## "Why Am I So Angry?" The Rule of Receivers' Emotional Status under Reputation Warfare

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Received 30 April 2018; received in revised form 26 June 2018; accepted 30 June 2018

#### **Abstract**

Misinformation has been constantly increasing on social media in recent years. They may mislead people by delivering incorrect news; the reputation of those who are targeted by fake news may be severely af-fected. This is known as "reputation warfare." This study examined how consumers' emotions and locus of control impact their judgment of the authenticity of online news, corporate reputation and behavior. This study aims to better understand the influences of environment on consumers' perceptions and deci-sion-making. This is an exploratory study that utilized the experimental method. A total of 100 university students were recruited for this study and were asked to answer a survey questionnaire about four negative online news articles. The results support the observations of past research on the influence of fake news. Furthermore, this study found that consumers who receive rewards that meet their expectations will be unlikely to discontinue purchasing product from a company subject to misinformation. Consequently, when consumers feel that the reward is below their expectations, online news will have an impact on their purchase intention. The study's results indicate that companies must pay attention to ongoing changes in customers' emotional status. Even if the remuneration is unrelated to the company, consumers' reactions to fake news are still subject to its influence.

Keywords: Social media, fake news, misinformation, reputation warfare, anchoring effect

## 1. Introduction

Social networking sites (SNS) are filled with diverse types of information, including politics, economics, and entertainment. Hence, it is very convenient to regard SNS as important sources of information. Users no longer need to read newspapers or use search engines as the SNS newsfeed would automatically present relevant information to read; however, it is doubtful if such information must be fully believed in. Allcott and Gentzkow (2017) found that during the 2016 US presidential election, large amounts of "fake news" emerged which subsequently influenced the electoral process and results. Ferrara (2017) also

found that during the run-up to the 2017 French presidential elections, numerous social bots appeared which spread false information over the Internet. Busari (2017) proposed that there is real harm caused by fake news. These researches indicate that an increasing amount of fake news is emerging on SNS around the world which interferes with public thinking.

The targets of fake news are the ones who are mostly affected; these could be the members of the government or the government as a whole, corporations, and other powerful non-government organizations. The reputation of these groups may become severely affected which may result in people refusing to interact with these groups; as a

consequence, the government may lose public trust and companys may lose huge amounts of money in business. This war between online news and organization is known as "reputation warfare" (2010). The Internet has changed the rules of warfare. If an organization is unable to respond instantly to the negative information, it will severely damage the company's reputation. Several known companies such as Domino's Pizza, the pizza chain restaurant, Chevron, the multinational energy corporation, and Target, the discount store retailer, have all been subjected to attacks in reputation warfare.

When individuals receive false online information and believe that it is real, they may feel a sense of disappointment towards the organization and may take action; therefore, in this era of the Internet, people's ability to distinguish real and fake news is a crucial topic of research (2012), (2012). At present, most studies have been limited to examining the information itself (2017) and its cognitive effects on the recipient (2017); there is still a lack of research and discussion on whether the recipient's psychological status and locus of control when false information is received would have an impact on their authenticity judgment and behavioral reactions.

This study is an exploratory investigation. The researchers believe that the ability to judge the authenticity of fake news and the subsequent behavioral reactions are subject to interference from the recipient's current psychological status. This study hypothesizes that the recipient's perception, of whether the treatment they receive meets their expectations, would affect their judgment of fake news. In other words, when individuals are subjected to treatment that does not meet their expectations, their negative (or positive) emotions will in turn influence their ability to judge the authenticity of information and their subsequent purchase intentions. In addition, this study aims to observe whether an outcome that meets or does not meet the individual's expectations is due to themselves or to others.

### 2. Literature Review

## 2.1 Reputation Warfare

Allcott and Gentzkow (2017) found that more than half of Americans believe in fake news. Individuals may change the way they think about a particular topic after reading new information on SNS regardless of whether it is authentic or fake. Berinsky (2017) found that people tend to believe in misinformation when it is reiterated in several different sources. Once fake news is accepted as truth, people are bound to take action such as refusing to interact with the subject of negative fake news.

This phenomenon has led to several problems in the era of the Internet. Gaines-Ross (2010) proposed the concept of "reputation warfare". Reputation management refers to the influencing and controlling of an individual's or group's reputation. Thus, reputation warfare it is a war between corporate and misinformation. Fierce and malicious attacks in the form of misinformation distributed over SNS against certain influential organizations and corporations can change consumers' perceptions of them. Failure to retaliate or offer explanations at the proper time would lead to consumers believing such false information and gradually losing their confidence in these organizations, severely affecting their reputation and causing major damages.

In Taiwan, slanderous information begin its dissemination through PTT, Facebook, or Line, which are the most frequently used SNS in the country (2016). In the past, several food safety crises have occurred in Taiwan and have caused serious unease and panic among the public. As a result, a high amount of food safety news has been disseminated in the community; thus, the researchers chose food safety as the source of misinformation for this study.

The first hypotheses of this study are based on the concept of "reputation warfare." If consumers believe the negative fake news about food safety found on SNS, their distrust towards a company will have a negative impact on the organization's reputation (H1-1), eventually causing consumers to refuse interacting with the company; thus, changing their purchase intentions (H1-2).

For the purpose of this research, "news authenticity" is described as people's perception of the information as being true or fake, "corporate reputation" as the people's perception of the corporation or organization being targeted in the misinformation,

and "consumer's purchase intention" as the people's willingness to buy products from the company or organization.

- H1-1: News authenticity will positively influence corporate reputation.
- H1-2: Corporate reputation will positively influence consumer's purchase intention.



Figure 1: Model of H1

## 2.2 The Impact of Emotions on Behavior

Studies by Ariely (2006, 2009) have observed that when individuals are under extreme emotions, they are most likely to make wrong decisions that may have never occurred under normal circumstances. Kahneman and Tversky (1974) emphasized the psychological biases under the anchoring effect. In the experiment, a spinning wheel was used to obtain a hypothetical number representing the percentage of African countries in the United Nations. Participants were asked if the actual percentage is higher or lower than the number obtained from the spinning wheel, followed by what their perceived actual percentage is. The results showed that participants who had smaller numbers from the spinning wheel gave smaller perceived actual percentages; whereas, those who obtained larger numbers gave larger percentages. This experiment demonstrated the anchoring effect and showed that people often overemphasize the earliest piece of information they receive; once they learn that the real answer is different from the earliest information, they then react differently.

This study hypothesizes that the anchoring effect will have an influence in the individual's judgment of news authenticity, corporate reputation, and consumer's purchase intention; and proposes that individuals will use the earliest information acquired

as a reference. When they encounter a different treatment, they will compare it with the earliest anchoring point which will lead to a perceived difference. Different emotional states may cause different judgments about the online news received; thus, producing psychological biases.

This research divided "emotions" into three kinds of moods: (1) higher than the expectation; (2) same as the expectation; and (3) under or below the expectation. This study believes that these three kinds of moods will elicit different influences on the individual's perception of news authenticity, corporate reputation, and purchase intention (H2-1). Aside from the direct influence of emotions on the three variables, this study believes that it may also affect the pairwise correlations between the three variables, and that different correlation results may be obtained for different emotions (H2-2).

- H2-1: Under the anchoring effect, the different emotions induced by different treatments will influence an individual's judgment of news authenticity, corporate reputation, and consumer's purchase intention.
- H2-2: Under the anchoring effect, the different emt emotions induced by different treatments will influence the pairwise correlations among news authenticity, corporate reputation, and consumer's purchase intention.

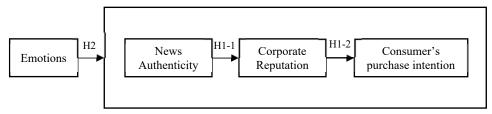


Figure 2: Model of H2

## 2.3 Locus of Control

Kuei-Hsiang (2012) designed a scenario-based experiment to examine the different targets of attribution during a performance failure. In the experiment, the participants were required to present a report on stage but were embarrassed to perform due to their own lack of preparation or deliberate difficulties caused by others. The results showed that if the situation was due to their own lack of preparation, the resulting feeling of shame was significantly more intense than if the situation was due to deliberate difficulties caused by others. If the situation was caused by the fault of others, the participants reported greater feelings of anger and hostility than if the situation was due to their own doing. This indicates that an individual's emotions will vary depending on whether the negative outcome is induced by self or others. Negative scenarios or event outcomes that attributed to others will evoke anger and hostility. Conversely, shame and depression are attributed to the individual's own mistake. The emotional evaluation of cognitive attribution illustrates that the

source of personal emotions may be influenced by different subjective evaluations caused by differences in others or by the individual himself under a specific situation. This is especially true when individuals perceive that they have been treated unreasonably by others making them experience anger.

This study divided "locus of control" into two kinds of situations, controlled by themselves, and controlled by others. The researchers believe that participants will have different emotions when they encounter treatment that meets or does not meet their expectations which will influence their evaluation of news authenticity, corporate reputation, and purchase intention. The locus of control serves as a moderator between emotions and the individual's evaluation of the three variables.

H3: The effects of emotions on news authenticity, corporate reputation, and consumers' purchase intention will be subject to interference from the locus of control.

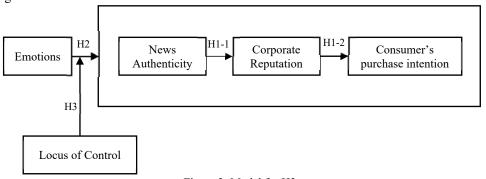


Figure 3: Model for H3

## 3. Research Methods

## 3.1 Participants

A total of 100 university students were recruited for this study (52 males, 48 females) with a mean age of 21. The experiment was performed in a specific laboratory.

## 3.2 Pilot Study

The researchers selected 32 genuine online food safety news articles on the Internet for the pilot study to ensure that the news articles to be used in the actual study will be representative of online news. All 32 news contain negative information about food safety, i.e. unsafe food protocols being done by companies.

A total of 20 participants were included in the pilot study. They were asked to identify whether the news is fake or not based on the title of the online food safety news. Out of 20 news articles, 4 were selected because none of the participants were able to judge them correctly; this means that almost an equal number of participants voted true or fake in the same news.

## 3.3 Procedures

Before the start of the experiment, the researchers informed the participants that they will receive a NT\$100 reward for participating in this experiment in order to set the participants' anchoring point. After the participants accepted this information, they were asked to enter the laboratory where the experiment will be conducted. After entering the venue, the participants were informed that to make the experiment more fun, the actual reward they will receive will depend on their luck in drawing lots. Those who are unlucky may not receive any reward, those with average luck will receive the basic NT\$100 reward, and those who are very lucky may receive a NT\$200 reward. The participants were randomly divided into two groups. In one group, a research assistant was responsible for drawing the lots,

and the participants passively received the reward outcomes. In the other group, the participants drew the lots themselves and controlled the reward outcomes.

After the reward outcomes were presented, the participants received their cash rewards immediately and were asked to fill out the questionnaires. The questionnaire consisted of four food safety news articles. After reading each food safety news, the participants were required to respond to three questions: (1) "How authentic do you think this online news is?"; (2) "If you were a customer of this company, what is your evaluation of them"; and (3) "If you were a previous customer of this company, will you continue to buy products from this company in the future?". These three questions were designed by researchers to represent the participants' judgment of news authenticity, corporate reputation, and consumers' purchase intention. Their responses were scored using a 7-point Likert scale, with 7 representing that they fully believed the news article, they felt that the company's actions were completely unacceptable, and they will refuse to buy product from this company again.

## 4. Research Findings

## 4.1 Consumer's Purchase Intention Patterns

In H1-1, this study hypothesized that consumers' judgment of the authenticity of online news will influence the reputation of the company. Regression analysis was performed to test the correlation between news authenticity and corporate reputation. In H1-2, it was hypothesized that corporate reputation will influence the consumers' purchase intention. Regression analysis was performed to test the correlation between corporate reputation and consumer's purchase intention (Figure 4).

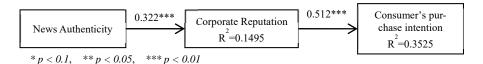


Figure 4: Regression Analysis of Overall Values

The results support H1 indicating that consumers' own judgment about news authenticity will influence their views of the company involved (H1-1), which will ultimately affect their consumer's purchase intention (H1-2). Further, it can be observed that regardless of the situation, the slope between news authenticity and corporate reputation was less steep than that between corporate reputation and consumer's purchase intention. It is speculated that when consumers believed that a particular piece of information is true, reading the news would alter their perception of the company. Also, consumers' evaluation of corporate reputation reflected, to a large extent, their purchase intention, as to whether to continue purchasing products being sold by this company. Hence, corporate reputation is extremely important, and companies must always strive for a good reputation to maintain consumer support and to ensure that consumers are willing to continue purchasing products from this company.

In summary, if the consumers believe the news, it may affect the company's corporate reputation, which is extremely likely to influence the consumers' purchase intention.

## 4.2 Anchoring and Cognitive Bias

In H2-1, this study hypothesized that under the anchoring effect, the different emotions induced by different treatments (reward) will influence the participants' judgment of news authenticity, corporate reputation, and consumer's purchase intention. It was observed that the mean value of news authenticity increased with higher rewards; however, this phenomenon was not observed in corporate reputation and consumer's purchase intention. The values are shown in Table 1.

An analysis of variance (ANOVA) was also conducted using emotion as the independent variable. The results show that there was a significant difference between the consumers' purchase intention groups. Posthoc analysis indicated that there were significant differences between NT\$0/NT\$100 groups and the NT\$100/NT\$200 groups; therefore, it can be inferred that when individuals are given a reward that does not fit their expectations, their consumers' purchase intention become more intense (increased consumers' purchase intention), and they will have a different choice compared to participants who got the reward they expected. The ANOVA results are shown in Table 2 and Post-hoc analysis results are shown in Table 3.

	News Authenticity		Corporate	Reputation	Consumer's purchase intention	
	Mean	StdDev	Mean	StdDev	Mean	StdDev
NT\$0	4.66	1.06	4.96	1.42	4.74	1.47
NT\$100	4.68	1.33	4.71	1.55	4.24	1.89
NT\$200	4.79	1.15	5.02	1.25	4.72	1.50

Table 2: ANO	VA with	Emotion	oc the	Indanana	lant I	Toriobla
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		Sum of Squares	df	Mean square	F	Sig.
News Authen-	Between groups	1.229	2	0.614	0.436	0.647
	Within groups	559.549	397	1.409		
ticity	Total	560.778	399			
Corporate	Between groups	6.879	2	3.440	1.706	0.183
	Within groups	800.281	397	2.016		
Reputation	Total	807.160	399			
Consumer's	Between groups	22.347	2	11.173	4.176	0.016
purchase in-	Within groups	1062.331	397	2.676		
tention	Total	1084.678	399			

Table 3: Post-hoc Analysis

		(I) emotion	(J) emotion	Mean differ- ences	Std. error	Sig.	95% confidence interval Lower Upper bound bound	
Con- sumer's purchase intention		NUTRO	NT\$100	0.507*	0.196	0.010	0.12	0.89
		NT\$0	NT\$200	0.026	0.204	0.898	-0.37	0.43
	LCD	NT\$100	NT\$0	-0.507*	0.196	0.010	-0.89	-0.12
	LSD		NT\$200	-0.481*	0.204	0.019	-0.88	-0.08
		NITIONA	NT\$0	-0.026	0.204	0.898	-0.43	0.37
		NT\$200 NT	NT\$100	0.481*	0.204	0.019	0.08	0.88

The results support H2-1 which indicates that under the anchoring effect, the different emotions induced by different treatments (reward) have an impact on news authenticity, corporate reputation and consumers' purchase intention. The data results show that when the reward was not NT\$100, consumers' purchase intention was significantly higher than those who received the expected NT\$100 reward.

When the reward was not NT\$100, consumers' purchase intention was especially high. The researchers speculated that this was because when consumers received treatments that did not fit their expectations, their criteria became more stringent, and they refused to continue purchasing products from the company with low reputation. Meanwhile, when consumers received treatments that met their expectations, they were not easily influenced by the company's reputation and were more willing to continue purchasing product from them; thus, a lower or higher reward that do not fit consumers' expectations will both reduce their desire to purchase from the company subjected to misinformation. It can be concluded that when companies are subjected to reputation warfare, consumers who receive treatment that does not meet their expectations are more inclined to refuse to buy products from this company.

In H2-2, the different emotions induced by different treatments under the anchoring effect had an impact on the pairwise correlations among news authenticity, corporate reputation, and consumer's purchase intention. As the reward increased, the slope between news authenticity and corporate reputation decreased, indicating that news authenticity was less able to reflect corporate reputation. The slope between corporate reputation and consumer's purchase intention decreased as well, indicating that corporate reputation was less able to reflect consumer's purchase intention. The results are shown in Figure 5.

The data above supports H2-2 indicating that the relationships among news authenticity, corporate reputation, and consumer's purchase intention were influenced by different emotions induced by different treatments under the anchoring effect. As the reward increased, news authenticity was less able to reflect corporate reputation; similarly, corporate reputation was less able to reflect consumer's purchase intention.

As the reward increased, the influence among the three variables (news authenticity, corporate reputation, and consumer's purchase intention) decreased. This means that when the reward was lowered, the consumers became more stringent, and their news judgment was directly reflected in their views of the company, which continued to influence their purchase intention; therefore, once consumers believe in an online news article, it is very likely that it will influence their behaviors. Conversely, it will be less likely for online news to influence the consumers' views of the company and their own behaviors if the reward is high.

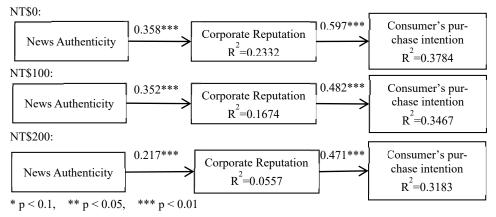


Figure 5: Regression Analysis Categorized Based on Reward

## 4.3 Interference from Locus of Control

In H3, this study hypothesized that the effects of emotions on news authenticity, corporate reputation, and consumers' purchase intention will be subject to interference from the locus of control. The mean values and standard deviations are shown in Table 4. When the sample was divided according to whether the lots were drawn by others or by the participants themselves, differences were observed between the two groups; however, MANOVA indicated that there were no significant differences between the two. Only emotion and control

with emotion groups showed significant differences (Table 5). This means that the locus of control is not a moderator of emotion and news authenticity, corporate reputation, and consumers' purchase intention. The data does not support H3.

The researchers speculated that news authenticity, corporate reputation, and consumers' purchase intention will only be influenced directly by emotion in this study's model (H2). Although the participants were divided into two groups using locus of control, the data indicated that there was no difference between them.

		News Authenticity		•	te Reputa- on	Consumer's pur- chase intention	
		Mean	StdDev	Mean StdDev		Mean	StdDev
Lot drawn	NT\$0	4.68	1.06	4.77	1.71	4.38	1.52
by others	NT\$100	4.99	1.22	4.72	1.53	4.15	1.82
•	NT\$200	4.92	1.18	5.12	1.29	4.82	1.57
Lot drawn	NT\$0	4.65	1.06	5.08	1.19	4.99	1.38
by self	NT\$100	4.39	1.38	4.71	1.57	4.32	1.96
•	NT\$200	4.67	1.11	4.92	1.21	4.62	1.43

Table 4: Mean Values and Standard Deviations in 2x3 (locus of control x reward)

	Tuc	310 3. IVII II V	O VI I I III ai y 5.	15		
Effect		Value	F	Hypoth- esis fd	Error df	Sig.
Control Emotion control *	Wilks' Lambda (λ)	0.977 0.979	3.114 <sup>b</sup> 1.371 <sup>b</sup>	3.000 6.000	392.000 784.000	0.026 0.223
	··· ········ ·· ··· ··· ··· ··· ··· ··	0.980	$1.307^{b}$	6.000	784.000	0.251

## Table 5: MANOVA Analysis

## 5. Conclusion

In this exploratory study, the results supported the observations of past researches on the influence of fake news. This study found that consumers' judgment of news authenticity had an impact on their evaluation of a company's reputation, which in turn further influenced consumer's purchase intention. In addition, when examining the data results, the following phenomena were observed, which warrant further confirmation by follow-up studies:

# (1) Consumers who receive rewards that meet their expectations will continue purchasing product from the company subject to misinformation.

When consumers received rewards that met their expectations, they were more inclined to continue purchasing products from the company; however, when consumers received rewards that did not meet their expectations, regardless of whether the reward was high or low, they became more stringent and were more inclined to discontinue purchasing product from this company.

## (2) When consumers feel the reward is below their expectations, online news will have an impact on their purchase intention.

The results of this study showed that as the reward increased, news authenticity was less able to reflect corporate reputation; and corporate reputation was less able to reflect purchase intention. In brief, when consumers receive low rewards, online news will have a greater impact on their purchase intention than when they receive high rewards. Consumers who receive lower rewards are more susceptible to the influence of online news on their purchase intention.

## (3) Locus of control does not influence news authenticity, corporate reputation, and consumers' purchase intention

Locus of control did not have any influence on consumers' judgment of news authenticity, corporate reputation and purchase intention. This result did not support this study's hypothesis; therefore, further research in the future may use this study as a reference.

## 6. Implications

Companies in the modern age are faced with reputation warfare. Online information affects a company's reputation, ultimately affecting consumers' decision on whether to continue purchasing products from this company.

The researchers of this study believe that the rewards received by participants for joining the experiment are similar to the remunerations received by the general public in exchange for their efforts and labor. When people in a society are able to receive the expected remuneration in exchange for their efforts and labor, then fake news will have minimal impact on a company or organization; however, when the majority of people in a society believe that they do not receive the expected remuneration in exchange for their efforts and labor, then receiving more or less than the expected remuneration will reduce their intention to purchase from a company that is subject to misinformation. In brief, fake news will cause greater harm to a company or organization in a society where remunerations received by consumers are not the same as expected.

This study also found that consumers who received rewards that were lower than expected were more likely to be influenced by online news. This continued to influence

their evaluation of the company and ultimately influenced their purchase intention. In this case, the company was more susceptible to damage by online news.

In conclusion, the exploratory data examined in this study indicates that companies must pay attention to ongoing changes in their customers' emotional status. The impact of online news will vary according to the level of remuneration. Even if remuneration is unrelated to the company, consumers' reactions to fake news are still subject to its influence enabling online news to affect their evaluation of the company and their purchase intention; thus, giving fake news a chance to take advantage of the situation.

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