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Price consciousness as basis for Thai and Finnish young adults' mobile shopping in retail stores

Niklas Eriksson^{a,b,*}, Asle Fagerstrøm^b, Sirinna Khamtanet^c, Premruedee Jitkuekul^c

^a*Arcada University of Applied Sciences, Jan-Magnus Janssonin aukio 1, 00560 Helsinki, Finland*

^b*Kristiania University College, Prinsensgate 7-9, 0107 Oslo, Norway*

^c*Kasetsart University Sakon Nakhon Province Campus, 59 Moo.1, Chiangkrua sub district, Muang, 47000 Sakon Nakhon, Thailand*

Abstract

An increasing number of global consumers use their smartphones to shop for goods. This short paper aims to explore if a price-conscious decision-making style has a relationship with young adult consumers' tendency to perform mobile shopping in retail stores. The study is conducted as a survey with a sample that includes two different nationalities. The results suggest interesting positive relationships between price consciousness and mobile shopping activities in retail stores. Furthermore, the results indicate that there are differences between the two markets studied. Price consciousness seems to have a stronger association with mobile shopping for the investigated Thai respondents than for the Finnish respondents. The findings are interesting for retailers who seek to engage with young adult consumers for mobile shopping purposes.

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* Corresponding author. Tel.: +358 207 699 620

E-mail address: niklas.eriksson@arcada.fi

1. Introduction

Consumers are using their smartphone for different purposes. An increasing number of consumers also use their smartphones while visiting a retail store. Retail stores are full of brands and consumers may have difficulty making choices [13]. However, many consumers want to conduct their own evaluation on products rather than asking store personnel for assistance. The use of a smartphone can, in this situation, empower consumers in decision making – they can obtain “neutral” information online and receive tips from their peers while they are walking around in-store [5, 18]. The physical store is becoming digitalized by consumers’ use of personal devices such as the smartphone. The whole retail industry is, in fact, moving towards omni-channel experiences, where the distinction between physical and online shopping experiences is blurred [21, 10]. Especially young consumers find it important and empowering to use their smartphones for shopping activities [15]. Mobile shopping in retail stores can reduce efforts in decision-making, save money (e.g. getting better deals), facilitate making the right purchases and provide a more hedonic (e.g. fun and entertaining) shopping experience [23].

Much research has addressed the adoption and acceptance of mobile commerce, but much less seems to be related to decision-making and mobile shopping [4, 5]. Therefore, it is important to identify factors that are associated with consumers’ use of smartphones and decision-making styles in retail stores. Consumers have different decision-making styles: perfectionistic, brand conscious, fashion conscious, recreational shopping conscious, price conscious, impulsive, confused by over choice and habitual-brand loyal [19]. The goal of this study is to explore if a price-conscious decision-making style has a relationship with young adults’ tendency to mobile shopping in retail stores. We chose to focus on price consciousness, as price-related perceptions are key cues in the consumer marketplace [12]. One of the key future retail trends globally is technology for facilitating shoppers’ decision-making [7]. Consumers world-wide can today use different types of mobile solutions like apps on their mobile devices in retail stores to perform such activities as product information searches, look for prices and ask for advice [21]. The present study is conducted by investigating both Finnish and Thai University students. By exploring two different nationalities we may also identify interesting differences in the use of smartphones when shopping in retail stores. The study reports on some initial results from an international survey on young adults’ price consciousness and mobile shopping activities in retail stores.

First, we discuss consumer price consciousness, then we present how we conducted the empirical study. Next, we present results and finally we discuss our findings and provide suggestions for further research.

2. Price consciousness

According to Sproule and Kendall [19 p. 13] consumers’ decision-making styles can be defined as “a mental orientation characterizing a consumer’s approach to making consumer choices.” A price-conscious consumer can be described as a consumer that carefully shops around seeking for lower prices and products on sale [19]. These consumers are motivated by attaining the best value for money and they gain emotional value from shopping around for the best prices [2]. Price is unquestionably a key cue for the consumer in the marketplace [12]. Price consciousness may vary between consumers, where some have low price consciousness and others have high price consciousness. Therefore, consumer segments can be developed based on price-consciousness [20]. Individuals with high price consciousness are more involved with processing information regarding prices or price related information [20].

Emerging markets and developed markets have different consumer characteristics [16]. The Thai market can be considered an emerging market and the Finnish market a developed market. A typical difference between such markets is consumer price-sensitivity, where consumers in emerging markets are more price sensitive than consumers are in mature markets [16]. Lower income retail consumers have been found to be more price conscious, they are more interested in saving money, and thus can indicate differences in price consciousness between nations [3]. For example, in a study of cross-cultural differences between Chinese and American consumers, the former were found more price sensitive, they examine more items and spend more time to shop [1]. Also studies on mobile shopping behavior shows that there are differences between nations [11, 15]. Therefore, we expect that there may be differences in price consciousness between Thais and Finns and how price consciousness is associated with mobile shopping in retail. From this, we raise two research questions:

RQ1: How is consumer price consciousness associated with mobile shopping in retail stores?

RQ2: What are the differences between Finns and Thais regarding price consciousness and mobile shopping?

3. Method

3.1. Data collection

The Finnish data was collected with a self-administrative survey, handed out to the respondents in a classroom at two different occasions in the fall of 2017 and fall of 2018. The respondents ($n=236$) used for this study were Finnish undergraduate students at Arcada University of Applied Sciences in Helsinki, Finland. Their age ranged from 18 to 36, but the average age was 21. Out of 236 respondents 66.5% were male and 30.5% were female, seven respondents (3%) did not report their gender. All reported ownership of a smartphone with internet connection.

The Thai data was also collected with a self-administrative survey, handed out to the respondents in a classroom in the fall of 2019. The respondents ($n=214$) were Thai undergraduate students at Kasetsart University in Sakon Nakhon, Thailand. Their age ranged from 19 to 29, but the average age was also 21. Out of 214 respondents 18.7% were male and 81.3% were female. All reported ownership of a smartphone with internet connection.

University students are interesting subjects to explore as these can be reasonably considered heavy users of new technology, and market movers paving the way to new types of purchase behaviors in retail. A study by NRF-IBM [15] from 16 countries globally with 15.600 young consumers (born 1995 or later) concluded that technology is important to them while shopping, but only if it empowers them, adds value and enhances more rewarding shopping. Despite being “digital natives” the same survey found that they most often prefer to shop in a physical store instead of purely online.

3.2. Measurements

Mobile shopping activities in-store were measured based on three variables: (1) Search for product information on the internet, (2) Compare prices on the internet and (3) Ask for advice (for example send picture of a product to friends for advice or comments). These types of activities have been found important by previous studies [14, 15, 21]. These three variables were measured on a 5-point scale, where both labels and numbers on the scale were provided for each response option. The frequency options were “Never (1)”, “Seldom (2)”, “Sometimes (3)”, “Often (4)” and “Always (5)” and the importance options were “Not at all important (1)”, “Slightly important (2)”, “Moderately important (3)”, “Very important (4)” and “Extremely important (5)”. The frequency scores were based on the question “How frequently do you use your smartphone for the following activities while visiting a retail store?”. The importance scores were based on the question “How important is it for you to use your smartphone for the following activities while visiting a retail store?”. The questions were asked for clothing, electronics and grocery. Hence, the word retail was exchanged with clothing, electronics and grocery in the questions presented above. Based on the three activities we composed a formative composite smartphone frequency measure. Similarly, based on the three activities we composed a formative composite smartphone importance measure. Similar formative composite-scale-indexes of use have been generated for studying consumer acceptance and use of information technology [22]. See table 1. for the descriptive statistics for the composite variables for the Finnish and the Thai sample.

Price consciousness was measured on three variables which are based on the sources Goswami and Khan [6] and Sprolls and Kendall [19], but modified to fit into an in-store context: (1) In-store I buy as much as possible at “sale” prices, (2) In-store the lower priced brands are usually my choice and (3) In-store I compare prices to find lower-priced products. The items were measured using a 5-point Likert scale, where both labels and numbers on the scales were provided for each response option. Cronbachs’ alpha for the Finnish sample was 0.680 and for the Thai sample 0.846. According to Hair et al. [8] Cronbachs’ alpha should be above 0.6 in explorative research.

4. Results

Price consciousness was correlated with the smartphone frequency and the smartphone importance composite scores. The Pearson correlation scores together with descriptive statistics of the variables are presented in Table 1, separately according to the two samples: Fin and Thai.

Table 1. Descriptive statistics and correlation scores between price consciousness and smartphone frequency and importance scores

		Mean	St. Dev.	Price conciousness
Fin	Price conciousness	3.17	0.77	
	Mobile shopping			
	Smartphone Clothing frequency	2.90	1.08	0.20**
	Smartphone Electronics frequency	3.30	0.97	0.17**
	Smartphone Grocery frequency	1.68	0.84	n.s.
	TOTAL: Smartphone frequency	2.62	0.81	0.20**
	Smartphone Clothing importance	2.55	1.08	0.16*
	Smartphone Electronics importance	3.08	1.07	n.s.
	Smartphone Grocery importance	1.74	0.95	n.s.
	TOTAL: Smartphone importance	2.43	0.81	0.15*
Thai	Price conciousness	3.89	0.90	
	Mobile shopping			
	Smartphone Clothing frequency	3.78	0.89	0.29**
	Smartphone Electronics frequency	3.48	0.98	0.16*
	Smartphone Grocery frequency	3.24	0.98	0.30**
	TOTAL: Smartphone frequency	3.50	0.75	0.31**
	Smartphone Clothing importance	3.78	0.90	0.36**
	Smartphone Electronics importance	3.72	0.91	0.26**
	Smartphone Grocery importance	3.30	0.96	0.25**
	TOTAL: Smartphone importance	3.60	0.75	0.36**

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

For the Finnish sample there are small but significant positive correlations between price consciousness and the totals of smartphone frequency ($r=0.20$, $p<0.01$) and smartphone importance ($r=0.15$, $p<0.05$). Taking a closer look at clothing, electronics and grocery separately, reveals that smartphone frequency for grocery does not correlate with price consciousness. Likewise, only smartphone importance ($r=0.16$, $p<0.05$) for clothing is positively but weakly associated with price consciousness.

For the Thai sample there are clearly stronger positive correlations than for the Finnish sample between price consciousness and the totals of smartphone frequency ($r=0.31$, $p<0.01$) and smartphone importance ($r=0.36$, $p<0.01$). The correlations for price consciousness are, in fact, significant for all of clothing, electronics and grocery smartphone frequency and importance scores, which is inconsistent with the Finnish sample.

Overall, Table 1 shows that the Thai sample report that they use the smartphone more frequently in-store and that they perceive the smartphone more important, especially for clothing and grocery shopping. Very few Finnish

participants find the smartphone important in grocery shopping for the three activities investigated here. Therefore, a separate independent t-test was conducted to compare total smartphone frequency and total smartphone importance scores between Thais and Finns. There was a significant difference for total smartphone frequency ($t=12.472$, $p<0.001$, 2-tailed) and total smartphone importance ($t=15.424$, $p<0.001$, 2-tailed). Moreover, the Thai respondents report that they are more price conscious than the Finnish respondents ($t=9.112$, $p<0.001$, 2-tailed).

We also analyzed age and gender. However, age and gender showed no or weak correlations with the dependent variables. The most notable correlation was between gender and smartphone frequency for electronics where Thai male showed a higher frequency than Thai female ($r=0.16$, $p<0.05$).

5. Discussion and conclusions

In this explorative study the aim was to assess if price consciousness has a positive relationship with young adults' mobile shopping in retail stores. The study was conducted as a cross-national study between young adults' in Finland and Thailand.

Our first research question was: *How is consumer price consciousness associated with mobile shopping in retail stores?* The survey results from undergraduate students in Finland and Thailand imply that price consciousness seems to have a positive relationship with mobile shopping in retail stores. Hence, consumer price consciousness seems to be an important cue for better understanding mobile shopping in retail stores. Young, highly price-conscious adult consumers seem more likely to conduct mobile shopping. By segmenting consumers according to price consciousness (low vs. high) [20], retailers may be more effective in engaging consumers for mobile shopping purposes.

Our second research question was: *What are the differences between Finns and Thais regarding price consciousness and mobile shopping?* The positive relationships between price consciousness and mobile shopping are stronger for the Thai sample. The Thai respondents also reported higher price consciousness and mobile shopping tendency than the Finnish respondents. Thus, the findings indicate that higher price consciousness among Thai young adults also seems to lead to more mobile shopping. This accentuates in more habitual purchasing situations like grocery shopping where very few Finnish young adults perceived the smartphone important, which did not align with the responses from the Thai sample. These findings concur with previous research establishing differences in price-sensitivity between different nations [1, 16], and these national differences can also lead to differences in the use of technology for shopping purposes. However, one could also argue that mobile shopping fuels price consciousness, as mobile shopping can provide empowered and better decision support. Thus, it is possible that already price-conscious consumers become even more price conscious as a result of increased mobile shopping.

Based on this study we may draw some initial conclusions. The survey results indicated interesting positive relationships between price consciousness and mobile shopping activities in retail stores. The findings also indicated that there are differences between the two markets studied. Price consciousness seems to have a stronger association with mobile shopping for young adult Thais. This helps to understand digital shoppers in international retail contexts and how different decision-making styles may be associated with mobile shopping. Nevertheless, this study should be viewed as a pilot study where some initial empirical findings have been presented. Further studies could include cultural dimensions based on cross-cultural literature such as Hofstede [9] and include different types of respondents. Students are likely to be more comfortable with smartphones than older shoppers and they may also be more price sensitive. It should also be noted that the correlation scores, despite being significant, were of small to medium strength, and thus further studies measuring price-conscious associations relative to other types of decision-making styles and market characteristics such as income ought to be of value.

References

- [1] Ackerman, D., and Tellis, G. J. (2001) "Can culture affect prices? A cross-cultural study of shopping and retail prices." *Journal of Retailing*, 77, 57–82. doi: 10.1016/S0022-4359(00)00046-4.
- [2] Alford, B. L., and Biswas, A. (2002) "The Effects of Discount Level, Price Consciousness and Sales Proneness on Consumers' Price Perception and Behavioral Intention." *Journal of Business Research* 55 (9): 775-783.
- [3] Anić, I-D., Ciunova-Shuleska, A., Rajh, S. P., Rajh, E. and Bevanda, A. (2016) "Differences in consumer decision-making styles among selected southeast European countries." *Economic Research-Ekonomska Istraživanja* 29 (1): 665-681. doi: 10.1080/1331677X.2016.1193949

- [4] Eriksson, N., Rosenbröjjer, C-J. and Fagerström, A. (2017) “The relationship between young consumers’ decision-making styles and propensity to shop clothing online with a smartphone.” *Procedia Computer Science* **121**: 519-524. doi: 10.1016/j.procs.2017.11.069
- [5] Eriksson, N., Rosenbröjjer, C-J. and Fagerström, A. (2018) “Smartphones as decision support in retail stores–The role of product category and gender.” *Procedia Computer Science* **138**: 508-515. doi: 10.1016/j.procs.2018.10.070
- [6] Goswami, S. and Khan, S. (2015) “Impact of Consumer Decision-making Styles on Online Apparel Consumption in India.” *Vision-The Journal of Business Perspective* **19** (4): 303–311.
- [7] Grewal, D., Roggeveen, A. L. and Nordfält, J. (2017) “The Future of Retailing.” *Journal of Retailing* **93** (1): 1–6.
- [8] Hair, J. F., Black, W. C., Babin, B. J. and Anderson, R. E. (2014). *Multivariate data analysis* (7 ed.), Upper Saddle River New Jersey, Pearson Prentice Hall.
- [9] Hofstede, G. (2001) *Culture’s Consequences – Second Edition: Comparing Values, Behaviors, Institutions and Organizations Across Nations*. London UK, Sage.
- [10] Jocevski, M., Arvidsson, N., Miragliotta, G., Ghezzi, A. and Mangiaracina, R. (2019) “Transitions towards omni-channel retailing strategies: a business model perspective” *International Journal of Retail & Distribution Management* **47** (2): 78-93.
- [11] June, L., Chun-sheng, Y., Chang, L. and June W. (2017) “Comparison of mobile shopping continuance intention between China and USA from an espoused cultural perspective.” *Computers in Human Behavior* **75**, 130-146.
- [12] Lichtenstein, D. R., Ridgway, N. M., and Netemeyer, R. G. (1993) “Price Perceptions and Consumer Shopping Behavior: A Field Study.” *Journal of Marketing Research* **30** (2): 234–245.
- [13] Moström, M. (2018) ”Den uppkopplade människans krav på den fysiska butiken!”, in Ulf Johansson (ed.), *Framtidens fysiska butik: Digitalisering, upplevelser och hållbarhet* 33–40. Sweden, Lund University, Media-Tryck, Retrieved January 29, 2020 from https://handelsradet.se/wp-content/uploads/2018/10/Framtidens-fysiska-butik_webb.pdf
- [14] Nasir, S. and Kurtulus, B. (2016) “Technology is transforming shopping behavior: in-store mobile technology usage”, in A. Gbadamosi (ed.) *Handbook of Research on Consumerism and Buying Behavior in Developing Nations*, IGIA Global.
- [15] NRF-IBM (2018) “What do Gen Z shoppers really want?” *Retail essentials and customized experiences top their list*, Retrieved 10 February, 2020 from: <https://nrf.com/sites/default/files/2018-10/NRF-IBM%20Generation%20Z%20Study%20Part%20III.pdf>
- [16] Roberts, J., Kayande, U. and Srivastava, R. K. (2015) “What’s Different About Emerging Markets, and What Does it Mean for Theory and Practice?” *Customer Needs and Solutions* **2**: 245–250. doi: 10.1007/s40547-015-0056-x
- [17] Rodríguez-Torrico, P., San Jose Cabezudo, R. and San-Martín, S. (2017) “Tell me what they are like and I will tell you where they buy. An analysis of omnichannel consumer behavior.” *Computers in Human Behavior* **68**: 465-471.
- [18] Svingstedt, A., Bäckström, K. and Fuentes, C. (2018) ”Digitalisering i handeln: Mobiltelefonen och den fysiska butiken.”, in Ulf Johansson (ed.), *Framtidens fysiska butik: Digitalisering, upplevelser och hållbarhet* 47–56, Sweden, Lund University, Media-Tryck, Retrieved January 29, 2020 from https://handelsradet.se/wp-content/uploads/2018/10/Framtidens-fysiska-butik_webb.pdf
- [19] Sproles, G. B. and Kendall, E. L. (1986) “A methodology for profiling consumers’ decision-making styles.” *Journal of Consumer Affairs* **20** (2): 267-279.
- [20] Palazón, M. and Delgado, E. (2009) “The moderating role of price consciousness on the effectiveness of price discounts and premium promotions.” *Journal of Product & Brand Management* **18** (4):306-312.
- [21] Piotrowicz, W. and Cuthbertson, R. (2014) “Introduction to the Special Issue: Information Technology in Retail: Toward Omnichannel Retailing.” *International Journal of Electronic Commerce* **18** (4): 5 – 16.
- [22] Venkatesh, V., Thong, J. Y. L. and Xu, X. (2012) “Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology” *MIS Quarterly* **36** (1):157-178.
- [23] Voropanova, E. (2015) “Conceptualizing smart shopping with a smartphone: implications of the use of mobile devices for shopping productivity and value.” *The International Review of Retail Distribution and Consumer Research* **25** (5): 529-550.