presentations at physical stores or at strategic business partner premises to educate customers on the use of the online shopping platform and emphasising potential savings from making use of online shopping.

Companies could investigate the use of SMS or email notifications to individuals who may have placed items into their online shopping carts for comparison purposes. The reminders could be used to nudge them back to the site to finalise their purchase. Alternately a separate functionality can be added for users to be able to compare the different prices of goods and then have the option of adding any number of the items presented to their cart for purchase. Furthermore, they could run email or online advertising campaigns to online visitors to the company's website which would be intended at educating and assuring the online shoppers of current safety measures present on their websites and online shopping platforms.

4.2. Limitations and Recommendations for Future Research

There are several limitations of the present study. The use of convenience sampling (non- probability sampling) is noted has one of the limitations of study. Furthermore, the cross-sectional nature of the study can be noted to be another limitation of the study. Future studies can be longitudinal nature and conducted

over a period of time. Stratified random sampling can be adopted to ensure that the findings of the study are more representative and generalisable to the diverse South African population. Future research can include a qualitative research design that would consist of in-depth interviews to elicit the deep-seated underlying reasons that may influence online shopping cart abandonment.

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