

Consumer Preferences in Last Mile Delivery Services

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ABSTRACT

In the current scenario of ecommerce and logistics sector, last mile delivery is a prospect as well as a challenge for ecommerce retailers and logistics service provider. Various companies provide many logistics services like same day delivery, home delivery but this will add to more costs. Hence, it is important for every company to know the consumer preferences for last mile delivery services. The idea of the research study is to identify the consumer preferences in last mile logistics. To know the consumer preferences, we used convenience sampling to know the responds of the customers. The questionnaire was prepared and there were total of 165 respondents which was helpful to understand the feedback of customers.

The study results in various preferences of consumers in last mile delivery services. Most of the people prefer their ordered products to get it delivered at their home address with a speed of next day delivery but people also prefer standard delivery i.e. for a week. Consumers are more interested in free delivery with predicted delivery time. Therefore, LSPs should focus on balance free shipping and a certain amount of delivery free.

Keywords

Convenience Sampling, Last mile logistics, Logistics Service Providers

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1. Introduction

In the course of recent years in last-mile logistics, retailers have offered new options in consumer's purchases, however it is indistinct why buyers select one alternative over another. There has been a change in the retail sector where all the retail companies are moving from brick-and-mortar stores to e-commerce channels. In the age of the internet, to keep the business pertinent, all the retail companies have chosen to go online. Over the years, along with retail businesses, the shopping habit of customers have also undergone immense changes. Hence, the last mile delivery for ecommerce has also changed over a period of time.

In the context of logistics, the trend of CP is also witnessed where consumers are participating in logistics services that are previously performed by logistics service providers (LSP). As embedded in the concept of "consumer logistics" (Granzin and Bahn, 1989, Bahn et al., 2015), CP in logistics service is widely practised in consumers' daily life in activities such as bulk purchases (a way to perform inventory storage function), retail self-checkout (a way to perform materials handling

function), waste recycling (a way to perform reverse logistics function), and many more (Bahn et al., 2015). Furthermore, with the proliferation of B2C e-commerce and advancement in service technologies, consumers have been conceptualised as a mass intelligent crowd that is in possession of unique resources and capabilities of co-creating logistics services (Carbone et al., 2017, Carbone et al., 2018). Indeed, as acknowledged by major LSPs (DHL, 2015), consumers have possessed more and more power to dictate how their logistics needs are to be organised. Clearly, consumers can and do participate in logistics services (Rouquet et al., 2017).

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The background of the logistics states the trend of consumer preferences is observed as consumers are contributing in last mile services which were earlier implemented by logistics service providers. As surrounded by the idea of "consumer logistics" (Granzin and Bahn, 1989, Bahn et al., 2015), "Consumer Participation in logistics service is widely practised in consumers' daily life in activities such as bulk purchases (a way to perform inventory storage function), retail self-checkout (a way to perform materials handling function), waste recycling (a way to perform reverse logistics function), and many more" (Bahn et al., 2015). In addition, with "the proliferation of B2C e-commerce and advancement in service technologies, consumers have been conceptualised as a mass intelligent crowd that is in possession of unique resources and capabilities of co-creating logistics services" (Carbone et al., 2017, Carbone et al., 2018). "Indeed, as acknowledged by major LSPs (DHL, 2015), consumers have possessed more and more power to dictate how their logistics needs are to be organised. Clearly, consumers can and do participate in logistics services" (Rouquet et al., 2017).

Nowadays as customers and consumers increasingly buy online products and prefer online shopping, the demand for deliveries has also grown. Besides this, the development of online

retail sales has impacted the logistics industry from the last 10 years and this pattern will be on the same level for the next few years.

The enhanced reputation of e-commerce is by this time noticeable on the various ways due to the rising amount of delivery vehicles in domestic areas. While the home deliveries are becoming increasingly familiar, the number of failed delivery attempts is also rising. Express delivery companies need the recipient's signature to deliver the products, and sometimes the consumers, sometimes are not available at their place at the time of delivery shipment. And this unsuccessful delivery leads often to more and more transport fees as the product shipment have to be re-delivered. Sometimes, the product also need to be returned to the shipper.

Reacting to the expanded interest of small-sized frequent shipments brought about by ecommerce based business has been perhaps the greatest challenge for logistics express delivery companies. A fruitful delivery of shipments to consumers disseminated across enormous geological regions will require re-planning and re-designing of the current delivery arrange including terminals, centres, and the network paths that interface them. Many express delivery companies that handle ecommerce based business shipments have, for instance, built up mega-scale hubs to handle a high volume of shipment streams. Keeping up cost effectiveness and an extended stage of services within side the distribution framework is pressing for the specific shipping organizations to live aggressive in the online business

To ensure the smooth and up to the mark last mile delivery services is more significant for retailers today than ever.

The experience of same day delivery has changed the customer experience and convenience and hence various ecommerce companies are finding various approaches to remain in the cut-throat competition.

To overcome the problem of last mile deliveries like lower efficiency, lack of transparency and friction, last mile delivery companies are optimizing the last leg completely with its advanced features. The features like real time tracking, Dynamic delivery route planning, Customer engagement are being focused on.

LITERATURE REVIEW

To define 'LML': The name "last-mile" was invented within side the telecommunications industry & denotes to the very last base of a network. At present, LML denotes to the final fragment of a shipping process, that is regularly viewed as the highly costly, very less efficient part of a supply chain and with the most irresistible "environmental concerns" (Gevaers et al., 2011) "Initial explanations of Last mile logistics were hardly specified as the "extension of supply chains directly to the end consumer; that is, a home delivery service for consumers" (Punakivi et al., 2001; Kull et al., 2007)

The overall working of various aspects of last mile logistics is included within the articles of performance measurement. There are 4 sub themes:

- Environmental performance: It signifies the articles which deals with:
 - environmental aspects of retail channels,
 - last mile logistics innovations,
 - freight traffic etc.
- Customer-focused performance: It signifies the articles which deals with the working of LML in terms of customers especially customer satisfaction, service quality, their requirements, experience and many more.
- Economic performance: This signifies the performance with respect to cost and profitability
- The last policy signifies the articles assessing the policy mechanisms in last mile logistics

Consumers role in Logistics

The another stream of research focuses on consumer participation in last mile delivery sector from a company perspective. At this time, many authors tell that consumers play different parts within the last mile delivery sector. Sampson (2000) suggests that in the background of service sector, "customers can be seen as a supplier, as they provide a major input into the chain". (Goudarzi and Rouquet (2009)) consider customers as "logistics service providers who can achieve the two types of conducts traditionally provided by third parties: 1) transportation and 2) warehousing." Finally, "Sampson and Spring

(2012) develop another typology of customer roles in service last mile delivery sector, by transferring analogous roles from the manufacturing SC. They identify eight roles: component supplier, labour, design engineer, production manager, product, quality assurance, inventory and competitor."

Consumer Participation: a support of services management literature

The vigorous contribution of consumer in service delivery is a "shift in the perspective of companies to viewing consumers as active co-producers rather than as a passive audience" (Bendapudi and Leone, 2003, p. 14). The modification is crucial, as consumers can show various responsibilities in service delivery (Bitner et al., 1997). "Consumer participation has currently been re highlighted in Vargo and Lusch's service-dominant logic (2004; 2008)". The consumer is not visible as an "operand resource", where an operation is performed, but as an "operant resource" (Constantin and Lusch, 1994)."

By means of the services management field to improve a "theoretical framework for company-customer logistics activity transfers seems all the more appropriate in that most recent work on customer logistics participation takes a services approach" (e.g. Ehrenthal, 2012; Jafari et al., 2015). "Even the initiators of the consumer logistics stream used the service-dominant logic as the theoretical basis of their most recent work" (Bahn et al., 2015).

Managing Consumer Participation

Our literature study on

service management suggests that any philosophy of logistic transfer should address at best two important aspects: customer participation management (dimension 1) and service production transformation (dimension 2).

Managing customer participation is the first dimension (e.g. Lovelock and Young, 1979; Grönroos, 2007). From the description, "all logistics activity transfers lead a company to modify customer participation in service production. Specifically, two aspects of customer participation need to be managed."

First, "seeking to modify customer participation raises the key issue of how customers learn the new role" "(Payne et al., 2008). The literature highpoints the fact that service customers should

recognize what part they are to present or accomplish, emphasising the significance of customer education (Bateson, 1985; Prahalad and Ramaswamy, 2004).”

“Socialising the customer to the organisation can facilitate this education (Kelley et al., 1992; Goudarzi and Eiglier, 2006)”. Customer education includes their progressively emerging a “cognitive script” (Abelson, 1981; Solomon et al., 1985; Orsingher, 2006), which leads their interaction.

Secondly, in search of to amend consumer participation also rises the matter of consumer’s awareness and attention in showing the latest role. “It is essential to motivate customers (Mills et al., 1983; Schneider and Bowen, 1995; Dong et al., 2008) by describing clearly the benefits of their participation (Vargo and Lusch, 2008). Johnson (1989) suggests using a system of inspiration and rewards.” “This feature is essential in logistics sector, as customers are not able to convert their logistics efforts into cost savings (Teller et al., 2006).”

Hence, this analysis unites the two streams of research by evaluating both understandings and impacts that inspires customer participation in logistics services. We suggest that impactful inspirations along with intellectual motivations are important aspects that contribute to the rise of consumer logistics). Here in this, the research study encompasses the “experiential” perceptions from customer participation literature to the logistics study, which embodies another importance of this paper.

Last Mile Logistics

With the dynamic improvement of e-commerce, few difficulties of last mile have been created. At the start, consumers could effortlessly order items or products from various retailers virtually, so they or their Logistics Service Providers need to deliver outstanding logistics service to expand market share and develop brand loyalty. Respectively, the conventional LSPs (UPS, FedEx and DHL) are ineffective and unproductive in each sectors and retailers need to explore more other options to satisfy the customer needs (Holdorf & Haasis 2014). “The key problem is that consumers are not often at home at the delivery day, which generates multiple deliveries and an ambiguous commitment compared to upstream logistics.” Correspondingly, Gevaers, Van de Voorde, and Vanelslander (2011)

specified that last mile delivery is noticed as the highly expensive segment of the supply chain due to the inefficiency of delivery.

RESEARCH METHODOLOGY

Research Philosophy

Whenever we conduct a research, it is very much important to understand the principal philosophy in terms of the precise analysis which use many ways to outlook the world (Saunders et al., 2009). Saunders et al., 2009 tells us about the four various philosophies which are normally agreed by business research. These are: positivism, realism, interpretivism and pragmatism.

From all the four philosophies, the research philosophy in this paper focuses on positivism. The reason behind this is such as, the positivist view replaces a natural scientist that can be used. This recommends that researchers are operating a bulky amount of primary data to evaluate the facts or support the theory, which naturally involves quantitative methods. As this philosophy is about positivism, to conduct the research, the research should be neutral and objective. Correspondingly, the outcome of the research should not be affected. In this research, data was gathered with relative literature, customer’s feedback and last mile delivery sectors current online information to discover the raw attributes by some words and umbers. Then, accordingly, we focused on pilot study to test practically and confirm the final attributes and levels. In addition, we gathered amount of data to get the outcome. Flowingly, Saunders et al. (2012) said that “the numerical results are explained and analysed to prove or progress the theory, so a lot of data collection and numerical analysis are linked to positivism, which our thesis will be used appropriately.”

Data Collection

Two types of data are classified by Hox and Boeije (2005) i.e. primary and secondary. To gather a certain research goal, original data also known as primary data is used. The secondary data is the material that, “was originally collected for a different purpose than the study at hand and reused for another research question” (Hox & Boeije, 2005, p. 593). For this research study, primary and secondary, both data were collected.

Secondary Data Collection

For this current research study, secondary data was collected from various academic journals, newspaper articles, E-commerce industry market reports and company consulting reports, which provide information related to last mile difficulty and fresh products in E-commerce, various books and conference proceedings and also Government reports and statistics. Likewise, “internet sources are used to gather background information about the development status of E-commerce industry and online survey among e-consumers, as well as to be able to follow the latest updates concerning the last mile delivery of fresh products with innovation self-service technology.”

Primary Data Collection

As the major drawback of collection of secondary data resources is that the data will not necessarily and totally fit into the current research. Hence, the research conduct is done by collecting the primary data sources as well. Easterby-Smith et al. (2013) acknowledged that “surveys can be good ways to gather a lot of people's opinions and behavioural data, as long as they do well.” As the research is focusing on the consumer preferences, hence, we chose to administer self-completion questionnaires where the customer's i.e. the common people who prefer online purchasing, their responds will be recorded.

Sampling Techniques

Precisely, we used convenience sampling for our target group. The target group used for this research are the people who prefer online shopping. We had firstly asked them whether they have online shopping experience, especially in fresh products. If they have, then they will be asked to complete the questionnaire.

Pilot Study

In this thesis, the analysis questionnaire survey is prevailing, and the pilot study serves no function in this main study, except helping the authors to create a questionnaire that is likely to generate precise and consistent data (Easterby-Smith et al., 2015, p.281). Therefore, we had chosen pilot study to determine the attribute levels for conducting the analysis subsequently.

The pilot study was made with the dedication to examine which attribute levels are, according to the consumers, most important when they select a

logistics service of the preferred products. Convenience sampling has been conducted. Since the planned sample size of the main study is around 250 respondents, this small-scale version survey was tested on its 66 percent, i.e. 165 respondents, in the form of short self-completed questionnaire.

Questionnaire

Saunders (2012) pointed that “the most widely used data collection methods within the survey strategy is *questionnaire*”. Questionnaire is the most useful way for the research study as each respondent has to answer same set of questions that will give an efficient way of gathering responses from a large set of sample. To create a professional questionnaire, help from internet sources like *survey monkey* was taken and the survey form was made on google platform.

Bulmer (2004) gave the definition of questionnaires: “techniques of data collection in which each person is asked to respond to the same set of questions in a predetermined order.” There are two types of questionnaire given by Saunders (2015) i.e. self-completed and interview-completed. The former i.e. self-completed method of a questionnaire was used to create the questions that were to be answered by respondents.

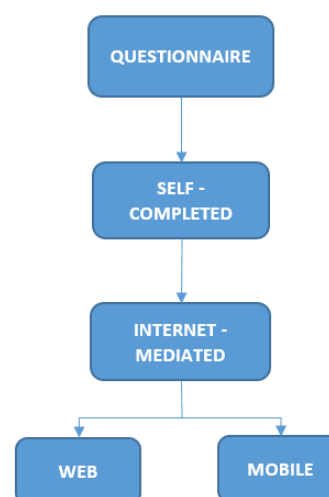


Figure 1: Questionnaire type used in this research study

The respondents were requested to fill the questionnaire that involved two main parts: (i) The first part included questions which referred to the socio-economic background of the respondents. In this section, the data like name,

gender and age were collected. (ii) The second part requested the respondents to rate the logistics service profiles on a scale of 1–5, with 1 representing least like and 5 representing most like. The questionnaire was consisting of two main parts where respondents were asked to complete it. The two parts mainly consisted of:

- First part included the questions related to the personal information like Name, gender and age.
- The second section included various questions related to product deliveries. Likert Scale was also used in this section from 1-5, 1being least likely and 5 being most likely. It mainly included experiences of the customers related to product delivery.

FINDINGS

Validity and Reliability are the two measures of quality. A pilot study was taken to test the reliability and validity of the questions with the help of accuracy of the attribute levels from current marketing situations. The outcomes of pilot study are explained along with the measurement standards of ultimate selection of the attribute levels in the following section.

DELIVERY LOCATION

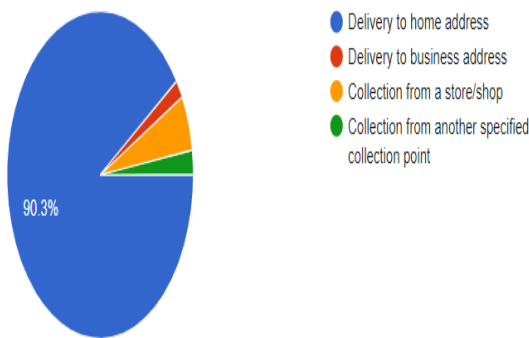


Figure 2: Delivery Location preference of consumers

DELIVERY SPEED

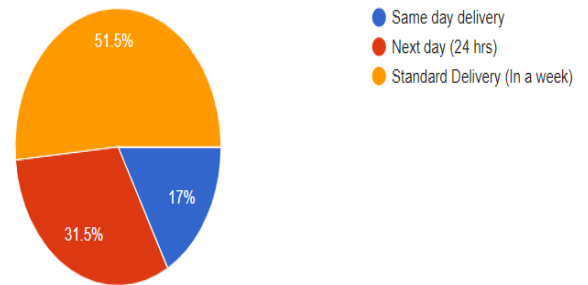


Figure 3: Delivery speed preference of consumers

CUSTOMER ADDRESS ACCESSIBLE TO DELIVERY

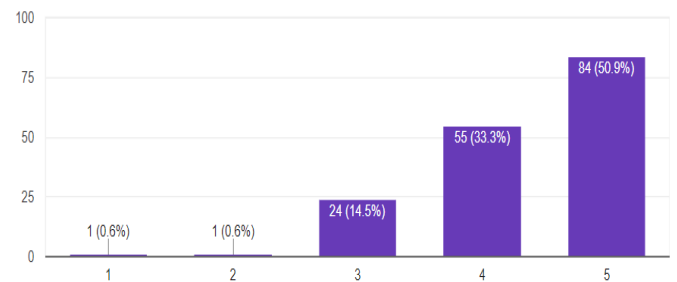


Figure 4: Percentage of customer’s address access to delivery companies

DELIVERY COST IMPORTANCE

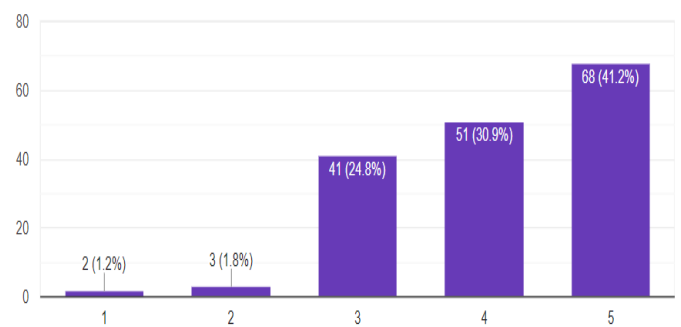


Figure 5: Percentage of delivery cost importance to customers

DELIVERY SPEED IMPORTANCE

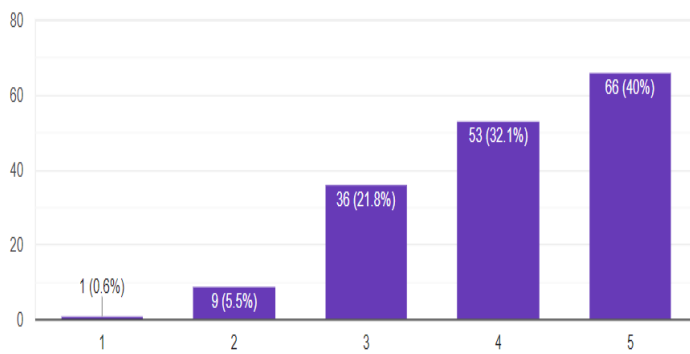


Figure 6: Percentage of delivery speed importance to customers

CUSTOMER EXPERIENCE OF PRODUCT DELIVERIES

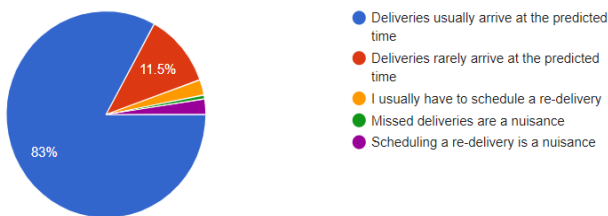


Figure 7: Consumer preference on their experience with delivery companies

FEEDBACK OF DELIVERY SERVICES

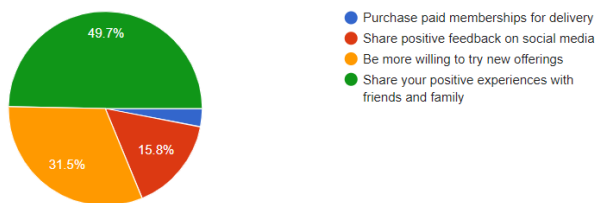


Figure 8: Consumer's feedback on delivery services

In this study, four delivery locations were chosen which are generally used in the ecommerce retail sector and which are the trends of delivery modes with SST. These are: Delivery to home address, Delivery to business address, Collection from a store/shop and the last one is Collection from another specified collection point. Also, delivery speed was one of the important attributes that needed to be focused on: Same day delivery, Next day delivery and Standard delivery. Also, we used Likert scale to measure how much the customer address is accessible from the delivery companies and also, how important is the delivery cost and delivery speed important to the customers.

Because customer experience is the important attribute in their product delivery, various sub-attributes were added to know the delivery status from customers along with the level of satisfaction.

Questionnaire Survey

According to the data on the survey made for consumer preferences in last mile logistics services, there were total 165 responses. The survey was sent to the people who prefer online shopping. Out of 165 responses, the final sample group consisted 52.1% male, 47.3% female and 0.6% in others category. The survey was made for the people above 18 years who are eligible to use ecommerce site. Among them, 93.3% were in the range of 18-30 years and remaining were in the range of 31-65 years. All these respondents were asked to tell their delivery related preferences (like delivery address accessibility, speed, etc.) and also, they were asked to rate their preferences (from 1 being least likely to 5 being most likely) related to delivery cost, speed and product delivery experience.

Hence the analysis from this study and survey conveyed that:

- Most of the people generally prefers their online products to get it delivered on their home address and few people also prefer to pick from the specified store
- Most of the people (approx. 52%) prefer a standard delivery time i.e. a week and 32% of people prefer the next day delivery speed.
- Almost 130 people out of 165 were having the access to their address from delivery companies
- Around 130 people thought that the delivery cost and speed factor is the important thing for any logistics services
- Most of the people are satisfied with delivery experience such as delivery speed at the predicted time. Few people had an experience by scheduling re-delivery.
- The people who are satisfied with the last mile logistics experience either shared their experience to their families and friends or share it on social media or try new offerings from the site.

CONCLUSION

This research study explored the consumer preferences generally in the age group of 18-65 years for last mile logistics services. This research helps in learning the last mile aspects like offering an outstanding prospect for ecommerce companies to create their services faster, transparent, and efficient. Also, by enhancing the last mile logistics experience, the ecommerce companies could be able to lower the costs, improve the consumer experience and shape their brand value.

The idea of this research study was to identify the main attributes of consumer's factor when they select logistics services of the ordered products, which will place a basis for our main study. Final attributes were identified according to the previous literature and the current preferences of consumers in last mile logistics. Preferences score were being obtained and the consumer experience were being analysed for the current logistics services.

Today and in the near future, last mile will always be the main and important part of ecommerce and logistics sector. So to overcome any last mile logistics challenges, each company should come up with innovative last mile solutions.

DISCUSSIONS

7.1 Managerial Implications

Today and in near future, logistics services are and will be the most important factor affecting consumer's preferences of any online products. There are many opportunities for LSPs to turn up with innovative last mile delivery solutions even if there are current challenges within the last mile logistics. This study can help LSPs get better combinations of logistics services and improve the customer satisfaction. Subsequently, "they could adjust and optimize their existing logistics services according to the relative importance values of each attribute based on consumer segmentation. Consumer segmentation, is a well-established concept in marketing field, but it only received limited attention in logistics and supply chain management literature" (Godsell, Diefenbach, Clemmow, Towill and Christopher, 2011).

The study analysis suggests that other than the delivery cost, there are various aspects which segments of consumer's value. For consumers, free delivery will be the first choice, but few people can prefer small delivery fee for their

ordered products. Therefore, LSPs shall give emphasis on balance free shipping and delivery costs. For example, "home delivery is the consumers' favourite delivery location, but the cost is high for the enterprises. In this case, a 1-50 kronor delivery fee is a reasonable and acceptable charge. Consumers will not abandon the purchase because of a certain cost, so companies can still get a certain profit".

7.2 Limitations and further research

This study has the restricted number of attributes and levels and that can be used in the future study. There are a huge amount of attributes and levels that may be used to know the consumer preference in last mile logistics. Hence, "future work can more extensively expand the attributes and levels to cover more aspects within logistics services, 60 such as transport tools (regular van transport, environmentally friendly vehicle transport or bike and e-bike)". Peiling Zhang and Tingting Li (2018)

As Sayre (2001) tells that "interview is a tool that motivate researchers to better understand topics, which allow researchers to understand the different opinions, motivations, and attitudes of respondents. So, we propose to conduct a qualitative study on this issue which could strengthen further contributions in this area."

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