



## Full Length Article

# Interplay of network information dissemination in the era of big data on environmental sustainable development and agricultural consumers' purchase decisions

Xinjia Yang<sup>\*</sup>, Zhaoji Yu

School of Management, Shenyang University of Technology, Shenyang 110870, China

## ARTICLE INFO

## Keywords:

NID  
Trusts in information sources  
Agriculture products  
Consumer purchased decisions  
Environmental sustainable development

## ABSTRACT

The rapid progress of technology has led to a proliferation of information sources and distribution channels, facilitating the dissemination of knowledge on environmental sustainability and agricultural practices to consumers. However, the intricate impact of Network Information Dissemination (NID) on environmental sustainability and consumer purchasing decisions in agriculture remains a complex area of study. This research aims to explore the interconnections between network information dissemination, environmental sustainability, agricultural consumer purchase decisions, and the mediating role of information overload and trust in information sources. Additionally, it investigates the moderating impact of information accessibility. Employing a quantitative research design, data is collected through an online survey targeted at Chinese consumers, with 400 responses being evaluated using SmartPLS. The findings reveal that network information distribution significantly and positively influences both environmental sustainability and agricultural consumer purchasing decisions. Moreover, the study identifies that information overload and trust in information sources act as moderators in the relationship between network information diffusion and agricultural consumer purchasing decisions. Additionally, the research indicates that information accessibility moderates the relationship between network information distribution and environmental sustainability. Specifically, when information accessibility is high, the relationship is more pronounced compared to situations where accessibility is low. This underscores the importance of information accessibility in achieving environmental sustainability through network information transmission.

## 1. Introduction

The explosion of information sources and distribution platforms in recent years has transformed how consumers acquire information about environmental sustainability and agricultural practices (Zhu et al., 2021). Consumers can now readily and rapidly obtain information from a range of sources, including social media, websites, and mobile applications, thanks to the availability of network information dissemination (Indu and Thampi, 2021). The impact of network information transmission on environmental sustainability and agriculture consumer purchasing decisions, on the other hand, is a complex problem that deserves further exploration. The relationship between network information transmission, environmental sustainability, and agriculture consumer purchasing decisions is complex and influenced by a variety of factors. The mediating role of information overload and trust in

information sources is one of the important elements that can influence this relationship (Hooda et al., 2022; Manoko et al., 2020). While network information distribution has the ability to supply consumers with a wealth of knowledge, too much information can lead to information overload, which can harm consumers' decision-making processes. Furthermore, consumers' views and behaviors regarding environmental sustainability and agricultural practices might be influenced by their faith in information sources (Caffaro et al., 2020). Despite increased interest in the impact of network information dissemination on environmental sustainability and agricultural consumer behavior, there is still a gap in the literature regarding the mediating and regulating mechanisms that underpin this relationship. Previous research has looked at the impact of network information dissemination on environmental awareness and behavior (Tzima et al., 2020), but few have looked at the mediating role of information overload and trust in

<sup>\*</sup> Corresponding author.

E-mail address: [xinjia\\_yang@sina.com](mailto:xinjia_yang@sina.com) (X. Yang).

information sources, as well as the moderating role of information accessibility. While some research have looked at the effects of information overload on consumer behavior (Manoko et al., 2020), few have looked at the role of information overload in mediating the relationship between network information distribution and agricultural consumer buying decisions. Similarly, while confidence in information sources has been shown to influence consumer behavior in a variety of sectors (Krishna, 2021), its significance as a mediator in the interaction between network information distribution and agriculture consumer purchase choice remains largely unexplored. Furthermore, while some research have looked at the influence of information accessibility on environmental behavior (Ledderer et al., 2020), few have looked at its moderating function in the interaction between network information distribution and environmental sustainability (Avotra and Nawaz, 2023; Nawaz et al., 2021). Given the significance of information accessibility in supporting sustainable behavior, it is critical to comprehend how it mitigates the impact of network information distribution on environmental sustainability development. As a result, the purpose of this study is to fill a gap in the literature by investigating the mediating role of information overload and trust in information sources, as well as the moderating role of information accessibility, in the relationship between network information dissemination, environmental sustainability, and agricultural consumer purchase decision. The study will help policymakers, marketers, and environmental organizations better understand the factors that influence consumers' attitudes and behaviors toward environmental sustainability and agricultural practices, as well as provide insights for policymakers, marketers, and environmental organizations on how to effectively promote sustainable behavior among consumers. This work makes various contributions and has several ramifications. To begin, this research fills a gap in the literature by investigating the underlying mechanisms of the relationship between network information propagation and agricultural consumer purchasing decisions. The study specifically looks at the roles of information overload and trust in information sources as mediators, as well as information accessibility as a moderator, in this relationship (Flórez-Aristizábal et al., 2019). Previous research has primarily focused on the direct influence of network information transmission on customer behavior, hence this study fills a vacuum in the literature. Second, the study provides politicians, marketers, and environmental organizations with information about how to effectively encourage sustainable behavior among consumers (Amasawa et al., 2023). This study adds significantly to the current body of knowledge by investigating the interactions between the Networked Information Economy (NID), big data, environmental sustainability, and agricultural customers' purchasing decisions. It adds to our knowledge of how NID influences agricultural practices, revealing the revolutionary effects of information-driven economy on conventional farming approaches. Furthermore, the study dives into the significance of big data in agricultural decision-making, contributing to the sector's expanding debate on data-driven practices. The investigation of the deep linkages between NID, big data, and consumer behavior gives significant insights into the variables affecting agricultural customers' buying decisions, particularly in the light of technology improvements and sustainability concerns. The study adds a practical dimension to its results by doing empirical research on customer preferences. Finally, assessing the environmental implications of agricultural technology adoption provides critical information for directing sustainable development initiatives.

## 2. Literature review

### 2.1. Network information dissemination and environmentally sustainable development

In recent years, there has been a rise in awareness regarding the impact that the sharing of knowledge via networks can have on ecologically friendly growth. The conveyance of information and

knowledge across a variety of online and offline channels, such as social media, news outlets, and educational programs, is what is meant by the word "network information dissemination," which is a concept that was coined by Cisco. It is possible for the transmission of this information to result in an improved awareness of environmental issues, changes in attitudes and actions towards the environment, and eventually, the promotion of environmentally sustainable development (Ghebleh, 2018). The influence of network information transmission on environmental awareness and behavior in China was the subject of research conducted by (De Guimarães et al., 2023). According to the findings of the study, information dissemination via networks has a beneficial effect on individuals' levels of environmental awareness as well as their actions, which highlights the significance of information dissemination via networks in the process of promoting environmentally sustainable development. In a study with a similar focus, (Adnoui et al., 2023) investigated the impact of information obtained from social media on the environmental consciousness and behavior of Chinese college students. According to the findings of the study, material found on social media had a substantial positive impact on environmental awareness and behavior. This finding highlights the role that social media may play in encouraging younger generations to engage in more environmentally responsible behaviors. Based on above literature, we purposed the following Hypothesis 1 (H1):

**H1:** Network information dissemination has a significant and positive impact on environmental sustainable development.

### 2.2. Network information dissemination and agricultural consumer purchase decision

With the size of the agriculture industry, it might be challenging for customers to choose products with knowledge. Dissemination of information via networks, however, has the ability to close this gap. In a study, Cang & Wang, (2021) discovered that network information transmission has a favorable effect on customer decisions to buy agricultural products. Consumers who received network information were more inclined to buy agricultural products than those who did not, according to the study's experimental design and findings. In a subsequent study, (Zhang and Zheng, 2022) looked at how social media affects consumers' purchase decisions in the agricultural industry. The study discovered that social media had a significant impact on how customers made purchases. Customers were more inclined to buy agricultural products when they were exposed to social media posts about them than when they weren't. Other network information dissemination channels, such word-of-mouth, have a considerable impact on consumer purchasing decisions in addition to social media. According to a 2016 study by (Panda et al., 2022), suggestions from farmers were helpful to consumer decision-making. According to the survey, customers were more likely to buy agricultural products that farmers suggested. Also, the distribution of information across networks has a significant impact on how customers view agricultural products. According to the study, customers' impressions of organic food goods were significantly influenced by favorable internet evaluations, and they were more likely to buy organic products that had received favorable reviews. Based on above literature, we purposed the following Hypothesis 2 (H2):

**H2:** Network information dissemination has a significant and positive impact on agricultural consumer purchase decision.

### 2.3. Information overload and environmental sustainable development

One of the key effects of information overload on environmental sustainable development is that it may cause important environmental issues to go unnoticed. People may lose awareness of the significance of environmental sustainability when they are constantly exposed to large amounts of information. Critical environmental issues may not receive the attention they need as a result. According to a study by (Pantano et al., 2022), information overload can cause people to become less

concerned about the environment. Moreover, decision-making towards environmental sustainability may be impacted by information overload. Making judgments about environmental issues can be difficult given the abundance of information. Information overload can cause decision paralysis, which makes it difficult for people and organizations to make educated decisions about environmental sustainability, according to a study by (Saeed et al., 2012). Moreover, a glut of information can result in misunderstandings and uncertainty, which can undermine attempts to advance environmental sustainability. It can be challenging for people to discriminate between genuine information and misinformation due to information overload, according to a study by (Li and Wang, 2020). This may cause uncertainty and a lack of environmental action. Based on above literature, we purposed the following Hypothesis 3 (H3):

**H3:** *Information overload has a significant and negative impact on environmental sustainable development.*

#### 2.4. Information overload and agricultural consumer purchase decision

Overwhelming consumers with information might influence their decisions to buy agricultural products in both positive and bad ways. On the one hand, having access to a wealth of knowledge can aid consumers in making knowledgeable choices regarding agricultural products. According to a study by (Radomyski and Ashauer, 2022) people were more inclined to select ecologically friendly and low-carbon footprint items when they had access to information on the origin and production processes of agricultural products. Consumers may find it challenging to make educated judgments as a result of information overload because it can also cause confusion and decision paralysis. According to a study (Occa et al., 2021) consumers' confidence and trust may decline as a result of information overload, which may have an effect on their decision to make a purchase. Moreover, an abundance of information might result in erroneous and misleading information, which can have an impact on consumer purchasing decisions. According to a study by (Heyneman, 2021), consumers find it difficult to discriminate between factual information and misinformation due to the abundance of conflicting and misleading information available online. Confusion and a lack of confidence in the information available might result from this, which may have an effect on customer purchase decisions. Based on above literature, we purposed the following Hypothesis 4 (H4):

**H4:** *Information overload has a significant and negative impact on agricultural consumer purchase decision.*

#### 2.5. Trust in information source and environmental sustainable development

Environmental sustainability development significantly impacted by one's level of trust in information sources. According to a study by (Neha et al., 2020), individuals and organizations' adoption of environmentally friendly activities might be influenced by their trust in the information sources they use. People and organizations are more inclined to embrace sustainable practices and alter their behavior when they have faith in the information source. Moreover, trust in information sources can affect how well environmental communication tactics work. According to a study by (Zia and Alzahrani, 2022), the success of environmental communication tactics depends on the audience's trust in the information source. People are more inclined to participate in communication strategies and take action to promote environmental sustainability when they trust the information source. Furthermore, the credibility of information sources might have an impact on the sustainability of environmental policies. According to a study by (Ejaz and Ittefaq, 2020) policymakers must have confidence in the information sources they use when making decisions about environmental sustainability. Decisions supporting environmental sustainability are more likely to be made by policymakers when they have confidence in the information source. Based on above literature, we purposed the following Hypothesis 5 (H5):

**H5:** *Trust in information source has a significant and positive impact on environmental sustainable development.*

#### 2.6. Trust in information source and agricultural consumer purchase decision

Buying decisions made by agricultural consumers may be influenced by their trust in information sources. According to a study by (Tayseer and Ayasrah, 2020), customers' willingness to pay for environmentally friendly agricultural products might be positively impacted by their trust in information sources. Customers are more willing to pay more for ecologically friendly agricultural products when they believe the information source. The adoption of sustainable agriculture techniques can also be impacted by one's faith in information sources. According to a study by (Wang et al., 2022), farmers' adoption of sustainable agricultural techniques depends on their faith in information sources. Farmers are more likely to embrace sustainable farming methods and alter their behavior when they trust the information source. The effectiveness of agricultural communication methods can also be impacted by the credibility of information sources. According to a study by (Zhe et al., 2023) the success of agricultural communication strategies depends on the reliability of information sources. Agricultural customers are more likely to participate with the communication strategy and make educated decisions about their purchases when they have faith in the information source. Based on above literature, we purposed the following Hypothesis 6 (H6):

**H6:** *Trust in information source has a significant and positive impact on agricultural consumer purchase decision.*

#### 2.7. Information overload as a mediator

Information overload can act as a mediator between network information dissemination and environmental sustainable development. According to the findings of a study that was carried out by (Guo et al., 2020), excessive amounts of information can have a negative impact on the efficiency of environmental communication tactics. When people are confronted with an overwhelming quantity of information, they are less likely to participate in environmental communication methods or take actions that contribute to the sustainability of the environment. As a result, it is essential to make certain that communication tactics are succinct and targeted in order to lower the risk of experiencing an excessive amount of information. In addition to this, an excessive amount of knowledge can have a negative effect on both the adoption of sustainable practices by individuals and organizations. According to the findings of a study (Matthes et al., 2020) carried out, an excessive amount of information can have a detrimental effect on the implementation of environmentally friendly policies. When people and organizations are inundated with an excessive amount of information, they run the risk of becoming overwhelmed and being unable to make well-informed decisions regarding environmentally friendly activities. As a result, it is necessary to take measures to guarantee that information is transmitted in an effective and efficient manner in order to lower the risk of experiencing information overload. Based on above literature, we purposed the following Hypothesis 7 (H7):

**H7:** *Information overload mediates the relationship between network information dissemination and environmental sustainable development.*

Information overload can act as a mediator between network information dissemination and agricultural consumer purchase decisions. According to the findings of a study that was carried out by (Pang and Ruan, 2023), excessive amounts of information can have a negative impact on the efficiency of agricultural communication techniques. When consumers are presented with an excessive amount of information, they run the risk of becoming overwhelmed and unable to make decisions regarding agricultural products that are based on accurate facts. As a result, it is essential to make certain that communication tactics are succinct and targeted in order to lower the risk of

experiencing an excessive amount of information. Moreover, information overload can have an effect on the purchasing decisions made by agricultural consumers. According to the findings of a study that was carried out by (Pantano et al., 2022), an excessive amount of information can have a detrimental impact on the willingness of customers to pay for environmentally friendly agricultural products. When customers are presented with an overwhelming amount of information, they may develop a cynical attitude toward the assertions made by producers and become less inclined to pay a premium for ecologically friendly agricultural products. As a result, it is necessary to take measures to guarantee that information is transmitted in an effective and efficient manner in order to lower the risk of experiencing information overload. Based on above literature, we purposed the following Hypothesis 8 (H8):

**H8:** *Information overload mediates the relationship between network information dissemination and agricultural consumer purchase decision.*

## 2.8. Trust in information source as a mediator

It is possible for trust in the source of information to operate as a mediator between the spread of network information and the environmentally friendly development. According to the findings of an investigation that was carried out by (Tarigan et al., 2022), confidence in the information source is an essential component in the success of environmental communication techniques. When people have faith in the reliability of the information provider, they are more inclined to participate in the communication plan and take steps to improve the environment's long-term viability. As a result, it is essential to make certain that information is communicated through reliable sources in order to encourage trust in environmental communication initiatives and to encourage involvement with such strategies. Furthermore, an individual's or organization's level of trust in the information source can have an effect on their propensity to embrace environmentally friendly behaviors. According to the findings of a study that was carried out by (Sutherland et al., 2013), having faith in the reliability of one's information sources is positively correlated with the implementation of environmentally friendly policies. When people and organizations have faith in the reliability of the information source, they are more likely to adopt environmentally responsible behaviors and to take steps toward achieving environmental sustainability. As a result, it is essential to make certain that information is provided through reliable sources in order to foster confidence and encourage the adoption of environmentally responsible behaviors. Based on above literature, we purposed the following Hypothesis 9 (H9):

**H9:** *Trust in information source mediates the relationship between network information dissemination and environmental sustainable development.*

It is possible for trust in the information source to operate as a mediator between the broadcast of information through the network and the purchase decisions made by agricultural consumers. According to the findings of a study that was carried out by (Deb et al., 2022), the level of trust that individuals have in the information source has a significant impact in the adoption of environmentally friendly agricultural techniques. If customers have faith in the reliability of the information source, they are more inclined to support ecologically responsible agricultural practices and buy environmentally friendly agricultural products. As a result, it is essential to make certain that information is communicated from reliable sources in order to foster trust and encourage the implementation of environmentally responsible agricultural methods (Dar et al., 2022; Sandra Marcelline et al., 2022; Yingfei et al., 2021). In addition to this, the degree to which a person trusts the information source can also have an effect on how effective agricultural communication tactics are. According to the findings of a study that was carried out by (Benyam et al., 2021), there is a favorable correlation between consumers' trust in information sources and their readiness to pay more for environmentally friendly agricultural products. When customers have faith in the information provider, they are more likely to

be prepared to pay a higher price for ecologically responsible agricultural goods. As a result, it is essential to make certain that information is communicated from reliable sources in order to foster customer trust and increase their readiness to pay more for agricultural products that are less harmful to the environment. Based on above literature, we purposed the following Hypothesis 10 (H10):

**H10:** *Trust in information source mediates the relationship between network information dissemination and agricultural consumer purchase decision.*

## 2.9. Information accessibility as a moderator

Accessibility to information can play a role as a moderator between the spread of network information and the development of environmentally sustainable practices. According to the findings of an investigation that was carried out by (Oelkers, 2020), the accessibility of information favorably moderates the connection between network information distribution and environmentally friendly development. According to the findings of the study, the relationship between the broadcast of information via networks and the promotion of environmentally friendly development becomes more robust when individuals have greater access to information. As a result, it is essential to make certain that information is available to individuals as well as organizations in order to boost the efficiency of network information distribution strategies for the purpose of fostering environmentally sustainable growth. In addition, the availability of knowledge can have an effect on the degree to which individuals and organizations adopt environmentally friendly behaviors. According to the findings of a study that was carried out by (Wu and Coman, 2023), the availability of information has a favorable correlation with the implementation of sustainable practices. According to the findings of the study, when people have greater access to knowledge, they have a greater likelihood of adopting environmentally sustainable behaviors and doing actions that contribute to the preservation of the environment. Hence, it is essential to make information readily available to both individuals and businesses in order to encourage the adoption of environmentally responsible behaviors that will contribute to the advancement of environmentally sustainable development. Based on above literature, we purposed the following Hypothesis 11 (H11):

**H11:** *Information accessibility moderates the relationship between network information dissemination and environmental sustainable development.*

Accessibility to information can play a role as a moderator between the diffusion of information across networks and the buying decisions made by agricultural consumers. According to the findings of a study that was carried out by (Ishikawa et al., 2019), the availability of information positively moderates the connection between the diffusion of network information and the purchase decisions made by agricultural consumers. According to the findings of the study, the relationship between the transmission of information via networks and the purchasing decisions made by agricultural consumers gets stronger when customers have greater access to information. For this reason, it is essential to make sure that information can be easily accessed by agricultural consumers in order to boost the efficiency of network information distribution techniques for the purpose of encouraging environmentally responsible farming practices. In addition, the availability of information can play a role in the adoption of environmentally responsible farming practices by consumers of agricultural products. According to the findings of a study that was carried out by (Mujiyana et al., 2022), the availability of information has a favorable relationship with the adoption of sustainable farming practices by agricultural consumers. According to the findings of the study, an increase in agricultural consumers' access to information results in an increase in the likelihood that agricultural consumers will adopt environmentally responsible farming practices and purchase environmentally friendly agricultural products. For this reason, it is essential to make sure that information is easily accessible to

agricultural consumers in order to encourage the adoption of ecologically responsible farming methods and the purchasing of agricultural goods that are kind to the environment. Based on above literature, we purposed the following Hypothesis 12 (H12):

**H12:** *Information accessibility moderates the relationship between network information dissemination and agricultural consumer purchase decision.*

**Theoretical Background:**

The study is theoretically grounded in the Communication Accommodation Theory (CAT), which posits that individuals adjust their communication styles to gain social approval and reduce uncertainty. This theory is pertinent to understanding how network information dissemination impacts environmental sustainable development and influences agricultural consumers' purchase decisions. CAT sheds light on the relationship between information dissemination and trust in information sources. According to the theory, when communicators accommodate the preferences and concerns of agricultural consumers, it enhances trust in the information sources. This trust, in turn, influences consumers' reliance on provided information when making purchasing decisions. The theory also addresses the issue of information overload. Failure to accommodate messages to the needs of the audience may lead to information overload and reduced information processing. In the context of the study, effective accommodation by information dissemination networks may reduce the likelihood of information overload, facilitating more informed decision-making. Considering information accessibility as a moderating factor aligns with CAT's emphasis on adapting communication strategies to the specific context. The theory suggests that accommodation might be more effective when it considers the accessibility of information. If information is readily accessible, the impact of accommodation on trust and reduction of information overload may be more pronounced. In conclusion, CAT provides a comprehensive framework for understanding how network information dissemination, through accommodation strategies, influences trust, mitigates information overload, and interacts with information accessibility in the context of environmental sustainable development and agricultural consumers' purchase decisions. The application of CAT enriches the conceptualization of communication dynamics in this study, offering a solid theoretical foundation for the research.

Thus on the basis of above literature review, we proposed the following conceptual framework (Fig. 1).

**3. Methodology**

This study utilized a cross-sectional survey research design for its research methodology. In order to obtain information from respondents who access information linked to environmentally sustainable development and agriculture consumer purchases through internet platforms, a questionnaire was prepared and distributed. The results of the survey were subjected to statistical analysis in order to determine the elements that influence the extent to which network information distribution in this age of big data has an impact on environmentally sustainable development and agriculture consumers' purchasing decisions. Those who use online platforms to access information about environmental sustainability and agriculture consumer purchases were the study's target group. The sample was chosen using a non-probability sampling technique. The survey was performed online, and respondents were solicited using social media platforms and email.

A self-administered online survey was used to collect data for this investigation. The questionnaire included closed-ended items such as Likert scales and demographic inquiries. The survey was pretested to verify that the questions were clear and simple. The collected data was analyzed using SPSS and SmartPLS 4.

The study obtained data on both exogenous and endogenous constructs from a single source using questionnaires. As a result, there is a potential for the occurrence of common method bias (CMB), which could have influenced and disrupted the data (Sandra Marcelline et al., 2022; Yingfei et al., 2021). While collecting data, researchers must provide assurance to respondents that their information will be securely held and will not be disclosed to any external parties. The researchers clarified that CMB, or common method bias, is a significant problem typically linked to self-report surveys (Nawaz and Guribie, 2022). It has the potential to inflate the relationship between variables that are being measured (Avotra et al., 2021; Nawaz et al., 2023). The Harman's single-factor method is employed to calculate the common method bias (CMB), and the results of this study indicate that a single factor explains 43.708 % of the overall variance. Therefore, there are no problems or concerns regarding the CMB in the data. If the total variance exceeds 50 %, it indicates the presence of a CMB issue, whereas a CMB value below 50 % suggests the absence of a CMB issue. Therefore, in this study, there is no CMB problem present in the data.

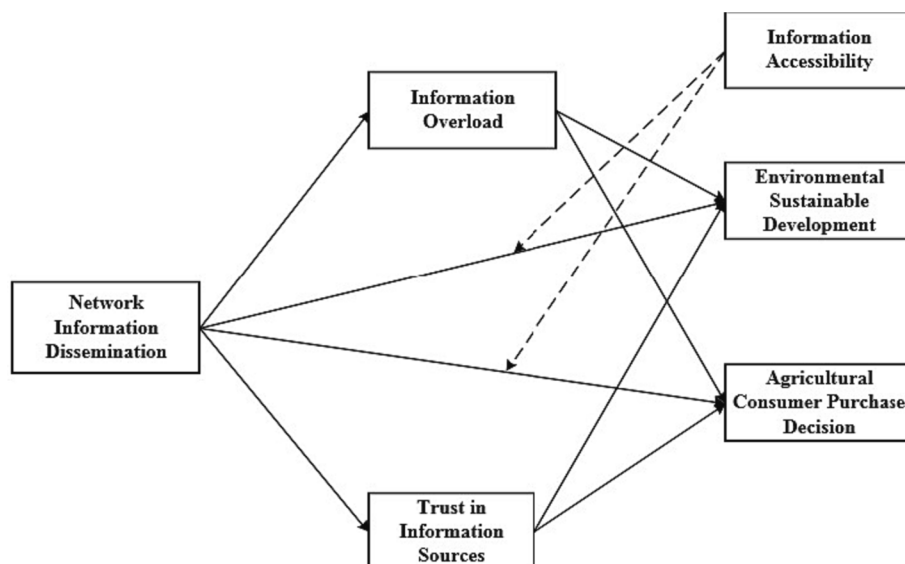


Fig. 1. Conceptual Framework.

### 3.1. Measure

A five-item scale derived from measures the concept of Network Information Dissemination (Simon et al., 2021). A seven-item scale was adopted from Khaleel et al. (2020) to measure information overload. A four-item scale was adopted from Zhang et al. (2022) to measure trust in information sources. A four-item was adopted from Xue et al. (2021) to measure information accessibility. A five-item scale was adopted from Hassan et al. (2020) to measure environmental sustainable development and six-item scale was adopted from Tang et al. (2023) to measure agriculture consumer purchase decision

### 3.2. Data analysis and results

The model was validated in this research by making use of the partial least square structural equation modeling (PLS-SEM) method, which can be found in SmartPLS 4 software. The data were analyzed using this particular approach. PLS-SEM is better suited for exploratory studies than covariance-base structural equation modelling, which is one of the reasons why it was chosen rather than covariance-base structural equation modelling. Another reason is that PLS-SEM is easier to interpret than covariance-base structural equation modelling. PLS-SEM is also preferable to covariance-based structural equation modeling for the simple fact that it is less complicated to understand. An exploratory analysis is included as part of this study, which brings up the first issue I want to raise. Second, because of the adaptability it provides, the PLS technique is excellent for the analysis of data that was obtained from a relatively small sample size. This is because of the technique's flexibility.

### 3.3. Measurement model

When it comes to measurement models, it is essential to take into account both the dependability of the model as well as its validity. All of these aspects are crucial in their own right. In the course of this analysis, Cronbach's Alpha, roh-A, composite reliability, and average variance extract were all applied with the intention of determining the degree to which the model could be depended upon. In addition, an analysis was done to determine the soundness of the model, and convergent and discriminant validity were applied in that study (Avotra et al., 2021; Nawaz et al., 2023; Sandra Marcelline et al., 2022). The results of the studies performed with the models that were utilized in this research to determine the dependent relationships among all of the variables are presented in Table 1 and Fig. 2, respectively. To get things started, the Cronbach's Alpha needs to have a value that is higher than 0.70 in order for it to be regarded as satisfactory (Xiaolong et al., 2021; Yingfei et al., 2021). The values of Cronbach's Alpha for all of the model variables used in this study are higher than 0.70 on average. For instance, the values of IV (Network information dissemination), DV (Environmental sustainable development, Agricultural consumer purchase decision), mediator (Information overload, Trust in information source), and moderators (Information accessibility) are 0.846, 0.820, 0.765, 0.925, 0.847, 0.850 respectively. The Table 2 displays these values. These values are in accordance with the Cronbach's Alpha criterion that was given. All values are acknowledged as a result of this. Further, the roh-All of the variables' A values have been changed such that they now line up with the threshold value. The average variance extract (AVE) and composite reliability (CR) of the model variables are examined in the third step of the investigation. The acceptable values of the variables for composite reliability are better than 0.7 and both the average variance extract and the acceptable values of the variables are greater than 0.5. The variables' permissible values are also greater than 0.5. Additionally, each variable's outer loadings were looked at, and the results are shown in Table 1. A value larger than 0.6 is regarded as appropriate for determining the right outside loadings for different items (Fig. 2). There is a value larger than 0.6 for every single item in the variables.

**Table 1**  
Construct Reliability and Validity.

	Items	Outer Loading	VIF	Cronbach's Alpha	CR	AVE
Agricultural consumer purchase decision	ASPD1	0.729	1.397	0.846	0.877	0.546
	ASPD2	0.801	3.190			
	ASPD3	0.865	3.782			
	ASPD4	0.733	2.103			
	ASPD5	0.614	2.178			
	ASPD6	0.663	2.402			
Environmental sustainable development	ESD1	0.835	2.527	0.820	0.870	0.573
	ESD2	0.811	2.422			
	ESD3	0.703	1.827			
	ESD4	0.721	1.817			
	ESD5	0.705	2.119			
Information accessibility	IA1	0.705	1.495	0.765	0.847	0.583
	IA2	0.677	1.513			
	IA3	0.819	1.855			
	IA4	0.841	1.802			
Information overload	IO1	0.800	2.078	0.925	0.942	0.730
	IO2	0.898	4.542			
	IO3	0.875	3.544			
	IO4	0.875	3.062			
	IO5	0.897	4.068			
	IO6	0.775	1.779			
	IO6	0.775	1.779			
Network information dissemination	NID1	0.836	2.388	0.847	0.891	0.620
	NID2	0.782	1.742			
	NID3	0.766	1.970			
	NID4	0.799	1.888			
	NID5	0.752	1.632			
Trust in information source	TIS1	0.672	1.384	0.850	0.899	0.694
	TIS2	0.854	2.244			
	TIS3	0.898	2.625			
	TIS4	0.888	2.538			

Note: Agricultural consumer purchase decision (ACPD), Environmental sustainable development (ESD), Information accessibility (IA), Information overload (IO), Network information dissemination (NID), Trust in information source (TIS).

Also, the variance inflation factor was used in this work to analyze the collinearity problem (VIF). According to the researchers' recommendations, good VIF readings are those that are less than 5 (Avotra et al., 2021; Nawaz et al., 2022). Table 1 shows that the fundamental elements of the study model have VIF values ranging from 1.384 to 4.068. This range includes a wide range of potential results. It is proof that all of the components' VIF values satisfy the criteria outlined by the threshold. As a result, the research model used for this study showed no indications that collinearity was a concern.

The heterotrait-monotrait (HTMT) technique and the Fornell-Larcker criterion were used to assess the discriminant validity of this study (Ali et al., 2021). By taking the square root of the average variance extract values for all model variables, the Fornell-Larcker criterion can be used to determine whether the discriminant function is legitimate (Hair et al., 2019). The Fornell-Larcker criterion serves as the main reference point for Table 2's thorough study of the discriminant validity of each variable. This table illustrates that the model's discriminant validity has been attained because the starting values of all variables within each column exhibit the highest values relative to their subsequent values (Hair et al., 2019).

In order for any of the variable values to be judged suitable in light of the HTMT ratios criterion, they need to have a value that is lower than 0.85. Despite this, there are situations in which HTMT values of up to 0.90 are deemed to be appropriate (Hair et al., 2019). Table 3 provides a comprehensive summary of the conclusions of this inquiry. From this table, it is apparent that all of the values fall within the acceptable range, which ranges from 0.85 to 0.90 and can handle all of the available choices. The findings of this inquiry demonstrated that the model that was developed for this investigation possesses discriminant validity. This validity was demonstrated by the findings.

When the R2 score is greater than 0.5, it is determined that the

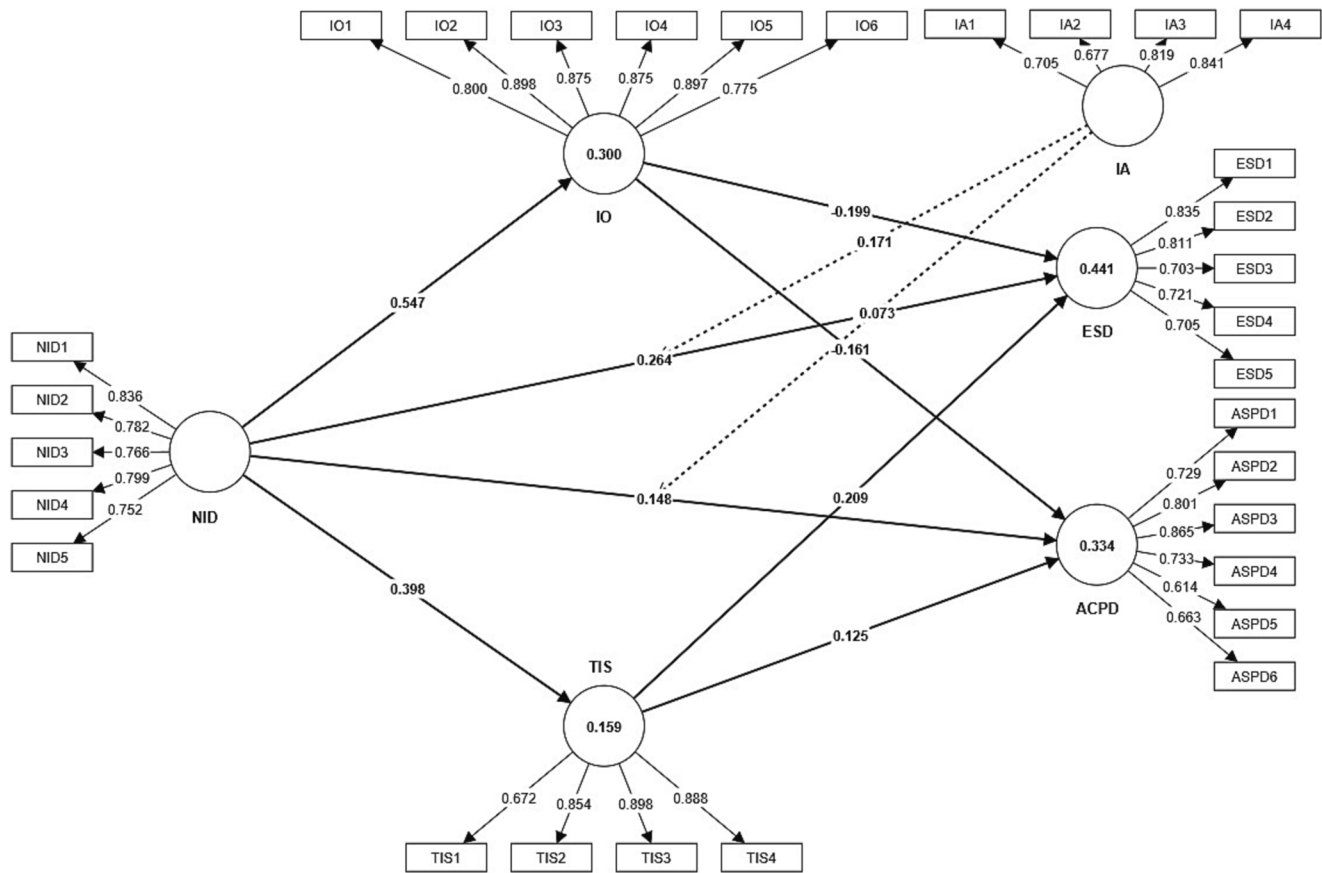


Fig. 2. Measurement Model.

**Table 2**  
Discriminant Validity (Fornell-Larcker).

	ACPD	ESD	IA	IO	NID	TIS
Agricultural consumer purchase decision	0.739					
Environmental sustainable development	0.305	0.757				
Information accessibility	0.549	0.573	0.764			
Information overload	0.125	0.181	0.288	0.854		
Network information dissemination	0.315	0.410	0.453	0.547	0.788	
Trust in information source	0.343	0.454	0.482	0.554	0.398	0.833

Note: Agricultural consumer purchase decision (ACPD), Environmental sustainable development (ESD), Information accessibility (IA), Information overload (IO), Network information dissemination (NID), Trust in information source (TIS).

**Table 3**  
Discriminant Validity (HTMT).

	ACPD	ESD	IA	IO	NID	TIS
Agricultural consumer purchase decision						
Environmental sustainable development	0.364					
Information accessibility	0.570	0.673				
Information overload	0.141	0.203	0.379			
Network information dissemination	0.360	0.513	0.583	0.607		
Trust in information source	0.316	0.504	0.577	0.633	0.472	

strength of the model in the initial data is strong. In this investigation, the level of model strength demonstrated by Agricultural consumer purchase decision, and Environmental sustainable development ( $R^2 = 0.334$ ) and ( $R^2 = 0.441$ ) respectively was considered to be moderate (Hair et al., 2016). In addition to this, the values of Q2 for each of the latent constructs in the models are higher than Zero, which is a requirement for inclusion in the models. In addition to that, it functions as an example of significant signs. The values of R2 and Q2 are presented in Table 4.

### 3.4. Direct path analysis

This study utilized a bootstrapping method with 5,000 different samples for the purpose of performing statistical validation on the model hypotheses (Hair et al., 2016). The t and p values were analyzed in this study to determine whether or not the hypotheses should be accepted or rejected (Hair et al., 2016). Fig. 3 represent the structure model refers to the part of the analysis that focuses on the relationships between latent variables and their observed indicators. The results of the H1 relationship, which predicted that network information dissemination has a significant and positive impact on environmental sustainable development, are broken down and explained in Table 5 and shown in Fig. 3, which can be found here. Both the value of t and the value of p indicate

**Table 4**  
R-Square Values and Q-Square Values for the Variables.

	R2	Q2
Agricultural consumer purchase decision	0.334	0.296
Environmental sustainable development	0.441	0.382
Information overload	0.300	0.291
Trust in information source	0.159	0.152

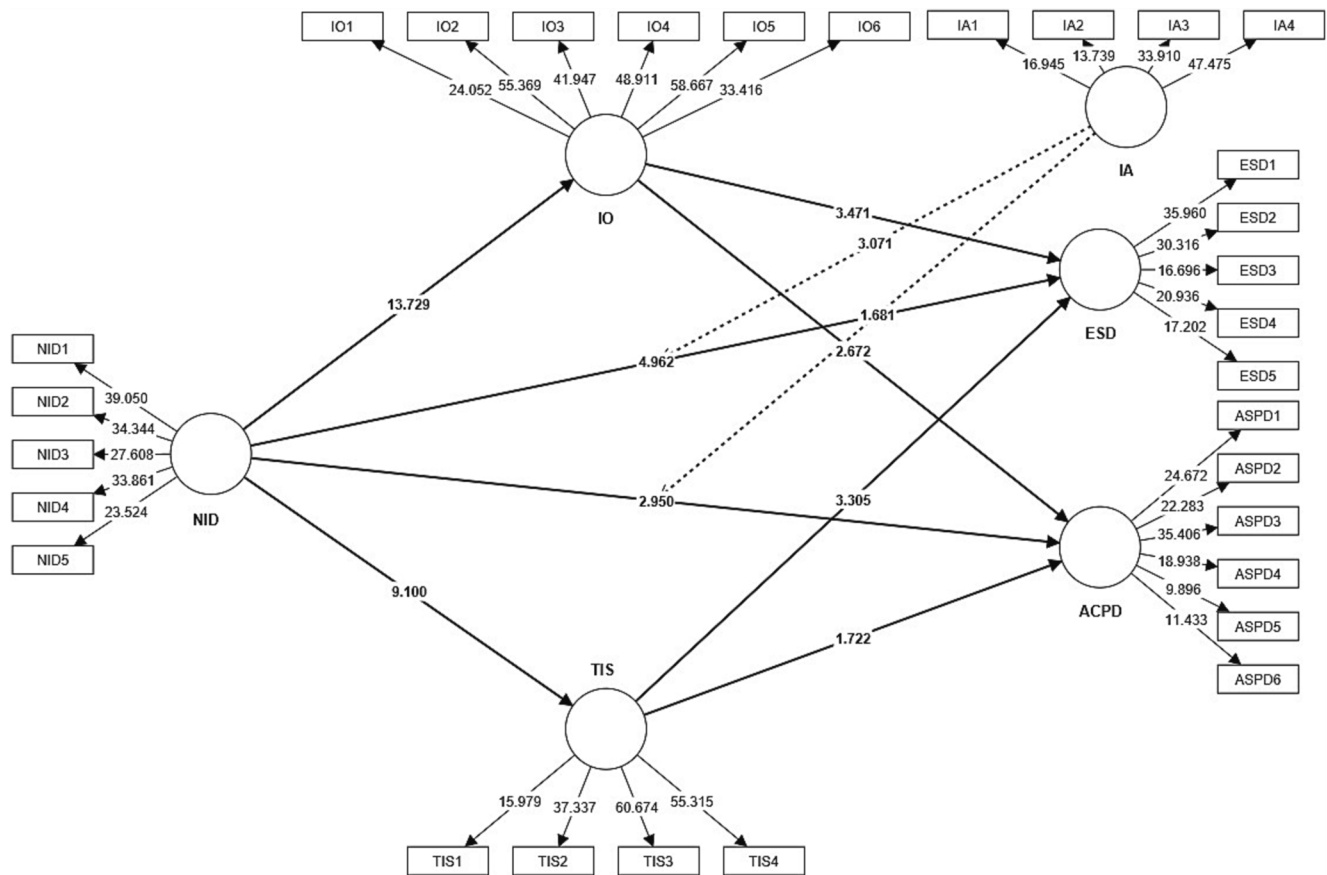


Fig. 3. Structural Model.

Table 5  
Direct Effects.

Constructs	Path Coefficient	T Values	P Values
NID → ESD	0.264	4.962	0.000
NID → ACPD	0.148	2.950	0.002
IO → ESD	-0.199	3.471	0.000
IO → ACPD	-0.161	2.672	0.004
TIS → ESD	0.209	3.305	0.000
TIS → ACPD	0.125	1.722	0.043

Note: Agricultural consumer purchase decision (ACPD), Environmental sustainable development (ESD), Information accessibility (IA), Information overload (IO), Network information dissemination (NID), Trust in information source (TIS).

that this hypothesis is accepted ( $t = 4.962, p = 0.000$ ). As a result, H1 is acceptable. The second hypothesis stated that network information dissemination has a significant and positive impact on agricultural consumer purchase decision. Both the value of  $t$  and the value of  $p$  indicate that this hypothesis should be accepted ( $t = 2.950, p = 0.002$ ). Therefore, H2 is accepted. The third hypothesis stated that information overload has a significant and negative impact on environmental sustainable development. Both the value of  $t$  and the value of  $p$  indicate that this hypothesis should be accepted ( $t = 3.471, p = 0.000$ ). As a result, H3 is accepted.

The fourth hypothesis stated Information overload has a significant and negative impact on agricultural consumer purchase decision. The values of  $t$  and  $p$  point to the fact that this hypothesis will be accepted ( $t = 2.672, p = 0.004$ ). As a result, H4 is accepted. The fifth hypothesis stated trust in information source has a significant and positive impact on environmental sustainable development. The values of  $t$  and  $p$  point to the fact that this hypothesis will be accepted ( $t = 2.672, p = 0.000$ ).

As a result, H5 is accepted. The sixth hypothesis stated trust in information source has a significant and positive impact on agricultural consumer purchase decision. The values of  $t$  and  $p$  point to the fact that this hypothesis will be accepted ( $t = 1.722, p = 0.043$ ). As a result, H6 is accepted.

### 3.5. Mediation analysis

In addition, the significance of the information overload and trust in information source were investigated as possible mediators in the relationship between network information dissemination, environmental sustainable development and agricultural consumer purchase decision. Information overload act as a mediator of the relationship between network information dissemination, environmental sustainable development and agricultural consumer purchase decision, as stated in Hypothesis H7 and H8 respectively. The findings suggest that information overload significantly mediates of the relationship between network information dissemination and environmental sustainable development ( $p = 0.000$ ) and network information dissemination and agricultural consumer purchase decision ( $p = 0.004$ ). As a consequence of this, the H7 and H8 of this investigation is supported by the findings of the research. Table 6 presents the results of the investigation into the use of mediation. In a similar vein, Hypothesis H9 and H10 proposed that trust in information source acts as a mediator of the relationship between network information dissemination, environmental sustainable development and agricultural consumer purchase decision. The findings suggest that trust in information source significantly mediates of the relationship between network information dissemination and environmental sustainable development ( $p = 0.001$ ) and network information dissemination and agricultural consumer purchase decision ( $p = 0.043$ ). As a consequence of this, the H9 and H10 of this investigation is



**Table 6**  
Indirect Effects.

	Original Sample	T Values	P Values	VAF %	Type of Mediation
NID → IO → ESD	-0.109	3.423	0.000	35 %	Partial
NID → IO → ACPD	-0.088	2.631	0.004	65 %	Partial
NID → TIS → ESD	0.083	2.985	0.001	44 %	Partial
NID → TIS → ACPD	0.050	1.715	0.043	60 %	Partial

Note: Agricultural consumer purchase decision (ACPD), Environmental sustainable development (ESD), Information accessibility (IA), Information overload (IO), Network information dissemination (NID), Trust in information source (TIS).

supported by the findings of the research.

### 3.6. Moderation analysis

Hypothesis H11 and H12 proposed that information accessibility acts as moderator on the relationship between network information dissemination, environmental sustainable development and agricultural consumer purchase decision. The findings suggest that information accessibility significantly moderates of the relationship between network information dissemination and environmental sustainable development ( $p = 0.046$ ) and network information dissemination and agricultural consumer purchase decision ( $p = 0.001$ ). As a consequence of this, the H11 and H12 of this investigation is supported by the findings of the research. Table 7 and Fig. 3 shows the results of moderation analysis.

## 4. Discussion

The first hypothesis of the study stated that network information dissemination has a significant and positive impact on environmental sustainable development. Findings of the study showed that network information dissemination has a significant and positive impact on environmental sustainable development. According to a number of studies, material available online raises people’s knowledge of ecologically responsible behaviors and encourages individuals to act responsibly toward the environment (Freeland et al., 2022). In addition to this, the distribution of information through networks helps to promote sustainable development by easing the process of collaboration and the exchange of information among various stakeholders. Internet platforms offer chances for communication and collaboration among many stakeholders, such as governments, non-governmental organizations (NGOs), and enterprises. As a result, decision-making and the implementation of sustainable practices become more efficient (Tzima et al., 2020). Hence H1 is supported. Second hypothesis of the study stated that network information dissemination has a significant and positive impact on agricultural consumer purchase decision. Findings of the study showed that network information dissemination has a significant and positive impact on agricultural consumer purchase decision. The opinion of the quality and safety of agricultural products was positively affected by information gathered from social networks. Customers have

**Table 7**  
Moderation Effect.

	Original Sample	T Values	P Values
IA × NID → ACPD	0.073	1.681	0.046
IA × NID → ESD	0.171	3.071	0.001

Note: Agricultural consumer purchase decision (ACPD), Environmental sustainable development (ESD), Information accessibility (IA), Network information dissemination (NID).

a propensity to put their faith in information gained from social networks because that information is frequently believed to be objective and genuine. In addition, the information that is gained from social networks is typically shared by persons who have had direct experience with the product; as a result, the credibility of this information is increased (Hanaysha, 2022). Hence H2 is supported.

Third hypothesis of the study stated that information overload has a significant and negative impact on environmental sustainable development. The availability of information online increases both understanding and awareness of environmentally friendly behaviors and products. Nevertheless, an excess of information can lead to confusion and feelings of being overwhelmed, which can ultimately hinder environmentally friendly behavior (Spallini et al., 2021; Tarafdar et al., 2010). Those who are bombarded with an excessive amount of information concerning the viability of the environment have a tendency to get overwhelmed, which can lead to inaction or apathy towards matters pertaining to the environment. The research also indicated that people who are inundated with information may find it difficult to differentiate between reputable and non-credible sources of information, which can lead to a lack of trust in information regarding the environmental sustainability (Benyam et al., 2021). Hence H3 is supported. Fourth hypothesis of the study stated that information overload has a significant and negative impact on agricultural consumer purchase decision. When customers are exposed to an excessive amount of information regarding agricultural products, they may become overwhelmed, resulting in indecision or a postponement of a purchasing decision. In addition, the study discovered that customers who are inundated with information may have difficulty distinguishing between reliable and non-credible sources of information, resulting in a lack of trust in information about agricultural products (Esraa and Zaid, 2019). Hence H4 is supported.

Fifth hypothesis of the study stated that trust in information source has a significant and positive impact on environmental sustainable development. When people trust the information, they receive about environmental issues, they are more likely to take action to address these issues. This include everything from making more environmentally-friendly consumer choices, to supporting policies and initiatives aimed at reducing carbon emissions and protecting natural resources (Wang et al., 2022). Moreover, trust in information sources also help to promote collaboration and cooperation between individuals, organizations, and governments. By fostering trust and a shared understanding of the environmental challenges facing our world, we can work together to find sustainable solutions that benefit everyone. (Reisenwitz and Fowler, 2019). Hence H5 is supported. Sixth hypothesis of the study stated that trust in information source has a significant and positive impact on agricultural consumer purchase decision. Customers who have faith in the information provider are more inclined to buy agricultural products on the basis of the information that is provided to them (Krishna, 2021). In addition, customers who have faith in the credibility of the information provider are more likely to view the product as being risk-free, dependable, and of superior quality. Customers who have faith in the reliability of the information source are more likely to generate a favorable opinion of the brand as a whole and the products it sells. This will likely result in additional purchases of the brand’s goods as well as an increase in customer loyalty (Heaney et al., 2021). Hence H6 is supported.

Seventh hypothesis of the study stated that information overload significantly mediates the relationship between network information dissemination and environmental sustainable development. When individuals are faced with an overwhelming amount of information, the positive impact that the transmission of network information has on sustainable development is diminished or even reversed (Hanaysha, 2022; Manoko et al., 2020). The abundance of information causes confusion, worry, and frustration, which ultimately leads to disengagement from actions that are environmentally sustainable. The negative impact on sustainable development is further exacerbated by

the fact that information overload also leads to a loss of faith in the reliability of information sources (Manoko et al., 2020; Xue et al., 2023). Hence H7 is supported. Eighth hypothesis of the study stated that information overload significantly mediates the relationship between network information dissemination and agricultural consumer purchase decision. Information overload occur when individuals are exposed to a large volume of information that exceeds their cognitive capacity to process it effectively. In the context of agricultural consumer decision-making, this lead to confusion or decision paralysis, which ultimately affect purchasing behavior (Manoko et al., 2020). The role of network information dissemination is also significant. The way in which information is disseminated can influence the extent to which agricultural consumers are exposed to it. Social media networks may be more effective in reaching younger audiences, while traditional advertising channels may be more effective in reaching older audiences (Chege and Wang, 2020). Hence H8 is supported.

Ninth hypothesis of the study stated that trust in information sources significantly mediates the relationship between network information dissemination and environmental sustainable development. People who trust the information sources they receive are more likely to engage in pro-environmental behavior than those who do not trust the sources (Hanaysha, 2022). The trustworthiness of information sources also influences people's perceptions of the credibility of information. People's trust in information sources positively influences their perceptions of the credibility of environmental information. The study found that people who trust the sources of information are more likely to perceive the information as credible and act accordingly (Wang et al., 2022). Hence H9 is supported. Tenth hypothesis of the study stated that trust in information sources significantly mediates the relationship between network information dissemination and agricultural consumer purchase decision. The degree to which customers have faith in the various information sources determines whether or not the positive impact of information distribution through networks on purchase decisions is enhanced or diminished (Hanaysha, 2022). When consumers trust the sources of the information, they are more likely to interpret the information in a positive light, which can lead to a buying decision that is both better informed and more confident. When consumers do not believe the sources of the information, on the other hand, they may be less likely to act on the information that is presented or make a purchase (Wang et al., 2022). Hence H10 is supported.

Eleventh and twelfth hypotheses of the study stated that information accessibility significantly moderates the relationship between network information dissemination, environmental sustainable development and agricultural consumer purchase decision respectively. Consumers are more likely to interpret and use the information offered when it is easier for them to get it, which has a greater favorable impact on environmental sustainable development. On the other side, the potential for a beneficial influence of network information transmission on sustainable development may be diminished when information is made more difficult to get (Flórez-Aristizábal et al., 2019). Similarly, when consumers have easier access to information, they are more likely to interpret and use the information offered, which ultimately leads to a purchasing decision that is more informed and made with more confidence. On the other hand, the beneficial effect that the transmission of information through a network may have on purchase decisions may be diminished if information is more difficult to access (Catala et al., 2022). Hence H11 and H12 are supported.

## 5. Conclusion

This research emphasizes the significance of network information dissemination in promoting environmental sustainability and influencing agriculture consumer purchasing decisions. According to the findings, information overload has a detrimental impact on both environmental sustainable development and agriculture consumer buying decisions, whereas confidence in information sources has a beneficial

impact on both. Furthermore, the association between network information distribution and agricultural consumer purchasing decisions is moderated by information accessibility. In practice, the findings suggest that firms should prioritize the quality and trustworthiness of the information they provide to consumers, as well as provide conveniently available information to enable informed decision-making. In future study, theoretic implications include the need to explore the mediating and moderating functions of information overload, trust in information sources, and information accessibility. While this study gives useful information, some limitations should be acknowledged. The study relies on self-reported data, which could be skewed due to social desirability bias. Furthermore, the study focuses on a unique location and demographic, limiting the findings' generalizability. Future research could look into the effects of network information transmission in other contexts and populations, as well as other potential mediating and moderating factors. Overall, this study emphasizes the significance of network information distribution in improving environmental sustainability and supporting educated agriculture consumer purchasing decisions.

### 5.1. Implications

The study's findings have numerous practical implications for enterprises, politicians, and information providers. To begin, firms that want to promote environmental sustainable development might use the power of network information transmission to raise consumer knowledge about sustainable practices. They can work with information providers and use various communication channels to distribute knowledge about environmental sustainability, such as eco-friendly products, waste management, and sustainable agriculture techniques. Furthermore, firms can create consumer confidence by offering dependable and credible information through trusted sources. Second, the study reveals that information overload can have a negative impact on customer behavior. As a result, businesses and regulators must be cautious about the amount and type of information they offer to consumers. To prevent overloading consumers with too much information, they should ensure that the information offered is relevant, succinct, and accurate.

Businesses, especially those in the agricultural sector, have the potential to acquire valuable insights in relation to their economic and commercial impact. The results emphasize the importance of customized marketing strategies that take into account the careful equilibrium between spreading information, building trust, and the possibility of overwhelming people with too much information. Businesses can utilize this understanding to enhance their communication strategies, guaranteeing that the information conveyed is not only precise but also delivered in a manner that cultivates confidence among customers. Furthermore, the study indicates that businesses could gain advantages by aligning their practices with principles of sustainability, thus appealing to environmentally-conscious consumers. This presents a promising opportunity for businesses to not only improve their brand reputation but also actively participate in environmental preservation initiatives. Research in the field of Teaching and Education enhances academic curricula by offering practical insights into the process of sharing information. Instructors can integrate these discoveries into curricula pertaining to marketing, agriculture, and environmental studies. Through this approach, students acquire a more profound comprehension of the influence of information on consumer behavior, the significance of trust in decision-making, and the consequences of sustainability on business practices. This integration equips the upcoming cohort of professionals with the necessary knowledge and skills to effectively handle the intricacies of information management in practical situations. The study's implications also apply to the domain of Public Policy Influence. Policymakers can utilize the research findings to establish regulatory frameworks that promote the transparent and precise dissemination of information in the agricultural sector. Policymakers can contribute to the broader goal of promoting responsible business practices and informed consumer choices by placing emphasis

on the significance of reliable information and advocating for sustainability. This is consistent with the wider international objective of advancing sustainable development and promoting ethical business practices. The study makes a significant contribution to the existing body of knowledge in terms of research. It enhances our comprehension of the interaction among the distribution of information, trust, excessive information, and ease of access. Subsequent research efforts can expand on these findings by investigating supplementary variables that might impact consumer choices or by employing analogous models in various sectors. The iterative process of knowledge-building continuously refines and expands our understanding of consumer behavior in the digital age. The study has a substantial impact on society. The research has the capacity to mold consumer behavior towards environmental sustainability by exerting influence on public attitudes. With the growing knowledge of consumers, there is a probability of a rise in the demand for sustainable products and practices. Consequently, this can lead to a favorable ecological influence and an enhanced standard of living for individuals and communities. Crucially, these implications perfectly correspond with the study's findings and conclusions. For example, if the research identifies trust as a crucial element, the practical implications highlight the necessity of implementing strategies and policies that establish and sustain trust in sources of information. The outlined economic, educational, and societal impacts align with the fundamental concept that effectively managing the dissemination of information, while taking into account factors such as information overload and accessibility, can have a positive influence on decision-making processes and contribute to sustainability.

This study's theoretical implications are also significant. For starters, the study adds to the body of knowledge on network information distribution and its impact on environmental sustainability and agriculture consumer purchasing decisions. Second, the study offers light on the moderating effect of information accessibility and the mediating role of information overload and trust in information sources in the relationship between network information distribution and consumer behavior. Furthermore, the study underlines the necessity of understanding consumer behavior by evaluating the interplay of many elements rather than examining them in isolation.

## 5.2. Limitations and future directions

The current study has some limitations that should be acknowledged. First, the study was done in a specific geographic location with a small sample size, which may limit the findings' generalizability. To improve the external validity of the findings, future research could be done in different regions and with greater sample numbers. Second, the study relied on self-reported data, which could lead to response bias. Future research could include objective measurements of environmental sustainability and agricultural consumer behavior, such as carbon footprint or real purchase behavior. Finally, the study only looked at the moderating function of information accessibility and the mediating role of information overload and trust in information sources. Additional elements, such as cultural norms and values, may also have an impact on the relationship between network information distribution and environmental sustainability and agricultural consumer behavior.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Acknowledgements

The authors acknowledge the facilities offered by the higher authorities.

## Funding

No funding was received for this study.

## References

- Adnoui, M., Jiang, L., Zhang, X.J., Zhang, L.Z., Pathare, P.B., Roskilly, A.P., 2023. Computational modelling for decarbonised drying of agricultural products: sustainable processes, energy efficiency, and quality improvement. *J. Food Eng.* 338, 111247 <https://doi.org/10.1016/j.jfoodeng.2022.111247>.
- Ali, L., Nawaz, A., Iqbal, S., Basheer, M.A., Hameed, J., Albasher, G., Adnan, S., Shah, R., Bai, Y., 2021. Dynamics of Transit Oriented Development, Role of Greenhouse Gases and Urban Environment : A Study for Management and Policy.
- Amasawa, E., Brydges, T., Henninger, C.E., Kimita, K., 2023. Can rental platforms contribute to more sustainable fashion consumption? Evidence from a mixed-method study. *Clean. Respons. Consum.* 8, 100103 <https://doi.org/10.1016/j.clrc.2023.100103>.
- Avotra, A.A.R.N., Chenyun, Y., Yongmin, W., Lijuan, Z., Nawaz, A., 2021. Conceptualizing the state of the art of corporate social responsibility (CSR) in green construction and its nexus to sustainable development. *Front. Environ. Sci.* 9, 541. <https://doi.org/10.3389/fenvs.2021.774822>.
- Avotra, A.A.R.N., Nawaz, A., 2023. Asymmetric impact of transportation on carbon emissions influencing SDGs of climate change. *Chemosphere* 324, 138301. <https://doi.org/10.1016/j.chemosphere.2023.138301>.
- Benyam, A. (Addis), Soma, T., Fraser, E., 2021. Digital agricultural technologies for food loss and waste prevention and reduction: global trends, adoption opportunities and barriers. *J. Clean. Prod.* 323, 129099 <https://doi.org/10.1016/j.jclepro.2021.129099>.
- Caffaro, F., Micheletti Cremasco, M., Roccato, M., Cavallo, E., 2020. Drivers of farmers' intention to adopt technological innovations in Italy: the role of information sources, perceived usefulness, and perceived ease of use. *J. Rural. Stud.* 76, 264–271. <https://doi.org/10.1016/j.jrurstud.2020.04.028>.
- Cang, Y., Wang, D., 2021. A comparative study on the online shopping willingness of fresh agricultural products between experienced consumers and potential consumers. *Sustain. Comput. Informatics Syst.* 30, 100493 <https://doi.org/10.1016/j.suscom.2020.100493>.
- Catala, A., Gijlers, H., Visser, I., 2022. Guidance in storytelling tables supports emotional development in kindergartners. *Multimed. Tools Appl.* doi: 10.1007/s11042-022-14049-7.
- Chege, S.M., Wang, D., 2020. The influence of technology innovation on SME performance through environmental sustainability practices in Kenya. *Technol. Soc.* 60, 101210 <https://doi.org/10.1016/J.TECHSOC.2019.101210>.
- Dar, A.A., Hameed, J., Huo, C., Sarfraz, M., Albasher, G., Wang, C., Nawaz, A., 2022. Recent optimization and panelizing measures for green energy projects; insights into CO2 emission influencing to circular economy. *Fuel* 314, 123094. <https://doi.org/10.1016/j.fuel.2021.123094>.
- De Guimarães, J.C.F., Severo, E.A., Klein, L.L., Dorion, E.C.H., Lazzari, F., 2023. Antecedents of sustainable consumption of remanufactured products: a circular economy experiment in the Brazilian context. *J. Clean. Prod.* 385, 135571 <https://doi.org/10.1016/j.jclepro.2022.135571>.
- Deb, P., Dey, M.M., Surathkal, P., 2022. Price transmission and market integration of Bangladesh fish markets. *Aquaculture* 560, 738592. <https://doi.org/10.1016/j.aquaculture.2022.738592>.
- Ejaz, W., Ittefaq, M., 2020. Data for understanding trust in varied information sources, use of news media, and perception of misinformation regarding COVID-19 in Pakistan. *Data Br.* 32, 106091 <https://doi.org/10.1016/j.dib.2020.106091>.
- Esraa, A., Zaid, A.A., 2019. The impact of social media marketing on consumer purchase intention: consumer survey in Saudi Arabia. *J. Mark. Consum. Res.* <https://doi.org/10.7176/JMCR/56-03>.
- Flórez-Aristizábal, L., Cano, S., Collazos, C.A., Solano, A.F., Brewster, S., 2019. Designability: Framework for the design of accessible interactive tools to support teaching to children with disabilities. In: 2019 CHI Conference on Human Factors in Computing Systems, CHI 2019. Association for Computing Machinery, GRINTIC Group, Inst. Univ. Antonio José, Camacho Cali, Colombia. doi: 10.1145/3290605.3300240.
- Freeland, L., O'reilly, M., Fleury, J., Adams, S., Vostanis, P., 2022. Digital social and emotional literacy intervention for vulnerable children in Brazil: Participants' experiences. *Int. J. Ment. Health Promot.* 24, 51–67. <https://doi.org/10.32604/ijmhp.2022.015706>.
- Ghebleh, R., 2018. A comparative classification of information dissemination approaches in vehicular ad hoc networks from distinctive viewpoints: a survey. *Comput. Netw.* 131, 15–37. <https://doi.org/10.1016/j.comnet.2017.12.003>.
- Guo, Y., Lu, Z., Kuang, H., Wang, C., 2020. Information avoidance behavior on social network sites: information irrelevance, overload, and the moderating role of time pressure. *Int. J. Inf. Manag.* 52, 102067 <https://doi.org/10.1016/j.ijinfomgt.2020.102067>.
- Hair, J.J., Hult, G., Ringle, C., Sarstedt, M., 2016. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage, Thousand Oaks, CA.
- Hair, J.F., Risher, J.J., Sarstedt, M., Ringle, C.M., 2019. When to use and how to report the results of PLS-SEM. *Eur. Bus. Rev.* 31, 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>.
- Hanaysha, J.R., 2022. Impact of social media marketing features on consumer's purchase decision in the fast-food industry: brand trust as a mediator. *Int. J. Inf. Manag. Data Insights* 2, 100102. <https://doi.org/10.1016/j.jjime.2022.100102>.

- Hassan, N.M., Abbasi, M.N., Ahmed, Z., 2020. Achieving sustainable supply chain performance through sustainable production and sustainable supplier management: a case of food manufacturing sector of Pakistan. *Rev. Econ. Dev. Stud.* 6, 941–954. <https://doi.org/10.47067/reads.v6i4.294>.
- Heaney, E., Hunter, L., Clulow, A., Bowles, D., Vardoulakis, S., 2021. Efficacy of communication techniques and health outcomes of bushfire smoke exposure: a scoping review. *Int. J. Environ. Res. Public Health* 18. <https://doi.org/10.3390/ijerph182010889>.
- Heyneman, S.P., 2021. Fake news, fake truth: a new purpose for public schooling. *Int. J. Educ. Dev.* 87, 102496 <https://doi.org/10.1016/j.ijedudev.2021.102496>.
- Hooda, A., Gupta, P., Jeyaraj, A., Giannakis, M., Dwivedi, Y.K., 2022. The effects of trust on behavioral intention and use behavior within e-government contexts. *Int. J. Inf. Manag.* 67 <https://doi.org/10.1016/j.IJINFORMGT.2022.102553>.
- Indu, V., Thampi, S.M., 2021. A systematic review on the influence of user personality in rumor and misinformation propagation through social networks. *Commun. Comput. Inf. Sci.* 1365, 216–242. [https://doi.org/10.1007/978-981-16-0425-6\\_17](https://doi.org/10.1007/978-981-16-0425-6_17).
- Ishikawa, T., Mizuguchi, H., Murayama, H., Fujiwara, K., Tanikawa, T., Kobayashi, E., Ogasawara, K., 2019. Relationship between accessibility and resources to treat acute ischemic stroke. Hokkaido, Japan: analysis of inequality and coverage using geographic information systems. *Heal. Policy Technol.* 8, 337–342. <https://doi.org/10.1016/j.hlpt.2019.10.001>.
- Khaleel, I., Wimmer, B.C., Peterson, G.M., Zaidi, S.T.R., Roehrer, E., Cummings, E., Lee, K., 2020. Health information overload among health consumers: a scoping review. *Patient Educ. Couns.* 103, 15–32. <https://doi.org/10.1016/j.pec.2019.08.008>.
- Krishna, A., 2021. Understanding the differences between climate change deniers and believers' knowledge, media use, and trust in related information sources. *Public Relat. Rev.* 47, 101986 <https://doi.org/10.1016/j.pubrev.2020.101986>.
- Ledderer, L., Kjaer, M., Madsen, E.K., Busch, J., Fage-Butler, A., 2020. Nudging in public health lifestyle interventions: a systematic literature review and metasynthesis. *Heal. Educ. Behav.* 47, 749–764. <https://doi.org/10.1177/1090198120931788>.
- Li, L., Wang, X., 2020. Technostress inhibitors and creators and their impacts on university teachers' work performance in higher education. *Cogn. Tech. Work* 1, 3. <https://doi.org/10.1007/s10111-020-00625-0>.
- Manoko, B., Serote, M., Akinboade, O., Taft, T., 2020. Awareness and health impacts of information overload and ICT usage in South Africa. *Libr. Philos. Pract.*
- Matthes, J., Karsay, K., Schmuuck, D., Stevic, A., 2020. "Too much to handle": impact of mobile social networking sites on information overload, depressive symptoms, and well-being. *Comput. Hum. Behav.* 105, 106217 <https://doi.org/10.1016/j.chb.2019.106217>.
- Mujiyana, M., Damerianta, S., Mukodim, D., Harmadi, A., Indriyani, I., 2022. The influence of perceptions of usefulness, user ease, and security on interest in using fund e-wallet with e-trust as intervening variable. *Tech. Soc. Sci. J.* 34, 708–717. <https://doi.org/10.47577/TSSJ.V34I1.7132>.
- Nawaz, A., Guribie, F.L., 2022. Impacts of institutional isomorphism on the adoption of social procurement in the Chinese construction industry. *Constr. Innov. ahead-of-p.* doi: 10.1108/CI-02-2022-0035.
- Nawaz, A., Raheel Shah, S.A., Su, X., Dar, A.A., Qin, Z., Albasher, G.D., 2021. Analytical strategies to sense water stress level: an analysis of ground water fluctuations sensing SDGs under pandemic scenario. *Chemosphere*, 132924. <https://doi.org/10.1016/j.chemosphere.2021.132924>.
- Nawaz, A., Chen, J., Su, X., Zahid Hassan, H.M., 2022. Material based penalty-cost quantification model for construction projects influencing waste management. *Front. Environ. Sci.* 10, 807359 <https://doi.org/10.3389/fenvs.2022.807359>.
- Nawaz, A., Chen, J., Su, X., 2023. Factors in critical management practices for construction projects waste predictors to C&DW minimization and maximization. *J. King Saud Univ. - Sci.* 35, 102512 <https://doi.org/10.1016/j.jksus.2022.102512>.
- Neha, T., Reese, E., Schaugency, E., Taumoepeau, M., 2020. The role of Whanau (New Zealand Maori families) for Maori children's early learning. *Dev. Psychol.* 56, 1518–1531. <https://doi.org/10.1037/dev0000835>.
- Occa, A., Morgan, S.E., Peng, W., Mao, B., McFarlane, S.J., Grinfeder, K., Byrne, M., 2021. Untangling interactivity's effects: the role of cognitive absorption, perceived visual informativeness, and cancer information overload. *Patient Educ. Couns.* 104, 1059–1065. <https://doi.org/10.1016/j.pec.2020.10.007>.
- Oelkers, K., 2020. The accessibility of data on environmental risk assessment of pharmaceuticals – are environmental risk assessments information on emissions with respect to international and European environmental information law? *Regul. Toxicol. Pharm.* 111, 104571 <https://doi.org/10.1016/j.yrtph.2019.104571>.
- Panda, D., Masani, S., Dasgupta, T., 2022. Packaging-influenced-purchase decision segment the bottom of the pyramid consumer marketplace? Evidence from West Bengal, India. *Asia Pacific Manag. Rev.* 27, 145–153. <https://doi.org/10.1016/j.apmr.2021.06.004>.
- Pang, H., Ruan, Y., 2023. Determining influences of information irrelevance, information overload and communication overload on WeChat discontinuance intention: the moderating role of exhaustion. *J. Retail. Consum. Serv.* 72, 103289 <https://doi.org/10.1016/j.jretconser.2023.103289>.
- Pantano, E., Viassone, M., Boardman, R., Dennis, C., 2022. Inclusive or exclusive? Investigating how retail technology can reduce old consumers' barriers to shopping. *J. Retail. Consum. Serv.* 68, 103074 <https://doi.org/10.1016/j.jretconser.2022.103074>.
- Radomyski, A., Ashauer, R., 2022. A site-specific indicator of nitrogen loads into surface waters from conventional and conservation agriculture practices: Bayesian network model. *Ecol. Ind.* 145, 109641 <https://doi.org/10.1016/j.ecolind.2022.109641>.
- Reisenwitz, T.H., Fowler, J.G., 2019. Information sources and the tourism decision-making process: an examination of generation X and generation Y consumers. *Glob. Bus. Rev.* 20, 1372–1392. <https://doi.org/10.1177/0972150919848938>.
- Saeed, R., Sattar, A., Iqbal, Z., Imran, M., Nadeem, R., 2012. Environmental impact assessment (EIA): an overlooked instrument for sustainable development in Pakistan. *Environ. Monit. Assess.* 184, 1909–1919.
- Sandra Marcelline, T.R., Chengang, Y., Ralison Ny Avotra, A.A., Hussain, Z., Zonia, J.E., Nawaz, A., 2022. Impact of green construction procurement on achieving sustainable economic growth influencing green logistic services management and innovation practices. *Front. Environ. Sci.* 9 <https://doi.org/10.3389/fenvs.2021.815928>.
- Simon, W.J., Krupnik, T.J., Aguilar-Gallegos, N., Halbherr, L., Groot, J.C.J., 2021. Putting social networks to practical use: Improving last-mile dissemination systems for climate and market information services in developing countries. *Clim. Serv.* 23, 100248 <https://doi.org/10.1016/j.cliser.2021.100248>.
- Spallini, S., Milone, V., Nisio, A., Romanazzi, P., 2021. The dimension of sustainability: a comparative analysis of broadness of information in Italian companies. *Sustain.* 13, 1–22. <https://doi.org/10.3390/su13031457>.
- Sutherland, L.-A., Mills, J., Ingram, J., Burton, R.J.F., Dwyer, J., Blackstock, K., 2013. Considering the source: commercialisation and trust in agri-environmental information and advisory services in England. *J. Environ. Manage.* 118, 96–105. <https://doi.org/10.1016/j.jenvman.2012.12.020>.
- Tang, D., Zheng, Q., Xu, B., Zheng, M., Chen, J., 2023. Value of nostalgia to agricultural heritage: consumer's nostalgia proneness and purchase intention toward traditional tea. *J. Clean. Prod.* 395, 136411 <https://doi.org/10.1016/j.jclepro.2023.136411>.
- Tarafdar, M., Tu, Q., Ragu-Nathan, T., 2010. Impact of technostress on end-user satisfaction and performance. *J. Manag. Inf. Syst.* 27, 303–334. <https://doi.org/10.2753/MIS0742-1222270311>.
- Tarigan, Z.J.H., Jonathan, M., Siagian, H., Basana, S.R., 2022. The effect of e-WOM through intention to use technology and social media community for mobile payments during the COVID-19. *Int. J. Data Netw. Sci.* 6, 563–572. <https://doi.org/10.5267/J.IJDNS.2021.11.008>.
- Tayseer, F., Ayasrah, M., 2020. Exploring E-learning readiness as mediating between trust, hedonic motivation, students' expectation, and intention to use technology in Taibah University. *J. Educ. Soc. Policy* 7. <https://doi.org/10.30845/jesp.v7n1p12>.
- Tzima, S., Styliaras, G., Bassounas, A., Tzima, M., 2020. Harnessing the potential of storytelling and mobile technology in intangible cultural heritage: a case study in early childhood education in sustainability. *Sustain.* 12, 1–22. <https://doi.org/10.3390/su12229416>.
- Wang, E., Gao, Z., Heng, Y., 2022. Explore Chinese consumers' safety perception of agricultural products using a non-price choice experiment. *Food Control* 140, 109121. <https://doi.org/10.1016/j.foodcont.2022.109121>.
- Wu, S.J., Coman, A., 2023. Altering the past to shape the future: manipulating information accessibility to influence case-based reasoning. *J. Exp. Soc. Psychol.* 104, 104407 <https://doi.org/10.1016/j.jesp.2022.104407>.
- Xiaolong, T., Gull, N., Iqbal, S., Asghar, M., Nawaz, A., Albasher, G., Hameed, J., Maqsoom, A., 2021. Exploring and validating the effects of mega projects on infrastructure development influencing sustainable environment and project management. *Front. Psychol.* 12, 1251.
- Xue, N., Lu, J., Gu, D., Lou, Y., Yuan, Y., Li, G., Kumagai, S., Saito, Y., Yoshioka, T., Zhang, N., 2023. Carbon footprint analysis and carbon neutrality potential of desalination by electrodialysis for different applications. *Water Res.* 232, 119716 <https://doi.org/10.1016/j.watres.2023.119716>.
- Xue, L., Zhang, Z., Xu, L., Gao, F., Zhao, X., Xun, X., Zhao, B., Kang, Z., Liao, Q., Zhang, Y., 2021. Information accessibility oriented self-powered and ripple-inspired fingertip interactors with auditory feedback. *Nano Energy* 87, 106117. <https://doi.org/10.1016/j.nanoen.2021.106117>.
- Yingfei, Y., Mengze, Z., Zeyu, L., Ki-Hyung, B., Avotra, A.A.R.N., Nawaz, A., 2021. Green logistics performance and infrastructure on service trade and environment-measuring firm's performance and service quality. *J. King Saud Univ.* 101683
- Zhang, M., Xu, P., Ye, Y., 2022. Trust in social media brands and perceived media values: a survey study in China. *Comput. Human Behav.* 127, 107024 <https://doi.org/10.1016/j.chb.2021.107024>.
- Zhang, Q., Zheng, Y., 2022. Pricing strategies for bundled products considering consumers' green preference. *J. Clean. Prod.* 344, 130962 <https://doi.org/10.1016/j.jclepro.2022.130962>.
- Zhe, L., Jie, W., Yuan, H., 2023. The effect of place attachment of geographical indication agricultural products on repurchase intention. *J. Retail. Consum. Serv.* 72, 103266 <https://doi.org/10.1016/j.jretconser.2023.103266>.
- Zhu, J., Yuan, X., Yuan, X., Liu, S., Guan, B., Sun, J., Chen, H., 2021. Evaluating the sustainability of rural complex ecosystems during the development of traditional farming villages into tourism destinations: a diachronic emergy approach. *J. Rural. Stud.* 86, 473–484. <https://doi.org/10.1016/j.jrurstud.2021.07.010>.
- Zia, A., Alzahrani, M., 2022. Investigating the effects of E-marketing factors for agricultural products on the emergence of sustainable consumer behaviour. *Sustain.* 14, 13072 <https://doi.org/10.3390/SU142013072>.