Narrative information on secondhand products in e-commerce

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Abstract
Our study aims to examine how narrative information influences consumers’ perceived persuasiveness of secondhand product information. We conducted three experiments. The results show that narrative information leads to higher perceived persuasiveness when secondhand products are for self-use and lower perceived persuasiveness when secondhand products are not for self-use (studies 1, 2, and 3). Furthermore, its effect is mediated by reactance (studies 1 and 3). Our study contributes to the literature by clarifying the effect of narrative information on online secondhand shopping. For sellers, our study highlights how information dealing with usage-based attributes should be presented. For consumers, our study emphasizes important aspects of information to pay attention to.

Keywords Secondhand products · Narrative information · Reactance · Perceived persuasiveness

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1 Introduction

E-commerce sites such as eBay and Craigslist have greatly facilitated online secondhand shopping. The secondhand sales market value reached $7 billion in 2019 and is estimated to reach $36 billion by 2024 (approximately 39% annual growth rate; Thredup, 2020). Sellers are therefore interested in how to better present secondhand products online to facilitate consumer purchases, with narrative information describing product history being especially important (Kim et al., 2021). Kamleitner et al. (2019) showed that repurposed products’ narrative information describing their biographical stories increases demand because such information allows customers to feel special. Thus, understanding whether narrative information also plays an important role in the context of online secondhand shopping is relevant.

The literature has examined different aspects of online secondhand shopping, such as secondhand shoppers’ perceived acquisition values (e.g., Fernando et al., 2018), shopping intention (e.g., Lee & Lee, 2005), and online platforms (e.g., Luo et al., 2020). Recent literature has also begun to pay attention to information presentation in online secondhand shopping (e.g., Chang et al., 2020; Kim et al., 2021). For example, Chang et al. (2020) found that information completeness and accuracy significantly increase consumers’ perceived persuasiveness, which in turn, influences their attitudes and purchase intentions. Kim et al. (2021) showed that narrative information including product history can facilitate use intention of secondhand products through trust and hedonic benefits. Still, a deeper understanding of information presentation in general and narrative information in particular is needed in online secondhand shopping because narrative information is an important source through which consumers learn about secondhand products’ unique usage-based attributes (i.e., attributes quantifying how products have been used; Estelami & Raymundo, 2012).

Therefore, to fill this gap, our research question is: How can narrative information influence consumers’ perceived persuasiveness of secondhand product information in online shopping? Based on the literature, our study uses narrative information (Moyer-Gusé & Nabi, 2010) to describe product history and usage outcomes. Our study aims to examine the effect of narrative information on consumers’ perceived persuasiveness of product information. Perceived persuasiveness refers to the degree to which consumers perceive secondhand product information to be convincing, and is selected as the dependent variable because it can facilitate consumer purchases (Zhou et al., 2017).

Our study highlights the importance of providing usage-based attributes when presenting secondhand product information. Because secondhand products have unique usage-based attributes, sellers must present these attributes in addition to standard attributes. Through three experiments, our study contributes to the literature by demonstrating the theoretical mechanisms (through mediation analyses) and boundary conditions (through moderation analyses) regarding the effect of narrative information on perceived persuasiveness. The results provide valuable guidelines for secondhand sellers regarding how to present product information.
2 Literature review

Online secondhand shopping is becoming increasingly popular, and the literature has examined its different aspects. Some studies have focused on the differences between secondhand and new goods shoppers. For example, Fernando et al. (2018) found that online secondhand shoppers experience more uncertainty and perceive less acquisition value than new goods shoppers. Other studies have examined purchase motivation and intention. For example, Padmavathy et al. (2019) developed a scale of online secondhand shopping motivation. Finally, other studies have examined the role of platforms. For example, Luo et al. (2020) showed that e-commerce service and community quality influence consumers’ trust.

However, the information presentation of secondhand products has not received much attention. Although product information presentation has been examined focusing on new products (e.g., Gao et al., 2012), these findings are limited for understanding secondhand products because of two unique aspects. First, consumers need to understand how products have been used (i.e., product history) to better evaluate their values (Gabbott, 1991). For example, when buying secondhand cars, consumers may be interested in whether they have been used mainly for local transportation or for travel. Thus, unlike the information for new products, which indicates standard attributes only, the information for secondhand products needs to also indicate product history. Because only sellers know how secondhand products have been used, such a scenario results in information asymmetry (i.e., a “lemon” market; Akerlof, 1970). Product information dealing with product history can help reduce information asymmetry and is therefore highly important in the process of secondhand shopping. Second, usage can result in negative outcomes (e.g., a vacuum cleaner having a dirty brush head). Therefore, unlike new products, whose information emphasizes positive information, the information about secondhand products can also include negative information.

To summarize, secondhand products have not only standard but also usage-based attributes. In online secondhand shopping, the product information needs to cover products’ history and usage outcomes such that consumers can understand products’ usage-based attributes and evaluate their values (Betts & Taran, 2006). Our study proposes using narrative information to describe product history and usage outcomes. We draw on the transportation imagery model (TIM) to clarify the effect of narrative information.

3 Transportation imagery model: the effect of narrative information

The TIM argues that narrative persuasion happens via transportation (Green & Brock, 2000). Transportation is a mental process whereby individuals immerse themselves and are transported into a narrative message. Narrative information
evokes “a distinct mental process, an integrative melding of attention, imagery, and feelings” (Green & Brock, 2000, p. 701). When individuals go through narrative information, they may develop how elements are related over time and are probably absorbed into the story (Green & Brock, 2000). Narrative information can thus reduce reactance (Brehm & Brehm, 1981) because transportation is enjoyable and individuals are less likely to interrupt this process (Green & Brock, 2000). Here, reactance is a motivational state that occurs when individuals perceive that their freedom is threatened (Brehm, 1966).

The TIM is thus helpful for understanding narrative information about secondhand products. Because secondhand products include unique usage attributes (i.e., product history and usage outcomes), narrative information is useful for presenting these attributes. Specifically, narrative information can describe how the products have been used and the associated usage outcomes. When consumers browse information about secondhand products, reactance can be aroused because the information intends to persuade them to purchase (Bambauer-Sachse & Heinzle, 2018). In the context of online secondhand shopping, consumers may perceive that product information attempts to manipulate their attitudes toward secondhand products, threatening their freedom (Bambauer-Sachse & Heinzle, 2018). Consequently, consumers may respond to manipulated product information by developing reactance (Fransen et al., 2015). These explanations are also consistent with attribution theory (Weiner, 1986), which argues that consumers may develop inferences of manipulative intent from sellers (Campbell, 1995) and perceive that product information tries to manipulate their evaluation of secondhand products. Because narrative information can generate transportation, consumers can be absorbed into the information. In such a scenario, consumers develop a sense of real experience, and their level of reactance is reduced (Moyer-Gusé & Nabi, 2010). As such, consumers probably find narrative information about secondhand products more convincing than factual information (e.g., a list of product details), which is less likely to induce transportation. However, factual information does not generate transportation, and consumers’ reactance can be aroused when they browse product information presented as factual information. To summarize, based on the TIM (Green & Brock, 2000), we argue that narrative information can reduce consumers’ reactance, which in turn, influences perceived persuasiveness. Together, these arguments suggest that reactance mediates the effect of narrative information on perceived persuasiveness.

The assumption behind the positive effect of narrative information is that sellers have used secondhand products and therefore can describe how they have been used. Because narrative information describes how products have been used, consumers may perceive that narrative information provided by the sellers is more credible. Otherwise, when narrative information is provided by someone else, consumers may feel skeptical toward it. In such a scenario, transportation will not occur, and consumers may not be absorbed into the story, diminishing the positive effect of narrative information (Green & Brock, 2000). Regarding online secondhand shopping, not all secondhand products have been used by the sellers themselves (self-use), and resale companies can sell secondhand products purchased from other individuals (non-self-use). Therefore, secondhand products can be presented by a self-use or non-self-use source. For secondhand products from self-use, consumers can be
absorbed and transported into narratives (Green & Brock, 2000). When sellers have used secondhand products themselves, consumers perceive that sellers are honest and have a high level of integrity (McKnight et al., 2002). Thus, they will have less reactance and find narrative information more convincing than factual information. However, when secondhand products are from non-self-use, consumers may feel that the sellers do not fully know the product history. Such a scenario challenges consumers’ integrity perceptions toward sellers, and they may not perceive that sellers are honest. They may find it difficult to believe product history described in narratives and thus prefer factual information. Therefore, we hypothesize that:

**Bullet H1**: Product source moderates the effect of narrative versus factual information such that (a) narrative information generates higher perceived persuasiveness when the source of secondhand products is self-use and (b) factual information generates higher perceived persuasiveness when the source of secondhand products is non-self-use.

### 4 Methodology

We conducted three experiments (Table 1; Appendix 1). TIM is closely related to experiments 1 and 3, where we tested the mediating effect of reactance. We identified popular secondhand products in China through iiMedia Research (2018). Certain features of secondhand products were chosen based on the product information on secondhand product platforms. Measures were adapted from the literature (Appendix 2). All measures used a 7-point Likert scale. In pilot tests for all experiments and main studies for experiments 1 and 2, a small amount of money (about $0.50) was provided to encourage participation. For the main study in experiment 3, a certain amount of credits (convertible to money) was provided by Credamo.

#### 4.1 Experiment 1

**4.1.1 Pilot test**

A secondhand tablet was chosen as the context. Based on product information on secondhand product platforms and the literature (Hamby et al., 2015; Lien & Chen, 2013), we developed the narrative and factual information. We recruited 59 students from a large public university in China. They were randomly divided into the

| Table 1 | Summary of the three experiments |
|---------|---------------------------------|
| **Context** | **Experiment 1** | **Experiment 2** | **Experiment 3** |
| Tablet | Headset | Vacuum cleaner |
| Features | Scratches on the screen; scratches on the back cover; battery life; accessories | Ear cups; headband | Dirty brush head; condition of the cleaner body; battery life |
narrative condition \((N=30)\) or the factual condition \((N=29)\) and then asked to rate the extent of the narrative structure (Escalas, 2007). The mean from the narrative condition \((M=4.92, SD=0.91)\) was significantly higher than the mean from the factual condition \((M=3.24, SD=0.98; t=6.83, p<0.001)\). Therefore, our manipulation was successful.

### 4.1.2 Main study

**Design and participants** We used the design of 2 (narrative vs. factual information) \(\times 2\) (self-use vs. non-self-use). We recruited 140 students from a large public university in China. Participants’ ages ranged from 19 to 22, and 52.14% were women.

**Procedure** Participants completed the study online. After clicking the study link, they were then directed to a page explaining the purpose of the study. They were then asked to imagine that they planned to purchase a secondhand tablet and to browse product information from a secondhand product platform. They were then randomly assigned to one of the four conditions and viewed the corresponding product information. The participants were then asked to rate the extent of the narrative structure, the reactance (Ma et al., 2019; Moyer-Gusé & Nabi, 2010), the product source (self-use vs. non-self-use), and the perceived persuasiveness (Zhang et al., 2010).

**Results** First, we conducted manipulation checks. The \(t\)-test showed that the extent of the narrative structure was significantly higher in the narrative condition \((M=5.08, SD=0.87)\) than in the factual condition \((M=3.43, SD=0.75; t=11.96, p<0.001)\). Furthermore, all participants could correctly identify the source of the product, indicating that our manipulations were successful.

Cronbach’s \(\alpha\) of reactance and perceived persuasiveness was 0.90 and 0.85, respectively. Next, an ANOVA was conducted. The independent variable was the narrative structure and the product source (self-use vs. non-self-use) and the dependent variable was perceived persuasiveness. The main effect of the narrative structure was not significant \((F=0.25, p>0.05)\), whereas the main effect of the product source was significant \((F=54.15, p<0.001)\). Furthermore, the interaction effect was also significant \((F=34.64, p<0.001)\). Post hoc analysis (Fig. 1) showed that under the self-use condition, the perceived persuasiveness of the narrative information \((M=5.22, SD=1.02)\) was significantly higher than that of the factual information \((M=4.18, SD=0.92; t=4.51, p<0.001)\), supporting H1a. However, under the non-self-use condition, the perceived persuasiveness of the factual information \((M=3.94, SD=1.02)\) was significantly higher than that of the narrative information \((M=3.07, SD=0.85; t=3.82, p<0.001)\), supporting H1b.

**Mediation** Under the self-use condition, reactance of the narrative information \((M=3.16, SD=0.72)\) was significantly lower than that of the factual information \((M=4.25, SD=0.83; t=5.93, p<0.001)\). However, under the non-self-use
condition, reactance of the factual information (M = 4.42, SD = 0.83) was significantly lower than that of the narrative information (M = 5.30, SD = 0.94; t = 4.10, p < 0.001).

A mediation analysis was conducted to examine the mediating effect of reactance, with bootstrapping following Preacher and Hayes (2008). The results showed that the indirect effect was significant under both the self-use condition (0.47, 95% CI [0.21, 0.79]) and the non-self-use condition (−0.39, 95% CI [−0.69, −0.16]), supporting the mediating effect of reactance.

Discussion Although experiment 1 provides strong support for H1, it only deals with one type of secondhand products. We then conducted experiment 2, selecting the secondhand headset as the context. The results (Appendix 3) again provide strong support for H1. Still, three limitations remain: (a) both studies assessed electronic products, (b) both studies used a student sample, and (c) further understanding is needed regarding the effect of narrative information. For example, our narratives use the lack of need as the motive for selling. It could be interesting to examine whether the effect holds under other types of motives.

4.2 Experiment 3

We conducted experiment 3 to address these limitations. First, we selected the secondhand vacuum cleaner as the context to generalize our results beyond electronic products. For example, in Amazon.com, tablets and headsets belong to the electronics department, whereas vacuum cleaners belong to the home and kitchen department. Second, we recruited participants with different types of backgrounds from
an online panel (i.e., Credamo). Third, we assessed the narrative information in two conditions: lack of need versus need for money. Our previous design used the lack of need as the motive for selling, indicating that consumers do not have a strong connection with the secondhand product (Mugge et al., 2010). To remove this potential confounding effect, we added another condition using need for money as the motive for selling. Thus, we aimed to examine whether the results still held when the motive for selling is a need for money. The results can thus provide additional insights regarding the boundary conditions of narrative information.

### 4.2.1 Pilot test

Based on product information on secondhand product platforms and the literature (Hamby et al., 2015; Lien & Chen, 2013), we developed the narrative and factual information. We recruited 104 students from a large public university in China. They were randomly divided into the lack of need narrative condition \((N = 36)\), need for money narrative condition \((N = 34)\), or the factual condition \((N = 34)\) and then asked to rate the extent of the narrative structure (Escalas, 2007). The mean from the lack of need narrative condition \((M = 5.03, SD = 1.07)\) was significantly higher than the mean from the factual condition \((M = 3.38, SD = 1.19; t = 6.10, p < 0.001)\). The mean from need for money narrative condition \((M = 4.81, SD = 1.00)\) was significantly higher than the mean from the factual condition \((M = 3.38, SD = 1.19; t = 5.36, p < 0.001)\). However, the mean from the lack of need narrative condition was not significantly different from that of need for money narrative condition \((t = 0.88, p > 0.05)\). Therefore, our manipulation was successful.

### 4.2.2 Main test

**Design and participants** We used the design of 3 (lack of need narrative, need for money narrative vs. factual information) × 2 (self-use vs. non-self-use). In total, we received 298 valid responses from Credamo; participants’ background information is shown in Table 2.

**Procedure** An email containing the brief descriptions and the link to the study was sent to individuals who might be interested in the study. Participants clicked the link, which then directed them to a page explaining the purpose of the study. They were asked to imagine that they planned to purchase a secondhand vacuum cleaner and to browse product information from a secondhand product platform. They were then randomly assigned to one of the six conditions and viewed the corresponding product information. The participants were then asked to rate the extent of the narrative structure, the reactance, the motive for selling (for those in the narrative condition), the product source (self-use vs. non-self-use), and the perceived persuasiveness.

**Results** First, we conducted manipulation checks. The \(t\)-test showed that the extent of the narrative structure was significantly higher in two narrative conditions (lack of need: \(M = 5.10, SD = 1.16\); need for money: \(M = 5.01, SD = 1.02\)) than in the
| Category                          | Percentage |
|----------------------------------|------------|
| **Gender**                       |            |
| Female                           | 52.68%     |
| Male                             | 47.32%     |
| **Age**                          |            |
| 18–20                            | 3.36%      |
| 21–25                            | 21.14%     |
| 26–30                            | 29.53%     |
| 31–35                            | 23.15%     |
| 36–40                            | 11.74%     |
| 41–45                            | 6.71%      |
| 46–50                            | 2.68%      |
| 51 or above                      | 1.68%      |
| **Education**                    |            |
| High school or below             | 9.73%      |
| Associate degree                 | 15.44%     |
| Bachelor degree                  | 66.78%     |
| Master degree                    | 8.05%      |
| **Monthly income**               |            |
| Below 4000                       | 18.12%     |
| 4000–4999                        | 12.42%     |
| 5000–5999                        | 13.42%     |
| 6000–6999                        | 13.42%     |
| 7000–7999                        | 14.09%     |
| 8000–8999                        | 11.41%     |
| 9000–9999                        | 5.37%      |
| 10000 or above                   | 11.74%     |
| **Monthly expenses**             |            |
| Below 4000                       | 58.39%     |
| 4000–4999                        | 22.82%     |
| 5000–5999                        | 6.38%      |
| 6000–6999                        | 3.02%      |
| 7000–7999                        | 4.03%      |
| 8000–8999                        | 4.03%      |
| 9000–9999                        | 0.67%      |
| 10000 or above                   | 0.67%      |
| **Condition**                    |            |
| Narrative (lack of need) × self-use | 16.11%   |
| Narrative (need for money) × self-use | 18.46%   |
| Factual information × self-use   | 15.77%     |
| Narrative (lack of need) × non-self-use | 16.78%   |
| Narrative (need for money) × non-self-use | 17.11%   |
| Factual information × non-self-use | 15.77%   |
factual condition (M = 3.55, SD = 1.43; lack of need: t = 8.26, p < 0.001; need for money: t = 8.45, p < 0.001) and that there was no significant difference between two narrative conditions (t = 0.54, p > 0.05). Furthermore, all participants could correctly identify the motive for selling (for those in the narrative condition) and the source of the product. Therefore, our manipulations were successful.

The Cronbach’s α of reactance and perceived persuasiveness was 0.91 and 0.92, respectively. Next, an ANOVA was conducted. The independent variable was the narrative structure and the product source (self-use vs. non-self-use), and the dependent variable was perceived persuasiveness. The main effect of the narrative structure was not significant (F = 0.52, p > 0.05), whereas the main effect of the product source was significant (F = 141.30, p < 0.001). Furthermore, the interaction effect was also significant (F = 26.73, p < 0.001). Post hoc analysis (Fig. 2) showed that under the self-use condition, the perceived persuasiveness of the narrative information (lack of need: M = 5.11, SD = 0.93; need for money: M = 5.19, SD = 0.97) was significantly higher than that of the factual information (M = 4.35, SD = 1.24; lack of need: t = 3.40, p < 0.001; need for money: t = 3.77, p < 0.001), supporting H1a. There was no significant difference between the two conditions of narrative information (t = 0.41, p > 0.05). However, under the non-self-use condition, the perceived persuasiveness of the factual information (M = 4.18, SD = 0.97) was significantly higher than that of the narrative information (lack of need: M = 3.13, SD = 0.88; need for money: M = 3.20, SD = 0.98; lack of need: t = 5.64, p < 0.001; need for money: t = 4.99, p < 0.001), supporting H1b. There was no significant difference between the two conditions of narrative information (t = 0.41, p > 0.05). Overall, these results are consistent with experiment 1, and there are no significant differences between the two conditions of narrative information.

Mediation Under the self-use condition, reactance of the narrative information (lack of need: M = 3.26, SD = 0.99; need for money: M = 3.19, SD = 1.06) was significantly lower than that of the factual information (M = 4.18, SD = 1.23; lack of

**Fig. 2** The effect of narrative versus factual information (experiment 3)
need: \( t = 3.98, p < 0.001 \); need for money: \( t = 4.35, p < 0.001 \). There was no significant difference between the two conditions of narrative information (\( t = 0.37, p > .05 \)). However, under the non-self-use condition, reactance of the factual information (\( M = 4.31, SD = 1.10 \)) was significantly lower than that of the narrative information (lack of need: \( M = 5.08, SD = 0.92 \); need for money: \( M = 5.12, SD = 0.71 \); lack of need: \( t = 3.74, p < 0.001 \); need for money: \( t = 4.38, p < 0.001 \)). There was no significant difference between the two conditions of narrative information (\( t = 0.27, p > .05 \)).

A mediation analysis was conducted to examine whether reactance mediates the relationship between the narrative structure and perceived persuasiveness. Under the self-use condition, when conditions including lack of need narrative information and factual information are evaluated, reactance has a significant indirect effect (0.21, 95% CI [0.05, 0.43]). When conditions including need for money narrative information and factual information are evaluated, reactance has a significant indirect effect (0.21, 95% CI [0.04, 0.44]). Similarly, under the non-self-use condition, when conditions including lack of need narrative information and factual information are evaluated, reactance has a significant indirect effect (−0.18, 95% CI [−0.35, −0.05]). When conditions including need for money narrative information and factual information are evaluated, reactance has a significant indirect effect (−0.17, 95% CI [−0.34, −0.03]). These results again confirm the mediating effect of reactance.

5 Discussion

This study aimed to examine the effect of information presentation on information persuasiveness in online secondhand shopping. We focused on the effect of narrative information and conducted three experiments; the results of which show that narrative information leads to higher perceived persuasiveness under specific conditions (i.e., certain product sources).

5.1 Theoretical implications

Our study contributes to the literature by clarifying the theoretical mechanism behind the effect of narrative information. Specifically, our study extends the TIM (Green & Brock, 2000) to the context of online secondhand shopping and explains how narrative information can result in transportation and thus reduce consumers’ reactance toward product information, which in turn, affects perceived persuasiveness. Therefore, our study complements the literature (Kim et al., 2021) by examining an additional mechanism (i.e., reactance) through which narrative information facilitates online secondhand shopping.

Second, our study also contributes to the literature on narrative information (Moyer-Gusé & Nabi, 2010) by articulating its boundary conditions. We found that narrative information increases perceived persuasiveness for self-use products and decreases perceived persuasiveness for non-self-use products. Furthermore, the
literature has shown that narrative information decreases reactance (Moyer-Gusé & Nabi, 2010), whereas our study shows that narrative information can increase reactance in certain contexts (i.e., non-self-use). Moreover, the effects of narrative information have no significant differences under different conditions (i.e., lack of need vs. need for money). These results provide a deeper understanding regarding the effect of narrative information.

The literature has examined the role of narrative information in the context of repurposed products (Kamleitner et al., 2019). Recent literature has shown that narrative information also plays an important role in the context of online secondhand shopping (Kim et al., 2021). Our study is consistent with the recent literature (Kim et al., 2021) and shows that narrative information can indeed facilitate online secondhand shopping by enhancing consumers’ persuasiveness perceptions.

Overall, our study explains how narrative information can be used to present secondhand products’ history and usage outcomes in e-commerce. Our study is important for furthering our understanding of narrative information in the context of online secondhand shopping and for advancing theory development and testing (Bacharach, 1989).

5.2 Practical implications

Our study also has important practical implications. For individual sellers, because they have used secondhand products themselves, it is more appropriate to present product information with a narrative structure to enhance customers’ persuasiveness. According to our results, providing narrative information for self-use products can reduce consumers’ reactance toward product information, which in turn, influences their perceived persuasiveness. For resale companies, because secondhand products are not from self-use, it is more suitable to present product information in a factual structure to increase customers’ perceived persuasiveness. For consumers, our study highlights important aspects of product information that they need to pay attention to while online secondhand shopping. Although narrative information is more enjoyable to read, consumers need to be cautious when secondhand products are not from a self-use source.

5.3 Limitations and opportunities for future studies

Our study also has several limitations. First, although our three experiments examine different types of secondhand products, future studies are needed to test our hypotheses with more types of secondhand products. Second, although our experiments used different samples and the results were consistent, future studies are needed to recruit participants from other backgrounds (e.g., from other cultures) and check whether the results still hold.
Future studies can extend our study in several ways. For example, Moyer-Gusé and Nabi (2010) indicated that narrative information could have different effects, such as identification, perceived similarity, and parasocial interaction. Future studies can thus examine the differential effects of narrative information and how they influence perceived persuasiveness. It is possible that there are different mechanisms mediating the effect of narrative information on perceived persuasiveness. Future studies can also examine the effect of other types of product information, such as information concreteness or abstractness (Krishnan et al., 2006).

Appendix 1. Experiment designs

Experiment 1

Imagine that you want to buy a second-hand tablet. You find that a second-hand tablet is being sold on a second-hand shopping application. The information about the product is as follows:

[Narrative information + Self-use] My tablet of Brand A used by myself, 6G RAM, 128G ROM. I bought it for taking notes and watching videos. I use it carefully. It is still 90% new, and there are no scratches on the screen or the back cover. I’m very busy, and don’t use it much, so the battery is in good condition without any decay. Also has the original charger. I got a new one, so I want to sell it.

[Narrative information + Non-self-use] The tablet of Brand A recently refurbished, 6G RAM, 128G ROM. The previous owner bought it for taking notes and watching videos. The previous owner used it carefully. It is still 90% new, and there are no scratches on the screen or the back cover. The previous owner was very busy, and didn’t use it much, so the battery is in good condition without any decay. Also has the original charger. The previous owner got a new one, so sold it.

[Factual information + Self-use] My tablet of Brand A used by myself, 6G RAM, 128G ROM. Mostly used for taking notes and watching videos. Pretty good appearance, still 90% new. The screen and the back cover are excellent, without any scratches, abrasion, or paint-flaking. Relatively low usage frequency. The battery is in good condition without any decay. The original charger is available.

[Factor information + Non-self-use] The tablet of Brand A recently refurbished, 6G RAM, 128G ROM. Mostly used for taking notes and watching videos. Pretty good appearance, still 90% new. The screen and the back cover are excellent, without any scratches, abrasion, or paint-flaking. Relatively low usage frequency. The battery is in good condition without any decay. The original charger is available.
Experiment 2

Imagine that you want to buy a second-hand headset. You find that a second-hand headset is being sold on a second-hand shopping application. The information about the product is as follows:

[Narrative information + Self-use] My headset of Brand A used by myself. I bought this headset for its lovely design, and usually stored it in its storage box, so it is still 90% new. I’m very busy and did not use it much. So the ear cups have no scratches, and the headband is also in good condition. I don’t need it anymore so want to sell it.

[Narrative information + Non-self-use] The headset of Brand A recently refurnished. The previous owner bought this headset for its lovely design, and usually stored it in its storage box, so it is still 90% new. The previous owner was very busy and did not use it much. So the ear cups have no scratches, and the headband is also in good condition. The previous owner doesn’t need it anymore so wants to sell it.

[Factual information + Self-use] My headset of Brand A used by myself. Lovely product design, fashionable. Usually stored it in a storage box. Pretty good appearance, and the whole headset is still 90% new. Relatively low usage frequency. Clean ear cups without any scratches. The headband is also in good condition.

[Factual information + Non-self-use] The headset of Brand A recently refurnished. Lovely product design, fashionable. Usually stored it in a storage box. Pretty good appearance, and the whole headset is still 90% new. Relatively low usage frequency. Clean ear cups without any scratches. The headband is also in good condition.
Experiment 3

Imagine that you want to buy a second-hand vacuum cleaner. You find that a second-hand vacuum cleaner is being sold on a second-hand shopping application. The information about the product is as follows:

[Narrative information (lack of need) + Self-use]

We moved into our new house last year, and bought Brand A vacuum cleaner for cleaning. This vacuum cleaner is quite powerful, and its battery can last for about 60 min. After using it several times, we still prefer to use traditional mops for cleaning. There are some stains on the brush head and the dust box, while the body does not have scratches. I now want to sell it since it is seldomly used.

[Narrative information (lack of need) + Non-self-use]

The vacuum cleaner of Brand A recently refurbished. The previous owners bought it after moving into the new house. This vacuum cleaner is quite powerful, and its battery can last for about 60 min. After using it several times, the previous owner still preferred to use traditional mops for cleaning. There are some stains on the brush head and the dust box, while the body does not have scratches. The previous owner sold it since it was seldomly used.

[Narrative information (need for money) + Self-use]

We moved into our new house last year, and bought Brand A vacuum cleaner for cleaning. This vacuum cleaner is quite powerful, and its battery can last for about 60 min. After using it several times, we still prefer to use traditional mops
for cleaning. There are some stains on the brush head and the dust box, while the body does not have scratches. I need some money recently, so I want to sell it.

[Narrative information (need for money) + Non-self-use]

The vacuum cleaner of Brand A recently refurbished. The previous owners bought it after moving into the new house. This vacuum cleaner is quite powerful, and its battery can last for about 60 min. After using it several times, the previous owner still preferred to use traditional mops for cleaning. There are some stains on the brush head and the dust box, while the body does not have scratches. The previous owner needed some money recently, so sold it.

[Factual information + Self-use]

The vacuum cleaner of Brand A used by myself. Simple to use and convenient for cleaning. A quite powerful vacuum cleaner to quickly clean the ground. Long battery endurance, and can be continuously used for about 60 min after being fully charged. Only limited use since it's being bought, still in good appearance. Only some stains on the brush head and the dust box, while no scratches on the cleaner body.

[Factor information + Non-self-use]

The vacuum cleaner of Brand A recently refurbished. Simple to use and convenient for cleaning. A quite powerful vacuum cleaner to quickly clean the ground. Long battery endurance, and can be continuously used for about 60 min after being fully charged. Only limited use since it's being bought, still in good appearance. Only some stains on the brush head and the dust box, while no scratches on the cleaner body.
Appendix 2. Measures

Perceived persuasiveness (Zhang et al., 2010)

The information about the second-hand product was:

- persuasive (1) … not persuasive (7).
- convincing (1) … unconvincing (7).
- important to me (1) … not important to me (7)
- helpful (1) … not helpful (7).

Reactance (Ma et al., 2019; Moyer-Gusé & Nabi, 2010)

The information about the second-hand product tried to:

- pressure me to think a certain way about the product.
- force a certain opinion on me about the product.
- manipulate me to form a certain view of the product.

Appendix 3. Experiment 2

Pilot test

A second-hand headset was chosen as the context. Based on product information on second-hand product platforms and the literature (Hamby et al., 2015; Lien & Chen, 2013), we developed the following narrative information: “The headset of Brand A. I bought this headset for its lovely design, and usually stored it in its storage box, so it is still 90% new. I’m very busy and did not use it much. So the ear cups have no scratches, and the headband is also in good condition. I don’t need it anymore so want to sell it.” The factual information was: “The headset of Brand A. Lovely product design, fashionable. Usually stored it in a storage box. Pretty good appearance, and the whole headset is still 90% new. Relatively low usage frequency. Clean ear cups without any scratches. The headband is also in good condition.”

We recruited 55 students from a large public university in China. They were randomly divided into the narrative condition (N=27) or the factual condition (N=28), and then were asked to rate the extent of the narrative structure. The mean from the narrative condition (M: 4.80, SD: 90) was significantly higher than the mean from the factual condition (M: 3.13, SD: 90) (t = 6.88, p < 0.001). Therefore, our manipulation was successful.
Main study

Design and participants We created four types of product information in a 2 (narrative versus factual information)×2 (self-use versus non-self-use) design. We recruited 137 students from a large public university in China. Participants’ ages ranged between 19 and 22; 54.74% were women.

Procedure Participants completed the study online. After clicking the study link, they were then directed to a page explaining the purpose of the study. They were then asked to imagine that they planned to purchase a second-hand headset and browsed product information from a second-hand platform. They were then randomly assigned to one of the four conditions and viewed the corresponding product information. The participants were then asked to rate the extent of the narrative structure, the product source (self-use versus non-self-use), and the perceived persuasiveness.

Results We first conducted manipulation checks. The results of a t-test showed that the extent of the narrative structure was significantly higher in the narrative condition (M: 4.79, SD: 0.88) than in the factual condition (M: 3.10, SD = 71) (t = 12.38, p < 0.001). Furthermore, all participants could correctly identify the source of the product. Therefore, our manipulations were successful.

Cronbach’s α of perceived persuasiveness was 0.82. Next, an ANOVA was conducted. The independent variable was the narrative structure and the product source (self-use versus non-self-use). The dependent variable was perceived persuasiveness. The main effect of the narrative structure was not significant (F = 0.05, p > 0.05), while the main effect of the product source was significant (F = 30.99, p < 0.001). Further, the interaction effect was also significant (F = 25.52, p < 0.001). Post hoc analysis (Fig. 3) showed that, under the self-use condition, the perceived persuasiveness of the narrative information (M: 4.74, SD: 0.99) was significantly higher than that of the factual information (M: 3.83, SD: 1.00) (t = 3.78, p < 0.001) (H1a is supported). However, under the non-self-use condition, the perceived persuasiveness of the factual information (M: 3.76, SD: 0.99) was significantly higher than that of the narrative information (M: 2.94, SD: 0.93) (t = 3.52, p < 0.01) (H1b is supported).
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**Declarations**

**Ethical approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

**Conflict of interest** The authors declare no competing interests.

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