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Determinants of Consumer Purchase Intention towards Recycled Paper Products in China: A Conceptual Analysis

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Abstract
Recycled paper products rise globally due to the potential environmental and economic benefits, especially in the Chinese market. However, despite the extensive use of recycled cardboard and packaging cartons by enterprises, the penetration rate of individual consumers to buy any recycled paper products is relatively low. Moreover, the upgrading of the paper industry is considered a crucial environmentally sustainable manufacturing process in the 21st century, and recycled paper is the best alternative. However, only the consumers willing to pay and continue to create more demand can signal manufacturers and investors that recycled paper demand and economy are feasible. Several past studies have been conducted to determine the influencing factors of Chinese consumers buying various sustainable products; nevertheless, there is no focus on recycled paper products. It is crucial to gain insight into the drivers of recycled paper purchase intention for its sustainable label, but there is a lack of relevant research. Therefore, using the Theory of Planned Behavior as the foundation, this conceptual paper investigated factors affecting recycled paper purchase intention, including attitude, subjective norms, perceived behavior control, and price sensitivity. Furthermore, this study reviews the relevant literature on sustainable consumption in the past and finally proposes a future research framework.

Keywords: Recycled Paper Purchase Intention, Attitude, Subjective Norms, Perceived Behavior Control, Price Sensitivity

Introduction
The industrial revolution has unprecedentedly enhanced the ability of human beings to transform nature, and people’s consumption demand has increased significantly (Hu, 2019). Due to the expanding consumption desire, large-scale and unsustainable production modes caused the rapid drained of natural resources and severe destruction to the ecology. Evidence shows that about 40% of ecological devastation is directly caused by personal consumption. Accordingly, all nationalities are aware of the environmental survival crisis, and the upsurge of sustainable consumerism has sprung up worldwide. Over the past 20 years, rapid economic development in China has also brought severe resource shortages and environmental pollution. An authoritative report showed that China’s Environmental Performance Index (EPI) is relatively low, and its air quality index even ranks fourth from the bottom globally.
Therefore, it is particularly urgent to advocate sustainable consumption in the Chinese context.

Recycled product is considered a typical type of sustainable product. Its recycling process can reduce resource use, benefit from saving energy, and decrease waste emissions (Zhang et al., 2019). Recently, the recycled product attracted the attention of theoretical researchers and practitioners due to its remarkable economic and ecological effects (Chen & Taylor, 2020; Giannetti et al., 2019; Pelli & Lahtinen, 2020). According to Bigliardi et al. (2020), recycled products include many kinds, such as recycled paper, textile, plastics, metals, rubber, and electronic products. Among them, recycled papers are widely used daily, such as recycled wrapping papers, shopping bags, recycled toilet papers, recycled printing and writing papers, postcards, etc. It is the most common and widely used category (Chakraborty, 2015). In short, recycled paper use is essential for advocating residents' sustainable consumption.

So far, there is no clear definition of recycled paper (Abdollahbeigi, 2021). However, most scholars agree that recycled paper contains a certain proportion of post-consumer content (30% - 100% of post-consumer waste), different from virgin paper without adding any recycled materials (Chakraborty, 2015). On the one hand, recycled paper takes recycled waste pulp as the primary material, which significantly saves the cost of cutting trees. On the other hand, it has significant environmental benefits compared with virgin paper in manufacturing because it requires less energy and fewer pollution emissions (Abdollahbeigi, 2021). Therefore, promoting recycled paper is a beneficial path to earth (Shahcheragh, 2021).

However, the current situation of recycled paper consumption is not optimistic in the Chinese context. According to the Environmental Paper Network, China is the largest nation manufacturing and consuming paper products. Unfortunately, the purchase proportion of individual consumers is relatively low, and there is even a huge gap compared with developed countries. According to China Paper Association, the proportion of recycled paper in Japan has reached 70%, while the application rate of recycled office paper in the United States approaches 98%. On the contrary, consumers seldom buy except for small-scale centralized government procurement in China.

Furthermore, the government and administrative departments have promoted it from the policy perspective; while manufacturers optimized their products simultaneously, consumers are still not enthusiastic. However, consumers' willingness to accept recycled products is at the core of a sustainable economic model (Blose et al., 2019). In addition, Hickel (2019) pointed out that the buyers can continue to have a significant effect on protecting the environment and climate by creating demand for recycled papers. Their willingness will encourage market forces to collect more forms and signal manufacturers and investors that the demand for recycled paper is feasible and economical. Therefore, it should be seriously considered how to guide individuals to buy recycled paper products.

Moreover, through the existing literature review, it is presented that some categories of recycled products, such as recycled fashion products, recycled ocean plastic products, and refurbished smartphones (Magnier et al., 2019; Park & Lin, 2020; Phantratanamongkol et al., 2018), have won the interest of researchers, but few scholars have discussed the recycled paper. Even if several related studies exist, they mainly focus on the manufacturing process but ignore the consumer perspective (Balea et al., 2019; Han et al., 2021). Zhang and Dong (2020) reviewed 97 sustainable consumption literature published in the past five years, further pointed out the lack of research on recycled paper consumption, and suggested that future researchers pay attention to this category of sustainable products to promote market sales.
Therefore, Using the Theory of Planned Behavior as the underpinning theory, this conceptual research provides an overview of the factors affecting recycled paper purchase intention by Chinese consumers. The attitude, subjective norms, perceived behavior control as directors, and price sensitivity as moderate are selected to analyze and further explain the influence mechanism of recycled paper purchase intention. Finally, this paper suggests an empirical study to explore how these variables play a crucial role in influencing consumers’ choice to buy recycled papers.

Literature Review

Theory of Planned Behavior (TPB)

This conceptual research conducts an investigation based on the Theory of Planned Behavior (TPB). According to Ajzen (1991), the intention seemed like the optimal predictor of behavior. In this view, individuals are considered to rationally evaluate the valuable information obtained and predict the consequences of the behavior before making a decision. In addition, TPB is the most used theory in sustainable consumption and has been adopted by many researchers as the underpinning theory (Marvi et al., 2020).

Furthermore, TPB is developed from the Theory of Reasoned Action (TRA). Ajzen and Fishbein (1975) believed that attitude and subjective norms determine the willingness to act. Attitude is regarded as an evaluation of behavior, reflecting the approval or opposition degree. Personal criteria refer to the social pressure an individual feels from those others who are very meaningful to them. The TRA model was initially developed and focused on predicting behavioral intention to take reasonable actions in daily life, such as using contraceptives. Moreover, TRA was later used to predict behavioral preferences in marketing and consumer behavior and proved highly predictable (Asih et al., 2020; Zhao et al., 2019).

However, TRA claimed that behavioral decision-making is only controlled by volition; it ignored the necessity of specific opportunities and resources (Marvi et al., 2020). In one case, some consumers are favorable to a sustainable product but abandon it due to financial constraints or lack of availability. Therefore, TRA has been doubted. Accordingly, TPB improved TRA and added the non-volitional factor named perceived behavior control, which significantly improved the predictability of the theory. Perceived behavior control provides the constraint information such as money, time, and technology perceived by consumers. It is argued that if individual behavior cannot be entirely controlled by volition, perceived behavior control rises to the most critical factor (Xu et al., 2020). Thus, TPB contains those three variables above to predict intention.

Additionally, much of past literature on recycled products consumption chose TPB as the theoretical support by directly adopting the original model or conducting an extension or modification (Chaturvedi et al., 2020; Gaur et al., 2018; Khor & Hazen, 2017; Ko & Jin, 2017; Sheoran & Kumar, 2020a; Wang et al., 2018; Zheng et al., 2021). For this research, price sensitivity is added to the classical TPB model to expand it, then first applied to investigate consumers’ intention to buy recycled papers in the Chinese context. Therefore, the current research includes the following variables: attitude, subjective norms, perceived behavior control as independent variables, and price sensitivity as the moderate variable.

Attitude

Attitude reflects how individuals assess whether a particular behavior is favorable or unfavorable (Ajzen, 1991). Accordingly, in predicting the purchase intention of recycled paper, attitude is regarded as an evaluation of the recycled paper purchase behavior. In
addition, attitude is seen as a psychological emotion generated by consumers' perception of purchasing. Therefore, attitude is deemed the essential predictor of behavioral intention and the most discussed variable in sustainable consumption (Sharma & Foropon, 2019).

In addition, attitude is considered to directly affect consumers' confidence in purchasing sustainable products (Cheung & To, 2019). When individuals are concerned about environmental issues and the ecological benefits of a particular product, they may express a positive attitude towards purchasing behavior, which will prompt them to replace unsustainable products with sustainable ones (Oncioiu et al., 2021). Similarly, Ha and Kwon (2016) also pointed out that a positive environmental attitude will stimulate consumers to participate in sustainable consumption, especially by purchasing recycled products. On the contrary, a negative attitude is the most critical factor hindering consumers from practicing sustainable consumption (Sheoran & Kumar, 2020b). Moreover, Zhang and Dong (2020b) claim that different degrees of attitude and expectation will significantly differ in purchase intention. Specifically, the more positive attitude toward purchasing, the stronger one’s purchase intention to the sustainable products (Laureti & Benedetti, 2018).

Similarly, although recycled paper benefits the environment, many people still choose virgin paper products, mainly due to their negative attitude. It is confirmed that consumers generally have skeptical and negative emotions about recycled products due to the "second-hand products" (Wang & Hazen, 2016). Furthermore, these are considered quality risks, and the utility is often lower than the original products (Wang et al., 2013). In fact, there exists no significant distinction in quality and use perception between recycled papers and virgin ones, while people show resistance because they are biased. In addition, Chinese consumers are considered to pursue the extreme whiteness of the document. They are unwilling to accept the recycled paper for its darker and yellower color, although there only aesthetically different.

Subjective Norms

Subjective norms are regarded as feelings of social pressure from essential others, which in some way have a crucial impact on individual behavior (Ajzen, 1991). Specifically, subjective norms capture the psychological feelings of consumers, which believe the importance of others will affect whether they should conduct a specific behavior. Furthermore, these essential others include not only parents, relatives, peers, and business partners in real life but also celebrities and netizens on social networks (Seemiller & Grace, 2018). Lee (2008) pointed out that subjective norms may have a high effect on sustainable consumption because the social impact, environmental concerns, self-image, and consumers' perceived responsibility will affect their decisions. On the contrary, harmful subjective norms are considered the critical factor hindering consumers' purchase intention (Sheoran & Kumar, 2020b).

Furthermore, subjective norms are considered positively correlated with collectivism (Halder et al., 2020). In collectivist countries like China, social norms determine more sustainable purchasing. It is addressed that Chinese people are socially oriented, and social expectations often influence their behavior because they are worried about external criticism and social rejection (Jung et al., 2020). They also stressed that Chinese people are always eager to make a good impression on others and worry about adverse evaluation, so they only take actions in line with social norms. Cheng et al (2016) even claimed that in a collective-oriented country like China, subjective norms have a more significant impact on people's
decisions than individual attitudes. Therefore, the impact of subjective norms cannot be ignored in discussing recycled paper purchasing in the context of China.

However, a few studies believed that the relationship between subjective norms and purchase intention is insignificant (Asih et al., 2020; Kumar et al., 2017). Even in collectivist countries, social norms have no significant impact on consumers' choice of sustainable production (Lin & Huang, 2012). Liobikiene and Bernatoniene (2017) further pointed out that this disagreement may occur when individuals believe that sustainable consumption will not increase social recognition or make a good impression.

Perceived Behavioral Control

Perceived behavior control is regarded as the perceived difficulty in performing a specific behavior (Ajzen, 1991). It is argued that some external factors can not be controlled when purchasing sustainable products, such as time, price, knowledge, and skills (Paul et al., 2016). Therefore, perceived behavior control is essential for sustainable purchase intention (Kumar & Mohan, 2021). Furthermore, regarding having more resources and opportunities or having less perception of obstacles in the purchasing process, consumers may own a more powerful controlling perception and a stronger willingness to buy sustainable products (Wang et al., 2018).

The effect of perceived behavior control on sustainable purchase intention has been supported by many pieces of literature (Kumar & Mohan, 2021; Maichum et al., 2016; Paul et al., 2016; Xu et al., 2020). For example, an early study found that lack of time and availability is a significant obstacle for university students in Europe, North America, and Australia to practice a sustainable diet (Ede et al., 2011). Sheoran and Kumar (2020a) pointed out that inconvenience and unavailability are the most common barriers to sustainable consumption.

In a survey on Chinese consumers' willingness to buy green furniture, Cheung and To (2019) found that the impact of attitude on sustainable furniture purchase is not significant, while perceived behavior control has the most significant positive effect. Their findings can be attributed to the fact that consumers sometimes cannot make choices entirely according to their preferences due to the constraint of time, availability, or several other factors (Carfora et al., 2019). Joshi and Rahman (2015) further argued that although little evidence exists about the positive impact of perceived behavior control, thus still limited and requires more empirical research.

Price Sensitivity as Mediator

Price sensitivity is regarded as the psychological reaction of consumers to the price change of a specific product or the price discrepancy among different products (Stall-Meadows & Davey, 2013). In terms of sustainable consumption, consumers' price sensitivity is usually a crucial indicator affecting purchase decisions because sustainable products are generally higher than traditional products (Rahayu et al., 2017), and high prices are considered an obstacle (Sawitri & Rahanatha, 2019). Accordingly, although recycled paper uses waste materials, it has higher requirements for equipment and production processes, which increases the cost to a certain extent. Thus, the selling price of recycled paper is often higher than that of virgin paper, which is considered the main reason for hindering.

As a direct or indirect factor, price sensitivity has been supported in various sustainable products (Ferreira, 2018; Hartono et al., 2020; Hsu et al., 2017; Sheoran & Kumar, 2020a; Zinoubi, 2020). Moreover, it is valuable to explore its moderate effect. Several pieces of literature have tested the direct and indirect influence of price sensitivity on sustainable
purchasing, but limited studies tested its moderate impact (Ghali-Zinoubi & Toukabri, 2019). Dagger and David (2012) argued that adding moderate variables may increase a more accurate interpretation of the relationship between the facts. Accordingly, this conceptual study adds price sensitivity to the original TPB model. According to Ferreira (2018), for sensitive consumers who mind the pay cost, even if having a positive attitude towards a specific sustainable product, once the price exceeds expectations, it will reduce their intention to buy. Erdil (2018) also confirmed this statement and further pointed out that individuals with higher price sensitivity than the average always reluctantly purchase sustainable products, even if he/she has concern for the environment but will eventually choose traditional products.

**Purchase Intention**

Purchase intention is the subjective tendency of individuals to choose a particular product (Wang et al., 2013). Moreover, it is regarded as a good predictor of behavior in various situations. Dezdar (2017) found that purchase intention significantly impacts actual purchase behavior, even as the representative of actual behavior. In sustainable consumption, purchase intention is also a significant explanatory variable of sustainable purchase behavior (Ajzen, 1991). Therefore, investigating the purchase intention of recycled paper benefits analyzing the actual purchase behavior. Furthermore, sustainable purchase intention is regarded as the possibility of individuals giving priority to the product with pro-environmental performance rather than the traditional product. Thus, the purchase intention of recycled paper is the possibility that consumers choose paper products with wastepaper content instead of virgin paper.

Recycled paper is considered a sustainable product (Zhang & Dong, 2020). Accordingly, Past literature has identified several factors affecting sustainable purchase intention, such as attitude (Singhal et al., 2019; Sreen et al., 2018), environmental concern (Goh & Balaji, 2016; Kim & Choi, 2005), subjective norms (Park & Lin, 2020; Singhal et al., 2019), perceived environmental responsibility (Mukhtar et al., 2017; Yue et al., 2020), perceived behavior control (Gaur et al., 2018; Khor & Hazen, 2017), perceived consumer effectiveness (Jaiswal & Kant, 2018), and price sensitivity (Liebikienë et al., 2017; Sawitri & Rahanatha, 2019). Therefore, this paper adopts the attitude, subjective norms, and perceived behavior control as independent factors and price sensitivity as a moderate to explore the determinants of recycled paper purchase intention.

**Proposed Framework**

Based on the discussion above, previous literature shows that attitudes, subjective norms, and perceived behavior control affect consumers’ purchase intention of sustainable products. Using TPB as the underpinning theory, this research establishes the link between these three classical variables and recycled paper purchase intention by adding the price sensitivity as a moderate.
perceived behavior control is another factor positively correlated with sustainable purchase intention. When individuals have more resources and opportunities to buy a commodity, their perceived behavior control will be more robust, and they may desire to purchase sustainable products (Prakash Yadav & Rai, 2017). Moreover, price is the crucial factor affecting consumers’ purchase decisions and has been proved to be an effective moderator (Hsu et al., 2017).

Accordingly, this paper proposes a theoretical framework to investigate the impacts of attitude, subjective norms, and perceived behavior control on recycled paper purchase intention, further discussing the moderate effect of price sensitivity (Figure 1).

Figure 1: Proposed Conceptual Framework

Conclusion and Future Research Direction

Based on the above-mentioned literature review, the following propositions are proposed to examine Chinese consumers' intentions to purchase recycled paper through the perspective of the Theory of Planned Behavior. As such, the following propositions to be tested, as illustrated in Table 1.

Table 1

Propositions to be tested

<table>
<thead>
<tr>
<th>Proposition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>There is a positive relationship between attitude and purchase intention.</td>
</tr>
<tr>
<td>P2</td>
<td>There is a positive relationship between subjective norms and purchase intention.</td>
</tr>
<tr>
<td>P3</td>
<td>There is a positive relationship between perceived behavior control and purchase intention.</td>
</tr>
<tr>
<td>P4</td>
<td>Price sensitivity has a negative moderate effect on the relationship between attitude, subjective norms, perceived behavior control and purchase intention.</td>
</tr>
</tbody>
</table>
From a theoretical standpoint, the findings will represent the first attempt to discuss the factors influencing consumer intention to purchase recycled papers in the Chinese context, and may shed light on the factors influencing Chinese consumers’ recycled paper purchase intention. In particular, the empirical evidence will contribute to the body of knowledge by employing the extended TPB theory to investigate the understudied drivers of purchase intention, including the moderate effect of price sensitivity. In addition, it proposed the necessity of future empirical research into the factors of recycled paper purchase intention. Thus, the researcher suggested using quantitative analysis to collect primary data and questionnaires to validate the influential factors.

From a practical perspective, researchers, manufacturers of recycled paper, and retailers can benefit from understanding how consumers purchase recycled papers. The purchase of recycled paper is gaining increasing interest among Chinese consumers. In addition, the urgent need for environmental improvement has caused the purchase of recycled paper to become widespread. In addition, further empirical research will benefit officials, policymakers in the recycled paper industry, and environmental organisations.

References


