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Extrinsic motivations behind mobile shopping: what drives regular and occasional shoppers?

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Abstract

Purpose – This paper aims at shedding light on the competing extrinsic motivations behind the mobile shopping process of regular and occasional shoppers. Price and convenience, shopping security, order delivery and post-sale service are investigated as antecedents of the mobile shopping attitude-intention path.

Design/methodology/approach – The empirical analysis is based on a multigroup structural equation model (SEM) developed on 903 online questionnaires collected among Chinese shoppers in a pre-Covid-19 pandemic retailing context.

Findings – Findings evidence contrary motivations behind the attitude – intention to shop using a mobile retail app of regular and occasional shoppers. While all the investigated aspects result to be positively relevant for regular m-shoppers, shopping security and post-sale service do not impact the attitude – intention path of occasional mobile shoppers. Results support retailers' strategies in the context of mobile shopping growth.

Originality/value – The paper contributes to the emerging retailing literature on mobile shopping by offering a comparison of the motivations behind the mobile shopping intention of regular and occasional shoppers. Extrinsic motivations before, during and after the transaction are jointly investigated in the study.

Keywords Mobile shopping, Regular shoppers, Occasional shoppers, Shopping motivations

Paper type Research paper

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1. Introduction

The retail context is going under a strong revolution driven by the use of mobile devices (De Canio and Fuentes-Blasco, 2021). Since its emergence on the market, the mobile channel has established its primary role among online channels. This phenomenon has become increasingly relevant starting from last year, when, due to the pandemic restrictions, online sales registered a peak in demand, with an increasing number of consumers approaching electronic and/or mobile channels for the first time (Tran, 2020). The latter is becoming primary among online channels, due to the ubiquitous presence of smartphones and relative apps in consumers lives. Day-by-day we are assisting in the emergence of newest and multifunctional mobile apps aimed at encountering evolving users' needs (Balapour *et al.*, 2020), such as mobile retailing apps, among others.

The increasing usage of smartphones to purchase is rending shopping a continuous rather than discrete activity which is leading retailers to engage with their customers, creating a more customer-centric experience (Faulds *et al.*, 2018). Accordingly, retailers need to increase their knowledge on the underpinnings of consumers' intentions to shop through their mobile apps. Mostly, it is valuable to understand the motivations behind the shopping process of regular and occasional shoppers (Martinelli and De Canio, 2021; Shergill and Chen, 2005) to better suit unfriendly users' needs and cover market segments still not served properly.

Although mobile shopping is becoming the norm (McLean *et al.*, 2020; Hagberg *et al.*, 2016), the literature has scarcely analysed occasional m-shoppers' journey. Scholars use to concentrate on regular shoppers providing valuable insights only for loyal customers, while lacking in understanding drivers of other segments that may represent a potential market (Truong *et al.*, 2021). From our knowledge, there are few studies that compare regular and occasional shoppers based on different drivers. For example, in the electronic context, Kaufman-Scarborough and Lindquist (2002) found different browsing patterns between occasional and regular e-shoppers. In the US context, Li *et al.* (1999) found different motivations between frequent and occasional e-shoppers. Investigating the British context, Hood *et al.* (2020) found different demographics characterising regular and occasional grocery e-shoppers. Specifically, in mobile shopper targets (m-shoppers) research, the literature is scarce and offers results that are still poorly consolidated. San-Martín and colleagues in 2013 and 2015 tried to compare types and drivers of m-shoppers. However, due to the extreme precocity of the analysis compared to the phenomenon spread, only 8.5% of the 471 respondents declared an intention to shop using a mobile phone in the following year (San-Martín *et al.*, 2013).

To contribute to the evolving mobile shopping literature, the present study aims at answering the following research question:

RQ. Are regular and occasional mobile shoppers driven by similar extrinsic motivations?

To test the research question and analyse the main extrinsic motivations behind the mobile shopping intentions of regular and occasional shoppers, a multi-group structural equation model (SEM) is developed on 903 online surveys conducted among Chinese consumers. The phenomenon of mobile shopping is widespread particularly in Asian countries (Tseng *et al.*, 2021). The Chinese context has been selected for the empirical analysis for two main reasons. First, in China online shopping is a much consolidated phenomenon among consumers (Lu *et al.*, 2017) and almost 90% of Chinese own a smartphone (Lu *et al.*, 2017; Deloitte, 2020). Second, retailing shopping apps are installed in almost 70% of Chinese smartphones (China Internet Watch, 2018).

Data were collected in 2019, in a pre-Covid retail context. However, our results are much more relevant considering the current situation. Although multichannel shopping had spread for years, the Covid-19 pandemic has accelerated the trend. Online sales reached 21.3% of total sales in 2020 – the online market share was 15.8% in 2019 and 14.3% in 2018 (digitalcommerce360.com, 2021). In China, the first country to face the Covid-19 virus, online

sales grew by 3% in the first two months of 2020 (China Skinny, 2020). On the one hand, "in the daily shopping, we can see that there are cases where the same consumer prefers to buy a product from traditional stores under some situations but tends to buy the product from online channels under other situations" (Liu *et al.*, 2017, p. 370). On the other hand, the impact of Covid-19 on consumers' multichannel shopping patterns will last long and retailers are called to accelerate the development of their online offer. "In May 2020, 44% of global consumers said they were shopping online each week, with 23% reporting shopping online multiple times each week" (Nielsen, 2020). Covid-19 spurred the super online shoppers' segment, with a wider improvement in mobile shopping sales (Chopdar *et al.*, 2022). In this context, the mobile channel is establishing its primary role among online channels.

The scope of the present research is to identify potential barriers that may reduce occasional shoppers' intention to buy using a mobile retailing app. Further, due to the recency of the mobile shopping phenomenon, further research on regular m-shoppers' intentions is required to potentiate the mobile retailing offer. Though, our findings will support multichannel retailers to better define their mobile offer in order to retain regular m-shoppers and reduce perceived barriers of occasional m-shoppers.

2. Literature review

Within the retailing literature, studies that explore the mobile shopping phenomenon are scarce (Marriot *et al.*, 2017), especially in light of the pervasive role played by the m-commerce, compared to the electronic-commerce. Usually, the term m-shopping is associated with any form of shopping on the go – regardless of the device used – such as smartphone, tablet and phablet. However, recently, also due to the widespread usage of the smartphone, scholars associate m-shopping with the shopping through the mobile phone (Groβ, 2018).

The opportunity to drive sales through the ubiquitous device is key for retailers and scholars since the smartphone became a commodity (De Canio *et al.*, 2016) with almost 84% of world's population owning one (Bankmycell.com, 2022). Scholars have evidenced that the great advantage of the smartphone lies in the fact that, even those who do not like the device, show a wider usage throughout the day, in multiple contexts (De Canio *et al.*, 2016). It is accessible anywhere and anytime (Lu *et al.*, 2017). Smartphones have direct-touch user interfaces (TUIs), such as interactive touchscreens, enabling tactile stimulation (De Canio and Fuentes-Blasco, 2021). Further, mobile retailing apps define new forms of interaction between retailers and customers (Omar *et al.*, 2021) and between customers and products, increasing the overall retailer's market value (Tseng *et al.*, 2021). These aspects and the limited functionalities of websites moved retailers to invest more in mobile retailing apps instead of websites (Natarajan *et al.*, 2018).

Although the level of innovation and technological developments are relevant aspects in the proliferation of the m-shopping, hedonic aspects are relevant in influencing shoppers' purchase behaviour (Yang, 2012). Gamified mobile retailing apps, developed on the structure of serious games, have the potential to enhance hedonic values (De Canio *et al.*, 2021). The opportunity to live more immersive and engaging experiences leads consumers to increasingly prefer m-commerce to e-commerce (Pantano and Priporas, 2016). However, in parallel to the numerous researches on the hedonic reasons leading consumers to adopt m-shopping, an emerging literature also highlights the need to analyse the consumer experience from a cognitive perspective (Hristov and Reynolds, 2015). Some recent studies have highlighted how utilitarian aspects are useful to generate more favourable responses in those who shop through the mobile application (Hamouda, 2021; Rauschnabel *et al.*, 2019). As verified by Groβ (2016), albeit in a context of great growth in mobile sales, if consumers do not trust in the mobile vendor and/or perceive a high financial or security risk, they may be reluctant to adopt m-commerce. Not delving into the extrinsic aspects m-shopping could lead to a loss of some or all of the potential that the mobile channel can offer to retailers also in light of the trends dictated by the spread of Covid-19 which has strongly affected people's lives. The fear of Covid-19 infection and

governmental restrictions led consumers to increasingly approach online channels for the first time (Tran, 2020) spurring the adoption of m-shopping (Lhuillier, 2022). Recently, Chopdar *et al.* (2022) highlight how the current Covid-19 pandemic has increased the phobia of people who have consequently become more addicted to their smartphones, with a significant increase in mobile shopping frequency.

3. Research framework and hypotheses development

From a theoretical perspective, the present study investigates how several extrinsic motivations, before (*i.e.* price and time convenience), during (*i.e.* shopping security) and after (*i.e.* delivery and post-sale service) the transaction, influence the mobile shopping behavioural intentions of regular and occasional shoppers, focussing on their impact on the attitude - intention path. Indeed, "research on shopper marketing is sparse and existing consumer research does not fully address the gamut of stages a shopper goes through in the shopping cycle" (Shankar *et al.*, 2016, p. 38). Extending the Technology Acceptance Model (TAM – Davis, 1986), the wider theory used in the literature to investigate mobile-shoppers' behavioural paths (Groβ, 2015), this study investigates how aspects of the three shopping phases influence regular and occasional m-shoppers intention to shop using a mobile app.

3.1 Price (PRICE)

Price is a primary factor considered by consumers in their shopping decisions. Online channels offer a wider range of value for money options encountering shoppers' favours (Jatasankara and Aryasri, 2011). Offering the same product to a customized price based on quality, delivery time, payment terms and type of customer may better satisfy current clients and attract new ones. Dynamic pricing is getting increasing interest from online operators (Wong and Wei, 2018). The availability of consumer-specific data is supporting the spread of dynamic pricing strategy adoption, allowing retailers to offer ad hoc product prices at a customer level (Li *et al.*, 2018). Emerging technologies are allowing online retailers to implement effective pricing strategies able to both improve revenues and customize prices and promotions to encounter the price-sensitive consumers' target (Priester *et al.*, 2020; Grewal *et al.*, 2011). Tseng *et al.* (2021) showed that saving money is one of the main predictors of the mobile retailing app reuse intention. Consequently, we postulate the following hypothesis:

H1. Price positively affects attitude towards mobile shopping.

3.2 Time convenience (TIME)

Mobile shopping is considered highly convenient as it allows consumers to shop goods and services anytime and anywhere (Yang, 2010). Time convenience has a positive effect on consumers' online patronage intentions (Bridges and Florsheim, 2008). Convenience aspects have a positive effect in influencing not only the motivation but also the intention of shoppers (Reimers and Chao, 2014). As the mobile channel can be accessed without time and space constraints, it is increasingly preferred to the electronic channel (Lu *et al.*, 2017), which lead us to posit the following hypothesis:

H2. Time convenience positively affects attitude towards mobile shopping.

3.3 Shopping security (SEC)

Security is a very relevant issue in online transactions (Pavlou *et al.*, 2007). According to these authors, shopping security concerns the ability of the retailer to secure and safeguard personal monetary information exposed during the transaction from hackers' attacks (Pavlou *et al.*, 2007). Accordingly, retailers are called to securely store and protect customers' monetary information by third parties. Thus, consumers need to get aware of the protection

mechanics implemented by retailers using mobile channels (Lu *et al.*, 2017). Being electronic payments increasingly common also in off-line retailing, those aspects are relevant in both physical and online retailing channels. That is why consumers increasingly perceive mobile shopping security similarly guaranteed in both physical and online channels. Thus, payment security is no more considered as risky online, but a relevant aspect determining consumers' shopping intentions both online and offline. As a consequence, we can postulate shopping security as a positive and strong determinant of attitude towards mobile shopping as follows:

H3. Shopping security positively affects attitude towards mobile shopping.

3.4 Delivery (DEL)

Unlike the physical channel where the consumer immediately comes into possession of the purchased good, in online channels, he/she has to wait for the delivery time. A prolonged delivery time is then considered a critical aspect influencing consumers' online shopping intentions. "On-time and accurate delivery, accurate product representation and other fulfilment issues" are key drivers in online shopping behaviour (Zeithaml *et al.*, 2002, p. 364). Retailers have then increasingly improved their delivery options to reduce potential gaps determined by the service delivery. By scheduling delivery days/hours and proposing pick-up options, delivery is no longer a weakness for mobile retailers but, in some cases, can also become strength (Faulds *et al.*, 2018). Particularly in China, the proliferation of mobile shopping apps has been reinforced by the Same Day Delivery service (Xi *et al.*, 2020), supporting the following hypothesis:

H4. Delivery positively affects attitude towards mobile shopping.

3.5 Post-sale service (POST)

The post-sale service is becoming a relevant aspect in the retailing context (Choudhary *et al.*, 2011). In particular, customers are increasingly evaluating online retailers based on their capabilities in dealing with complaints, their overall sales policies and the effectiveness of the channels implemented to interact with their customers and manage the post-sale service (Alzola and Robaina, 2010). The opportunity to get in contact with the retailer towards several channels makes the shopping process more valuable and reliable, with positive returns on customer satisfaction and retention; this makes the consumer-retailer relationship longer, stronger and highly profitable (Choudhary *et al.*, 2011). The post-sale service reduces consumers' scepticism to shop online and was found to have a positive impact on Chinese consumers' attitudinal and behavioural online shopping (Javed *et al.*, 2020). Accordingly:

H5. Post-sale service positively affects attitude towards mobile shopping.

3.6 Attitude towards mobile shopping (ATTM)

The Technology Acceptance Model (TAM) developed by Davis (1986) is settled on the main psychological theoretical framework of the Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen (1975) aimed at investigating the motivation-intention aspects behind consumer behaviour. Both theories predict that attitude is the main positive antecedent of behavioural intentions. Within the mobile shopping scenario, previous studies have confirmed the stronger and positive relationship between shopping attitude and behavioural intentions to use mobile shopping retailing apps (e.g. Yang, 2010; San Martín Gutiérrez and Catalán, 2010).

H6. Attitude towards mobile shopping positively affects intention to shop using a mobile app.

3.7 Regular vs occasional m-shoppers

The modern retail highlights the need to customize the offer to the specificities of each customer. Considering shoppers as a single cluster greatly flattens the ability of researchers

and retailers to define winning strategies. This approach is increasingly required if considering the digital context where is easier to track customers' shopping path and customize the offer based on data. To date, several studies segmented m-shoppers by their shopping motives (Groβ, 2018, 2019) or cultural perspective (Lu *et al.*, 2017) and demographics (Natarajan *et al.*, 2018). However, scant is the literature investigating m-shoppers by their experience and shopping frequency, with a consequent loss in the ability to customise the offer to better serve those segments most reluctant to adopt new business models (Truong *et al.*, 2021). The m-shoppers may be perceived as complex from the user standpoint, thereby impacting acceptance (San Martín Gutiérrez and Catalán, 2010). Li *et al.* (1999) showed that shoppers with a high shopping frequency are more likely to perceive the utility of the digital channel. Consumers more confident in m-shopping explore more functions and technical features of the retailing app (Yang, 2012). San-Martín *et al.* (2013) clustering m-shoppers by shopping frequency showed m-shopping drivers and impediments. In a subsequent study, San-Martín *et al.* (2015) evidenced differences between experienced and non-experienced m-shoppers in terms of trust, satisfaction and loyalty, with the latter showing higher scores.

H7. The shopping frequency moderates the m-shopping behavioural intentions.

Figure 1 depicts the overall theoretical model in which five mobile extrinsic shopping motivations are hypothesized to determine consumers' mobile shopping attitude and intention. Age and sex have been included in the theoretical model as control variables. To identify the potential effects of the frequency of mobile shopping, the total sample was split based on the mobile shopping frequency in regular m-shoppers and occasional m-shoppers.

4. Research methodology

4.1 Measures development and fieldwork

To test the theoretical model described above, an online survey based on a structured questionnaire was launched using the WeChat social network in January 2019. We selected the Chinese context due to its high diffusion rate of smartphones and mobile retailing apps – more than 710 million people shop online daily and 64% of Chinese shoppers is engaged in online shopping (Practical eCommerce, 2021), with a mobile market share of over 80% (China Internet Watch, 2018).

To reduce the translation bias, a double translation English–Chinese and Chinese–English was used. We opted for a Chinese language version of the questionnaire since the

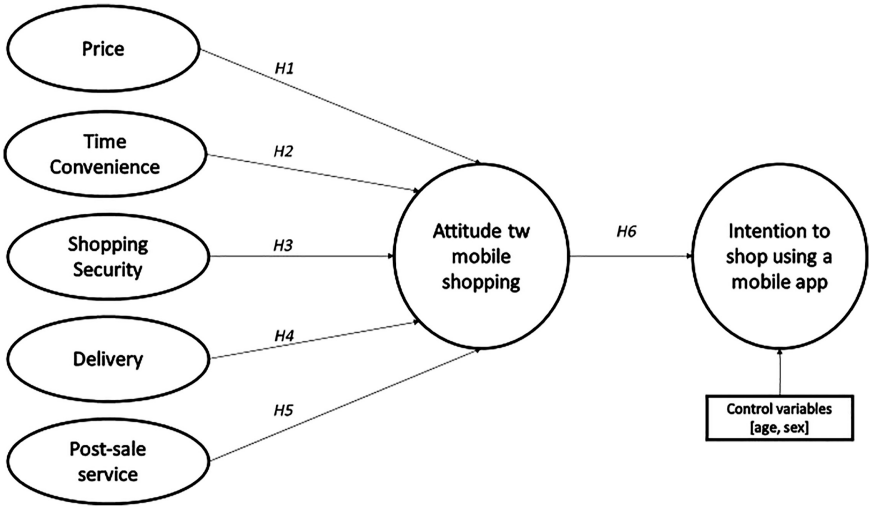

Figure 1.
Theoretical model

majority of the Chinese population does not speak the English language. A seven-point Likert-scale (1: completely disagree – 7: completely agree) was used to measure items. Price (three items), shopping security (three items) and delivery (three items) scales were adapted from Xu and Paulins (2005). The post-sale service scale (three items) was developed using the previous study of Alzola and Robaina (2010). Time convenience, based on a three-item scale and attitude towards mobile shopping (three items) were derived from Childers *et al.* (2001). Intention to buy using a mobile app (four items) was extracted from the research conducted by Overby and Lee (2006). Items are reported in Appendix (Table A1).

The questionnaire was previously pre-tested on a small sample of respondents (15 respondents – November 2018). With the support of a Key Opinion Consumer – an emerging influencer in the Chinese context – we collected 903 valid and complete questionnaires useful for the empirical analysis. Table 1 displays the main demographic characteristics of the sample. The sample was divided into two balanced groups based on the median of mobile shopping frequency. Those using to shop towards a mobile retailing app every day or almost 3–4 times per week were included in the regular shoppers' segment (49.6%). The others were included in the occasional shoppers' segment (50.4%). None claimed to have never bought using a mobile retailing app.

4.2 Common method bias test

Several procedures were carried out to avoid common method bias (validated scales were adapted from previous literature, a pre-test was carried out to detect ambiguities and the respondents were informed that there were no right or wrong responses). To check potential problems, the full collinearity test proposed by Kock and Lynn (2012) was also performed. None of the variance inflation factors obtained are greater than 3.3 ($VIF_{PRICE} = 1.59$; $VIF_{TIME\_CONVENIENCE} = 1.45$; $VIF_{SECURITY} = 1.38$; $VIF_{DELIVERY} = 1.83$; $VIF_{POST\text{-}SALE} = 1.75$; $VIF_{ATTITUDE} = 1.40$; $VIF_{INTENTION} = 1.65$), which is indicative of the absence of collinearity issues. Furthermore, Table 2 shows that none of the linear correlations between each pair of latent constructs exceeds 0.9 (Bagozzi *et al.*, 1991).

Gender	%	Age	%
Male	60.5	18–24 years	38.6
Female	39.5	25–35 years	51.1
		36–50 years	9.7
		>51 years	0.6

Educational Level	%	Job	%
Junior high school certificate	0.6	Unemployed	2.6
High school	9.7	Part-time worker	2.6
Bachelor degree certificate	71.1	Student	18.3
Master degree	9.9	Full-time worker	76.3
Postgraduate	8.7	Pensioner	0.1
		Housekeeper	0.1

Family Composition	%	Frequency mobile shopping (previous 6 months)	%
Single	2.7	Every day	11.9
Couple	7.8	3–4 times a week	37.7
3 members	43.3	Once a week	31.4
4 members	30.8	3–4 times a month	4.7
≥5 members	15.4	Once a month	13.1
		Every 2–3 months	1.2
		Never	0.0

Table 1.
Sample profile

	α	CR	AVE	1	2	3	4	5	6	7	8	9
1. Price	0.720	0.841	0.641	*0.801*	0.554	0.580	0.617	0.604	0.516	0.625	0.089	0.124
2. Time conv.	0.799	0.880	0.709	0.432	*0.842*	0.382	0.456	0.559	0.418	0.613	0.085	0.142
3. Shop. Secur.	0.767	0.865	0.681	0.421	0.293	*0.825*	0.575	0.442	0.400	0.367	0.178	0.084
4. Delivery	0.757	0.859	0.670	0.467	0.363	0.434	*0.819*	0.820	0.519	0.561	0.123	0.051
5. Post-sale s.	0.701	0.864	0.761	0.436	0.425	0.321	0.597	*0.872*	0.478	0.643	0.052	0.024
6. Attitude	0.870	0.920	0.794	0.413	0.356	0.332	0.425	0.374	*0.891*	0.483	0.088	0.043
7. Intention	0.833	0.888	0.666	0.500	0.514	0.296	0.457	0.492	0.414	*0.816*	0.030	0.031
8. Age (control)	–	–	–	−0.026	−0.031	−0.151	−0.101	−0.040	−0.081	−0.017	–	0.002
9. Sex (control)	–	–	–	0.095	0.118	0.074	0.034	0.019	0.041	−0.024	−0.002	–

Note(s): CR: composite reliability; AVE: average variance extracted
Values along the diagonal are the square root of AVE. Off-diagonal values is the linear correlations and HTMT ratios are above the diagonal

Table 2.
Reliability and discriminant validity

5. Results

Partial least squares SEM was applied to test measurement scales dimensionality and validity (outer model) and hypotheses (inner model) with SmartPLS 3.2.9 (Ringle *et al.*, 2015). To evaluate the significance of the estimations, the bootstrap method of resampling of 5,000 was employed to provide standard reliable errors and t-statistics (Henseler *et al.*, 2009).

5.1 Measurement scales: reliability and validity

Since all items were treated as reflective indicators, their internal consistency and validity were evaluated according to the procedure suggested by Hair *et al.* (2019). Internal consistency was assessed considering three indicators: Cronbach's alpha (>0.7) (Nunnally and Berstein, 1994), composed reliability coefficient (>0.7) (Anderson and Gerbing, 1988) and average variance extracted (AVE) (>0.5) (Fornell and Larcker, 1981) (Table 2).

Convergent validity was confirmed since all the observable items showed significant and high standardised loadings (>0.7; *t*-Stat>2.58) (Steenkamp and Van Trijp, 1991) (Appendix – Table A1). Discriminant validity was checked by (Fornell and Larcker, 1981). This validity was also analysed with Heterotrait-Monotrait (HTMT) ratio of correlations, that were lower than 0.9 (Henseler *et al.*, 2015).

5.2 Hypotheses testing

After testing the psychometric properties and validity of the measurement scales, a structural model with the pooled data was estimated. Attitude towards using a retail mobile app achieved a $R^2 = 0.273$ and the intention to buy using a retail mobile app $R^2 = 0.174$.

The results for the estimated coefficients of causal relationships show the significant and positive effect of price on attitude towards mobile shopping ($\gamma = 0.184$**), confirming H1. The results also show a positive and significant influence of time convenience ($\gamma = 0.140$**), shopping security ($\gamma = 0.099$**), delivery ($\gamma = 0.192$**) and post-sale service ($\gamma = 0.089$*), which allow us to confirm H2-H5. In addition, attitude towards mobile shopping significantly and positively affects intention to shop using a retail mobile app ($\beta = 0.417$**), confirming H6 (Table 3).

In terms of Q^2, the results show that they are positive concluding that the model offers an adequate predictive performance ($Q^2_{Atti} = 0.210$; $Q^2_{Inten} = 0.111$).

To test the moderating effect of online shopping frequency, a multigroup analysis (MGA) was carried out. Before that, measurement model invariance for composite models (MICOM)

Paths	m-Shoppers ($N = 903$) Stand. Coef	*t*-Stat
Price → Attitude	0.184**	4.87
Time → Attitude	0.140**	3.59
Security → Attitude	0.099**	2.97
Delivery → Attitude	0.192**	3.74
Post Sale → Attitude	0.089*	2.31
Attitude → Intention	0.417**	12.15
Age → Intention	0.023	0.54
Sex → Intention	−0.041	1.41
	$R^2_{Atti} = 0.273$	
	$Q^2_{Atti} = 0.210$	
	$R^2_{Inten} = 0.174$	
	$Q^2_{Inten} = 0.111$	

Note(s): +: significant at 90%; *: at 95%; ** at 99%

Table 3. Structural model estimation (pooled data)

was assessed for the two samples following the three steps of Henseler *et al.*'s (2016) MICOM procedure (Table 4). Configural invariance was determined since the items and the nature between constructs used in the estimation of the measurement models are the same through the two samples. In Step 2, the one-tailed permutation test indicated that none of the *c*-values differs significantly across samples, since $c = 1$ is within the lower and upper limits of the 95% confidence intervals, confirming compositional invariance across frequency samples. Finally, in Steps 3a–3b, the equality of variances and means can be confirmed across samples since the difference of composite scores were inside the 95% confidence interval bounds. These results show that the full measurement model invariance is assessed (Hair *et al.*, 2019).

With regard to the multigroup analysis, the results indicate several differences in the group-specific path coefficients between occasional and regular m-shoppers. As Table 5 shows, significant differences between these two groups for the effect of attitude towards mobile shopping on intention to shop using a mobile app emerged. Specifically, the relationship between attitude towards m-shopping and intention to shop using a mobile app is significantly stronger in the group of regular m-shoppers ($\beta = 0.459$**) than among occasional m-shoppers ($\beta = 0.346$**). In addition, the direct effects of price, time convenience, shopping security, delivery and post-sale service on attitude towards mobile shopping are higher among regular mobile shoppers than occasional ones.

6. Discussion and conclusion

6.1 General discussion

Retailers are increasingly called to integrate their physical offer with emerging technologies, such as mobile retailing apps to encounter consumers need for convenient shopping. Online shopping trends have grown significantly in recent years with a clear preference for mobile rather than electronic shopping (De Canio and Fuentes-Blasco, 2021). The mobile shopping guarantees greater interaction during the purchase phases and also is always handy by consumers with no space and time access limits. This provoked a great revolution in the retail sector, which is called to adopt new digital tools to enhance the consumer experience (Hagberg *et al.*, 2016; Hamouda, 2021). Besides, the spread of Covid-19 has strongly shifted purchases from the physical channel to the online channels, with a growing number of shoppers buying mobile for the first time during the pandemic (Tran, 2020). Consumers' Covid-19 related fears, government limitations and a convenient access have spurred the mobile shopping (Chopdar *et al.*, 2022; Lhuillier, 2022).

Although the context of mobile shopping shows great growth, with positive forecasts for the near future, little attention has been paid to two main points: first, the literature has little explored the entire mobile shopping process (i.e. before, during and after the transaction) focussing only on one or two phases jointly (Shankar *et al.*, 2016). To this concern, this study investigates how several extrinsic motivations, before (i.e. price and time convenience), during (i.e. shopping security) and after (i.e. delivery and post-sale service) the purchase, influence mobile shoppers' behavioural intentions. Second, when emerging and not well-established phenomena are under research, there is a widespread tendency to focus only on the more familiar customers' target, losing a quota of information on those targets that would instead require more attention due to possible barriers to the adoption of the new investigated phenomenon (Truong *et al.*, 2021).

Our results show that the aspects investigated in the paper, albeit residual with respect to the multiple factors that can influence the mobile shopping process before, during and after the purchase, are all jointly relevant to influence the intention to purchase mobile. These results point out how the purchasing process through the mobile channel is not limited to a mere transaction but involves different phases of the process that need to be jointly considered by researchers and practitioners. Furthermore, the results indicate some

Table 4.
Measurement invariance (MICOM) test

Construct	Configural invariance	Compositional invariance (step 2)		Equal variances assessment (step 3a)		Equal means assessment (step 3 b)	
		$c = 1$	CI	Difference	CI	Difference	CI
Price	Yes	1.000	[0.999; 1.000]	−0.050	[−0.225; 0.220]	−0.296	[−0.133; 0.124]
Time conv.	Yes	1.000	[0.999; 1.000]	0.038	[−0.205; 0.212]	−0.152	[−0.127; 0.123]
Shop. Secur.	Yes	1.000	[0.998; 1.000]	0.038	[−0.175; 0.176]	−0.261	[−0.131; 0.134]
Delivery	Yes	0.998	[0.998; 1.000]	0.128	[−0.214; 0.200]	−0.210	[−0.129; 0.134]
Post-sales.	Yes	1.000	[0.999; 1.000]	0.017	[−0.221; 0.219]	−0.178	[−0.140; 0.136]
Attitude	Yes	0.999	[1.000; 1.000]	0.122	[−0.269; 0.259]	−0.270	[−0.123; 0.139]
Intention	Yes	1.000	[1.000; 1.000]	−0.168	[−0.213; 0.194]	−0.345	[−0.138; 0.130]
Age	Yes	1.000	[1.000; 1.000]	−0.060	[−0.242; 0.244]	0.237	[−0.135; 0.132]
Sex	Yes	1.000	[1.000; 1.000]	0.105	[−0.062; 0.059]	0.242	[−0.134; 0.127]

Note(s): CI: confidence interval (95%)

Paths	Occasional (n = 451) Stand. Coef	t-Stat	Regular (n = 452) Stand. Coef	t-Stat	Difference	p-value
Price → Attitude	0.165**	2.87	0.194**	3.94	−0.029	0.348
Time → Attitude	0.135*	2.14	0.154**	3.17	−0.020	0.397
Security → Attitude	0.058	1.24	0.135**	2.84	−0.077	0.125
Delivery → Attitude	0.199*	2.30	0.201**	3.97	−0.001	0.486
Post Sale → Attitude	0.078	1.31	0.089^{+}	1.72	−0.010	0.444
Attitude → Intention	0.346**	7.02	0.459**	10.59	−0.113*	0.043
Age → Intention	−0.002	0.03	0.052	1.36	−0.021	0.342
Sex → Intention	0.022	0.50	−0.070^{+}	1.77	0.092^{+}	0.063
	R^2_{Atti} = 0.236		R^2_{Atti} = 0.305			
	Q^2_{Atti} = 0.177		Q^2_{Atti} = 0.230			
	R^2_{Inten} = 0.122		R^2_{Inten} = 0.216			
	Q^2_{Inten} = 0.076		Q^2_{Inten} = 0.138			

Note(s): Occasional: occasional mobile shoppers; Regular: regular mobile shoppers
+: significant at 90%; *: at 95%; ** at 99%

Table 5.
PLS-MGA

differences between regulars and occasional shoppers, in line with our prediction in H7. The results show that there are potential differences in the buying process of regular and occasional shoppers, highlighting, in the specific case of our results, two possible barriers that can reduce the propensity to buy mobile by those with less experience. The results show that, first and foremost, occasional buyers do not yet consider transactions via mobile retailing apps to be safe and do not consider the mobile channel a useful tool for managing post-sales (Figure 2). Furthermore, even the convenience perception and the management of the delivery of goods shopped through the mobile retailing app show a weaker significance compared to the results emerging from the target of occasional buyers.

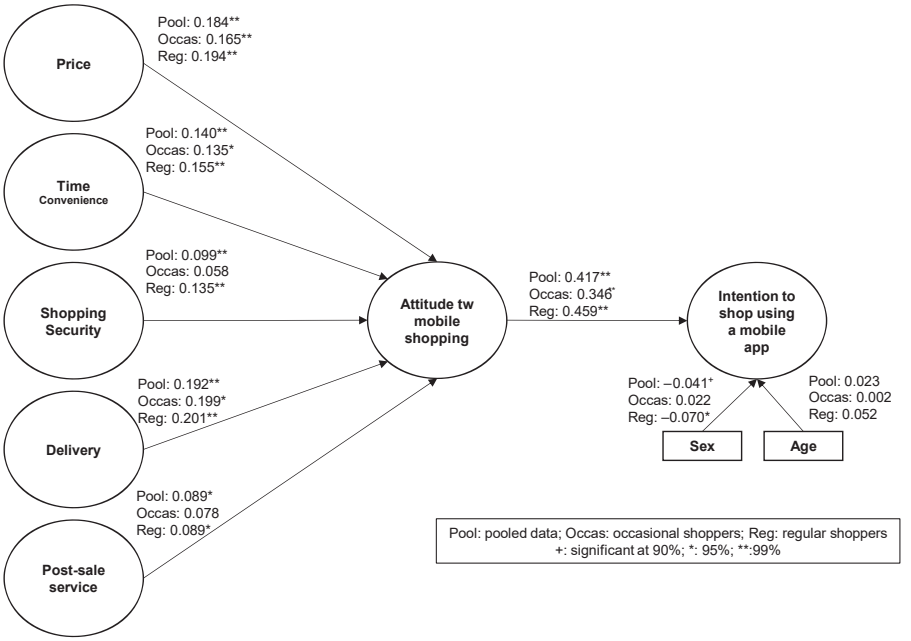

Figure 2.
The model's path coefficients

Accordingly, our results raise few points, readers, researchers and practitioners should consider when involved in accelerating the mobile shopping adoption process, in a context in which there is an incremental use of smartphones and mobile applications (Balapour *et al.*, 2020).

6.2 Theoretical implications

This paper responds to a widespread request to explore the main antecedents of consumers' mobile shopping behavioural intentions (Marriot *et al.*, 2017). The paper contributes to the evolving mobile retailing literature by proposing a comparison of the main extrinsic motivations driving mobile shopping intentions of regular and occasional shoppers. The aim has been to propose a wider overview of aspects facilitating (or not) smartphone usage for shopping purposes. Accordingly, the present study provides an empirical contribution to the mobile retailing literature offering the extrinsic motivations of various shoppers' segments that represent a potential market in a highly competitive marketplace (Truong *et al.*, 2021). Our findings increase their scope of thinking about the current pandemic situation. The Covid-19 pandemic has led consumers to increasingly approaching online channels for their shopping (Tran, 2020), especially through retail mobile apps. It is expected that this behaviour would acquire a structural relevance in future consumers' shopping habits. Findings evidence contrary motivations behind the attitude – intention to shop using a mobile retailing app of regular and occasional shoppers. While all the investigated aspects result to be positively relevant for regular m-shoppers, shopping security and post-sale service do not impact the attitude – intention path of occasional mobile shoppers. Our results contribute to extant literature widening existing academic knowledge on the role exerted by extrinsic motivations, evidencing interesting differences between regular and occasional shoppers. Contrary to the former, occasional shoppers are not sensitive to security and post-sale services as they probably do not value the long-term relationship with the retailer. In the previous study conducted by Shergill and Chen (2005), the authors found a better rating for customer service and security by comparing regular and occasional web shoppers. Further, convenience and delivery aspects, although significant, exert a weak effect on attitude towards mobile shopping, overall generating a pour attitude-intention path. Conversely, mobile pricing strategies are valued better by regulars than occasional shoppers. This result, in the light of the results emerging from the study by Li *et al.* (2018), highlights how a more accurate use of dynamic pricing, impacting on customers' price fairness perception, can have positive repercussions on m-shoppers purchase intention.

6.3 Managerial implications

Our findings raise a number of practical implications for retailers, supporting them in better defining their mobile offer. Our findings provide valuable insights for retailers increasingly called to implement a multichannel strategy to encounter temporary and transitory shopping needs (Liu *et al.*, 2017). Further, empirical results offer useful implications for mobile retailers willing to improve their mobile channels among occasional mobile shoppers and retain regular shoppers by proving an effective mobile shopping experience. Two main aspects emerged as critical in mobile shopping: the security of the information provided during the transaction and the post-sale service.

Concerning shopping security, previous studies have evidenced that hackers' attacks often depend on users' lack of knowledge on how to protect their sensitive information in online transactions (Balapour *et al.*, 2020). Accordingly, mobile retailers should improve regular customers' security perceptions by proposing practical insights although suggesting standard security policies. Rending available videos and brief webinars explaining security practices implemented in their retailing apps, retailers can display an interactive and

engaging approach, able to improve security perception and involve consumers in shopping through their mobile retailing apps.

As there is no physical place to turn to in case of problems after the purchase, the post-sale service takes on a more relevant role for online retailers. Consumers need a broad spectrum of viable alternatives they can use to interact with the retailer in case of problems, as well as fast and accurate post-sale assistance. Implementing a multi-channel post-sale service with a website form, an email contact, a telephone number and a physical office, can reduce the scepticism of brick-and-mortar shoppers rarely approaching the online. If the aspects related to the phases of pre-shopping and during the shopping are essential for new shoppers' acquisition, a good management of post-sale customer service is essential to engage shoppers in a long-term and profitable relationship (Choudhary *et al.*, 2011).

Furthermore, in light of the new trends in the use of dynamic pricing, mobile retailers should improve the storage and analysis of individual consumer information, to offer consumer-specific prices and increase the perception of the retailer's price convenience with a positive impact on the free-riding effect reduction (Priester *et al.*, 2020).

Similarly, by improving their omnichannel offer, retailers may improve customers' time convenience perception, allowing them to buy with no time and space constraints (7/24 and everywhere), resulting in higher revenues (Verhoef *et al.*, 2015).

7. Limitations and future research

The present study contributes to the emerging and evolving mobile shopping literature, evidencing the different motivations underpinning regular and occasional m-shoppers. However, due to some limitations concerning the empirical procedure and to the continuous and evolving technological developments characterizing the mobile industry, further research comparing these customer segments is required. Data collection represents a first concern of the paper. Actually, data were carried out through the WeChat app and with the support of an influencer. This aspect limits the reliability and representativeness of our sample and caution should be used in generalizing the results. Second, this study explores some of the main motivations behind mobile shopping behaviour before, during and after the shopping experience. Nevertheless, further studies should extend the present model by including other motivations. Although mobile shopping is preferred by goal-oriented customers (Zeithaml *et al.*, 2002), hedonic aspects, such as shopping enjoyment, shopping engagement, shopping gamification are increasingly characterizing the mobile retailing scenario. Accordingly, the present results should be complemented with intrinsic aspects to better understand consumers' mobile shopping behavioural intentions. We also suggest replicating the present study in other national contexts. Although some previous studies have found similar results in mobile shopping continuance intention between Chinese and American shoppers (Lu *et al.*, 2017) – and Deloitte's report showed a similar smartphone's penetration rate between Western and Eastern countries – several cultural differences may exist across countries that might influence the mobile shopping adoption (Hofstede, 2001).

Furthermore, the mobile scenario is evolving with the implementation of social networks, virtual reality and augmented functionalities that will revolutionize mobile shopping in future years (Roggeveen and Sethuraman, 2020). So, further studies investigating the potential of the mobile channel are required.

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Appendix

Table A1.
Items statement and measurement model estimation

Constructs	Item statements	Loading	(*t*-Stat)
Price	PR1. Risk is low while purchasing online	0.783**	(32.77)
	PR2. I feel secure about providing my bank credit card details to a payment platform	0.826**	(41.73)
	PR3. Online shopping is just as secure as traditional retail shopping	0.865**	(62.86)
Time convenience	T1. Shopping online allows me to save time	0.876**	(66.07)
	T2. Using online shopping makes my shopping less time consuming	0.830**	(44.23)
	T3. Using online shopping is a convenient way to shop	0.820**	(59.73)
Shopping security	S1. Risk is low while purchasing online	0.783**	(32.78)
	S2. I feel secure about providing my bank credit card details to a payment platform	0.826**	(41.73)
	S3. Online shopping is just as secure as traditional retail shopping	0.865**	(62.86)
Delivery	D1. The quantity and quality of the products I have received from online retailers were the same as I have ordered	0.802**	(41.15)
	D2. In my online shopping experience, online retailers have always honoured their guarantees	0.822**	(52.21)
	D3. The products I have ordered are delivered to me within the time promised by the online retailers	0.831**	(64.03)
Post-sale service	PS1. Online retailers promptly respond to my inquiries	0.845**	(49.36)
	PS2. It is easy to receive a personalized customer service shopping online	0.899**	(85.59)
Attitude towards mobile shopping	Could you please rate your attitude towards online shopping?		
	ATT1. Very negative – Very positive	0.880**	(47.49)
	ATT2. Very bad – Very good	0.922**	(118.62)
	ATT3. Very unsound – Very sound	0.869**	(54.60)
Intention to shop using a mobile app	INTM1: I intend to continue to buy online using a mobile app	0.802**	(44.44)
	INTM2: I intend to increase the frequency of online shopping using a mobile app	0.799**	(45.40)
	INTM3: I am willing to recommend others to shop products online using a mobile app	0.823**	(53.18)
	INTM4: I will likely shop online in the next month using a mobile app	0.839**	(61.93)

Note(s): SRMR = 0.059
**: significant at 99% level

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