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Innovation starts at the storefront: modelling consumer behaviour towards storefront windows enriched with innovative technologies

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Innovation starts at the storefront: modelling consumer behaviour towards storefront windows enriched with innovative technologies

Abstract.

Purpose- Research into the introduction of innovative technologies directly at the storefront window is limited. The aim of this paper is to model the behavioural attitudes and the subsequent benefits of, introducing innovative technologies to the storefront, while also considering the role of personal innovativeness in the decision process.

Design/methodology/approach- This study employed a sample of 341 consumers who approached this new kind of storefront in two well-known apparel stores in the centre of New York city. A self-administered questionnaire was used as a tool for data collection.

Findings- Findings empirically demonstrate that when consumers sense that there are innovative interactive technologies in the storefront windows, they are willing to enter the store, generate positive word of mouth communication (sharing the positive experience with friends).

Originality/value- Our study is the first to investigate the combination of consumer innovativeness and storefront window on the behavioural attitude, supported with quantitative evidence.

Keywords: Consumer innovativeness; storefront windows; interactive technologies; decision making; Innovation theory; consumer behaviour

Paper type Research paper
1. Introduction

The importance of storefront windows in terms of consumer behaviour has been recognised by previous academics and practitioners (Cornelius et al., 2010; Jain et al., 2014; Lange et al., 2016; Oh and Petrie, 2012; Pantano, 2016; Sen et al., 2002). Storefronts are the first contact point between consumers and retailers and a means of persuading consumers to enter a particular store (Jain et al., 2014). Hence, storefront windows and their basic features efficiently (i) create a visual impact, (ii) differentiate retailers from other competitors, and (iii) anticipate a further exceptional experience in the store (Lange et al., 2016; Oh and Petrie, 2012; Pantano, 2016).

Moreover, changes in consumer demand, and the availability of innovations that enhance the retail process, including new interactive tools for supporting the shopping experience, may affect consumers’ preferences for a certain store, which in turn pushes marketers to try to understand the extent to which consumer behaviour towards retailers varies as a function of different characteristics (Jain et al., 2014; Pantano, 2014). For instance, in the last decades a huge number of points of sale changed their format and layout, the services they offer, and their delivery modalities by integrating advanced technologies with the promise of superior shopping experiences (Kourouthanassis et al., 2007; Ngo and O’Cass, 2013; Pantano et al., 2018; Papagiannidis et al., 2013; Willems et al., 2017), with the aim of gaining the attention of consumers who have been overexposed to traditional marketing approaches (Hutter and Hoffmann, 2014). As a consequence, the retail industry has to offer innovative solutions to create value for consumers (Pantano, 2014; Shankar and Yadav, 2011; Triantafillidou et al., 2017), this constant search for solutions is moving towards an increasing integration of technological, interactive and entertainment technologies, so as to attract more consumers (Bertacchini et al., 2017; Chou et al., 2016; Demirkan and Spohrer, 2014; Hagberg et al., 2016; Padma and Wagenseil, 2018; Pantano, 2014; 2016; Roy et al., 2017).
To this end, since 2009 retailers such as Nike at Selfridges or Hugo Boss have started introducing some interactive technological elements directly within storefront windows for a trial period. For instance, during the Olympic Games in London in summer 2012, to attract the huge number of tourists passing by the Selfridge store in the centre of the city (Oxford Street), the storefront windows introduced a mixture of kinetic sculptures and interactive displays. Each of the displays reacted to pedestrians’ movement using input from a Kinect sensor to measure characteristics like height and speed, and the storefront window displaying the new jacket detected movement and then shot a volley of strobe lights towards the street. Similarly, in December 2009, Hugo Boss launched the “Black Magic” experience at the store in Sloane Square in London as part of the winter holiday advertising campaign. For three weeks, consumers could pick up a special card to play a virtual game of blackjack at the storefront window and win a voucher to spend in the store.

Another interactive storefront concept was tested in July 2013 in New York (US) by the partnership between eBay and Kate Spade, which allowed consumers to select and buy products through a touch screen located within one of the 4 storefront windows. Thus, customers were able to choose among 30 different products available, while new products were added each Saturday during the opening hours of the store.

An increasingly great number of scholars and practitioners have dealt with the dynamic effect that storefronts may have on consumers’ behaviour, while they have also focused on the potential impact and implications that the use of new technologies may entail (Dennis et al., 2010; Jain et al., 2014; Oh and Petrie, 2012; Pantano, 2016; Paradiso and Leo, 2005; Reitberg et al., 2009). However, to the best of our knowledge, no previous attempt has been made to thoroughly review the consequences that the integration of interactive technologies and related services in the storefront window may lead to. Although there are technologies that can be integrated in the storefront which do not require a direct consumers’
interaction (e.g. facial recognition systems that identify consumers), in this paper we will consider only those technologies which demand a certain degree of interaction with the consumers. Given that, the aim of this study is to examine the antecedents of consumer behaviour towards storefront windows which are enriched with innovative technologies. In particular, it investigates the impact of enriching storefront windows with innovative technologies on consumers’ behavioural attitudes (i.e., entry decision) and the consequences for retailers in terms of attitude toward the retailer, and word-of-mouth communication. This study contributes to the literature in the following ways. Our study responds to the call by Lange et al (2016) for more studies on storefronts and adds new knowledge on the effect of using storefront technologies on behavioural attitudes, where a limited body of literature exists (Lange et al., 2016; Pantano, 2016). Lange et al (2106) highlight the importance of creating new storefront windows based on creativity, while this study integrates this view by using innovative technologies in the storefronts. Also, the current study extends the work of Lange and colleagues (2016) by adding attitude toward the retailer and it explains the effect of the storefronts enriched with interactive technologies on consumer behaviour. In addition, previous works have considered consumer innovativeness only in relation to shopping decision or in-store behaviour (Fowler and Bridges, 2010; Kaushik and Rahman, 2016; Kim et al., 2010); this study additionally examines consumer innovativeness as a driver of consumer behaviour outside (mainly, in front of) a store, which also extends Pantano’s (2016) qualitative study on the importance of introducing interactive technologies directly on the storefront.

The remainder of this paper is organized as follows. First, we summarize prior studies on consumer innovativeness, in order to understand the attitude towards new technologies as a driver of a preference for storefronts enriched with new technology, storefront windows, behavioural attitudes, and the subsequent impact on consumers. Next, we outline the design
of our research methodology. Then, we provide details of the model emerging from our study. This paper is completed with a discussion of the findings, future research directions, and the implications of the findings for storefront windows and their development.

2. Theoretical Background

2.1 Consumer innovativeness

Firms’ innovations might fail due to their lack of understanding of consumers’ needs (Bartels and Reinders, 2011). In this context, a huge amount of literature focuses on the drivers of consumer acceptance of new products, services, and experiences, as influenced by both consumers’ personal traits, innovation characteristics and market efforts (Kim et al., 2010). An important driver in this sense is consumers’ innovativeness. Past studies identified consumer innovativeness as a driver of retail patronage both offline and online, including the choice of a particular store, the use of pop-up retail (Fowler and Bridges, 2010; Kim et al., 2010), the adoption of in-store self-service technologies (Kaushik and Rahman, 2016), the adoption of e-commerce (Crepo and del Bosque, 2008; Thakur and Srivastava, 2015) and e-loyalty (Jianlin and Qi, 2010), and it might refer to a specific domain of interest (Goldmish and Hofacker, 1991).

Innovativeness has been conceptualized as a personal trait related to an innate behaviour such as an individual’s tendency to buy new products more often and more quickly than other people (Chao et al., 2012; Im et al., 2003; Roehrich, 2004; Vandercastelee and Geuens, 2010), thus it might vary among individuals (Bartles and Reinders, 2011), and it is related to the desire for novelty (i.e. product novelty, service novelty, etc.), which might further determine the acceptance of a new product or service (Hoffmann and Soyez, 2010; Manning et al., 1995). In other words, it captures consumers’ willingness to adopt innovations (in service or products) (Raskovic et al., 2016). Indeed, it characterizes
consumers as innovators (adopters with the highest level of innovativeness) from later adopters (Truong et al., 2017), which is strictly linked to the ability of risk-taking in the use of new, unfamiliar and new products/technologies/services. In other words, consumers with a high level of innovativeness are less likely to engage in risk reduction strategies (Truong et al., 2017).

Roherich (2004) has further summarized consumers’ innovativeness as (i) an expression of the need for stimulation, (ii) an expression of novelty seeking, (iii) independence toward other’s communicated experience, and (iv) an expression of a need for uniqueness, which leads to consumers’ seeking, testing and purchasing the newest products.

Raskovic and colleagues (2016) further defined consumer innovativeness as: (i) innate consumer innovativeness (as a personal trait), (ii) domain-specific consumer innovativeness (related to a specific product category), and (iii) actualized innovative consumer behaviour in terms of early adoption of new products/services. Indeed, consumer innovativeness is evident in how the newest technological products are embraced, for example, consumers accept long queues and high prices in order to have the latest model of a certain smartphone or tablet. Indeed, consumer innovativeness affects high level of continuance intention in new technologies (i.e. smartwatch) by enhancing both utilitarian and hedonic value (Hong et al., 2017).

2.2 Attitude toward storefront and entry decision

Like the role of store atmospherics, the effectiveness of a store window relies on the visual stimuli used to positively influence consumers’ behaviour (Kernsom and Sahachaisaeree, 2012; Oh and Petrie, 2012; Triantafillidou et al., 2017). Capturing the visual attention of consumers is vital for retailing and visual merchandising; recent research often uses eye-tracking methods to test this (e.g., Atalay et al., 2012; Hendrickson and Ailawadi,
Eye-tracking technology enables researchers to quantify the visual attention that consumers direct at stimuli and provides insights into their information processing and decision-making processes (Wedel and Pieters, 2008). These stimuli are similar to the arousal factors that affect in-store consumer behaviour (Mattila and Wirtz, 2001; Menon and Kahn, 2002) and involve (i) design elements, such as brightness, saturation, colour, light intensity, texture, shapes, textual style, and how merchandise is displayed; (ii) product and product positioning (including prices); and (iii) window display style (including concept, content, season and product) (Kernsom and Sahachaisaeree, 2012; Oh and Petrie, 2012). In terms of the design elements, certain colours are able to solicit more positive feelings in consumers and creating a particular mood potentially pushes consumers to make a purchase (Jain et al., 2014). For instance, before Valentine’s Day, most of the stores use red, which is usually associated with passion and love, thus inviting consumers to buy a Valentine’s gift. Concerning the products and product positioning, products can be located at the centre of the display surrounded by other elements, or they can occupy only a limited part of the scene. Similarly, the price or details on price and promotion might or might not be visible from the storefront. The right amount of displayed information might solicit consumers’ attention without totally satisfying it, in order to influence their behavioural attitude. In terms of the display style, windows often tend to reproduce the characteristics of the season, for instance in the winter time they tend to recreate winter and snow scenes, or at Christmas they use Christmas trees and other Christmas decorations.

Previous literature draws a more detailed distinction in terms of window typologies: (i) Oh and Petrie (2012), for example, have distinguished between the so-called merchandise typology that emphasises understating and the artistic one which centers on exploration; (ii) Yildirim et al. (2007), on the other hand, discuss the differences and affinities between the flat, the arcade, and the corner window. Based on their work, the flat window is built on the
concept of a straight line aligned with the store entrance, as opposed to the arcade category which expands from a shop’s entrance set back between two windows aiming to augment the size and value of the window allowing a greater number of products to be showcased; the third and last type they identified is the corner window, is fundamentally exploited and ideal for stores that are located on a corner. (iii) Last but not last, certain scholars have also drawn a distinction between the thematic and non-thematic windows having as a criterion their design (Oh et al., 2008), with the thematic demonstrating the items sold in alignment with a specific story or concept, generating a lifestyle-type atmosphere.

Meaningful examples of thematic windows are often found in luxury large department stores and luxury branded stores. For instance, in (late) October 2015, Harrods (London, UK) celebrated Halloween by covering its storefronts with a large witch, whose legs and feet came out of the storefront and onto part of the pavement. Similarly, Dolce & Gabbana frequently design storefronts based on Sicilian art and culture, to which their collections are devoted.

To date, the literature has provided studies which offer preliminary indications of the basic factors needed to design effective storefront windows (see Oh and Petrie, 2012), without taking into account the possible ripple effects of interactive technologies on these factors, or how the traditional elements of a window and new technologies can be successfully merged.

Storefront windows are a powerful tool for communicating about products and motivating consumers to enter the store (Lange et al., 2016; Yildirim et al., 2007). This decision might be further influenced by a desire to collect more information on the products they saw at the window display or to learn more about the sales and promotions announced there, etc. (Oh and Petrie, 2012; Sen et al., 2002). Therefore, we hypothesize that:

H1: The higher the attitude toward a storefront window the stronger the influence on the storefront based entry decision.
2.3 Attitude toward retailer and entry decision

A firm’s (i.e. store) image is deemed to be a product of individuals’ perception of reality (Bernstein, 1986) on the basis of their beliefs, emotions, feelings (Barich and Kotler, 1991). Store image enhances store quality perception and purchase intention (Bao et al., 2011) and consequently loyalty (Darley and Lim, 1999; Erdil, 2015). Lin (2016) points out innovative consumers are attracted by the innovative image of a specific retailer. Similarly, past studies identified the meaningful positive association between consumer innovativeness and their behaviour intention; in other words, past studies demonstrated the extent to which consumer innovativeness influences their usage of a certain product because they feel they have more control over it, while showing low emotional resistance towards it (Dai et al., 2015). When consumers have a positive attitude toward the retailer, they are likely to exhibit greater willingness to search for product information from the retailer (Kim and Park, 2005). Lin et al. (2013), assert that when consumers perceive a retailer’s efforts in innovation to give better value, their likelihood of becoming more loyal customers increases. Given that consumers’ attitudes generally influence critically their buying intentions (Schiffman and Wisenblit, 2015; Solomon, 2015), their attitude towards a retailer may also influence their store entry decision. Therefore, we hypothesize:

H2: The higher the attitude toward the retailer the stronger the influence on the storefront based entry decision.

2.4 Behavioural response

Literature shows that storefronts influence the storefront based entry decision (Sen et al., 2002; Pantano, 2016; Yildirim et al., 2007). Any behavioural intention can lead to shopping and customer satisfaction and satisfaction with the store in turn can have a positive impact on WOM. Also, consumers' excitement can also cause WOM activities (Lovett et al.,
Past studies have shown that a positive experience with a product, a brand or retailer has been linked to positive WOM (East et al., 2007; Ladhari, 2007; de Matos and Rossi, 2008), while a negative one has been associated with negative WOM (Nyer and Gopinath, 2005; Richins, 1983). In retailing settings, studies (Brown et al., 2005; Chang et al., 2015; Fuentes-Blasco et al., 2017; Jung and Seock, 2017; Kumar et al., 2013; Riquelme et al., 2016; Siu and Cheung, 2001), have investigated the WOM as a consequence of satisfaction, service quality, store image, store equity, or various store attributes (i.e. layout, atmospherics), since positive or negative WOM is highly related to consumers’ behavioural intentions and thus, affects sales and profits (Jung and Seock, 2017). When a customer holds a positive attitude towards a store there is a high possibility of recommending it or to revisit it (Kamran-Disfani et al., 2017). Therefore, we hypothesize:

H3: Storefront based entry decision has a positive influence on word of mouth communication.

2.5. Moderating effect of customer innovativeness

Customer innovativeness, in terms of the degree to which an individual has a positive attitude towards innovation (Crespo and del Bosque, 2008; Fowler and Bridges, 2010; Kim et al., 2010; Roehrich, 2004), might play a role in shaping customers’ behavioural intention when considering a storefront enhanced with innovative technologies. Managers are aware of the importance of customer innovativeness, which might have a strong impact on positive and desired attributes and add value to the image of an organisation (Nijssen and Douglas, 2008). For instance, retailers spend a lot of money and time on, and do a lot of research into, creating and designing a storefront, which influences perceptions among a firm’s customers in a positive way. In fact, it can enhance a company’s uniqueness, improve its visibility, and have a positive impact on public impressions (Fombrun, 1996; Sen and Bhattacharya, 2001;
Williams and Moffitt, 1997). Innovations in store atmosphere and store design is a serious
design to customers that a retailer is able to fulfil their needs and expectations (Lin et al., 2013).
In particular, the more advanced the technology implemented by the retailer, the stronger the
influence on consumer behavioural intentions (Gil-Saura et al., 2016). Fuentes-Blasco et al.
(2017) found that technological innovations are more meaningful than marketing innovation
in shaping image, value and satisfaction. Therefore, we hypothesize:
H4: Consumer innovativeness moderates the effect of the attitude toward a storefront window
on the storefront based entry decision.
H5: Customer innovativeness moderates the effect of the attitude toward the retailer on the
storefront based entry decision.

3. Research Methodology
3.1 Data collection and sample
In order to assess the research’s conceptual model, a pre-test was initially conducted
to investigate the validity, suitability, and freedom from error of the measurement items.
Then, the main data set was obtained from customers outside two well-known apparel stores
with digital interactive store window designs (i.e. digital signage showcasing new product
lines) in the centre of New York, US, between July 19th and August 8th, 2015, by employing a
structured self-administered questionnaire. Two appropriately-trained field research assistants
were recruited, and 526 customers were approached to participate in the study after having
stopped to look at the above-mentioned storefront. The questionnaires were distributed each
day and at different times of the day to improve randomness (Haj-Salem et al., 2016). A total
of 341 usable completed questionnaires were processed and analysed, achieving a 64.8%
response rate which was sufficient to satisfy the required ratio of at least five observations per
estimated parameter for structural equation modelling (SEM) (Bollen and Paxton, 1998). The
respondents took on average 12 minutes to complete the questionnaire. Each participant received a $2 gift voucher to buy water/soft drink as a token of appreciation for completing the questionnaire. In this sample, 49.3% were men and 50.7% were women. Regarding the age, 41% of the participants were aged between 20 and 29, 29.6% were aged 19 to 17 years old (Table 1).

“In INSERT TABLE 1 HERE”

3.2 The survey measures

Specifying the content domain from the appropriate literature was achieved by employing multi-item scales for each construct (Churchill, 1979). The research construct items were inspected for face and content validity by 5 faculty members in the department of marketing who are familiar with the topic (Bearden et al., 1993). Some items were eliminated or modified based on the received recommendation. There are five main constructs under study here: (i) consumer innovativeness, (ii) attitude toward the storefront, (iii) storefront based entry decision, (iv) attitude toward the retailer, and (v) word-of-mouth. The previous literature was comprehensively accessed in order to develop the items measured for the current research constructs. The measurement items for attitude toward the storefront (Kerson and Sahachaisaeree, 2012; 2010; Müller et al., 2010; Oh and Petrie 2012; Sen et al., 2002) and storefront based entry decision were employed from previous research (Oh and Petrie 2012; Sen et al., 2002). Consumer innovativeness was adopted from the existing scales (e.g. Chao et al., 2012; Crespo and del-Bosque, 2008; Fowler and Bridges 2010; Manning et al., 1995). The measurement for attitude toward the retailer was based on previous studies (Foroudi et al., 2014; Williams and Moffitt, 1997). Word-of-mouth (Srinivasan et al., 2002) also obtained from existing scales. The items employed in the current study are shown in
Appendix 1. All respondents were asked to indicate their level of agreement using a seven-point Likert scale (1=strongly disagree, 7=strongly agree).

4. Data analysis and Results

The preliminary research measurement items were subjected to a series of factor and reliability analyses as an initial examination of their performance within the entire sample. This research followed a measure validation procedure through a two-step approach based on Anderson and Gerbing (1988). The analysis was run employing Analysis of Moment Structures (AMOS). To deal with the measurement model’s validity and reliability, exploratory factor analysis (EFA) as a statistical procedure was ran through SPSS to attain the theoretically expected factor solutions and to describe such variables in terms of their common underlying factors (Hair et al., 2006). In this stage, 4 items (CIN1, CIN2, ATS1, ATS2, and SFED1) were excluded for multiple loadings on two factors, and the total correlation was less than .50 (Hair et al., 2006). The Cronbach’s alpha measures the consistency of each component with its relevant items and confirmed that the items in each factor were internally consistent and reliable (Cronbach’s alpha <.905) (Nunnally, 1978). The sampling adequacy was tested from KMO (.922>.6), which proposes appropriateness for EFA, furthermore the associations among the items are statistically significant and provide a parsimonious set of factors (Tabachnick and Fidell, 2007). Also, Bartlett’s test of Sphericity shows the relationship between the research measurement items (higher than .3) and the appropriateness for EFA (Hair et al., 2006).

Confirmatory factor analysis (CFA) was employed in the advanced stages of the research process to assess the construct uni-dimensionality through AMOS; the examination of each subset of items was internally consistent and validated the constructs on the basis of the measurement models (Anderson and Gerbing, 1988). Convergent validity and
discriminant validity were examined on the basis of construct reliabilities (Anderson and Gerbing, 1988). The results of discriminant validity illustrated that relationships between factors were less than the recommended value of .92 (Kline, 2005). The average variance extracted (AVE) for each construct ranged from .613 to .778. A good rule of thumb is that an AVE of .5 or higher indicates adequate convergent validity (Appendix 1).

The structural model fit was inspected through goodness-of-fit indices (X²–Chi-square, 743.993; df–degree of freedom, 200; CFI–Comparative fit index, .931 which is an incremental index that evaluates the fit of a model with the null baseline model (Hair et al., 2006). Based on the IFI–Incremental Fit Index (.931) and TLI–Tucker-Lewis index (.916), the ‘favourable’ fit values provide a satisfactory fit to the data and therefore indicate the unidimensionality of the measures (Anderson and Gerbing, 1988). Based on the standardized parameter estimates for the hypothesized relationships between the research constructs, Table II provided support for a relationship between customer innovativeness and storefront behavioural intention (H1: ATS->SFED β=.380, t=5.547). In the hypothesized model the effect of storefront attitude on storefront behavioural intention did reach significance (H2: ATR->SFED β=.348, t=6.013). H3 indicates that there are relationships between storefront behavioural intention and word-of-mouth (SFED->WOM) (β=.530, t=9.443). Figure 1 illustrates the validated model. Furthermore, customer innovativeness (CIN) strengthens the positive relationship between attitude toward a storefront window (ATS) on the storefront based entry decision (SFED) as well as the positive relationship between attitude toward the retailer (ATR) and the storefront based entry decision. Therefore, hypotheses 4 and 5 were accepted. Figures 2 and 3 illustrate these moderating effects respectively.

“INSERT TABLE 2 HERE”

“INSERT FIGURE 1 HERE”

“INSERT FIGURE 2 HERE”
5. Discussion and conclusion

A huge deal of research investigated the extent to which interactive and entertainment technologies provide useful solution to attract more consumers (Bertacchini et al., 2017; Chou et al., 2016; Demirkan and Spohrer, 2014; Hagberg et al., 2016; Padma and Wagenseil, 2018; Pantano, 2014; 2016; Roy et al., 2018). However, these studies mainly focus on the effect of technology when consumers are already in the store. In the present research, we make a step back trying to understand the effect of the technology on consumer behaviour out of the store. The aim of this paper was to investigate, through a quantitative approach, the effect of innovative technologies directly at the storefront window on consumers’ behavioural attitude and on store image. To date, retailers are clearly not conscious of how using innovative interactive technologies could represent an opportunity to develop consumer interest and gain a competitive advantage directly at the storefront (Hagberg et al., 2017; Pantano, 2016). Despite some examples of temporary interactive storefronts around the world (i.e. Hugo Boss and the ‘Black Magic’ at the store in Sloane Square in London in 2009; Kate Spade and eBay in New York (US) in 2013), there are no retailers consistently offering interactive technologies at their storefront windows. Our empirical study on the effect of these innovations on consumer behaviour in terms of behavioural attitude, store image building aim to help retailers better understand the technological opportunities from shifting from static windows to interactive ones. In conclusion, our results quantitatively verify that storefront windows can positively affect consumers’ behavioural attitude to a store, while underlining the importance of integrating innovative technologies to enrich the decision. Also, the findings confirmed that customer innovativeness has a significant moderating effect between i) the attitude toward a storefront window and the storefront based entry decision
and ii) attitude toward retailer and the storefront based entry decision. In other words, our results demonstrate the extent to which consumer innovativeness influence consumers appreciation of a window enriched with interactive technologies, while acting as a moderator of the store entry decision.

5.1. Theoretical contributions

Interestingly, we found that customer innovativeness and storefront window have a strong effect on consumer behavioural attitude, which in turn influence positive word-of-mouth communication. A key implication is that, while there is recognition of the importance of storefront windows on patronage behaviour (Cornelius et al., 2010; Jain et al., 2014; Lange et al., 2016; Oh and Petrie, 2012; Pantano, 2016; Sen et al., 2002), the progress in technology has compelled retailers to successfully innovate even at the storefront. Currently, consumers are attracted to innovations available at the point of sale through cross-technologies synergies (Demirkan and Spohrer, 2014; Dennis et al., 2010; Hagberg et al., 2016; Kourouthanassis et al., 2007; Pantano, 2014; Willems et al., 2017), thus the seamless experience of both interactive technologies and storefront windows is becoming more necessary than a strategic advantage. As supported by our empirical findings, the storefront window includes innovative interactive technologies and consumers’ personal traits in terms of innovativeness, which in turn emphasizes the beneficial effects of innovating at the storefront windows. Indeed, our study extends the preliminary studies on the possible technologies to be introduced (Paradiso and Leo, 2005; Reitberger et al., 2009) with empirical evidence. In other words, we demonstrate that when consumers sense that there are innovative interactive technologies in the storefront windows, they are willing to enter the store, generate positive word of mouth communication (sharing the positive experience with friends), and perceive the store as having a better image. These results add to the previous studies containing
quantitative evidence which have investigated the importance of interactive technologies in the storefront towards influencing entry decision (see Pantano, 2016). In the current work, we have described the impact of consumers’ innovativeness (as a variable that cannot be handled directly by retailers) on the store entry decision, which results into positive word-of-mouth communication and attitude towards the retailer.

Moreover, our findings extend the work of Fowler and Bridges (2010) who demonstrated the effect of consumers’ innovativeness on retail format, by including this influence in the behavioural attitude (i.e., entry decision). Our study is also the first to investigate the combination of consumer innovativeness and storefront window on the behavioural attitude. Previously, literature (Kernsom and Sahachaisaeree, 2012; Jain et al., 2014; Oh and Petrie, 2012; Pantano, 2016) only highlighted the main features of storefront window as a driver of the behavioural attitude (i.e., entry decision). As a result, the consumer is able to interact with retailers at multiple touch points and is exposed to a rich mix of offline sensory information 24/7. Finally, the novelty related to the new storefront windows would overcome the sense of overexposure to traditional advertising messages, as anticipated by Hutter and Hoffmann (2014), by offering a new environment able to solicit consumers/pedestrians’ attention.

5.2. Managerial implications

Whereas previous studies (Lange et al., 2016; Pantano, 2016), on the importance of storefront window focused on behavioural attitude our study figures out the extent to which the storefront has impact for retailers in terms of image, positive word of mouth communication. Thus, the results have managerial relevance by improving the understanding of the overall consequences of a successful storefront window for retailers. Storefronts should acquire more importance in retailers’ communication strategies as vehicles to create more traffic, which
can be emphasized through the usage of interactive technologies. Retailers use the emerging interactive technologies to help them achieve competitiveness and to be appealing to consumers (Pantano et al., 2017; Priporas et al., 2017; Varadarajan et al., 2010). Specifically, our findings show that the interactive storefronts would contribute to the creation of a positive retailer image (Cornelius et al., 2010). Additionally, interactive storefronts might improve the consumers flow within the store. Nowadays, retailers, in order to differentiate themselves in the marketplace, are required to be more visually stimulating to attract and draw customers (Nobbs et al., 2015). Indeed, this is true as retailers feel pressure to find new ways to capture and hold consumers’ attention, especially those of Generation Z who are characterized as technologically savvy, innovative, creative and less loyal to retailers (Priporas et al., 2017). Moreover, the interactive technologies could make it possible to extend the opening hours of the retail service.

5.3 Limitations and further research

Our study has some limitations. The first one is based on the fact that the interactive storefront windows are temporary; thus, interviewees might refer to some that they have appreciated but which are not available anymore. This might limit the possibility of replicating the study in other places with a similar retail environment, which may have consequences for the generalizability of the findings. Within this context, we considered exclusively the technologies requiring a direct and immediate interaction with the consumers. Future studies could include technologies that do not require a direct form of interaction (i.e. facial recognition systems employed to identify consumers). Secondly, our study did not distinguish between the typology of store adopting the interactive storefront window; luxury stores, department stores or food stores such as Starbucks might influence consumers differently. Thirdly, we tested the model on consumers who approached this kind of
storefront at least once, thus our model is missing data on consumers’ exposure to the interactive storefronts that might generate a different retail patronage. Fourth, future studies could check for any moderation effects exerted by consumer demographics.

References


(Eds.), *Shopper Marketing and the Role of In-store Marketing*, Emerald Group Publishing Limited, pp. 57-74.


Table 1: Demographic profile of the visitors of digital interactive shop window design compared with the main population figures

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<td>168</td>
<td>49.3</td>
<td>Student</td>
<td>152</td>
<td>44.6</td>
</tr>
<tr>
<td>Female</td>
<td>173</td>
<td>50.7</td>
<td>Owner of a company</td>
<td>13</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td>Lawyer, dentist or architect etc.</td>
<td>54</td>
<td>15.8</td>
</tr>
<tr>
<td>19 to 17 years old</td>
<td>101</td>
<td>29.6</td>
<td>Office/clerical staffs</td>
<td>24</td>
<td>7.0</td>
</tr>
<tr>
<td>20 to 29 years old</td>
<td>140</td>
<td>41.1</td>
<td>Worker</td>
<td>33</td>
<td>9.7</td>
</tr>
<tr>
<td>30 to 39 years old</td>
<td>56</td>
<td>16.4</td>
<td>Civil servant</td>
<td>12</td>
<td>3.5</td>
</tr>
<tr>
<td>40 to 49 years old</td>
<td>38</td>
<td>11.1</td>
<td>Craftsman</td>
<td>16</td>
<td>4.7</td>
</tr>
<tr>
<td>50 to 59 years old</td>
<td>6</td>
<td>1.8</td>
<td>Housewife</td>
<td>26</td>
<td>7.6</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td>Retired</td>
<td>11</td>
<td>3.2</td>
</tr>
<tr>
<td>High school</td>
<td>65</td>
<td>19.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>99</td>
<td>29.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postgraduate and above</td>
<td>177</td>
<td>51.9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Table 2: Results of hypothesis testing

<table>
<thead>
<tr>
<th>Regression paths</th>
<th>Estimate</th>
<th>S.E</th>
<th>C.R</th>
<th>p</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Attitude toward the storefront</td>
<td>--- &gt;</td>
<td>Storefront based entry decision</td>
<td>.380</td>
<td>.068</td>
<td>5.547</td>
</tr>
<tr>
<td>H2 Storefront based entry decision</td>
<td>--- &gt;</td>
<td>Word-of-mouth</td>
<td>.530</td>
<td>.056</td>
<td>9.443</td>
</tr>
<tr>
<td>H3 Attitude toward the retailer</td>
<td>--- &gt;</td>
<td>Storefront based entry decision</td>
<td>.348</td>
<td>.058</td>
<td>6.013</td>
</tr>
</tbody>
</table>

*** p < 0.001

Notes: Path = Relationship between independent variable on dependent variable; S.E. = Standard error; p = Level of significance.
Figure 1: Validated Structural Model
Figure 2. Moderating effect of customer innovativeness on the attitude toward the storefront-storefront based entry decision relationship.
Figure 3. Moderating effect of customer innovativeness on the attitude toward the retailer-storefront based entry decision relationship
## Appendix 1: The main scale dimensions and item sources, definitions, reliability measures and for each construct

<table>
<thead>
<tr>
<th>Variable</th>
<th>Items</th>
<th>Cronbach’s alpha</th>
<th>References</th>
<th>Factor loading</th>
<th>Mean</th>
<th>Std.D</th>
<th>AVE</th>
<th>Cons. Reliab.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumer Innovativeness (CIN)</strong></td>
<td>@.967</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIN1</td>
<td>Usually, I am among the first in my circle of friends to buy a new product/technology when it appears</td>
<td></td>
<td>Goldsmith and Hofacker, 1991</td>
<td>Removed due to multiple loadings on two factors EFA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIN2</td>
<td>I like introducing new brands and products to my friends</td>
<td></td>
<td>Fowler and Bridges 2010</td>
<td>Removed due to multiple loadings on two factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIN3</td>
<td>I often seek out information about new products and brands</td>
<td>Manning et al., 1995</td>
<td></td>
<td></td>
<td>.839</td>
<td>5.9032</td>
<td>1.24594</td>
<td></td>
</tr>
<tr>
<td>CIN4</td>
<td>I frequently look for new products, brands and services</td>
<td>Manning et al., 1995</td>
<td></td>
<td></td>
<td>.864</td>
<td>5.8592</td>
<td>1.21660</td>
<td></td>
</tr>
<tr>
<td>CIN5</td>
<td>I like seeking new products experiences</td>
<td>Manning et al., 1995</td>
<td></td>
<td></td>
<td>.838</td>
<td>5.8387</td>
<td>1.23685</td>
<td></td>
</tr>
<tr>
<td>CIN6</td>
<td>I take advantage of the first available opportunity to find out about new and different products</td>
<td>Manning et al., 1995</td>
<td></td>
<td></td>
<td>.823</td>
<td>5.7771</td>
<td>1.29826</td>
<td></td>
</tr>
<tr>
<td>CIN7</td>
<td>Among my peers, I am usually the first to try out new technology, brand or product</td>
<td>Crespo and del Bosque, 2008</td>
<td></td>
<td></td>
<td>.869</td>
<td>5.8387</td>
<td>1.29947</td>
<td></td>
</tr>
<tr>
<td>CIN8</td>
<td>I am usually favorable to accept new ideas</td>
<td>Chao et al., 2012</td>
<td></td>
<td></td>
<td>.879</td>
<td>5.7977</td>
<td>1.29369</td>
<td></td>
</tr>
<tr>
<td><strong>Attitude Toward the Storefront (ATS)</strong></td>
<td>@.921</td>
<td></td>
<td></td>
<td></td>
<td>.613</td>
<td>.824</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATS1</td>
<td>I would like to spend more time looking at this storefront window if I had the time</td>
<td>Oh and Petrie, 2012</td>
<td></td>
<td>Removed due to Multiple loadings on two factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATS2</td>
<td>I would enjoy exploring more of this storefront window</td>
<td>Oh and Petrie 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATS3</td>
<td>I like the design elements of the storefront (colour, light, merchandise display, etc.)</td>
<td>Kerson and Sahachaisaeree, 2012</td>
<td></td>
<td></td>
<td>.732</td>
<td>5.6188</td>
<td>1.18624</td>
<td></td>
</tr>
<tr>
<td>ATS4</td>
<td>I like the product positioning within the storefront windows</td>
<td>Kerson and Sahachaisaeree, 2012</td>
<td></td>
<td></td>
<td>.802</td>
<td>5.9648</td>
<td>1.13963</td>
<td></td>
</tr>
<tr>
<td>ATS5</td>
<td>I like the window display style (novelty, modern, theme, etc.)</td>
<td>Kerson and Sahachaisaeree, 2012</td>
<td></td>
<td></td>
<td>.775</td>
<td>5.7683</td>
<td>1.19398</td>
<td></td>
</tr>
<tr>
<td>ATS6</td>
<td>For me, looking at storefront windows is an important part of the shopping experience</td>
<td>Sen et al., 2002</td>
<td></td>
<td></td>
<td>.769</td>
<td>5.3900</td>
<td>1.23565</td>
<td></td>
</tr>
<tr>
<td>ATS7</td>
<td>Before entering a store, I usually check out its storefront windows</td>
<td>Sen et al., 2002</td>
<td></td>
<td></td>
<td>.827</td>
<td>5.6188</td>
<td>1.19858</td>
<td></td>
</tr>
<tr>
<td>ATS8</td>
<td>I like the possibility to interact with product/information directly from the storefront windows</td>
<td>Mueller et al., 2010</td>
<td></td>
<td></td>
<td>.788</td>
<td>5.7243</td>
<td>1.15820</td>
<td></td>
</tr>
</tbody>
</table>

Consumer innovativeness is a personal trait related to an innate behaviour such as an individual’s tendency to buy new products more often and more quickly than other people related to the desire for novelty (i.e. product novelty, service novelty, etc.) (Roehrich, 2004).
### Storefront Based Entry Decision (SFED) \( @.905 \)

| SFED1 | I entered the store solely because of its storefront windows | Sen et al., 2002 |
| SFED2 | My decision to enter a store depended on its storefront widows | Sen et al., 2002 |
| SFED3 | I often enter a store because of what I see in its storefront windows | Sen et al., 2002 |
| SFED4 | I would like to step into a store with these storefront windows to obtain additional information | Oh and Petrie, 2012 |

**Removed due to low reliability**: Item to total correlation is less than 0.5

### Attitude Toward the Retailer (ATR) \( @.956 \)

| ATR1 | I like the store | Williams and Moffitt (1997) |
| ATR2 | I like the store compared to other stores in the same sector | Williams and Moffitt (1997) |
| ATR3 | I think other consumers like the store as well | Williams and Moffitt (1997) |

### Word-Of-Mouth (WOM) \( @.945 \)

| WOM1 | I say positive things about this store to other people. | Srinivasan et al. (2002) |
| WOM2 | I recommend this store to anyone who seeks my advice. | |
| WOM3 | I do not encourage friends to visit this store | |
| WOM4 | I hesitate to refer my acquaintances to visit this store | |

**Warning**: Item to total correlation is less than 0.5
Innovation starts at the storefront: modelling consumer behaviour towards storefront windows enriched with innovative technologies

Abstract.

Purpose- Research into the introduction of innovative technologies directly at the storefront window is limited. The aim of this paper is to model the behavioural attitudes and the subsequent benefits of, introducing innovative technologies to the storefront, while also considering the role of personal innovativeness in the decision process.

Design/methodology/approach- This study employed a sample of 341 consumers who approached this new kind of storefront in two well-known apparel stores in the centre of New York city. A self-administered questionnaire was used as a tool for data collection.

Findings- Findings empirically demonstrate that when consumers sense that there are innovative interactive technologies in the storefront windows, they are willing to enter the store, generate positive word of mouth communication (sharing the positive experience with friends).

Originality/value- Our study is the first to investigate the combination of consumer innovativeness and storefront window on the behavioural attitude, supported with quantitative evidence.

Keywords: Consumer innovativeness; storefront windows; interactive technologies; decision making; Innovation theory; consumer behaviour

Paper type Research paper
1. Introduction

The importance of storefront windows in terms of consumer behaviour has been recognised by previous academics and practitioners (Cornelius et al., 2010; Jain et al., 2014; Lange et al., 2016; Oh and Petrie, 2012; Pantano, 2016; Sen et al., 2002). Storefronts are the first contact point between consumers and retailers and a means of persuading consumers to enter a particular store (Jain et al., 2014). Hence, storefront windows and their basic features efficiently (i) create a visual impact, (ii) differentiate retailers from other competitors, and (iii) anticipate a further exceptional experience in the store (Lange et al., 2016; Oh and Petrie, 2012; Pantano, 2016).

Moreover, changes in consumer demand, and the availability of innovations that enhance the retail process, including new interactive tools for supporting the shopping experience, may affect consumers’ preferences for a certain store, which in turn pushes marketers to try to understand the extent to which consumer behaviour towards retailers varies as a function of different characteristics (Jain et al., 2014; Pantano, 2014). For instance, in the last decades a huge number of points of sale changed their format and layout, the services they offer, and their delivery modalities by integrating advanced technologies with the promise of superior shopping experiences (Kourouthanassis et al., 2007; Ngo and O’Cass, 2013; Pantano et al., 2018; Papagiannidis et al., 2013; Willems et al., 2017), with the aim of gaining the attention of consumers who have been overexposed to traditional marketing approaches (Hutter and Hoffmann, 2014). As a consequence, the retail industry has to offer innovative solutions to create value for consumers (Pantano, 2014; Shankar and Yadav, 2011; Triantafillidou et al., 2017), this constant search for solutions is moving towards an increasing integration of technological, interactive and entertainment technologies, so as to attract more consumers (Bertacchini et al., 2017; Chou et al., 2016; Demirkan and Spohrer, 2014; Hagberg et al., 2016; Padma and Wagenseil, 2018; Pantano, 2014; 2016; Roy et al.,
2018). To this end, since 2009 retailers such as Nike at Selfridges or Hugo Boss have started introducing some interactive technological elements directly within storefront windows for a trial period. For instance, during the Olympic Games in London in summer 2012, to attract the huge number of tourists passing by the Selfridge store in the centre of the city (Oxford Street), the storefront windows introduced a mixture of kinetic sculptures and interactive displays. Each of the displays reacted to pedestrians’ movement using input from a Kinect sensor to measure characteristics like height and speed, and the storefront window displaying the new jacket detected movement and then shot a volley of strobe lights towards the street. Similarly, in December 2009, Hugo Boss launched the “Black Magic” experience at the store in Sloane Square in London as part of the winter holiday advertising campaign. For three weeks, consumers could pick up a special card to play a virtual game of blackjack at the storefront window and win a voucher to spend in the store.

Another interactive storefront concept was tested in July 2013 in New York (US) by the partnership between eBay and Kate Spade, which allowed consumers to select and buy products through a touch screen located within one of the 4 storefront windows. Thus, customers were able to choose among 30 different products available, while new products were added each Saturday during the opening hours of the store.

An increasingly great number of scholars and practitioners have dealt with the dynamic effect that storefronts may have on consumers’ behaviour, while they have also focused on the potential impact and implications that the use of new technologies may entail (Dennis et al., 2010; Jain et al., 2014; Oh and Petrie, 2012; Pantano, 2016; Paradiso and Leo, 2005; Reitberg et al., 2009). However, to the best of our knowledge, no previous attempt has been made to thoroughly review the consequences that the integration of interactive technologies and related services in the storefront window may lead to. Although there are technologies that can be integrated in the storefront which do not require a direct consumers’
interaction (e.g. facial recognition systems that identify consumers), in this paper we will consider only those technologies which demand a certain degree of interaction with the consumers. Given that, the aim of this study is to examine the antecedents of consumer behaviour towards storefront windows which are enriched with innovative technologies. In particular, it investigates the impact of enriching storefront windows with innovative technologies on consumers’ behavioural attitudes (i.e., entry decision) and the consequences for retailers in terms of attitude toward the retailer, and word-of-mouth communication. This study contributes to the literature in the following ways. Our study responds to the call by Lange et al (2016) for more studies on storefronts and adds new knowledge on the effect of using storefront technologies on behavioural attitudes, where a limited body of literature exists (Lange et al., 2016; Pantano, 2016). Lange et al (2106) highlight the importance of creating new storefront windows based on creativity, while this study integrates this view by using innovative technologies in the storefronts. Also, the current study extends the work of Lange and colleagues (2016) by adding attitude toward the retailer and it explains the effect of the storefronts enriched with interactive technologies on consumer behaviour. In addition, previous works have considered consumer innovativeness only in relation to shopping decision or in-store behaviour (Fowler and Bridges, 2010; Kaushik and Rahman, 2016; Kim et al., 2010); this study additionally examines consumer innovativeness as a driver of consumer behaviour outside (mainly, in front of) a store, which also extends Pantano’s (2016) qualitative study on the importance of introducing interactive technologies directly on the storefront.

The remainder of this paper is organized as follows. First, we summarize prior studies on consumer innovativeness, in order to understand the attitude towards new technologies as a driver of a preference for storefronts enriched with new technology, storefront windows, behavioural attitudes, and the subsequent impact on consumers. Next, we outline the design
of our research methodology. Then, we provide details of the model emerging from our study. This paper is completed with a discussion of the findings, future research directions, and the implications of the findings for storefront windows and their development.

2. Theoretical Background

2.1 Consumer innovativeness

Firms’ innovations might fail due to their lack of understanding of consumers’ needs (Bartels and Reinders, 2011). In this context, a huge amount of literature focuses on the drivers of consumer acceptance of new products, services, and experiences, as influenced by both consumers’ personal traits, innovation characteristics and market efforts (Kim et al., 2010). An important driver in this sense is consumers’ innovativeness. Past studies identified consumer innovativeness as a driver of retail patronage both offline and online, including the choice of a particular store, the use of pop-up retail (Fowler and Bridges, 2010; Kim et al., 2010), the adoption of in-store self-service technologies (Kaushik and Rahman, 2016), the adoption of e-commerce (Crepo and del Bosque, 2008; Thakur and Srivastava, 2015) and e-loyalty (Jianlin and Qi, 2010), and it might refer to a specific domain of interest (Goldmisth and Hofacker, 1991).

Innovativeness has been conceptualized as a personal trait related to an innate behaviour such as an individual’s tendency to buy new products more often and more quickly than other people (Chao et al., 2012; Im et al., 2003; Roehrich, 2004; Vandercasteele and Geuens, 2010), thus it might vary among individuals (Bartles and Reinders, 2011), and it is related to the desire for novelty (i.e. product novelty, service novelty, etc.), which might further determine the acceptance of a new product or service (Hoffmann and Soyez, 2010; Manning et al., 1995). In other words, it captures consumers’ willingness to adopt innovations (in service or products) (Raskovic et al., 2016). Indeed, it characterizes
consumers as innovators (adopters with the highest level of innovativeness) from later
adopters (Truong et al., 2017), which is strictly linked to the ability of risk-taking in the use
of new, unfamiliar and new products/technologies/services. In other words, consumers with a
high level of innovativeness are less likely to engage in risk reduction strategies (Truong et
al., 2017).

Roherich (2004) has further summarized consumers’ innovativeness as (i) an
expression of the need for stimulation, (ii) an expression of novelty seeking, (iii)
independence toward other’s communicated experience, and (iv) an expression of a need for
uniqueness, which leads to consumers’ seeking, testing and purchasing the newest products.

Raskovic and colleagues (2016) further defined consumer innovativeness as: (i) innate
customer innovativeness (as a personal trait), (ii) domain-specific consumer innovativeness
(related to a specific product category), and (iii) actualized innovative consumer behaviour in
terms of early adoption of new products/services. Indeed, consumer innovativeness is evident
in how the newest technological products are embraced, for example, consumers accept long
queues and high prices in order to have the latest model of a certain smartphone or tablet.
Indeed, consumer innovativeness affects high level of continuance intention in new
technologies (i.e. smartwatch) by enhancing both utilitarian and hedonic value (Hong et al.,
2017).

2.2 Attitude toward storefront and entry decision

Like the role of store atmospherics, the effectiveness of a store window relies on the
visual stimuli used to positively influence consumers’ behaviour (Kernsom and
Sahachaisaeree, 2012; Oh and Petrie, 2012; Triantafillidou et al., 2017). Capturing the visual
attention of consumers is vital for retailing and visual merchandising; recent research often
uses eye-tracking methods to test this (e.g., Atalay et al., 2012; Hendrickson and Ailawadi,
Eye-tracking technology enables researchers to quantify the visual attention that consumers direct at stimuli and provides insights into their information processing and decision-making processes (Wedel and Pieters, 2008). These stimuli are similar to the arousal factors that affect in-store consumer behaviour (Mattila and Wirtz, 2001; Menon and Kahn, 2002) and involve (i) design elements, such as brightness, saturation, colour, light intensity, texture, shapes, textual style, and how merchandise is displayed; (ii) product and product positioning (including prices); and (iii) window display style (including concept, content, season and product) (Kernsom and Sahachaisaeree, 2012; Oh and Petrie, 2012). In terms of the design elements, certain colours are able to solicit more positive feelings in consumers and creating a particular mood potentially pushes consumers to make a purchase (Jain et al., 2014). For instance, before Valentine’s Day, most of the stores use red, which is usually associated with passion and love, thus inviting consumers to buy a Valentine’s gift. Concerning the products and product positioning, products can be located at the centre of the display surrounded by other elements, or they can occupy only a limited part of the scene. Similarly, the price or details on price and promotion might or might not be visible from the storefront. The right amount of displayed information might solicit consumers’ attention without totally satisfying it, in order to influence their behavioural attitude. In terms of the display style, windows often tend to reproduce the characteristics of the season, for instance in the winter time they tend to recreate winter and snow scenes, or at Christmas they use Christmas trees and other Christmas decorations.

Previous literature draws a more detailed distinction in terms of window typologies: (i) Oh and Petrie (2012), for example, have distinguished between the so-called merchandise typology that emphasises understating and the artistic one which centers on exploration; (ii) Yildirim et al. (2007), on the other hand, discuss the differences and affinities between the flat, the arcade, and the corner window. Based on their work, the flat window is built on the
concept of a straight line aligned with the store entrance, as opposed to the arcade category which expands from a shop’s entrance set back between two windows aiming to augment the size and value of the window allowing a greater number of products to be showcased; the third and last type they identified is the corner window, is fundamentally exploited and ideal for stores that are located on a corner. (iii) Last but not last, certain scholars have also drawn a distinction between the thematic and non-thematic windows having as a criterion their design (Oh et al., 2008), with the thematic demonstrating the items sold in alignment with a specific story or concept, generating a lifestyle-type atmosphere.

Meaningful examples of thematic windows are often found in luxury large department stores and luxury branded stores. For instance, in (late) October 2015, Harrods (London, UK) celebrated Halloween by covering its storefronts with a large witch, whose legs and feet came out of the storefront and onto part of the pavement. Similarly, Dolce & Gabbana frequently design storefronts based on Sicilian art and culture, to which their collections are devoted.

To date, the literature has provided studies which offer preliminary indications of the basic factors needed to design effective storefront windows (see Oh and Petrie, 2012), without taking into account the possible ripple effects of interactive technologies on these factors, or how the traditional elements of a window and new technologies can be successfully merged.

Storefront windows are a powerful tool for communicating about products and motivating consumers to enter the store (Lange et al., 2016; Yildirim et al., 2007). This decision might be further influenced by a desire to collect more information on the products they saw at the window display or to learn more about the sales and promotions announced there, etc. (Oh and Petrie, 2012; Sen et al., 2002). Therefore, we hypothesize that:

H1: The higher the attitude toward a storefront window the stronger the influence on the storefront based entry decision.
2.3 Attitude toward retailer and entry decision

A firm’s (i.e. store) image is deemed to be a product of individuals’ perception of reality (Bernstein, 1986) on the basis of their beliefs, emotions, feelings (Barich and Kotler, 1991). Store image enhances store quality perception and purchase intention (Bao et al., 2011) and consequently loyalty (Darley and Lim, 1999; Erdil, 2015). Lin (2016) points out innovative consumers are attracted by the innovative image of a specific retailer. Similarly, past studies identified the meaningful positive association between consumer innovativeness and their behaviour intention; in other words, past studies demonstrated the extent to which consumer innovativeness influences their usage of a certain product because they feel they have more control over it, while showing low emotional resistance towards it (Dai et al., 2015). When consumers have a positive attitude toward the retailer, they are likely to exhibit greater willingness to search for product information from the retailer (Kim and Park, 2005). Lin et al. (2013), assert that when consumers perceive a retailer’s efforts in innovation to give better value, their likelihood of becoming more loyal customers increases. Given that consumers’ attitudes generally influence critically their buying intentions (Schiffman and Wisenblit, 2015; Solomon, 2015), their attitude towards a retailer may also influence their store entry decision. Therefore, we hypothesize:

H2: The higher the attitude toward the retailer the stronger the influence on the storefront based entry decision.

2.4 Behavioural response

Literature shows that storefrons influence the storefront based entry decision (Sen et al., 2002; Pantano, 2016; Yildirim et al., 2007). Any behavioural intention can lead to shopping and customer satisfaction and satisfaction with the store in turn can have a positive impact on WOM. Also, consumers' excitement can also cause WOM activities (Lovett et al.,
2013). Past studies have shown that a positive experience with a product, a brand or retailer has been linked to positive WOM (East et al., 2007; Ladhari, 2007; de Matos and Rossi, 2008), while a negative one has been associated with negative WOM (Nyer and Gopinath, 2005; Richins, 1983). In retailing settings, studies (Brown et al., 2005; Chang et al., 2015; Fuentes-Blasco et al., 2017; Jung and Seock, 2017; Kumar et al., 2013; Riquelme et al., 2016; Siu and Cheung, 2001), have investigated the WOM as a consequence of satisfaction, service quality, store image, store equity, or various store attributes (i.e. layout, atmospherics), since positive or negative WOM is highly related to consumers’ behavioural intentions and thus, affects sales and profits (Jung and Seock, 2017). When a customer holds a positive attitude towards a store there is a high possibility of recommending it or to revisit it (Kamran-Disfani et al., 2017). Therefore, we hypothesize:

H3: Storefront based entry decision has a positive influence on word of mouth communication.

2.5. Moderating effect of customer innovativeness

Customer innovativeness, in terms of the degree to which an individual has a positive attitude towards innovation (Crespo and del Bosque, 2008; Fowler and Bridges, 2010; Kim et al., 2010; Roehrich, 2004), might play a role in shaping customers’ behavioural intention when considering a storefront enhanced with innovative technologies. Managers are aware of the importance of customer innovativeness, which might have a strong impact on positive and desired attributes and add value to the image of an organisation (Nijssen and Douglas, 2008). For instance, retailers spend a lot of money and time on, and do a lot of research into, creating and designing a storefront, which influences perceptions among a firm’s customers in a positive way. In fact, it can enhance a company’s uniqueness, improve its visibility, and have a positive impact on public impressions (Fombrun, 1996; Sen and Bhattacharya, 2001;
Innovations in store atmosphere and store design is a serious sign to customers that a retailer is able to fulfil their needs and expectations (Lin et al., 2013). In particular, the more advanced the technology implemented by the retailer, the stronger the influence on consumer behavioural intentions (Gil-Saura et al., 2016). Fuentes-Blasco et al. (2017) found that technological innovations are more meaningful than marketing innovation in shaping image, value and satisfaction. Therefore, we hypothesize:

H4: Consumer innovativeness moderates the effect of the attitude toward a storefront window on the storefront based entry decision.

H5: Customer innovativeness moderates the effect of the attitude toward the retailer on the storefront based entry decision.

3. Research Methodology

3.1 Data collection and sample

In order to assess the research’s conceptual model, a pre-test was initially conducted to investigate the validity, suitability, and freedom from error of the measurement items. Then, the main data set was obtained from customers outside two well-known apparel stores with digital interactive store window designs (i.e. digital signage showcasing new product lines) in the centre of New York, US, between July 19th and August 8th, 2015, by employing a structured self-administered questionnaire. Two appropriately-trained field research assistants were recruited, and 526 customers were approached to participate in the study after having stopped to look at the above-mentioned storefront. The questionnaires were distributed each day and at different times of the day to improve randomness (Haj-Salem et al., 2016). A total of 341 usable completed questionnaires were processed and analysed, achieving a 64.8% response rate which was sufficient to satisfy the required ratio of at least five observations per estimated parameter for structural equation modelling (SEM) (Bollen and Paxton, 1998). The
respondents took on average 12 minutes to complete the questionnaire. Each participant received a $2 gift voucher to buy water/soft drink as a token of appreciation for completing the questionnaire. In this sample, 49.3% were men and 50.7% were women. Regarding the age, 41% of the participants were aged between 20 and 29, 29.6% were aged 19 to 17 years old (Table 1).

“INSERT TABLE 1 HERE”

3.2 The survey measures

Specifying the content domain from the appropriate literature was achieved by employing multi-item scales for each construct (Churchill, 1979). The research construct items were inspected for face and content validity by 5 faculty members in the department of marketing who are familiar with the topic (Bearden et al., 1993). Some items were eliminated or modified based on the received recommendation. There are five main constructs under study here: (i) consumer innovativeness, (ii) attitude toward the storefront, (iii) storefront based entry decision, (iv) attitude toward the retailer, and (v) word-of-mouth. The previous literature was comprehensively accessed in order to develop the items measured for the current research constructs. The measurement items for attitude toward the storefront (Kerson and Sahachaisaeree, 2012; 2010; Müller et al., 2010; Oh and Petrie 2012; Sen et al., 2002) and storefront based entry decision were employed from previous research (Oh and Petrie 2012; Sen et al., 2002). Consumer innovativeness was adopted from the existing scales (e.g. Chao et al., 2012; Crespo and del-Bosque, 2008; Fowler and Bridges 2010; Manning et al., 1995). The measurement for attitude toward the retailer was based on previous studies (Foroudi et al., 2014; Williams and Moffitt, 1997). Word-of-mouth (Srinivasan et al., 2002) also obtained from existing scales. The items employed in the current study are shown in
Appendix 1. All respondents were asked to indicate their level of agreement using a seven-point Likert scale (1=strongly disagree, 7=strongly agree).

4. Data analysis and Results

The preliminary research measurement items were subjected to a series of factor and reliability analyses as an initial examination of their performance within the entire sample. This research followed a measure validation procedure through a two-step approach based on Anderson and Gerbing (1988). The analysis was run employing Analysis of Moment Structures (AMOS). To deal with the measurement model’s validity and reliability, exploratory factor analysis (EFA) as a statistical procedure was ran through SPSS to attain the theoretically expected factor solutions and to describe such variables in terms of their common underlying factors (Hair et al., 2006). In this stage, 4 items (CIN1, CIN2, ATS1, ATS2, and SFED1) were excluded for multiple loadings on two factors, and the total correlation was less than .50 (Hair et al., 2006). The Cronbach’s alpha measures the consistency of each component with its relevant items and confirmed that the items in each factor were internally consistent and reliable (Cronbach’s alpha <.905) (Nunnally, 1978). The sampling adequacy was tested from KMO (.922>.6), which proposes appropriateness for EFA, furthermore the associations among the items are statistically significant and provide a parsimonious set of factors (Tabachnick and Fidell, 2007). Also, Bartlett’s test of Sphericity shows the relationship between the research measurement items (higher than .3) and the appropriateness for EFA (Hair et al., 2006).

Confirmatory factor analysis (CFA) was employed in the advanced stages of the research process to assess the construct uni-dimensionality through AMOS; the examination of each subset of items was internally consistent and validated the constructs on the basis of the measurement models (Anderson and Gerbing, 1988). Convergent validity and
discriminant validity were examined on the basis of construct reliabilities (Anderson and Gerbing, 1988). The results of discriminant validity illustrated that relationships between factors were less than the recommended value of .92 (Kline, 2005). The average variance extracted (AVE) for each construct ranged from .613 to .778. A good rule of thumb is that an AVE of .5 or higher indicates adequate convergent validity (Appendix 1).

The structural model fit was inspected through goodness-of-fit indices ($X^2$–Chi-square, 743.993; df–degree of freedom, 200; CFI–Comparative fit index, .931 which is an incremental index that evaluates the fit of a model with the null baseline model (Hair et al., 2006). Based on the I FI–Incremental Fit Index (.931) and TLI–Tucker-Lewis index (.916), the ‘favourable’ fit values provide a satisfactory fit to the data and therefore indicate the unidimensionality of the measures (Anderson and Gerbing, 1988). Based on the standardized parameter estimates for the hypothesized relationships between the research constructs, Table II provided support for a relationship between customer innovativeness and storefront behavioural intention (H1: $\text{ATS} \rightarrow \text{SFED} \beta = .380$, $t = 5.547$). In the hypothesized model the effect of storefront attitude on storefront behavioural intention did reach significance (H2: $\text{ATR} \rightarrow \text{SFED} \beta = .348$, $t = 6.013$). H3 indicates that there are relationships between storefront behavioural intention and word-of-mouth (SFED $\rightarrow$ WOM) ($\beta = .530$, $t = 9.443$). Figure 1 illustrates the validated model. Furthermore, customer innovativeness (CIN) strengthens the positive relationship between attitude toward a storefront window (ATS) on the storefront based entry decision (SFED) as well as the positive relationship between attitude toward the retailer (ATR) and the storefront based entry decision. Therefore, hypotheses 4 and 5 were accepted. Figures 2 and 3 illustrate these moderating effects respectively.

“INSERT TABLE 2 HERE”

“INSERT FIGURE 1 HERE”

“INSERT FIGURE 2 HERE”
5. Discussion and conclusion

A huge deal of research investigated the extent to which interactive and entertainment technologies provide useful solution to attract more consumers (Bertacchini et al., 2017; Chou et al., 2016; Demirkan and Spohrer, 2014; Hagberg et al., 2016; Padma and Wagenseil, 2018; Pantano, 2014; 2016; Roy et al., 2018). However, these studies mainly focus on the effect of technology when consumers are already in the store. In the present research, we make a step back trying to understand the effect of the technology on consumer behaviour out of the store. The aim of this paper was to investigate, through a quantitative approach, the effect of innovative technologies directly at the storefront window on consumers’ behavioural attitude and on store image. To date, retailers are clearly not conscious of how using innovative interactive technologies could represent an opportunity to develop consumer interest and gain a competitive advantage directly at the storefront (Hagberg et al., 2017; Pantano, 2016). Despite some examples of temporary interactive storefronts around the world (i.e. Hugo Boss and the ‘Black Magic’ at the store in Sloane Square in London in 2009; Kate Spade and eBay in New York (US) in 2013), there are no retailers consistently offering interactive technologies at their storefront windows. Our empirical study on the effect of these innovations on consumer behaviour in terms of behavioural attitude, store image building aim to help retailers better understand the technological opportunities from shifting from static windows to interactive ones. In conclusion, our results quantitatively verify that storefront windows can positively affect consumers’ behavioural attitude to a store, while underlining the importance of integrating innovative technologies to enrich the decision. Also, the findings confirmed that customer innovativeness has a significant moderating effect between i) the attitude toward a storefront window and the storefront based entry decision.
and ii) attitude toward retailer and the storefront based entry decision. In other words, our results demonstrate the extent to which consumer innovativeness influence consumers appreciation of a window enriched with interactive technologies, while acting as a moderator of the store entry decision.

5.1. Theoretical contributions

Interestingly, we found that customer innovativeness and storefront window have a strong effect on consumer behavioural attitude, which in turn influence positive word-of mouth communication. A key implication is that, while there is recognition of the importance of storefront windows on patronage behaviour (Cornelius et al., 2010; Jain et al., 2014; Lange et al., 2016; Oh and Petrie, 2012; Pantano, 2016; Sen et al., 2002), the progress in technology has compelled retailers to successfully innovate even at the storefront. Currently, consumers are attracted to innovations available at the point of sale through cross-technologies synergies (Demirkan and Spohrer, 2014; Dennis et al., 2010; Hagberg et al., 2016; Kourouthanassis et al., 2007; Pantano, 2014; Willems et al., 2017), thus the seamless experience of both interactive technologies and storefront windows is becoming more necessary than a strategic advantage. As supported by our empirical findings, the storefront window includes innovative interactive technologies and consumers’ personal traits in terms of innovativeness, which in turn emphasizes the beneficial effects of innovating at the storefront windows. Indeed, our study extends the preliminary studies on the possible technologies to be introduced (Paradiso and Leo, 2005; Reitberger et al., 2009) with empirical evidence. In other words, we demonstrate that when consumers sense that there are innovative interactive technologies in the storefront windows, they are willing to enter the store, generate positive word of mouth communication (sharing the positive experience with friends), and perceive the store as having a better image. These results add to the previous studies containing
quantitative evidence which have investigated the importance of interactive technologies in the storefront towards influencing entry decision (see Pantano, 2016). In the current work, we have described the impact of consumers’ innovativeness (as a variable that cannot be handled directly by retailers) on the store entry decision, which results into positive word-of-mouth communication and attitude towards the retailer.

Moreover, our findings extend the work of Fowler and Bridges (2010) who demonstrated the effect of consumers’ innovativeness on retail format, by including this influence in the behavioural attitude (i.e., entry decision). Our study is also the first to investigate the combination of consumer innovativeness and storefront window on the behavioural attitude. Previously, literature (Kernsom and Sahachaisaeree, 2012; Jain et al., 2014; Oh and Petrie, 2012; Pantano, 2016) only highlighted the main features of storefront window as a driver of the behavioural attitude (i.e., entry decision). As a result, the consumer is able to interact with retailers at multiple touch points and is exposed to a rich mix of offline sensory information 24/7. Finally, the novelty related to the new storefront windows would overcome the sense of overexposure to traditional advertising messages, as anticipated by Hutter and Hoffmann (2014), by offering a new environment able to solicit consumers/pedestrians’ attention.

5.2. Managerial implications
Whereas previous studies (Lange et al., 2016; Pantano, 2016), on the importance of storefront window focused on behavioural attitude our study figures out the extent to which the storefront has impact for retailers in terms of image, positive word of mouth communication. Thus, the results have managerial relevance by improving the understanding of the overall consequences of a successful storefront window for retailers. Storefronts should acquire more importance in retailers’ communication strategies as vehicles to create more traffic, which
can be emphasized through the usage of interactive technologies. Retailers use the emerging interactive technologies to help them achieve competitiveness and to be appealing to consumers (Pantano et al., 2017; Priporas et al., 2017; Varadarajan et al., 2010). Specifically, our findings show that the interactive storefronts would contribute to the creation of a positive retailer image (Cornelius et al., 2010). Additionally, interactive storefronts might improve the consumers flow within the store. Nowadays, retailers, in order to differentiate themselves in the marketplace, are required to be more visually stimulating to attract and draw customers (Nobbs et al., 2015). Indeed, this is true as retailers feel pressure to find new ways to capture and hold consumers’ attention, especially those of Generation Z who are characterized as technologically savvy, innovative, creative and less loyal to retailers (Priporas et al., 2017). Moreover, the interactive technologies could make it possible to extend the opening hours of the retail service.

5.3 Limitations and further research

Our study has some limitations. The first one is based on the fact that the interactive storefront windows are temporary; thus, interviewees might refer to some that they have appreciated but which are not available anymore. This might limit the possibility of replicating the study in other places with a similar retail environment, which may have consequences for the generalizability of the findings. Within this context, we considered exclusively the technologies requiring a direct and immediate interaction with the consumers. Future studies could include technologies that do not require a direct form of interaction (i.e. facial recognition systems employed to identify consumers). Secondly, our study did not distinguish between the typology of store adopting the interactive storefront window; luxury stores, department stores or food stores such as Starbucks might influence consumers differently. Thirdly, we tested the model on consumers who approached this kind of
storefront at least once, thus our model is missing data on consumers’ exposure to the interactive storefronts that might generate a different retail patronage. Fourth, future studies could check for any moderation effects exerted by consumer demographics.

References


(Eds.), *Shopper Marketing and the Role of In-store Marketing*, Emerald Group Publishing Limited, pp. 57-74.


We would like to thank both reviewers for the detailed comments and suggestions provided. Please see our responses below, in which we have addressed the comments point-by-point. Please note that all changes are highlighted in red throughout the revised manuscript.

Reviewer 1

Comments:

First of all, I commend the author(s)' efforts in clarifying the theoretical contribution of their manuscript. Now the introduction and the theoretical sections are clearer.

However, I was, and I still am, quite skeptical about H4 and H5, and I feel that the author(s) have not thoroughly addressed the similar points that I raised at the previous round of review. Even though the author(s) are not referring to TPB or TRA, hypothesizing that attitudes follow behaviors is quite uncommon. Indeed, the work by Lin et al. (2013) the author(s) use to support the direction of the hypothesis does not focus at all on attitudes, but rather reports some patterns from quality, convenience, emotions or price toward loyalty. Furthermore, beyond not addressing at all the role of attitudes, the manuscript cited by the author(s) posits that a behavioral consequence such as loyalty is an outcome, not an antecedent. Accordingly, I would expect the author(s) to reverse the causality hypothesized in H4.

Analogously, H5 seems not to be adequately supported by the literature cited by the author(s) at the present stage of development of the manuscript. Indeed, paragraph 2.3.2 Cognitive Response does not address clearly and explicitly the role of consumer innovativeness. The author(s) might find useful, for instance, referring to the work by Im et al. (2003) on JAMS, and the literature citing it. This would allow to better clarify whether it is more appropriate to keep Consumer Innovativeness as an antecedent or rather a moderator as I suggested in the previous round.

From the clarification of these two hypotheses, it follows that author(s) should at least partially revise the estimated model as long as the causal directionality of H4 is reversed and/or innovativeness is addressed as a moderator.

I encourage the author(s) to dedicate their efforts on these two remaining issues that still limit the publishability of their work at the present stage of development of the manuscript.

Thank you for your good words and suggestions.

1) We have revised the causal directionality of H4 (H4: Storefront based entry decision influences the attitude toward the retailer positively). In the current revised version is H2: The higher the attitude toward the retailer the stronger the influence on the storefront based entry decision. The hypothesis development is described in section 2.3 Attitude toward retailer and entry decision (p. 9).

2.3 Attitude toward retailer and entry decision

A firm’s (i.e. store) image is deemed to be a product of individuals’ perception of reality (Bernstein, 1986) on the basis of their beliefs, emotions, feelings (Barich and Kotler, 1991). Store image enhances store quality perception and purchase intention (Bao et al., 2011) and consequently loyalty (Darley and Lim, 1999; Erdil, 2015). Lin (2016) points out innovative consumers are attracted by the innovative image of a specific retailer. Similarly, past studies identified the meaningful positive association between consumer innovativeness and their behaviour intention; in other words, past studies demonstrated the extent to which consumer innovativeness influences their usage of a certain product because they feel they have more control over it, while showing low emotional resistance towards it (Dai et al., 2015). When
consumers have a positive attitude toward the retailer, they are likely to exhibit greater willingness to search for product information from the retailer (Kim and Park, 2005). Lin et al. (2013), assert that when consumers perceive a retailer’s efforts in innovation to give better value, their likelihood of becoming more loyal customers increases. Given that consumers’ attitudes generally influence critically their buying intentions (Schiffman and Wisenblit, 2015; Solomon, 2015), their attitude towards a retailer may also influence their store entry decision. Therefore, we hypothesize:

H2: The higher the attitude toward the retailer the stronger the influence on the storefront based entry decision.

2) Regarding the consumer innovativeness, in the current revised form we use it as a moderator (see figure 1). Section 2.5 and figures 2 and 3 (interaction plots) describe the moderating effect of consumer innovativeness.

2.5. Moderating effect of customer innovativeness
Customer innovativeness, in terms of the degree to which an individual has a positive attitude towards innovation (Crespo and del Bosque, 2008; Fowler and Bridges, 2010; Kim et al., 2010; Roehrich, 2004), might play a role in shaping customers’ behavioural intention when considering a storefront enhanced with innovative technologies. Managers are aware of the importance of customer innovativeness, which might have a strong impact on positive and desired attributes and add value to the image of an organisation (Nijssen and Douglas, 2008). For instance, retailers spend a lot of money and time on, and do a lot of research into, creating and designing a storefront, which influences perceptions among a firm’s customers in a positive way. In fact, it can enhance a company’s uniqueness, improve its visibility, and have a positive impact on public impressions (Fombrun, 1996; Sen and Bhattacharya, 2001; Williams and Moffitt, 1997). Innovations in store atmosphere and store design is a serious sign to customers that a retailer is able to fulfil their needs and expectations (Lin et al., 2013). In particular, the more advanced the technology implemented by the retailer, the stronger the influence on consumer behavioural intentions (Gil-Saura et al., 2016). Fuentes-Blasco et al. (2017) found that technological innovations are more meaningful than marketing innovation in shaping image, value and satisfaction. Therefore, we hypothesize:

H4: Consumer innovativeness moderates the effect of the attitude toward a storefront window on the storefront based entry decision.
H5: Customer innovativeness moderates the effect of the attitude toward the retailer on the storefront based entry decision.