

Article

# Social Media Use and Paranoia: Factors That Matter in Online Shopping

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**Abstract:** The paper aims to explore the ways social media use is linked with paranoia, and how they influence buyers' attitudes and intentions in online shopping, thus shaping overall consumer behaviour. The theoretical analysis suggests that paranoia, being influenced by social media use, plays a noticeable role in the process of online shopping. The main assumption is that paranoia is an antecedent of the attitude towards online purchasing and mediates effects of other factors towards it. This is confirmed with SEM modelling on the basis of empirical data: the analysis provides evidence that paranoia is an important antecedent of the attitude towards purchasing online and mediates relationships between computer competence, cyber-fear, social media use and the attitude towards online shopping. Additionally, a contradictory relation between paranoia and online purchasing intention is observed. Overall, these findings disclose a new important factor in online shopping and outline several new directions for future research.

**Keywords:** social media; paranoia; online purchasing; computer competence; cyber-fear

## 1. Introduction

The development of digital technologies made social media use and online purchasing of products and services a daily routine for most of the people worldwide [1]. There is numerous evidence that engagement into social networks is linked with attitudes towards online purchasing or online purchasing behaviour [2,3]. One of the ways that could be considered in order to better understand the mechanism of the relation between participation in social networks and in online purchasing is to include a factor that has been somehow neglected in many previous studies—paranoia.

Paranoia is defined as “persecutory delusions, false beliefs whose propositional content clusters around ideas of being harassed, threatened, harmed, subjugated, persecuted, accused, mistreated, wronged, tormented, disparaged, vilified, and so on, by malevolent others, either specific individuals or groups” [4]. The mechanism of paranoia itself is frequently linked with the concept of distrust [5,6], which is conceptualized as a psychological state that is related to the lack of trustworthiness for others, caused by negative expectations and beliefs [7]. Emphasis is laid on the fact that distrust can be categorized into rational and irrational [8]. Rational distrust is described as being flexible and able to change depending on specific situations. Meanwhile, irrational distrust implies being inflexible and incapable to respond to the changing circumstances [8]. This specific type of distrust is associated with paranoid cognition and paranoid behaviour. A hierarchical structure of paranoia categorizes paranoia in terms of the level of intensity from the mildest, most common types, to most severe, less noticeable among the general population members [9]. This idea is supported by the statement that paranoid behaviour is not necessarily associated with the delusional distrust since it has developed as misperception and misjudgement [6] and is a common human experience [10]. Despite the fact that paranoia has been associated with a clinically diagnosable syndrome [11], recent developments

of paranoia studies have extended the scope of its research beyond clinical psychology. It is stated that a mild form of paranoia is a personality trait that can be observed among people without any medical indications [11,12]. This was supported by other scholars, confirming the existence of paranoia in non-clinical samples [9,13,14]. Therefore, paranoia should not be perceived as a mental disorder only, but also as “a part of a normally functioning human psychology” [15]. Based on the idea that paranoia does not exist on a dichotomous basis [16], we aim to explore paranoia as a continuum which is present to the general population.

Taking into consideration the fact that trust and distrust are widely accepted as being among the most important factors, influencing the online purchasing behaviour [17–20], with this exploratory study we aim to fulfil the existing research gap, by analysing paranoia as the extreme type of irrational distrust in the context of social media use and online shopping intentions. More specifically, we predict the presence of paranoia effect in online behaviours that are perceived by non-professional users as being complex, include unclear and sometimes hardly understandable functionalities and the lack of human interactions during the purchasing process. These types of situations are known as triggering uncertainties and distrust [21], but studies almost never reach towards an even more irrational factor—paranoia. People who intensively use social media or have higher general expertise in computer use may be less sensitive to these situations, thus factors of social media use and computer expertise may interact with paranoia and afterwards have not yet known effects in online shopping behaviour (specifically on attitude and intentions). These interactions are analysed together with the presence of cyber-fear, which is a factor of a similar nature with paranoia and privacy concern that is a typical negative antecedent of online behaviours [22]. Since the current knowledge on paranoia effects in online shopping remains very limited and fragmented, thus its analysis with the potential implications in explaining online consumer behaviour seems to be very promising both for scholars and for managers.

## 2. Theory and Hypotheses

### 2.1. Paranoia in Online Purchasing

Purchasing online is associated with a number of factors that are positively influencing purchase intentions, many of them are linked with various aspects of trust that acquire specific forms in online contexts. Consumer purchasing intention online can be directly influenced by the trust that is evoked by a website brand [18]. The trust of the platform is one of the three factors (others being satisfaction and awareness) that are the most important in predicting the consumer intention to purchase online [17]. On the other hand, there are factors that influence online purchasing intentions negatively, typically generating some form of distrust [23]. These factors pose a set of obstacles that reduce the use of electronic commerce. Trust and distrust coexist as separate constructs, however, distrust generally plays a much more important role in consumer intentions [20]. This is especially correct when different levels of risk (risk-linked factors) are present in online behaviours: trust has a stronger effect on low-risk behaviours, while distrust has a stronger negative impact on higher risk behaviours [19].

Discussing the more extreme form of distrust—paranoia—it has to be specified that this phenomenon is not only directed towards the other individuals but also towards the social groups and organizations [4], and, possibly, processes. Online processes and activities, as they include complex interactions between humans and IT systems, may evoke uncertainties and ambiguity, which may trigger irrational distrust in a form which could be considered as paranoid thinking. This is supported by evidence of the existing positive relationship between internet use frequency and general trait paranoia [22]. The possible implications of paranoia on consumer behaviour online are also supported by the suggestion, that paranoid thinking is associated with the subliminal advertising phenomena—while customers tend to have a specific set of fears towards the advertising itself, their thinking that someone is potentially playing with their minds, evoke the irrational response, consumer paranoia [24]. This can be explained through the nature of paranoia, which is considered to be a natural

reaction towards the uprising social threats [15]. In such circumstances, paranoia may play a particular role in specific internet-based activities, such as online shopping, as electronic purchasing is almost always associated with specific fears and risks which customers are perceiving [25]. Finally, this allows an assumption to be made that paranoia, a factor that represents a set of irrational risks and extreme forms of distrust, may be one of the antecedents of the attitude towards e-purchasing, able to influence the attitude negatively:

**H1:** Paranoia has a direct negative influence on attitude towards purchasing online.

If paranoia is an antecedent of the attitude, both the theory of reasoned action and theory of planned behaviour [26,27] suggest that it should not have a direct influence on the intention. This influence has to be mediated by the attitude. Based on this solid background we cannot predict the direct relationship between an antecedent (paranoia) and the intention. Instead, this relationship has to be indirect, mediated by the attitude:

**H2:** Paranoia has no direct impact on intention to purchase online.

**H3:** Paranoia has an indirect negative impact on intention to purchase online when the relationship is mediated by an attitude towards purchasing online.

## 2.2. Privacy Concern and Cyber-Fear

In the context of online activities, distrust is associated with other negative factors. All they root from a broad background of the privacy concerns and related risks. The phenomenon of privacy concern in buyer behaviour is mainly linked with the awareness of privacy-related issues which include the disclosure of personal information to third parties [28]. A large number of studies agree on a strong negative influence of the privacy concern on the extent of various internet-related activities [29–31]. Purchasing online is among them—the risk of privacy loss online is negatively related to the purchasing intention [32]. The influence of the perceived threats may be so strong that individuals may feel an overall fear to perform digital activities, and this may be defined as cyber-fear [22]. The concept of cyber-fear is new and understudied. However, it has been disclosed that the technology awareness, experience of using the internet (internet use by years), frequency of internet use has a significant negative impact on cyber-paranoia [22].

The next issue in determining the role of paranoia in online shopping is finding its place among factors that measure privacy concerns and risks. These factors themselves may have a direct influence on the attitude towards purchasing online [33,34]:

**H4:** Cyber-fear has a direct negative impact on the attitude towards purchasing online.

**H5:** Privacy concern has a direct negative impact on the attitude towards purchasing online.

Cyber fear by its essence is a close factor to paranoia. Though the direction of their interaction requires further discussion, we assume that cyber fear also has an indirect influence on the attitude:

**H6:** Cyber-fear has an indirect negative impact on the attitude towards purchasing online when the relationship is mediated by paranoia.

## 2.3. Social Media Use and Computer Competence

People who use social media frequently, receive unexpected suggestions or recommendations, depending on their previous interactions, preferences and likes. These instances have obvious explanations on the basis of used programming algorithms, however, they may seem unclear and even threatening to the general population, since typical users cannot be professionally aware of the technical side of how internet-based social networks are working. Intensive use of social media increases the number of such interactions, and therefore increases the opportunity of paranoid cognition. In this case,

social media use integration shall have an indirect (mediated by paranoia) influence on the attitude towards online purchasing. However, there is no theoretical or empirical evidence that could allow predicting the valence of this relationship, since the relation between the social media use integration and paranoia is expected to be positive, while the relation between paranoia and the attitude – negative. Since the latter is stronger justified, we hypothesize as follows:

**H7:** Paranoia mediates a negative impact of social media use integration on the attitude towards purchasing online.

Computer competency is directly reflecting the buyer's experience and skills working with the computers [35]. In the context of online shopping, there is strong evidence that computer competence significantly enhances purchasing online [36,37]. Moreover, a positive impact of the level of internet usage on purchasing behaviour is discovered [38,39]. One of the factors representing one's involvement with computers is the extent of social media use, which is claimed to have a positive impact on the intention to purchase online [2]. The intensity of social media use may be measured using several variables (duration, frequency, etc.), but a more comprehensive assessment is achieved via measuring social media use integration, which refers to the involvement and emotional connection to the social network usage [40].

Continuing a similar logic as with the hypotheses on social media use, we state that competent users should have answers to many of unexpected occurrences during the internet-based activities. Therefore, computer competence seems not likely to have a relation (at least—positive) with paranoia. However, computer expertise allows us to know how much tracking may be done on the internet, and how badly this accumulated knowledge may be used by somebody with bad intentions [41]. As a result, the increase in computer expertise may develop a paranoid cognition. As in the case of social media use, we may predict a negative influence of computer competence on the attitude, if mediated by paranoia:

**H8:** Computer competence has an indirect negative impact on the attitude towards purchasing online when the relationship is mediated by paranoia.

In addition, it is expected that computer competence should have a positive influence on the attitude towards purchasing online:

**H9:** Computer competence has a direct positive impact on the attitude towards purchasing online.

### 3. Materials and Methods

#### 3.1. Participants and Procedure

The aim of this research is to determine the role of paranoia on the relationships between social media use, cyber-fear, computer competence, privacy concern, attitude towards purchasing online and online purchase intention. The quantitative research method is used to investigate the relationships between the variables. Data is collected via the internet survey. The analysis is based on 287 respondents from Lithuania. The largest proportion of respondents consisted of 18–35 age group, making 95.8% of the total sample. Since the intention to purchase online is the dependent variable of this research, the target population of this research can be a population that is most likely to do online shopping, thus the 18–35 age group was specifically targeted since it is claimed to be the most active internet users group in Lithuania [42]. In addition, 77.8% of the respondents were graduates of higher education institutions, 65.9% of the sample were women.

#### 3.2. Measures

To measure the trait paranoia, a 5-point, 20 items Likert type general paranoia scale, developed by Fenigstein and Vanable was used [11], which is widely accepted as a measurement tool, allowing to capture the paranoia in non-clinical samples. The cyber-fear was measured using 5-point, 11 items

Likert type cyber paranoia and fear scale, developed by Mason, Stevenson and Freedman which had been originally reported to be loading on two factors—cyber paranoia and cyber-fear [22]. In the scope of this research, the cyber-fear factor was utilized and taken into consideration. The following factor, the privacy concern was measured by 5-point 16 items Likert type attitudinal scale, evaluating the scope of general concerns about privacy on the Internet [28]. The social media use was measured by employing the social media use integration scale (10 items on a 7-point scale) to assess the involvement and emotional connection to the social networks [40]. Computer competence was measured using 4 items on a 5-point Likert type Internet and computer comfort/competency scale, which is linked with the extent of the computer and Internet skills [35]. The attitude towards purchasing online (10 items on a 5-point Likert type scale) and online purchasing intention (4 items on a 5-point Likert type scale) were taken from a similar study [43].

An exploratory factor analysis with a maximum likelihood extraction and Promax with Kaiser normalization rotation allowed the extraction of 7 factors that explained 60.5% of the variance. The KMO value was 0.815 ( $> 0.7$ ) and the Bertlett's Chi-square value resulted at 5217.930 ( $p = 0.00$ ) and demonstrated the sample adequacy and applicability for the analysis. 27 non-redundant residuals equalled to 5%, which was an acceptable result for the adequacy. All correlations between the factors were below 0.7 what suggested an acceptable discriminant validity. All the factor loadings were above 0.5 (Table 1).

**Table 1.** Factor Matrix.

Item	Factor						
	1	2	3	4	5	6	7
Attitude_online_p_1						0.830	
Attitude_online_p_4						0.649	
Attitude_online_p_5						0.816	
Attitude_online_p_7						0.828	
Competence_1				0.721			
Competence_2				0.727			
Competence_3				0.879			
Competence_4				0.835			
Privacy concern_11		0.799					
Privacy concern_12		0.921					
Privacy concern_13		0.928					
Privacy concern_15		0.654					
Privacy concern_16		0.553					
Paranoia_3					0.739		
Paranoia_4					0.711		
Paranoia_5					0.689		
Paranoia_6					0.693		
Paranoia_7					0.680		
Cyber_fear_2							0.691
Cyber_fear_3							0.692
Cyber_fear_4							0.662
Soc_media_use_1	0.658						
Soc_media_use_2	0.671						
Soc_media_use_3	0.822						
Soc_media_use_4	0.868						
Soc_media_use_5	0.625						
Soc_media_use_6	0.785						
Onl_purch_int_1			0.782				
Onl_purch_int_2			0.837				
Onl_purch_int_3			0.935				
Onl_purch_int_4			0.891				

The CFA analysis required further modifications of the scales, since a validity and reliability check resulted in AVE measure scored 0.457 ( $< 0.5$ ) on a cyber-fear scale. After the deletion of cyb\_fear\_1 item, all AVE measures scored  $> 0.5$ , CR scored  $> 0.7$  and the root of AVE was greater than correlations.

The common latent bias test came back positive, showing the Chi-square unconstrained value as 584.9, the Chi-square constrained value—499.4, the df unconstrained value—406, the df fully constrained value—375. Cronbach’s alpha values for each scale were > 0.7, indicating a good level of scales reliability. More specifically: attitude towards online purchasing: 0.867, computer competence: 0.865, privacy concern: 0.892, paranoia: 0.830, cyber-fear: 0.778, social media use: 0.879, online purchasing intention: 0.911.

#### 4. Results

The hypotheses of the research were tested using the structural equation analysis, estimating the path coefficients for each relationship. The acceptable level of model fit was confirmed, measuring the following values:  $\chi^2(278) = 584.9$ , CMIN=499.442, DF=375, CFI=0.974, TLI =0.968, RMSEA=0.034.

In total, 9 hypotheses were tested, seven of them were accepted. The research model with regression weights is presented in Figure 1.

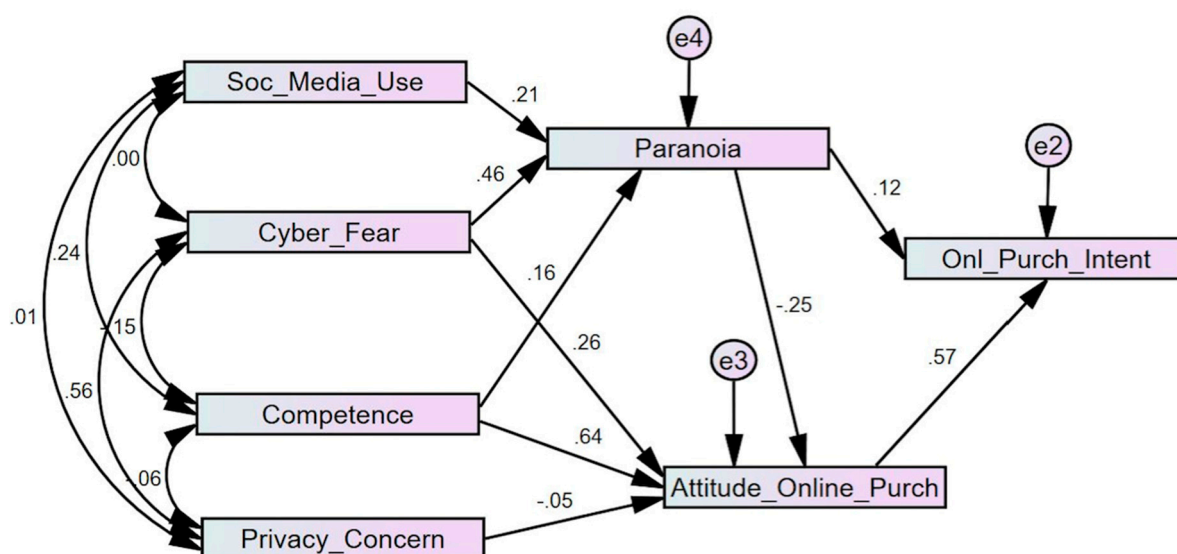


Figure 1. Research model.

H1 hypothesis states that paranoia has a direct negative influence on the attitude towards purchasing online. The regression analysis shows a significant negative relationship between paranoia and the attitude towards purchasing online ( $\beta = -0.306, p = 0.000$ ), thus H1 is accepted. The results of the direct effects are presented in Table 2.

Table 2. Regression weights.

			Regression Weights	S.E.	C.R.	p
Paranoia	←	Cyber fear	0.417	0.046	8.990	***
Paranoia	←	Social media use integration	0.089	0.022	4.010	***
Paranoia	←	Computer competence	0.211	0.071	2.973	0.003
Attitude towards purchasing online	←	Privacy concern	-0.053	0.057	-0.919	0.358
Attitude towards purchasing online	←	Computer competence	1.032	0.078	13.185	***
Attitude towards purchasing online	←	Paranoia	-0.306	0.064	-4.809	***
Attitude towards purchasing online	←	Cyber fear	0.288	0.067	4.284	***
Online purchasing intention	←	Attitude towards purchasing online	0.420	0.035	11.886	***
Online purchasing intention	←	Paranoia	0.105	0.042	2.486	0.013

H2 states that paranoia has no direct impact on online purchasing intention. However, the regression analysis shows rather contradicting results: this relation is not significant if  $p < 0.01$  is used. However, it would be significant if  $p < 0.05$  criteria were employed (as it is done in many studies). In this study, we use stricter criteria for significance, therefore the results ( $\beta = 0.105, p = 0.013$ ) allow us to accept H2.

H3 states that paranoia has an indirect negative impact on the intention to purchase online when the relationship is mediated by the attitude towards purchasing online. An indirect effect on purchase intention, mediated by the attitude towards online purchasing is found to be negative ( $\beta = -0.026$ ), allowing to accept H3. The results of the indirect effects are presented in Table 3.

**Table 3.** Standardized indirect effects.

	Social Media Use Integration	Privacy Concern	Computer Competence	Cyber Fear	Paranoia	Attitude towards Purchasing Online
Paranoia	0.000	0.000	0.000	0.000	0.000	0.000
Attitude towards purchasing online	-0.053	0.000	-0.040	-0.117	0.000	0.000
Online purchasing intention	-0.005	-0.030	0.361	0.140	-0.146	0.000

H4 states that cyber-fear has a direct negative impact on the attitude towards purchasing online. However, the results are the opposite: cyber-fear has a direct positive impact on the attitude towards purchasing online ( $\beta = 0.288, p = 0.000$ ), thus H4 hypothesis is rejected.

H5 predicts that privacy concern has a direct negative impact on attitude towards purchasing online. A regression analysis shows that this relation is not significant ( $\beta = -0.053, p = 0.358$ ), therefore H5 is rejected.

H6 states that cyber-fear has an indirect negative impact on the attitude towards purchasing online when the relationship is mediated by paranoia. The assessment of the standardized indirect effect confirms this assumption ( $\beta = -0.117$ ), and H6 is accepted.

H7 hypothesis states that paranoia mediates a negative impact of social media use integration on the attitude towards purchasing online. Standardized indirect effects show the existence of a relatively small ( $\beta = -0.53$ ) negative indirect effect, and this allows accepting H7.

H8 states that computer competence has an indirect negative impact on the attitude towards purchasing online when the relationship is mediated by paranoia. The standardized indirect effects show that due to mediation, computer competence changes the relationship valence and is negative ( $\beta = -0.04$ ). Thus, H8 is accepted.

H9 states that computer competence has a direct positive impact on the attitude towards purchasing online. The regression analysis shows a significant positive relationship between computer competence and the attitude towards purchasing online ( $\beta = 1.032, P = 0.000$ ), thus H9 is accepted.

## 5. Discussion

The purpose of this study was to examine the role of paranoia in relation to social media use in the context of the online purchasing process. Findings of the study suggest that paranoia is an important psychological antecedent on the attitude towards purchasing online, which is a new element in overall studies of online behaviour. Elaboration of this negative relationship presents the main contribution of the current study since the growing complexity of human interactions with IT systems trigger extreme forms of distrust and even paranoia. The current study might be considered as an extension of the studies on distrust, as paranoia can be considered as the irrational type of distrust [8] and the current findings are broadening the previous knowledge that distrust has a negative impact on attitudes towards purchasing online [44]. The current study extends the previous scope of knowledge regarding the antecedents of distrust/paranoia by including into the consideration two factors that represent user competence from two perspectives: from the general computer competence and from the engagement in social media use.

Another important finding of this study is the disclosure of the fact that paranoia mediates effects of other factors towards the attitude of purchasing online. These factors (social media use integration, cyber fear and computer competence) are different by their nature and their potential influence on online purchasing. However, paranoia is a mediator between them and attitude towards online purchasing. To our knowledge, this type of relationship has never been found before and presents another noticeable contribution to this study. Paranoia mediates effects from these three factors but does not play a mediating role between privacy concern and the attitude towards purchasing online. The exploratory study did not aim to elaborate deeper on this, but these findings suggest interesting directions for future studies. The relation of each factor under analysis (social media integration, cyber-fear, computer competence) with paranoia seems to be really promising, though might require additional theoretical justification and empirical testing.

We assumed that paranoia is an antecedent of the attitude towards online purchasing and has no direct influence on the intention to purchase online. However, the empirical evidence has revealed a possibility that this influence might exist. Therefore, it is necessary to test it again on a larger sample in order to conclude whether this observation is a sample-specific case, or it suggests an alternative consideration on the role of paranoia in purchasing, thus inviting to look for a different theoretical background.

Finally, a smaller and rather unexpected result has been observed in terms of the relation between cyber-fear and the attitude towards purchasing online. Since both paranoia and cyber-fear factors are associated [22], similar results were expected. However, the relation between cyber-fear and attitude towards purchasing online was positive, and therefore, rather contradictory. Such an unexpected result might be related to the nature of the cyber-fear measurement scale, which originally aims to capture the human attitudes towards the cyber-related threats that are likely to occur or are at least are much more realistic in comparison to the cyber-paranoia dimension, which has also been developed by the same authors, aiming to evaluate the “unrealistic fears concerning threats via information technologies whereby individuals perceive themselves to be open to be ‘attacked,’ persecuted or victimized in some way [22]. Due to this, cyber-fear might be related to the cognition of cyber-related threats, which may not have a negative influence on attitudes towards purchasing online. Obviously, this issue also requires further elaboration and should be addressed in future researches.

Though the study allowed to explore several aspects of paranoia in online purchasing, it has several limitations. First, the tested variables were rather similar by their nature and this required a significant reduction of items during EFA and CFA. Most probably, future studies will consider the possibilities of modifying the scales or using their alternatives. Second, though the sample size was sufficient for the exploratory purposes, it could have influenced several indices of the model fit and the significance levels in regressions. It is most advisable to employ larger samples in future studies. However, despite these limitations, the study has contributed to the scientific knowledge regarding the role of paranoia in online purchasing and hopefully will trigger several new studies on the issue.

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