DOI:10.17951/h.2023.57.1.103-121

A N N A L E S
UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA
LUBLIN – POLONIA

VOL. LVII, 1 SECTIO H 2023

ILONA LIPOWSKA

ilona.lipowska@mail.umcs.pl
University of Maria Curie-Skłodowska. Faculty of Economics
5 Marii Curie-Skłodowskiej Sq., 20-031 Lublin, Poland
ORCID ID: https://orcid.org/0000-0002-9759-8517

The Intention to Cart Abandonment in the Context of Multi-Channel Pricing

Keywords: cart abandonment; pricing; multichanneling; multi-channel pricing

JEL: M30; M31

How to quote this paper: Lipowska, I. (2023). The Intention to Cart Abandonment in the Context of Multi-Channel Pricing. *Annales Universitatis Mariae Curie-Skłodowska, sectio H – Oeconomia*, Vol. 57, No. 1.

Abstract

Theoretical background: Shopping cart abandonment is defined as a situation when the customer chooses products but does not complete the financial transaction. The vast majority of research articles on purchase abandonment concerns the online or mobile environment. The presented research model refers to the customer intention to resign from purchasing both in physical store and via mobile app caused by a multi-channel pricing strategy. By analogy to many definitions of online cart abandonment, the author defines cart abandonment in a multichannel environment as a decision about postponing purchase at all, both in a physical store and in a purchase mobile app. One of the possibilities of consumer behaviour as a reaction to the multi-channel pricing may be purchase abandonment. The impact of price differentiation across channels on purchase abandonment still deserves research attention due to the lack of the unequivocal confirmation.
Purpose of the article: Setting prices in a multichannel environment creates a vital challenge for multi-channel retailers. This article attempts to explain one of the undesirable consequences of the channel-based price differentiation, which is the purchase abandonment. The purpose of this paper is to identify factors influencing the customer intention to abandon the purchase under channel-based price differentiation conditions (physical store and mobile purchase app).

Research methods: This study is a quantitative one employing a scenario-based approach to obtain responses from 500 participants. This research used the structural equation modelling to test its hypotheses. **Main findings:** Findings reveal positive impact of perceived limited self-determination and perceived price unfairness on intention to cart abandonment, whereas consumer trust in a mobile app can reduce the intention to resign from purchase. Furthermore, the author finds the indirect impact of the mobile app familiarity as well as the retailer brand awareness. Research results can help managers to reduce the likelihood of losing customers in the multi-channel pricing environment.

Introduction

Setting prices in a multichannel environment creates a significant dilemma for retailers (Homburg et al., 2019; Baker et al., 2018). One of the possibilities of consumer behavior as a reaction to the channel-based price differentiation may be purchase abandonment. The scale of cart abandonment is really impressive (Padigela & Suguna, 2021); researchers indicate that in the online environment it can be approx. 70% (Zhao et al., 2021; Rubin et al., 2020) or even up to 80% (Kapoor & Vij, 2021). Thus, understanding how to reduce purchase abandonment is a priority in e-commerce (Xu & Huang, 2015), reduction of the shopping cart abandonment rate can directly affect e-commerce growth by increasing revenue and profits (Kumar & Krithika, 2019). The question of how to reduce the abandonment of shopping carts has become a vital issue for both for practitioners and scholars (Jiang et al., 2021). Shopping cart abandonment is defined as a situation when the customer chooses products but does not complete the financial transaction (Egeln & Joseph, 2021). Kapoor and Vij (2021) introduced more precise term, i.e. "checkout abandonment". By analogy to many definitions of online cart abandonment, the author of this paper defines cart abandonment in a multichannel environment as a decision about postponing purchase at all, both in a physical store and in a purchase mobile app.

The Internet revolution has irreversibly changed retailing and the way consumers buy and engage with products (Sondhi, 2017). The vast majority of research articles on purchase abandonment concerns the online or mobile environment (Song, 2019; Jiang et al., 2021; Zhao et al., 2021; Kapoor & Vij, 2021), various researchers had stated that e-cart abandonment is determined by several factors (de Silva & Wijayanayake, 2015). Online shopping behaviour has been investigated by marketing scholars for more than two decades now (Mittal, 2021). The presented research model refers to the customer intention to resign from purchasing both in a physical store and via a mobile app caused by a multi-channel pricing strategy. To the best of the author's knowledge, the intention to resign from purchase under the influence of multichannel pricing is not fully recognized in the scientific literature. Although many studies have made undeniable contributions toward explaining factors affecting online shopping cart abandonment, there is a paucity of research aimed at understanding the impact of multi-channel pricing strategy on the cart abandonment. This paper is expected to fill that gap, by focusing on several factors as potential determinants of the decision

to abandon shopping carts in the context of multi-channel price differences. The aim of the article is to identify factors influencing the customer intention to abandon the purchase under channel-based price differentiation conditions (offline sales channel and mobile app).

This research is motivated by findings in the area of some behavioral consequences of price differentiation in a multichannel environment. Neslin et al. (2006, pp. 95–112) noted that "shoppers may find a multi-price strategy policy confusing and unfair". Neslin and Shankar (2009) also indicated the risk of customer confusion. Thus, if product price differentiation across channels can lead to a stronger consumer confusion than price unification across sales channels (Bertrandie & Zielke, 2019), the author deduces that this consumer confusion as a source of stress can lead to decreased consumption (Durante & Laran, 2016) or at least shopping hesitation (Cho et al., 2006). Garaus (2018) perceived the shopping abandonment as a vital consequence of consumer confusion in brick-and-mortar retail environments. The impact of price differentiation across channels on purchase abandonment still deserves research attention due to the lack of the unequivocal confirmation (Bertrandie & Zielke, 2019).

Literature review

The literature offers theoretical explanation for cart abandonment in multi-channel buying situations. Firstly, according to equity theory (Adams, 1963), human motivation is a function of how customers perceive their ratio of inputs and outputs relative to others (Ryan, 2016). Equity theory attempts to understand people's perceptions of fairness, evaluations of equity, and behavioral judgments (Adams, 1963). According to this theory, customers include sacrifices or investments (inputs) vs. rewards (outputs) and compare the result with other similar experience or situations (Lim, 2020). Consistent with equity theory, fairness of a particular transaction is judged according to the input/output relationship between the exchange parties (Kukar-Kinney et al., 2007). When inequities arise, equity theory provides a meaningful framework for shaping consumer purchase intention (Maxham, 2001). In this study, the author applies equity theory as a useful framework for better understanding buyer vs. non-buyer behavior in a multi-pricing environment. Thus, by analogy, transaction is judged according to the input/output relationship between the proposed purchase channels, multichannel customers weight sacrifices or investments (inputs) against rewards (outputs) and compare the result with other purchase channels. In this study, the consumer intended to buy the product in a physical store, but as a result of comparing the offering in a different channel (mobile purchase app), there is a risk of postponing the planned purchase.

According to the assumptions of the traditional economic theory, consumers have full information about the prices of products available on the market (Kutlu, 2015). However, an asymmetry in price information between buyers and sellers was

gradually noticed (Loy et al., 2020). The level of price knowledge is naturally related to the frequency of purchasing products – consumers typically have good price knowledge for items they buy regularly (Busse et al., 2017). Subjective knowledge plays a bigger role in predicting customer behavior compared to the other type of knowledge (Rizkalla & Erhan, 2020). The author analyzes the impact of the subjective price knowledge on the customer perception in the area of price unfairness, decision-making freedom, and value of the offer.

Therefore, the following hypotheses are proposed:

H1: Subjective price knowledge negatively impacts perceived price unfairness.

H2: Subjective price knowledge negatively impacts limited self-determination.

H3: Subjective price knowledge positively impacts perceived value.

As in the case of subjective price knowledge, the degree of knowledge of the mobile app as a purchasing channel has a positive effect on the consumer. In the author's research model, the potential positive impact of mobile app familiarity on trust to retailer in a mobile app was analyzed. The emergence of the app economy phenomenon proves the popularity of the mobile application (Kim et al., 2016a). A mobile shopping application is identifiable as a marketing channel different from the conventional online channel (Singh & Jang, 2022). The growing popularity of mobile apps is due to the extraordinary growth and development of the smartphone market (Al-Adwan & Sammour 2021). Just like the brand experience, also the mobile application experience has traditionally been delivered through customers' interaction with a mobile app (Raajpoot & Ghiloni-Wag, 2019). The level of customer familiarity with a brand is crucial because consumers' prior knowledge about a familiar brand limits their level of uncertainty (Weisstein et al., 2016). Monilo et al. (2020) also noted that both affective and cognitive experience positively influence the satisfaction and trust that users have in apps.

Therefore, the H4 hypothesis is proposed:

H4: Mobile app familiarity positively impacts the trust in a retailer.

A similar reasoning was used in the case of the relationship between the retailer brand awareness and consumer trust in this retailer. Huang and Sarigöllü (2012) define brand awareness as reflected by the consumers' ability to identify the brand under different conditions. Brand awareness is a key business instrument that influences consumers' brand attitudes and choices (Du et al., 2020). Empirical evidences show that the brand awareness builds the brand trust (Hou & Wonglorsaichon 2016). This positive impact of the brand awareness on trust was also supported in reference to e-commerce awareness and e-customer trust (Aslam et al., 2019). Literature suggests that brand familiarity causes stronger satisfaction and higher trust with the brand (Copeland & Bhaduri, 2020).

Therefore, the H5 hypothesis is proposed:

H5: Retailer brand awareness positively impacts the trust in a retailer.

Price perception has a very subjective nature and under channel-based price differentiation it is gaining importance. A customer tends to interpret a price based

on their subjective perceptions and transfer them as a concept of expensive or cheap onto their memory (Septiani & Chaerudin, 2020). Xia et al. (2004, pp. 1–15) define price fairness as "a consumer's assessment and associated emotions of whether the difference (or lack of difference) between a seller's price and the price of a comparative item from the other party is reasonable, acceptable, or justifiable". The importance of price fairness stems from its influence on consumer behavior, particularly on purchase decisions (Malc et al., 2020). Based on the research showing a positive relationship between the perception of fair prices and the intention to buy (Schmidt et al., 2020), in the proposed model the author concludes about the impact of price unfairness on the intention to abandon a shopping cart.

Therefore, the H6 hypothesis is proposed:

H6: Perceived price unfairness positively impacts an intention of cart abandonment.

In the context of multi-channel pricing, Vogel and Paul (2015) drew attention to an interesting phenomenon of limited self-determination and its potentially negative impact on the intention to buy. However, the concept of limited self-determination is not widely used in marketing literature, it is much more popular in psychology (Fateh et al., 2021; Peetz & Milyavskaya, 2021). Self-determination refers to "the ability of an individual to determine for him/herself outcomes that he/she desires" (Peterson et al., 2021, pp. 299–318). Limited self-determination means consumer conviction that a certain action was taken as a result of marketing initiatives and is not the result of their free and independent decision (Dholakia, 2006). A self-determined customer is convinced of entering into a relationship with the provider on their own initiative. In the context of multi-channel pricing, it is about the consumer's belief that a specific purchase channel has been selected as a result of a solicitation by the seller. In the proposed research model limited self-determination is treated as a variable that may discourage a consumer from purchasing at all.

Therefore, the H7 hypothesis is proposed:

H7: Limited self-determination positively impacts an intention of cart abandonment.

Perceived value research is an interdisciplinary area (Zietsman et al., 2019) and it has received much attention in the marketing literature due to its role in explaining consumption behavior (Ma et al., 2020). Perceived value is operationalized by researchers as a ratio of total benefits to total sacrifices (Zietsman et al., 2020). This term is interpreted as the difference between the benefits obtained and the sacrifices made, the trade-off between benefits acquired and perceived costs (Chou, 2014). The source of the researchers' interest lies in the positive impact of perceived value on the intention to buy (Oyedele & Simpson, 2018; Karjaluoto et al., 2019), the intensity of usage (Fehrenbach & Herrando, 2021) as well as the customer's loyalty (Aw et al., 2019; Xu et al., 2021). In the proposed research model two marketing channels are taken into consideration by the scenario participant – a mobile purchase app where the price promotion is provided and a physical store where the purchase was initiated.

Therefore, the H8 hypothesis is proposed:

H8: Perceived value negatively impacts an intention of cart abandonment.

The crucial role of trust in a monetary transaction is unquestionable (Ozdemir & Sonmezay 2020). Despite considerable research interest in consumer trust, there is not one universally accepted definition of "trust" (Kim & Park, 2013), it is a multiplex concept (Zhang et al., 2021). Trust is a conviction or anticipation that the word or promise given by the seller can be relied upon and the seller will not take advantage of the consumer's weakness (Abyad, 2017). Trust seems more critical in an online environment than in conventional offline retail context (Abyad, 2017). Trust is a key factor to consider in a brand success (Rajavi et al., 2019) due to its positive effect on the stability of the relationship between a seller and a buyer and increasing trust will help in increasing purchase intentions (Vassilikopoulou et al., 2018; Irshad et al., 2020). Trust is a significant predictor of intention to transact in e-commerce (Bulsara & Vaghela, 2020). In the proposed research model, the author is interested in the role of trust in reducing consumer intention to resign from purchasing at all when channel-based price differentiation is provided.

Therefore, the H9 hypothesis is proposed:

H9: Trust to retailer negatively impacts an intention of cart abandonment.

Figure 1 shows a conceptual research model with the set of hypotheses.

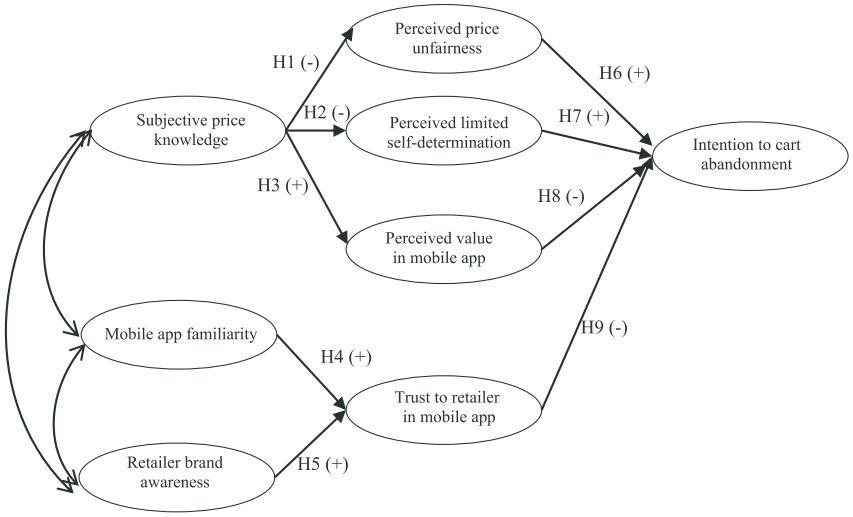

Figure 1. Conceptual research model

Source: Author's own study.

Research methods

The data comes from a questionnaire survey carried out in 2021, a research sample of 500 respondents. Cosmetics was the product category which the questionnaire was prepared for. Due to the purpose of the study, the participation in the study was under the condition of the customer's experience in purchasing both in a physical store and in an online store. This study is a quantitative study employing a scenario-based approach to obtain responses from 500 participants (Table 1).

The scenario-based experiments were used in this study to investigate the impact of selected factors on behavioural intention. Researchers indicate several important advantages associated with scenario-based experiments such as the controllability, time compression, avoiding ethical doubts related to the situation created in the scenario (Kim & Jang, 2014). In the presented study, participants completed the study online. Except for the last demographic part of the questionnaire, all questions were based on a 7-point Likert scale (1 – strongly disagree, 7 – strongly agree).

First, participants completed questions about three variables (subjective price knowledge, mobile app familiarity, store brand awareness). Next, participants read the scenario, and they were told that the study concerned the brand of the most popular cosmetics store in Poland (PCS[1]). Participants were told to imagine one particular shopping situation. The presented text said that a participant plans to buy a specific cosmetic and they have decided to buy it in a physical store of the PCS brand. It turned out that the chosen cosmetic is available in the PCS mobile application at a lower price (the seller recommends to install the application and hence the information about the lower price).

Table 1. Characteristics of the research sample

Categories	%	Count
Gender		
Female	60.0	300
Male	40.0	200
Age (years)		
18–24	15.6	78
25–34	30.8	154
35–44	31.8	159
45–54	12.8	64
55 or more	9.0	45
Household size (persons)		
1	4.6	23
2	13.4	67
3	35.6	178
4	28.2	141
5	12.4	62
6	5.8	29

[1] "PCS" – an abbreviation for popular cosmetic store, the particular brand used in the study.

Categories	%	Count
Role in the household		
Sole breadwinner	15.6	78
One of the breadwinners	76.0	380
Dependent on the family	8.4	42
Number of dependent children		
None	33.4	167
One	37.0	185
Two	22.0	110
Three	6.8	34
Four or more	.8	4
Assessment of financial situation		
Very bad	1.0	5
Bad	5.4	27
Neither bad nor good	41.6	208
Good	46.4	232
Very good	5.6	28

Source: Author's own study.

No other feature of the cosmetic (apart from the price) makes the offline offer different from the offer in the mobile application. The participant was asked to note the assumption that there are no delivery costs – click & collect option is available. Participants were instructed to read the scenario as if they were at this physical cosmetics shop. After reading the scenario, participants completed questions about the rest of latent variables. At the end of the scenario two items on realism check were provided. Finally, participants responded to several questions on some basic demographics.

Results

For the purpose of the research, a SEM (structural equation modelling) analysis using AMOS 26 was conducted. Figure 1 shows a conceptual research model. The CFA models were performed using a maximum likelihood estimation. Estimates presented relate to the standardized regression weights. All items in latent variables were adapted from the literature. Table 2 and Table 3 present convergent validity and discriminant validity. All latent variables were adapted from the literature (see Appendix). The statistics performed for reliability – the Cronbach's alpha and composite reliability (CR) – are higher than the minimum value of .7. In all cases, the average variance extracted (AVE) is higher than .5, and all items have enough convergent validity, since all the parameters are statistically significant.

The model fit is as follows: CMIN/DF 2.719, GFI .903, AGFI .878, RMSEA .041 (LO 90 .039 – HI 90 .044), PCLOSE 1.000, NFI .898, TLI .922. The research model explains 41.0% of the dependent variable (the intention to cart abandonment) (Figure 2).

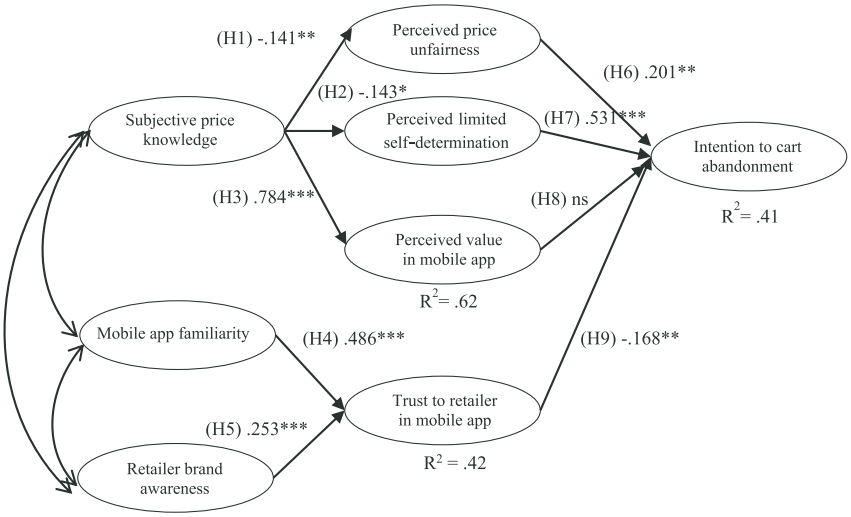

Figure 2. Results of structural model estimation

***$p < .001$; ** $p < .01$; *$p < .05$, ns – non-significant

Source: Author's own study.

Eight out of nine research hypotheses have been positively verified, only H8, referring to the potential impact of perceived value on the intention to resign from purchase, was rejected (Table 4).

Table 2. Selected measures of constructs' reliability and validity

Latent variables	Items	Cronbach's alpha	CR	AVE
Subjective price knowledge (PK)	PK1 PK2	.744	.818	.693
Mobile app familiarity (AF)	AF1 AF2 AF3	.780	.813	.593
Retailer brand awareness (BA)	BA1 BA2 BA3	.805	.843	.642
Perceived price unfairness (PU)	PU1 PU2 PA3	.873	.860	.740
Limited self-determination (SD)	SD1 SD2 SD3	.744	.800	.574
Perceived value (PV)	PV1 PV2 PV3	.895	.824	.610

Latent variables	Items	Cronbach's alpha	CR	AVE
Trust in retailer (T)	T1 T2 T3 T4	.864	.867	.621
Intention to cart abandonment (INT)	INT1 INT2 INT3	.850	.855	.664

Source: Author's own study.

Table 3. Discriminant validity

Dimensions	Fornell–Larcker criterion								
		PK	AF	BA	PU	SD	PV	T	INT
Subjective price knowledge (PK)	PK	.832							
Mobile app familiarity (AF)	AF	.553	.770						
Retailer brand awareness (BA)	BA	.460	.491	.801					
Perceived price unfairness (PU)	PU	-.054	.093	.118	.860				
Limited self-determination (SD)	SD	.083	.093	-.263	.524	.757			
Perceived value (PV)	PV	.230	.409	.393	.159	-.261	.781		
Trust to retailer (T)	T	.419	.558	.448	-.327	.184	.725	.788	
Intention to cart abandon (INT)	INT	.058	-.163	-.264	.437	.630	-.261	-.297	.815

Source: Author's own study.

Table 4. Verification of research hypotheses

Hypothesis	p-value	Estimates	Acceptance or rejection
H1	.009	-.141	Acceptance
H2	.013	-.143	Acceptance
H3	.000	.784	Acceptance
H4	.000	.486	Acceptance
H5	.000	.253	Acceptance
H6	.000	.201	Acceptance
H7	.000	.531	Acceptance
H8	.092	-.085	Rejection
H9	.001	-.168	Acceptance

Source: Author's own study.

Discussions

The author reached several results throughout the study. Regarding the final model identified in the study, consumers intention to purchase abandonment was strongly and directly influenced by perceived limited self-determination (path estimate = .531; *p* value = .000). Negative relation between the purchase intention and

perceived limited self-determination was as identified by Vogel and Paul (2015). These researchers also indicated the negative impact of this factor on the relationship quality. According to the author, this study is a valuable extension of the Vogel and Paul (2015) conclusions. This negative impact of limited self-determination on the relationship quality is confirmed in the current study in the form of a decision to abandon the shopping cart. Autonomy is a basic human need and when it is threatened, there can be a reduction in customer satisfaction (Patrick et al., 2007) and repurchase tendency (Dholakia, 2006). Presented model indicated some new aspects such as direct negative consequences even during current purchase process – intention to resign from purchasing.

The second relevant factor that has direct positive impact on purchase abandonment intention was the perception of price unfairness (path estimate = .201; *p* value = .000). As identified by Vogel and Paul (2015), under channel-based price differentiation circumstances, the perception of price unfairness decreases relationship quality understood as consumer trust and satisfaction. If perceived price unfairness reduces trust to multichannel retailer, one consequence of this can be purchase abandonment, as this study suggests. Price unfairness perception is inextricably linked with price differentiation in a multichannel environment. One of the directions of reducing negative consequences is an attempt to provide an explanation for the observed differences in prices. Becker et al. (2016) suggest that, if only possible, an explanation for different prices based on channels costs should be provided. Cost-based communications as well as value-based communications are recommended by Fassnacht and Unterhuber (2016). However, the results of the available studies do not clearly support the effectiveness of the communications based on costs in shaping a positive perception of price fairness (Greval et al., 2004; Fassnacht & Unterhuber, 2016; Lu et al., 2020).

The third factor that directly, yet negatively, influences the purchase abandonment intention was the consumers' trust to multichannel retailer (trust in a specific channel, that is in a mobile purchase app) (path estimate = -.168; *p* value = .001). Thus, the greater the trust, the greater the likelihood that the product will be chosen and consumer will not resign from purchasing. Researchers identified positive impact of trust on the stability of the relationship between retailer and buyer (Vassilikopoulou et al., 2018; Irshad et al., 2020). The author believes that one of the signs of a stable relationship is not giving up on the purchase.

Finally, there was a positive indirect impact of both retailer brand awareness and mobile app familiarity (respectively, path estimate = .253; *p* value = .000 and path estimate = .486; *p* value = .000). Both of these factors improve trust in a retailer in a specific marketing channel (mobile purchase app) and as a result this trust weakens the customer intention to resign from purchasing. Due to the strong positive impact on retailer trust, it is worth educating customers about the usefulness and ease of the mobile app usage as a purchasing channel (Li et al., 2020; Kim et al., 2016b). The recommended intermediate step in the process of convincing customers to buy in the application is to convince them to use the app as a communication channel

(information source). The acceptance of the application as a communication channel can reduce (ultimately eliminate) consumers' concerns about purchases via mobile app. Shaping brand awareness is another vital factor indirectly reducing the intention to resign from a purchase. Many different promotional tools can be used to improve brand awareness, both in a brick-and-mortar environment and online settings. The expansion of multi-channel sales by launching new communication and/or sales channels is conducive to build a brand recognition in a multi-channel environment. Investments in mobile applications can pay off due to research findings that mobile apps in comparison to mobile websites, create higher advertisement recognition (Park & Park, 2020).

According to presented research model, a subjective price knowledge has a positive impact on all three variables such as: perceived price unfairness (path estimate = -.141; *p* value = .001), perceived limited self-determination (path estimate = -.143; *p* value = .013), perceived value in mobile app (path estimate = .784; *p* value = .000). The strong positive influence is visible in case of perceived value, two other relations are negative and weaker but still statistically significant. It means that customer price knowledge can weaken both price unfairness perception and limited self-determination. Due to the negative nature of both of these variables it is worth emphasizing this relation – the stronger customer price knowledge is, the weakened his/her perception of price unfairness and limited self-determination. Both of these aspects relate to the "dark side" of transaction – having better price knowledge customers note softer unfairness in price differences between sales channels as well as a weaker pressure to choose the specific channel. Some important practical implications arise from the such as links. It is highly recommended to strive to improve consumer price knowledge. Subjective knowledge can be identified as the result of highly objective knowledge and the previous experience (Utkarsh et al., 2018). In order to influence customer price knowledge, retailers can impact purchase frequency (Busse et al., 2017), thus, in case of FMCG products to encourage customer to do more frequent and/or bigger purchase is possible, e.g. by indicating a different (new) use of the product. Another recommendation is to invest in a regular and rather intensive price communications. A sort of customer education in this area is recommended. The general goal is to improve the belief of consumers regarding their knowledge of the prices by increasing the frequency of consumer contact with the price information (directly during the purchase or through promotional messages).

An attribute that has no significant effect on intention to resign from purchasing was the perceived value in a cheaper marketing channel (path estimate = -.085; *p* value = .092). The perceived value is pointed out by the countless studies as the predictor of the purchase. This study differs from most of the aforementioned studies by considering the issue of multi-channel price differentiation and examining the impact of perceived value in one channel on the intention to abandon a purchase at all (both in this channel and the more expensive one). In this sample, results suggest that the perceived value in the cheaper marketing channel does not affect consumer

intention to resign from purchasing both in a more expensive marketing channel and in a cheaper one. Some additional studies should be conducted, mainly on the influence of perceived value under channel-based price differentiation. Nevertheless, the very strong positive influence of the subjective price knowledge on the value perception in a mobile purchase app deserves attention.

Conclusions

The objective of this study was to analyse the influence of several factors on the intention to resign from purchasing when channel-based price differentiation is provided. Importantly, unlike most articles, this study took into account the tendency to abandon the shopping cart in physical store. The model takes into account two groups of factors, the first one related to the general characteristics of the buyer, while the second one related to the specific purchasing situation described in the scenario. To achieve the set research goal, the author collected data and used them to verify proposed research model in this area. Effects of multi-pricing in consumer hesitation behaviour deserve to be a much-debated topic. This article attempts to explain one of the undesirable consequences of channel-based price differentiation, which is the purchase abandonment. Most studies focus on examining the factors influencing purchase intentions in the cheaper marketing channel (Vogel & Paul, 2015). To the best of the author's knowledge, the intention to resign from purchase under the influence of multichannel pricing is not fully recognized in the marketing literature. To fill this gap in the literature, this study aims to determine the role of multichannel pricing on the cart abandonment in multichannel environment. The author believes that this issue deserves the interest of researchers due to only few conclusions made and additionally not fully confirmed (Bertrandie & Zielke, 2019). Findings shed light on the dark side of channel-based price differentiation. Lower price is proposed by multichannel retailers in order to create some desire consequences in consumer behaviour (Vogel & Paul, 2015; Trampe et al., 2014; Verhoef et al., 2015; Homburg et al., 2019). However, as it is shown in this paper, a lower price in another channel may disrupt the current decision-making process and it can lead to the resignation from the purchase in general. The author believes that her paper is an successful attempt to a better understanding of potential consequences of multi-channel pricing. According to the author, this paper serves as a foundation for future research.

As practical implications, it is worth pointing three main aspects. The first one is to improve the level of subjective price knowledge, which reduces both the perceived unfairness of prices as well as the perceived limited self-determination – both of these two variables positively influence the intention to cart abandonment. The second recommendation refers to strengthening the knowledge of the mobile application as not only a communication channel, but also as a sales channel. Finally, it is

recommended to invest in brand awareness of the retailer brand using a wide range of possibilities in this area. When customers know the retailer in general as well as his/her purchase mobile app, their willingness to resign from the purchase is lower.

Although the results of this study have useful implications, some limitations must be considered. First, future research could extend empirical testing to different types of products. In order to study the consequences of price differentiation in a multi-channel environment, product categories that are comparably available in different channels should be taken into account. The mobile purchase application is rapidly gaining in popularity (Li et al., 2020), so it will be indisputably justified to conduct research on different product categories. Second limitation concerns the model where in order to analyse factors affecting the intention to resign from purchasing in a multichannel and multi-pricing environment other variables, which are not included in the proposed model, could be taken into account. The author strongly believes that perceived limited self-determination deserves more research attention, especially in multiplicity of price incentives in a multichannel retail environment. Finally, the very essence of the scenario approach provides the limitation that refers to artificial buying situation.

References

Abyad, A. (2017). Importance of consumer trust in e-commerce. *Middle East Journal of Business*, *12*(3).

Adams, J.S. (1963). Towards an understanding of inequity. *The Journal of Abnormal and Social Psychology*, *7*(5), 422–436.

Al-Adwan, A.S., & Sammour, G. (2021). What makes consumers purchase mobile apps: Evidence from Jordan. *Journal of Theoretical and Applied Electronic Commerce Research*, *16*(3), 562–583. **doi:10.3390/jtaer16030034**

Aslam, W., Hussain, A., Farhat, K., & Arif, I. (2019). Underlying factors influencing consumers' trust and loyalty in e-commerce. *Business Perspectives and Research*, *8*(2), 186–204. **doi:10.1177/2278533719887451**

Aw, E.C.-X., Basha, N.K., Ng, S.I., & Sambasivan, M. (2019). To grab or not to grab? The role of trust and perceived value in on-demand ridesharing services. *Asia Pacific Journal of Marketing and Logistics*, *31*(5), 442–1465. **doi:10.1108/APJML-09-2018-0368**

Baker, W., Benmark, G., Chopra, M., & Kohli, S. (2018). Master the challenges of multichannel pricing. *MIT Sloan Management Review*, *60*(1).

Becker, L.C.B., Lionello, R.L., Nagel, M. de B., Heldt, R., Trombetta, M.S., & Slongo, L.A. (2016). pricing strategy in multi-channel retailing and fairness perception: An examination of boundary conditions. *RAIMED – Revista de Administração IMED*, *6*(2), 162–172.

Bertrandie, L., & Zielke, S. (2019). The influence of multi-channel pricing strategy on price fairness and customer confusion. *The International Review of Retail, Distribution and Consumer Research*, *29*(5), 504–517. **doi:10.1080/09593969.2019.1664611**

Busse, M.R., Israeli, A., & Zettelmeyer, F. (2017). Repairing the damage: The effect of price knowledge and gender on auto repair price quotes. *Journal of Marketing Research*, *54*(1), 75–95. **doi:10.1509/jmr.13.0291**

Bulsara, H.P., & Vaghela, P.S. (2020). Understanding the role of trust in online shopping intention for consumer electronics products. *SCHOLEDGE International Journal of Management & Development*, *7*(3), 47–58.

Cho, Ch.-H., Kang, J., & Hongsik, J.Ch. (2006). Online shopping hesitation. *CyberPsychology & Behavior*, *9*(3), 261–274. **doi:10.1089/cpb.2006.9.261**

Copeland, L., & Bhaduri, G. (2020). Consumer relationship with pro-environmental apparel brands: Effect of knowledge, skepticism and brand familairity. *Journal of Product & Brand Management*, *29*(1), 1–14. **doi:10.1108/JPBM-03-2018-1794**

Durante, K.M., & Laran, J. (2016). The effect of stress on consumer saving and spending. *Journal of Marketing Research*, *53*(5), 814–828. **doi:10.1509/jmr.15.0319**

Hou, Ch., & Wonglorsaichon, P. (2016). The relationship among brand awareness, brand image, perceived quality, brand trust, brand loyalty and brand equity of customer in China's antivirus software industry UTCC. *International Journal of Business & Economics*, *8*(1), 153–170.

Chou, Ch.-M. (2014). How does manufacturing service perceived value influence customer satisfaction? An investigation of global semiconductor industry. *International Journal of Production Research*, *52*(1), 5041–5054. **doi:10.1080/00207543.2014.895065**

Dholakia, U.M. (2006). How customer self-determination influences relational marketing outcomes: evidence from longitudinal field studies. *Journal of Marketing Research*, *43*(1), 109–120. **doi:10.1509/jmkr.43.1.109**

Du, H.S., Dua, S., Xu, J., Tang, H., & Jiang, R. (2020). Repurchase intention in online knowledge service: The brand awareness perspective. *Journal of Computer Information Systems*.

Egeln, L.S., & Joseph, J.A. (2012). Shopping cart abandonment in online shopping. *Atlantic Marketing Journal*, *1*(1), 1–14.

Fassnacht, M., & Unterhuber, S. (2016). Consumer response to online/offline price differentiation. *Journal of Retailing and Consumer Services*, *28*, 37–148. **doi:10.1016/j.jretconser.2015.09.005**

Fateh, A., Mustamil, N., & Shahzad, F. (2021). Role of authentic leadership and personal mastery in predicting employee creative behavior: a self-determination perspective. *Frontiers of Business Research in China*, *15*(3).

Fehrenbach, D., & Herrando, C. (2021). The effect of customer-perceived value when paying for a product with personal data: A real-life experimental study. *Journal of Business Research*, *137*, 222–232. **doi:10.1016/j.jbusres.2021.08.029**

Garaus, M. (2018). Confusion in internet retailing: Causes and consequences. *Internet Research*, *28*(2), 477–499. **doi:10.1108/IntR-11-2016-0356**

Greval, D., Hardesty, D.M., & Iyer G.R. (2004). The effects of buyer identification and purchase timing on consumers' perceptions of trust, price fairness and repurchase intentions. *Journal of Interactive Marketing*, *18*(4), 87–100.

Homburg, Ch., Lauer, K., & Vomberg, A. (2019). The multichannel pricing dilemma: Do consumers accept higher offline than online prices? *International Journal of Research in Marketing*, *36*(4), 597–612. **doi:10.1016/j.ijresmar.2019.01.006**

Huang, R., & Sarigöllü, E. (2012). How brand awareness relates to market outcome, brand equity, and the marketing mix. *Journal of Business Research*, *65*(1), 92–99. **doi:10.1016/j.jbusres.2011.02.003**

Irshad, M., Ahmad, M.S., & Malik, O.F. (2020). Understanding consumers' trust in social media marketing environment. *International Journal of Retail & Distribution Management*, *48*(11), 1195–1212. **doi:10.1108/IJRDM-07-2019-0225**

Jiang, D., Zhang, G., & Wang, L. (2021). Empty the shopping cart? The effect of shopping cart item sorting on online shopping cart abandonment behavior. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(6), 1973–1996. **doi:10.3390/jtaer16060111**

Kapoor, A.P., & Vij, M. (2021). Following you wherever you go: Mobile shopping 'cart-checkout' abandonment. *Journal of Retailing and Consumer Services*, *61*. **doi:10.1016/j.jretconser.2021.102553**

Karjaluoto, H., Shaikh, A.A., Saarijärvi, H., & Saraniemi, S. (2019). How perceived value drives the use of mobile financial services apps. *International Journal of Information Management*, *47*, 252–261. **doi:10.1016/j.ijinfomgt.2018.08.014**

Kim, J.-H., & Jang, S.Ch. (2014). A scenario-based experiment and a field study: A comparative examination for service failure and recovery. *International Journal of Hospitality Management*, *41*, 125–132. **doi:10.1016/j.ijhm.2014.05.004**

Kim, S., & Park, H. (2013). Effects of various characteristics of social commerce (s-commerce) on consumers' trust and trust performance. *International Journal of Information Management*, *33*, 318–332. **doi:10.1016/j.ijinfomgt.2012.11.006**

Kim, W., Kankanhalli, A., & Lee, L. (2016a). Investigating decision factors in mobile application purchase: A mixed-methods approach. *Information & Management*, *5*(6), 727–739. **doi:10.1016/j.im.2016.02.011**

Kim, S.Ch., Yoon, D., & Han, E.K. (2016b). Antecedents of mobile app usage among smartphone users. *Journal of Marketing Communications*, *22(*6), 653–670.

Kukar-Kinney, M., Xia, L., & Monroe, K.B. (2007). Consumers' perceptions of the fairness of price-matching refund policies. *Journal of Retailing*, *83*(3), 325–337.

Kumar, S.A., & Krithika, M. (2019). Influence of online shopping cart abandonment: The moderating effect of perceived waiting time. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*, *9*(1), 3279–3284.

Kutlu, L. (2015). Limited memory consumers and price dispersion. *Review of Industrial Organization*, *46*(4), 349–357.

Li, X., Zhao, X., Xu, W.(A.), & Pu, W., (2020). Measuring ease of use of mobile applications in e-commerce retailing from the perspective of consumer online shopping behaviour patterns. *Journal of Retailing and Consumer Services*, *55*, 102093. **doi:10.1016/j.jretconser.2020.102093**

Lim, W.M. (2020). An equity theory perspective of online group buying. *Journal of Retailing and Consumer Services*, *54*. **doi:10.1016/j.jretconser.2018.12.013**

Loureiro, S.M.C. (2013). The effect of perceived benefits, trust, quality, brand awareness/associations and brand loyalty on internet banking brand equity. *International Journal of Electronic Commerce Studies*, *4*(2), 139–158.

Loy (JP.), J.-P., Ceynowa, Ch., & Kuhn, L. (2020). Price recall: Brand and store type differences. *Journal of Retailing and Consumer Services*, *53*. **doi:10.1016/j.jretconser.2019.101990**

Lu, Z., Bolton, L.E., Ng, S., & Chen, H. (2020). The price of power: How firm's market power affects perceived fairness of price increases. *Journal of Retailing*, *96*(2), 220–234. **doi:10.1016/j.jretai.2019.09.004**

Malc, D., Selinšek, A., Dlačić, J., & Milfelner, B. (2020). Exploring the emotional side of price fairness perceptions and its consequences. *Economic Research-Ekonomska Istraživanja*, 1931–1948.

Maxham III, J.G. (2001.). Service recovery's influence on consumer satisfaction, positive word-of-mouth, and purchase intentions. *Journal of Business Research*, *54*(1), 11–24.

Mägi, A.W., & Julander, C.-R. (2005). Consumers' store-level price knowledge: Why are some consumers more knowledgeable than others?. *Journal of Retailing*, *81*(4), 319–329. **doi:10.1016/j.jretai.2005.02.001**

Mittal, B. (2021). The abandoned e-tailer shopping cart: Factors and business strategies to reverse the barriers. *Journal of Global Strategic Management*, *15*(2), 45–64.

Monilo, S., Navarro-García, A., Anaya-Sánchez, R., & Japutra, A. (2020). The impact of affective and cognitive app experiences on loyalty towards retailer. *Journal of Retailing & Consumer Services*, *54*. **doi:10.1016/j.jretconser.2019.101948**

Neslin, S.A., Grewal, D., Leghorn, R., Shankar, V., Teerling, M.L., Thomas, J.S., & Verhoef, P.C. (2006). Challenges and opportunities in multichannel customer management. *Journal of Service Research*, *9*(2), 95–112. **doi:10.1177/1094670506293559**

Neslin, S.A., & Shankar, V. (2009). Key issues in multichannel customer management: Current knowledge and future directions. *Journal of Interactive Marketing*, *23*(1). 70–81. **doi:10.1016/j.intmar.2008.10.005**

Oyedele, A., & Simpson, P.M. (2018). Streaming apps: What consumers value. *Journal of Retailing and Consumer Services*, *41*, 296–304. **doi:10.1016/j.jretconser.2017.04.006**

Ozdemir, E., & Sonmezay, M. (2020). The effect of the e-commerce companies' benevolence, integrity and competence characteristics on consumers' perceived trust, purchase intention and attitudinal loyalty. *Business and Economics Research Journal*, *11*(3), 807–821.

Padigela, P.K., & Suguna, R. (2021). Segmentation of e-commerce users based on cart abandonment and product recommendation through collaborative filtering: The moderating effect of exorbitant pricings. *International Journal of Systems Assurance Engineering and Management*. **doi:10.1007/s13198-021-01122-x**

Park, S.(S)., & Park, B. (2020). Advertising on mobile apps versus the mobile web which delivers better advertisement recognition and willingness to buy? *Journal of Advertising Research*, *60*(4), 381–392.

Patrick, H., Knee, R.C., Canevello, A., & Lonsbary, C. (2007). The role of need fulfillment in relationship functioning and well-being: A self-determination theory perspective. *Journal of Personality and Social Psychology*, *92*(3), 434–457.

Peetz, P., & Milyavskaya, M. (2021). A self-determination theory approach to predicting daily prosocial behavior. *Motivation and Emotion*, *45*(5), 617–630.

Peterson, S.M., Aljadeff-Abergel, E., Eldridge1, R.R., VanderWeele, N.J., & Acker, N.S. (2021). Conceptualizing self-determination from a behavioral perspective: The role of choice, self-control, and self-management. *Journal of Behavioral Education*, *30*, 299–318. **doi:10.1007/s10864-020-09368-4**

Rajavi, K., Kushwaha, T., & Steenkamp, J.-B.E.M. (2019). In brands we trust? A multicategory, multicountry investigation of sensitivity of consumers' trust in brands to marketing-mix activities. *Journal of Consumer Research*, *46*(4), 651–670. **doi:10.1093/jcr/ucz026**

Raajpoot, N., & Ghiloni-Wag, B. (2019). Impact of customer engagement, brand attitude and brand experience on branded apps recommendation and re-use intentions. *Atlantic Marketing Journal*, *8*(1), 1–17.

Rizkalla, N., & Erhan, T.P. (2020). Sustainable consumption behaviour in the context of millennials in Indonesia – can environmental concern, self-efficacy, guilt and subjective knowledge make a difference? *Management: Journal of Sustainable Business and Management Solutions in Emerging Economies*, *25*(3), 43–53.

Rubin, D., Martins, C., Ilyuk, V., & Hildebrand, D. (2020). Online shopping cart abandonment: A consumer mindset perspective. *Journal of Consumer Marketing*, *37*(5), 487–499. **doi:10.1108/JCM-01-2018-2510**

Ryan, J.Ch. (2016). Old knowledge for new impacts: Equity theory and workforce nationalization. *Journal of Business Research*, *69*(5), 1587–1592. **doi:10.1016/j.jbusres.2015.10.022**

Schmidt, L., Bornschein, R., & Maier, E. (2020). The effect of privacy choice in cookie notices on consumers' perceived fairness of frequent price changes. *Psychology & Marketing*, *37*(9), 263–1276. **doi:10.1002/mar.21356**

de Silva, G., & Wijayanayake, W. (2015). E-cart abandonment behaviour: The moderating effect of trust. *Sri Lankan Journal of Anaesthesiology*, *20*(3&4), 52–69.

Singh, S., & Jang, S. (2022). Search, purchase, and satisfaction in a multiple-channel environment: How have mobile devices changed consumer behaviors? *Journal of Retailing and Consumer Services*, *65*. **doi:10.1016/j.jretconser.2020.102200**

Septiani, D.I., & Chaerudin, R. (2020). The effect of customers' price perception, perceived quality and brand image toward purchasing intention in bandung local shoe brand. *KnE Social Sciences*, March, 1242–1254.

Song, J.-D. (2019). A study on online shopping cart abandonment: A product category perspective. *Journal of Internet Commerce*, *18*(4), 337–368.

Sondhi, N. (2017). Segmenting & profiling the deflecting customer: Understanding shopping cart abandonment. *Procedia Computer Science*, *122*, 392–399. **doi:10.1016/j.procs.2017.11.385**

Trampe, D., Konus, U., & Verhoef, P.C. (2014). Customer responses to channel migration strategies toward the e-channel. *Journal of Interactive Marketing*, *28*(4), 257–270. **doi:10.1016/j.intmar.2014.05.001**

Utkarsh, Sangwan, S., & Agarwal, P. (2018). Effect of consumer self-confidence on information search and dissemination: Mediating role of subjective knowledge. *International Journal of Consumer Studies*, *43*(1), 46–57. **doi:10.1111/ijcs.12482**

Vassilikopoulou, A., Lepetsos, A., & Siomkos, G. (2018). Crises through the consumer lens: The role of trust, blame and risk. *Journal of Consumer Marketing*, *35*(5), 502–511. **doi:10.1108/JCM-02-2016-1721**

Verhoef, P.C., Kannan, P.K., & Inman, J.J. (2015). From multi-channel retailing to omnichannel retailing: Introduction to the special issue on multi-channel retailing. *Journal of Retailing*, *91*(2), 174–181. **doi:10.1016/j.jretai.2015.02.005**

Vogel, J., & Paul, M. (2015). One firm, one product, two prices: Channel-based price differentiation and customer retention. *Journal of Retailing and Consumer Services*, *27*, 126–139. **doi:10.1016/j.jretconser.2015.07.007**

Weisstein, F.L., Kukar-Kinney, M., & Monroe, K.B. (2016). Determinants of consumers' response to pay-what-you-want pricing strategy on the Internet. *Journal of Business Research*, *69*(10), 4313–4320. **doi:10.1016/j.jbusres.2016.04.005**

Xia, L., Monroe, K.B., & Cox J. L. (2004). The price is unfair! A conceptual framework of price fairness perceptions. *Journal of Marketing*, *68*(4), 1–15. **doi:10.1509/jmkg.68.4.1.42733**

Xia L., & Monroe K.B. (2010). Is a good deal always fair? Examining the concepts of transaction value and price fairness. *Journal of Economic Psychology*, *31*(6), 884–894. **doi:10.1016/j.joep.2010.07.001**

Xu, Y., & Huang, J. (2015). Factors influencing cart abandonment in the online shopping process. *Social Behavior and Personality: An international journal*, *43*(10), 1617–1628. **doi:10.2224/sbp.2015.43.10.1617**

Xu, F., Tan, J., Lu, L., Li, S., & Qin, L., (2021). How does value co-creation behavior affect destination loyalty? A role switching perspective. *Journal of Theoretical and Applied Electronic Commerce Research*, *16*(5), 1805–**1826. doi:10.3390/jtaer16050101**

Zietsman, M.L., Mostert, P., & Svensson, G. (2019). Perceived price and service quality as mediators between price fairness and perceived value in business banking relationships: A micro-enterprise perspective. *International Journal of Bank Marketing*, *37*(1), 2–19. **doi:10.1108/IJBM-07-2017-0144**

Zietsman, M.L., Mostert, P., & Svensson, G. (2020). A multidimensional approach to the outcomes of perceived value in business relationships. *European Business Review*, *32*(4), 709–729. **doi:10.1108/EBR-10-2019-0258**

Zhang, H.-D., Chen, S.-C., & Ruangkanjanases, A. (2021). Benefits first: Consumer trust repair in mobile commerce. *Journal of Theoretical and Applied Electronic Commerce Research*, *16*. **doi:10.3390/jtaer16040061**

Zhao, A., Wang, X., & Jiang, L. (2021). To purchase or to remove? Online shopping cart warning pop-up messages can polarize liking and purchase intention. *Journal of Business Research*, *132*, 813–836. **doi:10.1016/j.jbusres.2020.10.067**

Appendix

Items used in the study

Latent variables	Items
Subjective price knowledge (PK) adapted from (Mägi & Julander, 2005)	PK1: I have a good knowledge of cosmetics prices PK2: When it comes to the prices of cosmetics, I know a lot about it
Mobile app familiarity (AF) adapted from (Weisstein et al., 2016)	AF1: I feel well informed about the rules of purchasing via the mobile application AF2: If I were to make purchases via a mobile application, I would not need any additional explanations AF3: I know the rules of purchasing through the mobile application
Retailer brand awareness (BA) adapted from (Loureiro, 2013)	BA1: I can recognize PCS stores among other cosmetics stores BA2: I am aware of the PCS brand presence on the cosmetics market BA3: I can recall the characteristic logo of the PCS brand
Perceived price unfairness (PU) adapted from (Xia & Monroe, 2010)	PU1: In my opinion, different prices of cosmetics in sales channels are unreasonable PU2: I believe that different prices of cosmetics in the sales channels are not fair PA3: In my opinion, different prices of cosmetics in sales channels are unjustified
Limited self-determination (SD) adapted from (Vogel & Paul, 2015)	SD1: Due to the price differences, I feel that it is not my choice whether to buy cosmetics in an offline store or in a mobile app SD2: Due to the lower price, I really have no choice whether to buy the cosmetic in an offline store or in a mobile app SD3: Due to the lower price, I feel like I have to buy these cosmetics in the mobile app
Perceived value (PV) adapted from (Vogel & Paul, 2015)	PV1: I think the cosmetics sold by the PCS brand in the app are good value for money. PV2: I believe that the cosmetics available in the PCS mobile app are a good opportunity compared to the offer of competitors PV3: I consider the cosmetics available in the PCS mobile app to be a good offer
Trust in retailer (T) adapted from (Kim & Park, 2013).	T1: I believe that when I buy cosmetics in the PCS mobile app, I can trust the brand T2: I can rely on purchases made in the PCS mobile app T3: The PCS brand keeps its promises regarding the cosmetics sold in the mobile app T4: I believe that when I buy cosmetics through the PCS mobile app, this brand has my best interests in mind
Intention to cart abandonment (INT) adapted from (Bertrandie & Zielke, 2019)	INT1: In a real purchasing situation, I would postpone the purchase INT2: In a real shopping situation, I would give up my purchase now INT3: In an actual purchasing situation, I would not be able to choose the purchase channel now

Source: Author's own study.