

Analysis of the Influence of Risk Communications and Subjective Norms on the Purchase Intention of Soft Structured Carriers (SSC) and Their Impact on Perceived Risk

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aims: This study aims to study, analyze and reveal the factors influencing the interest in purchasing Soft Structured Carriers (SSC) in millennial mothers in the Jabodetabek area.

Study Design: Cross Sectional Quantitative Research.

Place and Duration of Study: 271 millennial parents in Jabodetabek who have bought soft structured carrier (SSC) at least once and still have kids below 1-year-old.

Methodology: This study used a quantitative with causal research approach and included 271 respondents (24 living in Depok, 32 living in Bogor, 56 living in Bekasi, 61 living in Tangerang, and 98 living in Jakarta; age range 25-40 years). The data gathered using questionnaire. Sample methods using the guideline from Hair et al. (2017); therefore, in this study, based on purposive (judgemental) sampling techniques and being analysed using Partial Least Square Structural Equation Model (SEM).

Results: The results of this study found that the direct relationship between risk communication (RC) had a positive and significant effect on perceived risk (PR) and purchase intention (PI), PR had a positive and significant effect on PI, but for subjective norms (SN), it was found that it did not affect PI. RC to PR has the most significant influence compared to other relationships. Attention to

the RC factor can increase buying interest by only causing a PR factor in people's minds. Furthermore, in the indirect relationship, it is found that PR mediates the relationship between RC and PI. Therefore, PR has effectiveness in connecting RC with purchase intention.

Conclusion: Of the five hypotheses tested, one of them has no influence where Subjective norms were found not to affect Purchase intention. In indirect hypothesis testing, it is found that Perceived risk mediates the relationship between risk communication and purchase intention.

Keywords: Social media; risk communication; perceived risk; subjective norms; purchase intention.

1. INTRODUCTION

Carrying a baby is common in Indonesia, but unfortunately, the technique is not entirely safe. Carrying a baby has been done centuries ago and passed down from the previous generation. Hence, the traditional sling used for generations in Indonesia is called *jarik*. Based on Mu'minah and Nugraha [1], *kain jarik* or *kain batik* is mainly used as a hip cloth worn by men and women. Most of the *kain batik* size is 2x1 meter and has been commonly used by Javanese people for a long time. Carrying may seem trivial and very easy. In the past, sling products were not as diverse as today. With just a piece of *selendang* or *jarik*, a mother can carry her child safely and comfortably. In this modern era, there are many choices of carriers. However, innovation is not always positive. Innovations that are not based on science can be dangerous too. The main thing to note when carrying is safety. Safety comes first because it relates to a child's safety and life. When carrying a baby, we need to avoid two things: suffocation and fall hazards. Although now there are still many parents who use *jarik* as the main sling to hold the baby, modernization in Indonesia to various types of slings is inevitable. In Westernized cultures, the babywearing term describes the practice of carrying an infant using a soft cloth carrier [2]. In modern society, baby carriers have evolved from a traditional sling into a backpack from soft cloth and use webbing and buckle as an adjuster [3].

In Indonesia, there is no official report regarding an accident while using a baby carrier, so it is hard to claim that some baby carrier is unsafe. Nowadays, baby carrier manufacturers consider the babywearing consultant's profession essential. Manufacturers often work with a babywearing consultant to give honest reviews about the babywearing product and educate people on how to safely and adequately use the baby carrier. In addition, a babywearing consultant is responsible for becoming a role model about how parents should take serious notes about babywearing because babywearing

is not only about carrying a baby. Babywearing has a more significant impact beyond calming the baby. In addition, babywearing consultants also play a role in communicating the risks that may arise from the mistake of using a baby carrier to mothers who still do not have enough knowledge, especially millennials who do not have enough experience. Millennials have always been defined as the tech-savvy generation. For example, nine out of ten millennials in America own smartphones [4]. Millennials are also the leading generation who use social media. So, one way to educate millennial mothers about babywearing safety is by using social media and taking a risk communication approach, increasing public awareness of potential health hazards and threats so that they can decide on protective measures. Guni et al. [5] state that social media facilitates access to medical and health-related information.

Furthermore, Zhao and Zhang [6] claim that social media is an effective platform for patients to receive health information and seek advice and assistance from other users. According to the research Barua et al. [7] reported that over 70% of adults use the internet to look for health-related information. However, according to the Indonesian Telecommunications Society, over 40% of hoax news items circulating in Indonesia in 2019 were about health [8]. The increase of health-related hoaxes, particularly during the pandemic, concerns Indonesians who actively seek health-related information on social media. Much prior research has found that men and women seek health information differently. Because women also seek health information for their children and other family members, women are the primary health information seekers in households [9]. In health communication, individuals with high-risk perceptions are more likely to engage in health-protective behavioral objectives to avoid risk [10]. Therefore, risk communication that is routinely displayed will increase risk perception. In this sense, providing risk information can be highly effective in

modifying risk perception, with subsequent changes in risk behavior due to the impact of risk perception [11]. So, it is expected that millennial mothers understand well about babywearing safety and choose the right and safe baby carrier for their babies. In addition, risk communication also impacts the perception of people's behavioral control, leading to their actions [12]. In addition to the above factors, subjective norms are external factors that can influence behavior. In contrast, personal impressions of societal pressure to perform or not perform a behavior are subjective norms [13].

Research conducted by Abrams and Greenhawt [14,15,16,12,17] tested cases of community preventive behavior from the spread of the Covid-19 virus based on risk communication, risk perception, perceived behavioral control and norms. However, a minimal study has been conducted on purchase intention for a baby carrier. Research conducted by Constantinescu-Dobra and Cotiu [18] used a focus group exploratory study as the research method. The study explores the buying decision-making process of generation Y mothers in Romania. Some factors influencing the buying decision of baby carriers are quality, discount, purposes, and trend-setting loyal. In general, generation Y is savvy consumers who rely on technology for decision-making. In the previous study, all the respondents rely on the internet as the remaining information source. However, this study aims to study, analyze, and reveal the factors influencing the interest in purchasing Soft Structured Carriers (SSC) in millennial mothers in the Jabodetabek area.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 The Health Belief Model

According to Yoo et al. [19], a person's health or healthy living beliefs are made up of two parts: perceived risk and self-efficacy. Screening, risk-taking behaviors, and adherence programs have been predicted using the Health Belief Model [20]. The Health Belief Model has potential uses because it has identified several key factors in predicting whether a person will or will not engage in health-protective behaviors. The Health Belief Model (HBM) is a framework that has become one of the most widely used conceptual frameworks in behavioral health research, both to explain change and

maintenance of health-related behaviors and as a guiding framework for interventions [21].

2.2 Theory of Planned Behavior

The Theory of Planned Behavior, or TPB, is based on ideas that might impact a person's decision to engage in certain actions. The viewpoint of trust is formed by absorbing multiple traits, qualities, and aspects of specific information, resulting in a will to act [22]. TPB emphasizes that while attitudes toward conduct are significant factors in estimating an action, it is also crucial to consider a person's attitude when evaluating subjective standards and assessing their control over perceptual behavior. For example, a person's intention to behave will be higher if there is a good attitude, support from others, and a sense of ease since there are no hurdles to behaving [23]. The Theory of Planned Behavior further develops the Theory of Reasoned Action [24]. According to Waqingah [25], TRA explains the stages of humans doing the behavior. In the early stages, this is where behavior is assumed to be determined by intention. Furthermore, Jogiyanto [26] explained that TRA assumes that behavioral intention is a function, attitude, and subjective norm to behavior.

2.3 Risk Communication

According to the World Health Organization (WHO) and [27], risk communication is exchanging information and views on risk and risk-related factors among risk assessors, risk managers, consumers, and other interested parties. Meanwhile, Widyawati et al. [28] opines that risk communication is exchanging information, advice, and opinions about risk and risk-related factors in real time between experts, public figures or officials, and people at risk. Individuals require knowledge to make informed judgments and act effectively to minimize risk and uncertainty [21]. Zhu et al. [29] in his research said food safety risk communication aims to enhance stakeholders' understanding of the assessment and management of food safety hazards and allows people to make informed judgements about food production and consumption. Ariffin et al. [30] that communication is the essence of crisis management and that it is critical throughout the entire crisis management process. Public perceptions of the organization during and after the crisis is influenced by communication decisions made by the organization. Risk

perception is an essential factor affecting how individuals evaluate risk, make decisions and behave [31].

Moreover, many risk communication activities change behavior or attitudes [32]. At the same time, risk communication can occur in an unbound one-way and more involved two-way way [33,34]. Furthermore, several studies have also confirmed a significant association between risk communication and purchase intention [16]. The hypotheses in this study are as follows:

H1. Risk Communication has a positive effect on the Purchase Intention of Soft Structured Carrier (SSC).

According to the Health Belief Model theory, risk perception is positively associated with preventive/protective behavior [35]. In health communication, a high level of risk perception makes individuals more engaged in the intention of health-protective behavior to avoid risk [10]. Risk communication is likely to have real behavioral consequences [36]. Risk communication is a process in which information messengers release risk information to the audience and prevent people's risk perception from magnifying [37]. Personal risk perception absolute interacts with the reception of risk-related communication [38]. Crowley-Cyr et al. [39] found that risk messages not influenced travel intention. Several studies have confirmed a positive and significant association between risk communication and perceived risk [16]. Based on the theory and various references to previous research, the second hypothesis proposed in this study is:

H2. Risk Communication has a positive effect on the Perceived Risk of Soft Structured Carrier (SSC) Usage.

2.4 Perceived Risk

Perceived risk is a subjective evaluation of risk in a threatening situation based on its features and severity [40]. Risk perception is an interpretation or appraisal of a risk scenario based on experience or beliefs [20]. According to Hillson and Murray-Webster [41], depending on how effectively people comprehend change and its impact as different from predicted, risk-taking effectiveness is determined by evaluating the likely form, environmental circumstances, and change size. Perceived risk has become important in explaining purchase intention [42]. Frewer et al. [43] find that public attitudes toward

emerging technologies (for example, GMFs) are mainly driven by perceived risk and they affirmed that perceived risk is the core factor influencing individuals' behavioral intentions to adjust to various risks. Empirically confirm the significant effects of consumers' risk perception on consumer purchases in the context of genetically modified products [44]. Kamalul Ariffin et al. [45] findings from this study suggest consumers' perceived risks when they intend to purchase online. Five factors of perceived risk have a significant negative influence on consumer online purchase intention, while social risk was found to be insignificant. Among these factors, security risk is the main contributor for consumers to deter from purchasing online. However, according to other research, buyers concerned about risk will seek more detailed information about the product and will continue to buy after gaining a deeper knowledge of the product. Therefore, the third hypothesis in this study is:

H3. Perceived Risk has a positive effect on the Purchase Intention of Soft Structured Carrier (SSC)

2.5 Subjective Norms

Subjective norm is an individual's perception of social pressure to perform or not to perform a behavior [42]. Subjective norms are rarely included in meta-analyses of the TPB framework because their influence tends to be weak [46]; [47]. However, extant research conducted in western contexts has shown that the predictability of subjective norms may differ according to the cultural context of society [48]. [49] this study revealed subjective norm were positively related to luxury purchase intentions. Subjective norms dictate that the behavioral intention of consumers originates from perceived social pressure, following [50]; people who believe subjective norms are important to tend to act if their peers think they should do it. Individuals are, therefore, expected to show stronger subjective norms in collectivist cultures than in individualistic cultures to be accepted by the group. The higher the influence a person gets from the people he trusts, the higher the interest in online shopping grows in this case related to fashion products [51]. Subjective norms is a person's perception of a particular behavior, where this perception is influenced by the judgment of the perceived influential person, such as a parent, spouse, friend, and mentor [52]. Subjective norms are influenced by

perceived social pressure from others to behave in a certain way and the desire to follow one's ideas. In previous studies, the influence of subjective standards on intention formation was frequently less than that of attitudes. One of TPB's most often cited shortcomings is the relatively low link between subjective standards and purchase intention. The following hypothesis is proposed:

H4. Subjective Norms have a positive effect on the Purchase Intention of Soft Structured Carrier (SSC).

2.6 Purchase Intention

Chakraborty, [53] said that the term purchase intention is broadly treated as a predictor of purchase. According to Kotler and Keller [54], purchase intention is the behavior of consumers who want to buy or choose a product based on their experience, use, and desire. Lundgren and McMakin [55] have characterized three risk communication forms: care communication, consensus communication, and crisis communication. Social media could be a valuable platform to communicate the risk because it allows the two-way communication necessary for successful risk communication. Different discussion according to Utomo et al. [56] the ability to use an app becomes the primary driving force for the user to adopt a technology. Considering for a patient, using this technology is voluntary, not an obligation like an employee in a company that has used a particular technology. Risk perception is the

degree of consequence for a person's perceived events or facts [57]. Risk perception is posed by an individual's cognitive and affective responses to cognitive events/facts [58]. Previous research confirms that the higher the perceived risk, the lower the interest in consuming a brand [59]. However, according to another study, buyers who are concerned about the danger will seek more detailed information about the product and will continue to make purchases after receiving a better explanation and comprehension of the product [60]. The following hypothesis is formulated:

H5. Perceived Risk mediates the relationship between Risk Communication and Purchase Intention of Soft Structured Carrier (SSC)

3. RESEARCH METHODS

The research approach used in this study is a quantitative method. The subject in this study is mothers aged 25 to 40 who fall into the millennial category. For this reason, the number of the population cannot be known with certainty. Furthermore, the sampling techniques in this study used non-probability sampling using purposive (judgemental) sampling techniques means that not all samples have criteria matching the studied phenomena. The respondent criteria are mothers aged 25 to 40 years (Millennial mothers) who live in the big cities and are residents of the Jabodetabek area with a child below 12 months old. The sample used in this study is 271 respondents.

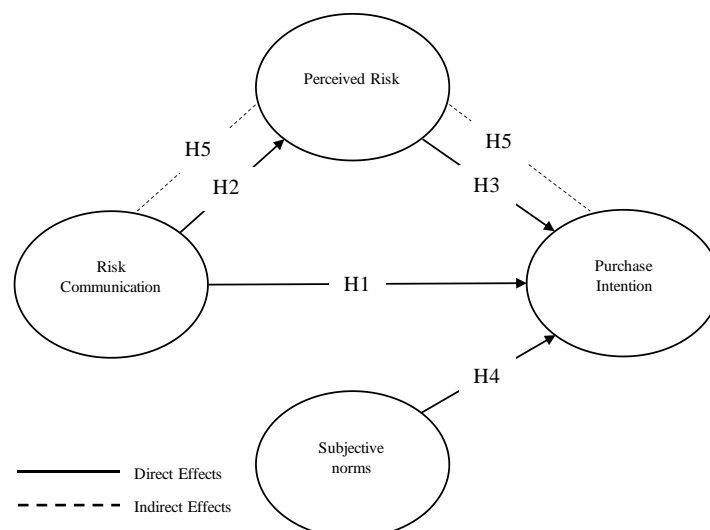


Fig. 1. Research model

The data was collected using a questionnaire via Google Form from June 9, 2022, to June 10, 2022. With measurement scale used in this study used the Likert five scale (1–5-point scale), meaning one strongly disagrees and five strongly agree. Measurement of variables in this study is risk communication using questionnaires that have been developed by Heydari et al. [16,61]; perceived Risk by Yoo et al. [19], Subjective Norms by Susanto et al. [13], and Purchase Intention by Mantala et al. [62]. In this study, the data analysis method used descriptive statistics analyzed using SPSS software v.26 and inferential statistics using Partial Least Square Structural Equation Modeling (PLS-SEM) as the data analysis technique.

4. RESULTS AND DISCUSSION

4.1 Outer Model Evaluation

This study uses a measurement model with reflective indicators where each is related to specific construction or latent variable. To evaluate the convergent validity, outer loading and average variance extracted (AVE) must be measured.

After the model is modified, based on the tests above, it can be seen that all measuring items

have met the requirement to be valid. Furthermore, after removing invalid indicators, the loading factor and AVE are above 0.50, so it can be said to be valid and used to measure each latent variable.

The composite reliability test results show that all latent variable values have Cronbach's alpha, rho_A values ≥ 0.60 , and composite reliability values ≥ 0.70 . Thus all constructs are acceptable in reliability. Composite Reliability variables are above 0.7, namely perceived risk (0.864), purchase intention (0.843), risk communication (0.897), and subjective norms (0.825), all variables are reliable.

4.2 Inner Model Evaluation

The value of R2 of the endogenous construct is 0.400 (perceived risk), and 0.473 (purchase intention) is moderate. Therefore, based on the f2 analysis, subjective norms' relationship to purchase intention has a small influence. Meanwhile, relationships of risk communication towards purchase intention and perceived risk towards purchase intention have a moderate impact. Furthermore, the relationship between risk communication towards perceived risk has a significant influence.

Table 1. Convergent validity measurement

Variable	Indicators	Outer Loading	AVE
		>0.70	>0.50
Risk Communication (RC)	RC1	0.755	0.522
	RC2	0.778	
	RC4	0.711	
	RC5	0.732	
	RC6	0.765	
	RC7	0.668	
	RC8	0.676	
	RC9	0.688	
	Perceived Risk (PR)	PR1	
PR2		0.817	
PR3		0.777	
PR4		0.762	
PR5		0.613	
Subjective Norms (SN)	SN1	0.803	0.612
	SN2	0.823	
	SN3	0.716	
Purchase Intention (PI)	PI1	0.853	0.576
	PI2	0.831	
	PI3	0.662	
	PI4	0.671	

4.3 Hypothesis Testing Result and Discussion

This step assesses whether or not the research hypothesis proposed on the research model is accepted. The route coefficients and T-Statistical values obtained from bootstrapping and p-value techniques can be used to evaluate the given hypothesis [63]. From the outer model analysis result, three indicators from Risk

Communication (RC) variables were taken out due to low outer loading value, impacting the AVE value of less than 0.5 RC10, RC11, and RC12. All of these indicators relate to the question of trust in government. From the data taken from 271 respondents, it can be concluded that they doubted the government's performance in communicating a safe and comfortable way of carrying to the public.

Table 2. Hypothesis analysis

Direct	Original Sample (O)	T Statistics (O/STDEV)	P Values	Results
Risk Communication -> Purchase Intention	0.318	3.960	0.000	H1 Accepted
Risk Communication -> Perceived Risk	0.632	16.543	0.000	H2 Accepted
Perceived Risk -> Purchase Intention	0.459	6.549	0.000	H3 Accepted
Subjective norms -> Purchase Intention	-0.058	1.348	0.089	H4 Rejected
Indirect	Original Sample (O)	T Statistics (O/STDEV)	P Values	Results
Risk Communication -> Perceived Risk -> Purchase Intention	0.290	5.906	0.000	H5 Accepted

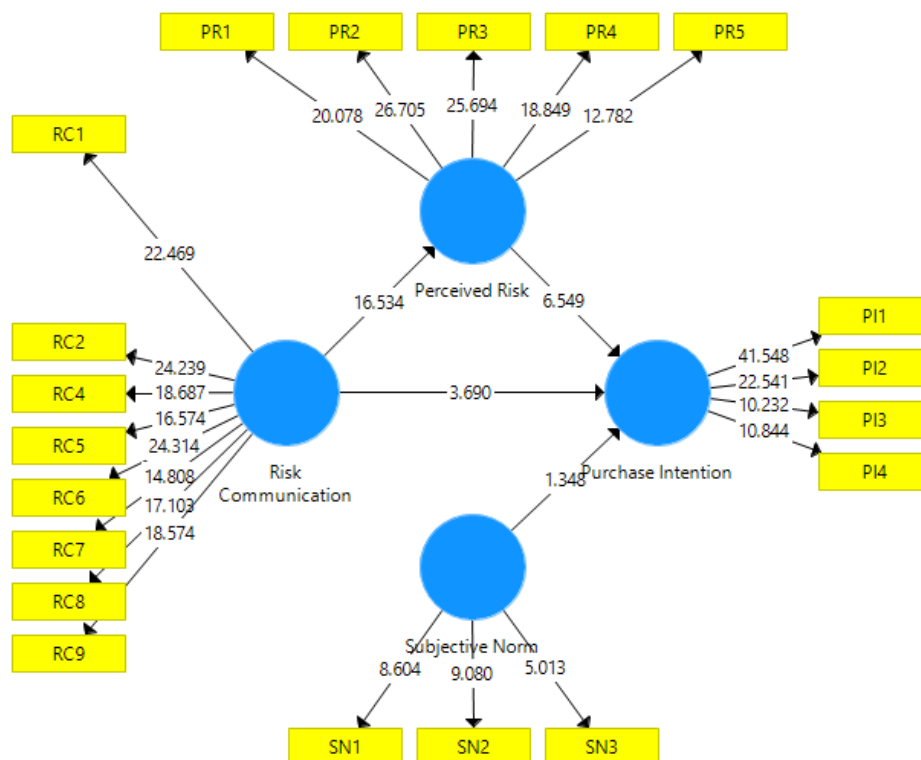


Fig. 2. Structural equation model

Based on hypothesis analysis, four of five hypotheses are accepted concerning H1, and the results showed that ($O=0.318$; $Sig=3.960$; $P<0.05$). Thus, H1 was supported. Similarly, the impact of risk communication on perceived risk (H2) ($O=0.632$; $Sig=16.543$; $P<0.05$) was positive and significant. Therefore, H2 was accepted. Concerning H3, the outcomes of SEM ($O=0.459$; $Sig=6.549$; $P<0.05$) highlighted a positive and significant association between perceived risk and purchase intention. Therefore, H3 was accepted. H4 ($O=-0.058$; $Sig=1.348$; $P>0.05$). H4 was not supported. H5, the results showed that ($O=-0.290$; $Sig=5.906$; $P<0.05$). Therefore H6 supported that perceived risk mediates the effect of risk communication on purchase intention.

5. CONCLUSION

The baby carrier is considered a must-have item when having a baby to help parents nurture their children. However, a baby carrier can be dangerous if parents do not know about babywearing's basic safety. Meanwhile, the government also failed to give the standard about the safe baby carrier in Indonesia even though the accident happened while using lousy quality baby carriers. However, many people, especially parents, know the danger of using baby carriers. As a result, many babywearing enthusiasts become babywearing consultants and communicate the risk through the community on social media.

The hypothesis testing and discussion presented that risk communication was found to positively and significantly influence purchase intention (H1 supported). These outcomes are also in line with numerous past studies, including those of [19], who found similar findings. This finding proves that communicating the risk of using an unsafe baby carrier can increase the purchase intention of SSC. Furthermore, risk Communication was found to have a positive and significant effect on the Perceived Risk (H2) following the previous literature by [10] and [64]. This finding proves that communicating the risk of the danger of unsafe baby carriers can increase the perceived risk to the parents. Parents can understand which baby carrier is suitable for their baby and which is not recommended. They understand the risk very well because many parties try to communicate it through social media.

Furthermore, Perceived Risk was found to positively and significantly influence Purchase Intention (H3). These findings also concur with

many field studies, such as those of [60]. This finding in this research proves that understanding the risk of unsafe baby carriers can increase the purchase intention of safe and recommended baby carriers. In this study, the perceived risk of basic safety babywearing can increase the purchase intention of SSC. On the other hand, the study found no significant effect of Subjective norms on Purchase Intention (H4 not supported). Such non-significant findings are supported by scholars such as [65] and [66], who found no association between such variables. Moreover, perceived risk mediates the relationship between risk communication and purchase intention (H5 supported). This result follows the previous literature by [67] and [68].

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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