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Research Article

Identifying consumer's last-mile logistics beliefs in omni-channel environment

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Abstract

Over the past few years, retailers have offered new alternatives in last-mile logistics for consumers' purchases; however, still, it is unclear why consumers select one option over another. A significant number of studies have tried to give some guidance, but very little research has considered the consumer's point of view; specifically, in Omni-channel environment it has been undiscovered. To fulfil this gap, this study tends to identify some beliefs that may affect consumers' behaviour in last-mile logistics. However, to validate these beliefs this study uses the Theory of Planned Behaviour (TPB) approach. Following the TPB, this study employs an online questionnaire to obtain 280 samples of Spanish students. The final results show that although some beliefs such as convenience, risk of time, and finances are consistent with previous studies, there are new salient beliefs in which have not been identified before: Accessibility & Comparability. As a conclusion, this study not only is an effective mechanism for

guidance and assistance for practitioners to develop proper strategies for facilitating consumer's shopping journey, and ultimately, improving consumer's satisfaction.

Keywords:

Last-mile logistics consumer's shopping behaviour delivery and return theory of planned behaviour salient beliefs multi-channel shopper

1. Introduction

The establishment of e-commerce as a real alternative to stores –in 2014 online sales grew globally more than 20%, meaning up to almost \$840 billion (Ben-Shabat et al., [2015](#)) has contributed to two contrary movements for retailers. On the one hand, physical retailers have felt the pressure to include the online channel in their retailing strategy, offering their consumers a broader selection of shopping options (Cammiss, [2015](#)). On the other hand, pure online retailers have decided to do the opposite: opening physical stores or cooperating with other retailers to include physical channels to the offer to let consumers be able to touch and feel the products before the purchase (Mehra, [2013](#)).

During the early years of offering multiple channels, retailers operated those channels separately (Bell et al., [2014](#)). However, some multichannel retailers faced potential channel conflicts such as cannonballing sales between channels (Kollmann et al., [2012](#)). By time passing, in order to overcome these negative “dis-synergies”, a new retailing strategy comes, which is known as the ‘Omnichannel approach’ (Combs, [2015](#)). This is an evolution of multi-channel retailing and provides ‘the synergetic integration of consumers touchpoints and communication opportunities to create a unified brand experience regardless of channel, platform or stage in the selling process’(Cummins et al., [2016](#)).

As a consequence of these changes in retailing, the last-mile logistics, which were simple (i.e., physical stores were the end-point of transactions), has become radically complicated and no longer linear (i.e., products can be returned or picked up in the stores, pick-up points or consumer's homes) (Wollenburg et al. [2016](#)). Due to this fact

environment by case-study analysis (Larke et al., [2018](#)), literature review (Melacini et al., [2018](#)) and operational investigation of specific parts of the supply chain from retailers perspective (Wollenburg et al., [2018](#)). However, these research endeavours are not able to address an effective and efficient last-mile logistics, specifically, from the consumer's point of view in omni-channel environment.

Given the lack of prior research, the challenge, is to understand what motives consumers to select different last-mile options. To do so, Theory of Planned Behaviour (TPB) is an appropriate theory for studying consumers' behaviour since TPB is known as an adequate explainer of human behaviour (Ajzen, [1991](#)). Moreover, TPB is versatile in the sense that various constructs can be added to the model to improve its' predictive utility in a given behavioural context (Ajzen, [2015](#)). Due to this fact, several studies have used TPB in order to show consumer's behaviour in multi-channel environment (Keen et al., [2004](#); Pookulangara et al., [2011](#)). Thus, this study bases on the concept of salient beliefs from TPB to do an exploratory study and compare the results with previous studies using TPB basis in multi-channel contexts. By relying exclusively on factors from only previous studies, this study may fail to identify all factors in the Omni-channel phenomenon. Moreover, certain influences that were major driving factors in consumer's shopping behaviour in the past might have lost their potency with time.

For this, the study proposes the following framework. [Section 2](#) provides a comprehensive review of the existing literature on consumers' shopping behaviour. [Section 3](#) describes the methodology and the samples. [Section 4](#) presents the results of the empirical analysis. [Section 5](#) compares the results obtained in previous studies. [Section 5.1](#) summaries the study for further research and discusses the limitations.

2. Literature review

According to Ajzen ([1991](#)), the actual behaviour (B) of human derives from behavioural intention (BI) - the likelihood an individual engages in the behaviour of interest. Based on the model proposed by Ajzen ([1991](#)) behavioural intention is a function of three components: attitude toward a behaviour (AB) (i.e., an individual's overall evaluation of the behaviour), subjective norms (SNs) (i.e., individuals think a person should or should not engage in a behaviour) and perceived behavioural control (PBC) (personal shortfalls and external barriers which could obstruct performing a particular behaviour)

Following this decomposition logic, each of the behavioural intention's components is determined by fundamental belief structures. By this, attitude towards the behaviour (AB) is set by attitudinal (behavioural) beliefs. Subjective norm (SN) is equated with normative beliefs. And perceived behavioural control (PBC) is formed by control beliefs (Francis et al., [2004](#)). Hence, the basis of the theory is based on beliefs that play a major role in predicting intentions. Thereby, identifying these beliefs, especially salient ones, it is necessary to understand consumer's shopping behaviour.

2.1. Attitudinal beliefs

Attitudinal beliefs are an individual's positive or negative assessments for performing a specified behaviour (Ajzen, [2005](#)). This assessment is a complex process and it is derived by consumer's motivation (Ajzen, [1991](#)). According to Premkumar et al. ([2008](#)), Lee ([2009](#)), Pookulangara et al. ([2011](#)) all motivations can be categorized into hedonic, utilitarian.

2.1.1. Utilitarian motivations

Utilitarian motivation defines as 'mission-critical, rational, decision effective, and goal-oriented' (To et al., [2007](#)). Utilitarian motivation shows that the shopping process is initiated by a mission and perceiving benefit relies on whether or not this mission is completed efficiently (Doong et al., [2012](#)). In fact, consumers tend to seek instrumental value which it can be inferred that consumers form their attitude based on non-Monetary values such as convenience and perceived risk and Monetary values such as economic goals rather than on experiential values.

2.1.1.1. Convenience

Convenience in the shopping process generally concerns psychological costs such as time, effort (Huang & Oppewal, [2006](#)). Given that consumers always tend to reduce costs in every decision; hence they tend to reduce costs of effort and time involved in shopping activities. According to Bosnjak et al. ([2007](#)) reducing costs of effort -saving effort- can be either physical or psychological. In the physical aspect, consumers seek an alternative option to reduce physical effort such as carrying the purchased product, traveling to the store (Chatterjee, [2010](#)). In the psychological aspect, consumers tend to eliminate the pressure produced by the effort dedicated to the purchase (Frasquet et al., [2015](#)). In fact, consumers prefer to have an easy evaluation of alternatives and

consumers prefer to focus on one option and cut off other options (Konus et al., [2008](#)) to minimize the physical and mental effort invested in buying (Schröder & Zaharia, [2008](#)). Time-saving is also included as a part of consumers' convenience orientation (Azhari & Bennett, [2015](#)). Consumers seek a way to save more time and thereby perceiving more convenience in their shopping journey (Schröder & Zaharia, [2008](#)) – e.g., by looking a way to have a less travel time, less time spent in purchasing (Chintagunta et al., [2012](#)), shorter lead time for receiving (Modak & Kelle, [2019](#)). Besides saving effort and time, Schröder and Zaharia ([2008](#)) add another dimension to convenience orientation as having a flexibility of selecting without any constraints. According to Jiang et al. ([2013](#)), consumers, by avoiding time and location constraints (e.g., opening hours, time flexibility in consumer's services, retailers' accessibility (i.e. website, physical stores)), obtain psychological benefits in the shopping process.

2.1.1.2. Perceived risk

Perceived Risk defined as 'possibility of bringing about misfortune or loss while uncertainty is associated with those things that are not able to be accurately known or predicted' (Lalwani et al., [2006](#)), potentially inhibits consumer's actions (Gensler et al., [2012](#)). Generally, perceived risk consists of: time, performance, financial and security/privacy (Chiu et al., [2014](#)). According to M. C. Lee ([2009](#)) time/convenience risk refers to the loss of the time by making a bad purchasing decision. Consumers mostly perceive time risk in online purchases, due to not meeting their expectations (Liu and Wei, [2003](#)), or due to uncertainty delivery time (Xu et al., [2011](#)). As a result of having time/convenience risk, consumer's shopping behaviour can be manipulated (Lee, [2009](#)). It is noteworthy that beside the time/convenience risks, performance risk acts as an important factor in consumer's shopping behaviour - the possibility of failing to receive the desired benefit (Kuisma et al., [2007](#)). Schröder and Zaharia ([2008](#)) find that consumers are often apprehensive about the correctness and quality of purchased products mostly in online purchases; hence there is less willingness to purchase online. So that means, reliability and efficiency are determinant in consumer's shopping behaviour. This reliability and efficiency in the shopping process can be perceived also by avoiding financial risk - the probability of losing money (Lee, [2009](#)). According to Chou et al. ([2016](#)), consumers concern the potential overpayment for a product in one channel; hence, they proceed price comparisons among the channels available. This perception can be continued with 'the hidden cost associated with companies' services, maintenance, and lack of warranty in case of faults' in shopping (Chiu et al., [2014](#)). Due

risk. Finally, security/privacy risk refers to a potential loss due to fraud or fails to keep their personal information safe (Lee, [2009](#)). According to Okholm et al. ([2013](#)) consumers concern the possibility of losing sensitive information, such as usernames, passwords and credit card details while purchasing online. Hence, consumers are more likely to change their behaviour and look for a way to avoid this risk (Oomen & Leenes, [2008](#)).

2.1.1.3. Economic goals

Unlike convenience and perceived risk, economic goals are those monetary costs which are perceived by consumers in the shopping journey. Consumers tend to balance very carefully the trade-off between costs and benefits of every decision. They achieve either by maximizing net benefits or minimizing the total costs derived from the shopping process (Balasubramanian et al., [2005](#)). In the consumer's shopping journey, this trade-off of costs and benefits might be useful, unless consumer prefers to have exposure to sensory elements (Vilppula, [2016](#)). Since in Omni-channel product's prices are equal in every channel; hence, economic goals are apart from product's price and it is more close to transaction costs such as transportation costs (Chintagunta et al., [2012](#)). According to Chatterjee ([2010](#)), transportation costs play an important key factor in the consumer's shopping decision.

2.1.2. Hedonic motivations

Retuning to attitudinal beliefs categories, prior research has acknowledged the importance of hedonic motivations (i.e. perceived enjoyment, etc.) in shaping attitudes towards a behaviour (Dickinger et al., [2008](#)). In fact, Lin and Bhattacharjee ([2010](#)) state that hedonic motivations such as perceived enjoyment –'consumer's perception regarding potential entertainment and emotional worth during the shopping process' (Babin et al., [1994](#)) - is a central determinant of shaping consumer's shopping attitude. Hedonic motivations are like previous section, utilitarian motivations, except that the consumers' goal is more hedonic, whether the mission is completed by consumers or not. In this case, shoppers prefer to enjoy shopping than benefit from the utility of purchased products (Mikalef et al., [2013](#)).

2.2. Normative beliefs

According to TPB, normative beliefs characterize the social influences that make a

friends, advertising, Internet, and a group of people surrounding you and can be varied based on the context of the behaviour (Lim & Dubinsky, [2005](#)). In the marketing context, prior studies clearly demonstrate the importance of these social influences such as friends, family, advertising, and Internet in determining a behaviour. However, the most frequently reported normative influences in marketing, has been friends and family (Priebe & Spink, [2011](#)).

2.3. Perceived control beliefs

Ajzen ([1991](#)) proposes perceived control beliefs in the TPB to represent non-volitional actions. Control beliefs derive from perceiving the probability of the existence of certain facilitating or constraining conditions in which the behaviour may be effected, along with the perceived power over resources, skills, and opportunities for making the performance of the behaviour difficult or easy (Ajzen, [1991](#)). Taylor and Todd ([1995](#)) decompose perceived control beliefs into facilitating conditions and self-efficacy.

2.3.1. Facilitating conditions

Facilitating conditions, which refer to 'the availability of resources needed to engage in a behaviour' represent passages or barriers of a consumer's behaviour (Taylor & Todd, [1995](#)). In other words, facilitating conditions highlight the importance of the external resources needed, usually objective and independent of the person (Viswanath et al., [2003](#)). In a marketing context, studies clearly show some of these external resources: availability of enough time, enough money and facilities (Zhou et al., [2010](#)). According to Venkatesh et al. ([2012](#)) consumers do not have enough amount of time to accomplish a behaviour. Therefore, consumers 'consider time as a scarce resource and plan to use it carefully' (Kleijnen et al., [2007](#)). According to Frassetto et al. ([2015](#)) consumers who perceive time scarce, seek a way to perform their behaviour in faster available options. Thus, time scarcity plays an important role in consumers' shopping behaviour. The availability of enough money is another component in facilitating conditions. According to Capper ([2014](#)), consumers based on the availability of their money perform a behaviour such as selecting a purchase channel. If consumers have enough money, the behaviour takes place. Hence, having enough money also can play an important role in consumers' shopping behaviour.

Last but not least, the influence of availability of facilities on consumer's shopping decision especially in channel selection, has been explicitly proved (Janakiraman &

shopping behaviour: firstly, due to the transportation cost - either going to the store or being delivered by (Capper, [2014](#)) - and secondly, due to the time consumed, which includes travel time, shopping time at the physical store, and waiting time in a queue in the case of in-store shopping (Chintagunta et al., [2012](#)).

2.3.2. Self-efficacy

Self-efficacy refers to 'individual judgments of a person's capabilities to perform a behaviour' (Pookulangara et al., [2011](#)). In a more simplified way, self-efficacy is about what an individual believes they can achieve by using their skills in certain circumstances. According to Monsuwé et al. ([2004](#)), consumers with a low self-efficacy level tend to act differently due to uncertain and uncomfortable feelings. In fact, low self-efficacy consumers show to be less likely to do complex tasks and prefer to go through a simple procedure that requires little knowledge (Monsuwé et al., [2004](#)). On the other hand, higher self-efficacy consumers tend to be more confident in their ability to perform a behaviour (Dabholkar & Bagozzi, [2002](#)), and they are more likely to engage in free-riding behaviour in different stages of consumer's journey (Chiu et al., [2011](#)).

3. Methodology

By relying exclusively on factors from previous studies, this study with the aim to understand why consumers select different last-mile logistics options and which factors influence consumer's option selections may fail to identify all factors in the Omni-channel phenomenon. Moreover, certain influences that were major driving factors in consumer's shopping behaviour in the past might have lost their potency with time. Hence, this research employs a survey instrument from Theory of Planned Behaviour (TPB) proposed by Ajzen and Fishbein ([1980](#)) and Ajzen and Driver ([1991](#)), to elicit all beliefs in the context of this research. This way, the study can detect new beliefs that have gained salience in more recent years and might not be found in the existing literature.

To do so, an open-ended questionnaire adapted in the context of the research was designed (See Appendix A, [Supplementary material](#)). The questionnaire contains questions in order to elicit consumers' attitudinal, normative and control beliefs of the

attitudinal beliefs that determine the behaviour, according to Ajzen and Fishbein (1980), the questions ask for the advantages and disadvantages of performing the behaviour. Similarly, for normative beliefs, the questions ask for the character who approves or disapproves of the behaviour. And lastly, according to Ajzen and Driver (1991), the questions capture control beliefs, the clue of identifying beliefs that makes behaviour to be easier or difficult. After determining the final questions, they were applied to three main delivery and return options proposed by Piotrowicz and Cuthbertson (2019) and four scenarios - delivery options when buying online, delivery options when buying offline, return options when buying online, and return options when buying offline.

After eliciting all consumers' beliefs, according to Ajzen (1991) selecting only those salient ones is vital. Therefore, Ajzen and Fishbein (1980) propose three rules for selecting salient ones. Francis et al. (2004) explicitly show that researchers only by using one of these three rules can identify 75% of salient beliefs. However, they state that by using all the three rules, non-salient beliefs might fall into the final result and produce an error. To avoid this error and thereby avoid biased or false predictions by the previous method, this study uses Herath (2010) method - Mean difference between cumulative (summing over the series of subordinate Mean beliefs) and foregone (subtracting cumulative Mean belief from the series of subordinate Mean belief) beliefs. This method can be 'strengthened by computing the product of the "belief strength" and "outcome evaluation" for each belief mentioned' (Herath, 2010). As a result of using this approach, the final set will be a more accurate index for eliciting the most significant salient beliefs and it overcomes the error of selecting non-salient beliefs fall into the final set (A sample performance data analysis for the results are presented in Appendix B, [Supplementary material](#)).

3.1. Sample

To get the sample required, younger consumers (aged 18 to 32) were considered, because they have grown up in a world of technology. Hence, the researcher asked students who were in classes or school hall to participate in our survey. Despite their relative youth and smaller annual incomes, this age group embodies several opportunities. For this age group, shopping via a multi-channel is a more convenient and natural way. For this age group, shopping via a multi-channel is a more convenient and natural way. In addition, as consumers grow older, the preferences of people

hoping to predict and design the future of the last-mile logistics landscape, understanding consumers in this age group is essential (Metapack, [2015](#)).

Hence, the authors asked students who were in the classes or school hall to participate in the survey. The final sample comprised 280 undergraduate and master students despite the fact that Francis et al. ([2004](#)) suggested that a sample of 25 respondents is generally ideal for eliciting salient beliefs in TPB studies. [Table 1](#) summarized the respondent's information in terms of age, gender.

[Table 1](#). Demographic characteristics.

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4. Results

To get the main result from the survey, twenty-five responses were randomly selected to develop the coding frame for each question (Herath, [2010](#)). The coding system helped to categorize the respondents into: advantages and disadvantages beliefs (attitudinal beliefs), approval and disapproval part beliefs (normative beliefs); and eases and difficulties beliefs (control beliefs).

4.1. Attitudinal beliefs in delivery

The result showed that convenience was at the top of the final attitudinal beliefs set in consumers' location delivery and CDPs regardless of shopping online or offline. Moreover, the result showed that in pick up points for the offline channel, respondents not only stated convenience as their attitudinal belief but even they mentioned time-saving. However, in the online channel in the same delivery category, the attitudinal beliefs were different: convenience and Accessibility & Comparability. In contrast, the possibility of tracking the product, save cost, and security were the lowest answers with only 1 respondent - 1.43 percent per respondent. These factors seemed not to have any influence on consumers' behaviour while selecting a delivery option. At the same time, 15 participants included some attitudinal beliefs in their responses that apply to the shopping channel and not to the delivery option (e.g. payment methods or

The result also showed that inconvenience due to the extra effort was the main barrier of not being selected by consumers in CDPs and Pick up points. However, in the location delivery option, the main barriers were time risk for online shopping, and wasted time for offline purchases. Like the previous part, 12 participants answered some factors that depended on the channel instead of the delivery alternative.

Moreover, the result showed for location delivery consumers were manipulated more by attitudinal beliefs, making convenience as the main driver for this delivery option. However, time risk and wasted time emerged as two disadvantages that might force the shoppers to not choose home or work delivery. Regarding pick-ups and CDPs, shoppers, although they felt inconvenience due to effort, they preferred to try and feel the product in the store. [Table 2](#) summarized the final set of attitudinal beliefs for attitude measurement for 'advantage' and 'disadvantage' questions, and it showed the most important beliefs for the final TPB model.

[Table 2](#). Final set of salient beliefs for attitude measurement % per respondent.

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4.2. Attitudinal beliefs in returns

In the return, participants stated convenience as the most influential factor in their attitude towards the behaviour of selecting returns from home or returning points, either online or offline. In the retailer's returning points, saving effort was the most elicited salient attitudinal belief, either offline or online. In addition to these results, saving cost, flexibility, and security had the lowest percentage with only 1 respondent - 0.43 percent per respondent. Similar to the previous section, comments from 8 respondents were eliminated.

On the other hand, inconvenience due to extra effort for participants was a barrier to not select retailers' returning points and CRPs, regardless of buying online or offline. Moreover, the result showed that in returning from the consumer's location, the main disadvantage for the online channel was the time risk, and for the offline channel was the wasted time. To obtain this result, the characteristics of 16 respondents were not included in the analysis.

Pros and cons analysis showed that buyers thought that returning from home had more advantages than disadvantages based on the result obtained (e.g., convenience), but negative beliefs such as time risk and wasted time might stop consumers to select this alternative. In addition, the result showed that at the same time, the effort was the main inhibitor for returning either in-store or CDPs. [Table 3](#) summarized the final set of behavioural beliefs about returning alternatives.

[Table 3](#). Final set of salient beliefs for attitude measurement % per respondent.

[Download CSV](#)

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4.3. Subjective norm beliefs

In this section, 'Approve' and 'disapprove' questions were used to measure subjective norm: the individual's perception of social pressure created by surrounded people. The results showed that only a minority of participants -7.14 percent per respondent- did not answer any salient beliefs, but a large majority of participants answered friends and family. The findings also showed that, on average, participants had positive subjective norms with respect to increasing offline purchasing.

4.4. Control beliefs in delivery

Regarding control beliefs, the result showed that access to facilities is at the top of the final set of control beliefs in consumers' pick-up points and online purchases. Also, the result showed that on the same channel (online) for location delivery 'customer service' was the highest percentage among other beliefs. Conversely, avoiding queues, information, and easy to track were the lowest elicited responses. Last but not least, 18 respondents -25.71 percent per respondent- mentioned characteristics that didn't apply to the delivery alternatives.

Moreover, difficulty due to access to enough time and money showed to be the main barrier of not being selected by consumers in CDPs and Pick up points either online or offline channels. However, in the location delivery option, the main barriers were customer service. After gaining these results, there were 14 respondents -20 percent per respondent- that could not be classified into any categories.

According to these results, buyers thought that receiving at home was the easiest and the fastest option available. However, there were some distractive beliefs such as fewer customer services for this location delivery option. [Table 4](#) summarized the final set of control beliefs for delivery.

Table 4. Final set of salient beliefs for perceived behavioural control measurement % per respondent.



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4.5. Control beliefs in returns

In return, participants stated having access to facilities and enough time as the most influential factors on their control beliefs of selecting returns from home or returning points. In contrast, packaging for return and carry the items were the lowest percentage with only 1 respondent -0.43 percent per respondent. Similarly, 13 respondents could not be classified into any categories.

The following findings showed that the participants in the online channel and returning to CRPs had enough time. This was followed by online channel and returning at stores and offline channels in pick up at in-store and CRPs. Like other sections, there were 16 respondents who could not be classified into any categories.

This implies that the buyer's thoughts that returning from home were the easiest and the fastest option available due to its attractions. However, there were distractive control beliefs such as customer services and enough money. [Table 5](#) summarized the final set of control beliefs for control measurement for 'Difficult' and 'Easy' questions and it showed the most important beliefs for the final TPB model.

Table 5. Final set of salient beliefs for perceived behavioural control measurement % per respondent.



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5. Discussion and implications

This research aims to understand why consumers select different last-mile logistics options. To do so, it uses two approaches in order to capture all the information. Firstly, it uses previous studies in different contexts to detect some information and secondly, it uses a survey instrument from Theory of Planned Behaviour, to make sure this study covers all information.

Consistent with previous research, convenience in receiving and returning items is the most important salient attitudinal belief (e.g., Sarmah, [2015](#)). Besides this result, inconvenience due to extra effort and time risk are the two most negative salient attitudinal belief, in compliance with previous literature (e.g., Schröder & Zaharia, [2008](#); Xu et al., [2011](#)). Following these findings, there are some attitudinal beliefs that act as a double-edged sword at the same time. For instance, in pick up points, in-store or CDPs, either for collecting or returning items, consumers can feel convenience - due to having fewer problems and mental effort - while at the same time, they feel inconvenience - due to the extra effort for going to these points. The result also shows new beliefs such as 'Accessibility & Comparability of checking the order and other products', in determinant attitudinal belief for collecting items in the retailer's store. The elicitation of this factor might come from the specific product since apparel makes consumers feel the need for assessing the products at the store. On the other hand, the result also shows that, consumers do not select last-mile logistics due to their hedonic motivations. This could be due to the fact that, in the last-mile logistics, consumers perceive it as a task which it needs to be accomplished.

Regarding normative beliefs, friends and family seem to be the most influencers on consumer's option last-mile logistics option selection, consistently with previous research (Konus et al., [2008](#)). Specifically, respondents value the opinions and wishes of their partners and their friends, followed by the judgments of their family members. Align with some studies the normative influence of family members is not completely mentioned (e.g., Lim & Dubinsky, [2005](#)). For instance, a family member was elicited as a normative influence, however, the participants did not clarify who this family member was - e.g., a parent, spouse, or brother.

Finally, access to facilities is the salient control belief elicited from the result, consistent with Janakiraman and Niraj ([2011](#)) study where explicitly show the influence of access

facilities, enough time and money are elicited as the negative salient control beliefs, in compliance with previous literature (e.g., Chintagunta et al., [2012](#); Gensler et al., [2012](#)). Likewise, this study identified new salient control beliefs, 'Possibility of changing item' and 'Customer services' in the case of receiving at pick up points, which was not included by previous studies. Again, the elicitation of this factor might come from the specific product since apparel makes consumers feel the need for assessing the products at the store and their needs to the customer service.

These results bring interesting implications for managers. Since access to facilities shows to be one of the obstacles for consumers while choosing a delivery or return option, hence the first implication for managers is to use location planning for last-mile logistics and establish more collection points (e.g., In-store, CDPs). These collection points can be situated in areas within proximity to residences such as: post offices, public transport stations, convenience stores, schools, and workplaces. By doing so, consumers can choose to pick up their orders at the nearest and convenient place. According to Yuen et al. ([2019](#)), retailers also have to provide flexibility to consumers regarding the time of the day as well as a reasonable time to collect their orders. This action provides consumers an opportunity to reduce costs that are associated with waiting (Yuen et al., [2018](#)). The second implication is to explicit the implicit benefits to consumers that delivery and return charges are only nominal in the shopping process. For example, retailers can show the difficulties in carrying heavy items on a rainy day and emphasize the ease of having heavy items delivered to the house (Morganosky & Cude, [2000](#)). Therefore, by enabling consumers to receive, and return goods most conveniently, less risky and at the lowest cost, a study by DHL Customer Solutions & Innovation, ([2015](#)) report points out, retailers are rewarded with increased consumer loyalty, revenue growth, differentiation, and profitability.

5.1. Conclusion and future research direction

Eliciting significant salient beliefs is crucial for understanding and explaining the psychosocial and cognitive determinants of the consumers' intention and their actual behaviour. From the academic point of view, due to the lack of the current in last-mile logistics literature, this study adds valuable findings to the literature and serves as a step stone for future research. In addition, this study uses a new approach to overcome the error of selecting non-salient beliefs fall into the final set produced by previous approaches. As a result, the study provides a more realistic view of the consumer's

are found to be far and away from the most important beliefs in consumer's last-mile behaviour. Convenience is found to be important beliefs, following with access to facilities. Surprisingly, new beliefs such as 'Accessibility & Comparability of checking the order and other products', 'Possibility of changing item' and 'Customer services' are identified in the consumer's last-mile logistics behaviour.

Moreover, understanding and eliciting consumer's salient beliefs is not only an effective mechanism for predicting option-selection intention and behaviour for delivery and return, but also can assist practitioners in developing proper strategies for facilitating consumer's shopping journey, and ultimately, improving consumer's satisfaction. In addition, companies can meet consumer's specific needs, and encourage positive beliefs among low-active populations in different delivery and return options. In this case, managers may use these findings to design proper delivery and return options regarding their special populations that target these beliefs in order to justify their strategies and overcome the delivery and return challenges. For instance, managers are encouraged to emphasize the advantages of choosing different channel options (e.g., improving pick-up points and increasing the number of locations), while also developing strategies for assisting consumers to overcome their perceived obstacles (e.g., distance, cost, time and using consumer supportive activities). In sum, the current research gives practitioners a very useful guide to employing a suitable last-mile logistics strategy in Omni-channel environment.

Finally, it is important to keep limitations in mind. The results obtained in this study are based on a sample that just contains undergraduate and master Spanish students. That is due to the fact that younger consumers grow up in a world of technology and have higher expectations. Another limitation could be resulting from the self-report study, individuals might be influenced by other students and encourage them to provide responses which believed to be necessary for this research. In order to solve this problem, the study used a comparative content analysis that allowed the recognition of repeated and unique salient beliefs. This way the risk of identifying beliefs that do not fall into the salient set was decreased. However, it is needed to have more follow-up studies in this area to determine which beliefs are more related to intention or behaviour in order to approve any further decisions.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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